Nurses Working in Northern Israel: The Effect of Religion, Attitudes, Perceptions and Professional Behaviour Towards Organ Donation

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Abstract

Background: In general, the shortage of organs and tissues for donation reflects not only the rise in the number of patients in need of transplants, but also the failure to acquire sufficient donors. A variety of factors is responsible for this shortage, including poor public awareness and insufficient knowledge, religious perceptions of potential donors and families, and the failure of healthcare staff to identify potential donors. Because of their close relationships with potential donors and families, nurses are vitally important in the donation process.

The hospital nursing population in Israel is composed of people from a mixture of religious groups, creating a complex environment which may influence the nurse's behaviour. There is thus a clear need to examine what factors affect the professional behaviour of nurses in the organ donation process.

Aims: The overall aim of this research was develop a sensitive psychometric scale to identify key points in nurses' perceptions of professional duty toward organ donation in the context of religion.

Methods: The research was divided into four stages using a number of methods. First, a qualitative study with seven homogenous focus groups of hospital nurses grouped by religion was done. The findings were used for the second stage, whose aim was to develop a sensitive psychometric scale of the coverage, relevance and readability of the initial items and a pilot study examining each item. Next, a large-scale field test was conducted and the data were then analysed using principal component analysis. In the third stage, reliability and validity of the newly developed Care & Donate scale were evaluated. Finally, in stage four, the relationship between the Care & Donate scale and key questions in each category was demonstrated.

Results: The first stage found thirteen central themes, reduced into four categories, reflecting the nurses' perceptions towards organ donation. The next stage produced an initial conceptual framework for developing a psychometric scale. In the field test stage, a principal component analysis produced a robust conceptual framework composed of 23 items in three subscales.

Conclusion: This research is the first to develop a reliable, valid, sensitive measure of nurses’ attitudes towards organ donation in north of Israel: the Care & Donate scale. The scale should provide the basis for an intervention program for nurses and help evaluate the effectiveness of such programs. Analysis of the Care & Donate scale also provided evidence that the scale is related to scales developed outside of Israel, possibly leading to its use in other countries.
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Declarations

While registered as a candidate for the PhD degree, I have not been registered for any other degree or any other university. This dissertation includes a literature survey, all stages of the research, all findings and conclusions made by the student who is registered at the University of Portsmouth, and was not submitted to any other university.
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Abbreviations

RN- Registered nurses
BSN- Bachelor of Science degree in nursing
MA/MSN - Master's Degree in Nursing.
ICU - Intensive Care Unit
KMO - Kaiser-Meyer-Olkin
PCA - Principal Component analysis
EFA - exploratory factor analysis
Care & Donate- Care and Religion & Donation of Organs, Nurses' Attitudes and Experience
C&D – Care & Donate
ROD- Religion and organ donation
RON- Role of the nurse in organ donation process
PTD- Personal thoughts about organ donation
ODAS- Organ Donation Attitudes Scale
OTD- Organ/Tissue donation
OTD/A- Organ/Tissue donation section A
General Nurse – A registered nurse who works in a general, emergency, or intensive-care ward, with no specialist training in organ donation or transplantation
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I thank you all.
Dissemination

The first stage of this research with qualitative study reported in Chapter 3 has been accepted as a session presentation at a European Transcultural nursing conference that will be held in June, 2015.

An abstract about the development of a psychometric scale assessing the influence of religion on northern Israeli nurses' attitudes and professional perception regarding organ donation, reported in Chapter 4, has been accepted as a session presentation at the ICN conference that will be held in Korea on 21 July, 2015.
Dedication

I dedicate this work to my loving family, who supported me throughout the long process with limitless patience, understanding and encouragement. Completing this project is due mainly to them, and I thank them with all my heart.
Chapter 1: Introduction

Transplantation of donated organs is now a common procedure in health care settings. However, this procedure can take place only with the cooperation of the many stakeholders involved, including the donor, the donor's family, health care staff, and society at large. There exist, of course, differences in the treatment of organ donation from country to country. The behaviour of nurses in Israel cannot always be explained by the existing literature and research. The main thrust of the present research is the development of a reliable and valid tool which can be used to understand the religious factors influencing the Israeli nurse's behaviour in the organ donation process.

The gap between organ demand and supply is a major problem all over the world. According to World Health Organization statistics, this is particularly the case in Israel, which has one of the lowest organ donation rates in the world from brain-dead patients. In 2013, 1,117 patients in Israel were on the transplant waiting list, while the number of transplants stood at only 392; only 14% of the population possessed signed donor cards. This is in contrast to other Western countries, where an average of 15%-38% of the population possesses donor cards (National Transplant Centre, Israeli Ministry of Health, 2013). Family consent to donation in Israel stands today at 50% of potential donors, compared to a rate of 70% in European countries. This situation presents a challenge to find a way for health care staff in Israel to influence and encourage patients and their families to participate in organ donation. A major part of the issue in Israel appears to be due to a complex interaction of religious factors. This thesis investigated the interplay of attitudes and background among Israeli nurses in seven chapters. The central objective of this research was to develop a psychometric scale sensitive to religious and professional issues, which would prove both valid and reliable.

Chapter One provides an overview of the structure of the thesis. Chapter Two is a literature review of previous research in the area of organ donation. It includes reference to the state of organ donation in other countries as well as to the situation in Israel in light of its legal and policy aspects. It includes a description of the three-stage process: identification of the potential donor, determination of brain death, and approaching the family.

Chapter Two also sets out to understand the process by which organs and tissues become available for transplantation and to contextualise all of the issues influencing the availability of donated organs. The chapter also outlines the many roles and responsibilities of the nurse and other health care staff during the organ donation process. It includes an investigation into the possible factors influencing the nurse's involvement in the organ donation process. The factors presented refer to religious aspects, personal attitudes and behaviour, professional aspects including knowledge and training, and role-perception in the context of organ donation. The summary of Chapter Two presents a rationale for the present research. Despite the amount of research on organ donation and the role of health care staff, little has focused on the role of the nurse in Israel. This research could contribute to raising the rate of organ donation in the country by focusing awareness on the role of the nurse and the factors influencing the nurse's behaviour and attitudes.
In Israel and in other countries, a potential organ donor may well be found in a ward other than intensive-care. It is reasonable, therefore, to propose that nurses in all the wards of the hospital should be aware of the importance of the organ donation process. A further rationale for this research is the multi-religious nature of Israeli society. Both nurses and patients come from diverse religious backgrounds, all of which affect their attitudes toward organ donation. Investigating the effect of these backgrounds is the essence of this research.

Following the literature review in Chapter Two, Chapter Three, the first stage of the research, deals with the qualitative study. A qualitative approach was chosen because this area has not been previously researched in this context, and therefore it is of the utmost importance to explore first-hand the perceptions and attitudes of nurses in the field.

The focus groups were conducted in homogeneous groups organized by religion. These groups gave the nurse participants an opportunity to express themselves on the various aspects of organ donation, including religious factors. Chapter Three reports the first stage of this research, ascertaining existing perceptions, views, attitudes, and positions of nurses from a variety of religions regarding organ donation and identifying the underlying themes of these belief systems.

The focus groups were analysed using thematic analysis, seeking for themes which expressed the central subjects of the research. These data were then used in the next stage of the research to develop a sensitive scale designed to identify the awareness and motives of general nurses’ involvement in the organ donation process and their professional duty toward this process as well as the factors hindering this process.

Hence, the subject of Chapter Four is the second stage of this research, which describes the development of a sensitive set of questions used to evaluate nurses’ awareness, professional duty, and involvement in the organ donation process in light of religious background. The development of the scale involved a number of steps: first, the chapter describes the rationale for this stage and the generation of items. The next step included preliminary analysis of the items by experts, preparation of the scale for the pilot study, modification and correction in light of the findings, and preparation for the field study.

In order to be a useful scale for other researchers in the same field, it is important to examine the reliability and validity of the scale developed. Chapter Five describes the third stage of the process of evaluating the scale for validity and reliability. In this stage of research two scales were employed to evaluate the validity of the new Care and Donate (C&D) scale: the Organ/Tissue Donation questionnaire (OTD) developed by Sque (1996) and the Organ Donation Attitudes Scale (ODAS) developed by Rumsey, Hurford and Cole, (2003).

Chapter Six examines the relationships between key comparison variables and the C&D scale. The C&D subscales: Religion and organ donation (ROD) Role of the nurse (RON) and Personal thoughts about organ donation (PTD), were also examined. These variables were used to explain the differences in scores and enable the identification of the best predictor for high scores on the scale.
In order to meet the aim of this stage of research and to be able to answer the questions, descriptive statistics and basic analysis were first performed, followed by multiple regression analysis, and finally factorial ANOVA. This chapter describes in detail all phases of analysis, including the findings and the conclusions of both multiple regression analysis and factorial ANOVA, based on the description of independent variables and the means scores of C&D overall scale and subscales.

Finally, Chapter Seven discusses the overall findings of the research: the development of a reliable, sensitive evaluation tool, the place of this research within the context of the body of research, and the implications of this research for nursing-training and for overall medical policy. The challenges and limitations of this research are also presented, as are the potential applications of the scale in evaluating the involvement of nurses in the donation process, including improvement of nurse-training and evaluation of change in behavior over time.
Chapter 2: Literature review

2.1. Introduction to the literature review

The aim of this chapter is to survey the existing information concerning organ donation and transplantation in the world generally and in Israel specifically. The unique aspect of this survey is how religious attitudes of general nurses influence their behavior in the organ donation process. The first part of the survey will present organ donation data from the world and from Israel, including the donation system in transplantation hospitals and in general hospitals. The survey will consider three stages of the process: identification of potential donors, determination of brain death, and approaching the family.

Organ donation and transplantation has always been a complex and sensitive subject. The many aspects of this include personal, religious attitudes towards brain death and beliefs about the afterlife. Legal and professional issues are also a part of organ donation and transplantation, including the possession of a signed donor card and the behavior of the healthcare team dealing with the donor and a donor's family.

At the end of the chapter, there will be a discussion of the disparities between the information and research available and the research which still needs to be done on this subject. The rationale and the aims of this research will also be presented. The following literature review was based on the principals of the non-systematic review approach (the strategy of the literature review can be seen in appendix 2.1).

2.2. Background: Organ donation and transplantation

There has been a general consensus over the years that organ transplantation is one of medicine's success stories with a long history in the world (Roza, Garcia, Barbossa, Del Sasso, & Schirmer, 2010; Rios et al., 2013). When the first successful renal transplant was performed (Zurani, Razack & Dublin, 2010), it marked the point at which transplantation surgery became a generally available procedure. The improvements in transplant immunology and surgical techniques have transformed transplantation from an experimental treatment, to the therapy of choice for patients with organ failure. Not surprisingly, its success has dramatically increased demand, which tragically far exceeds supply worldwide. Due to a lack of donors in the USA, it is estimated that 18 people die each day while on transplant waiting lists; 124,064 people are on waiting lists, and only 28,593 transplantations were carried out in 2013 (http://www.organdonor.gov). In the United Kingdom, there are 7,026 people on the waiting list, yet fewer than 5,000 transplants were performed in 2013. (http://www.organdonation.nhs.uk/statistics/downloads/united_kingdom_sep14.pdf).

In contrast, Spain is the leading country in the world in the number of transplants performed from donors after death. This comes in the wake of an innovative program adopted in the early 1990's, with the full and personal support of the King of Spain (Matas, 2012; Rudge, Matesanz, Delmonico & Chapman, 2012). The program includes the allotment of both manpower and financial resources to the training of transplant-coordination teams and to intensive-care units (making it easier to identify potential organ donors), as well as intensive
media campaigns promoting organ donation (Rudge & Buggins, 2012). Spain has managed to increase organ donation after death by 132%, and the country has kept up this high level for the past fifteen years (Galil, 2011). This program should serve as a model for other countries in the world. In fact, countries that have sent medical professionals to Spain for training have seen an increase in their own countries in organ donation (Rudge et al., 2012).

It seems clear that the dearth of organ donations is a universal problem, and in no country in the world does the supply equal the demand, not even Spain. In Israel, according to World Health Organization statistics (2012), the rate of organ donation is lower than Western European countries and the US (Figure 2.1).

**Figure 2.1: Rate of organ donation from brain-dead donors (per million) WHO, 2011 (Israel indicated).**

In Israel, 91 patients died in 2012 while awaiting transplants which would have saved their lives. This number represents 8% of the total of patients on the waiting list, but even so, this represents a decrease of 13% in comparison to the previous year, when there were 105 patients who died (National Transplant Centre, Israel Ministry of Health, 2013). The figure is also lower than the rate of death experienced by European members of the organization Eurotransplant, except for Holland (11.2%), Austria (10.6%), and Germany (8.9%) (Rosenblum et al., 2012).

In Israel, 1,117 patients were on the transplant waiting list, while the number of transplants stood at only 392. Figure 2 shows the ratio of waiting-list patients to the number of transplants in each of the years from 2006 to 2013 (National Transplant Centre, Israeli Ministry of Health, 2013).
Based on this information, understanding the process by which organs and tissues become available for transplantation helps to contextualise all of the issues that may be influencing the availability of donated organs, as will be seen in the following section.

2.3. **The organ donation system in Israel**

The purpose of organ and tissue donation is to make organs and tissue available for transplantation. A thorough understanding of the process can help policy-makers, hospital administrators and transplantation professionals to make informed choices about how to change and improve the donor system and to structure best-practice interventions (Rios et al., 2014; Siminoff, Burant, & Youngner, 2004).

The transplantation system in Israel is managed by the National Transplant Centre, which was established in 1994 to administer a national waiting list and to allocate resources for organ donation and transplantation, as well as to raise public awareness of the issue. In 1997, a centre for transplant coordination was founded to identify potential donors and to supervise the entire process, from the first approach to the family up to the actual transplantation (National Transplant Centre, 2012).

Six hospitals in Israel are designated transplant hospitals, while the remaining eleven general hospitals do not perform transplantation. The transplant hospitals are trauma hospitals with a neuro-surgery department which accepts patients with traumatic head wounds. Consequently, there are more potential donors in these hospitals. The remaining eleven general hospitals are designated donor hospitals; they are smaller and have fewer potential organ donors. The health care staffs in these hospitals have less experience in organ donation and
transplantation, but there is nevertheless nothing to prevent potential identification of organ donors.

According to a 2011 report of the Ministry of Health, the total number of requests for organ donation after identification of potential donors was 752 for the year, with a range of 3-109 in the various hospitals. The median number of requests for donors for the transplant hospitals was 62, and for the donor hospitals, 28.5.

The process of organ donation and transplantation is anchored in the law, both in Israel and in the West. The process is also dictated by the consent of the patients and their families to donate organs. The following section of the survey presents the various legal issues relevant to the donation process.

2.4. **The legal aspect of organ donation and transplantation**

There are two models of organ donation in the West: informed consent and implied consent (Rithalia et al., 2009). In the first model, the default option is not to donate organs, while the second model defaults to donate. However, even within these models there is certain flexibility. In Israel (Almog, 2011), where the first model is practiced, the rate of organ donation from the deceased is among the lowest in the Western world. The country which leads in the organ donation rate is Spain, where the model is implied consent. Of course, this is not the only contributing factor, since the Spanish model enjoys governmental, public and financial support.

The Israel Brain-Respiratory Death Law of 2008 regulates the determination of brain death and attempts to clarify the circumstances in which it can take place. The Organ Donation Law was also enacted in 2008 as an attempt to resolve the severe shortage of organ donations by encouraging citizens to sign a donor card and to consent to organ donations. Lavee, Ashkenazi, Gurman, & Steinberg (2009) describe an Israeli initiative incorporated into the 2008 law which gives individuals who sign donor cards and their first-degree relative's priority as organ recipients in preference to individuals of equal medical need who have not signed a donor card. The law also provides reimbursement to living donors for medical expenses and lost time at work. However, the family of a donor has the right to refuse the donation, and no organs can be removed from donors whose families object to the donation. This is due to public sensitivity about the subject and the wish to avoid negative publicity (The National Transplant Centre, 2012).

In Israel, 14% of the population possess signed donor cards. This is in contrast to other Western countries, where an average of 15%-38% holds donor cards. Since the establishment of the National Centre for Transplant in Israel at the end of 1993, there has been an increase in the number of people who have signed up for donor cards and a consequent increase in the rate of transplant agreement. There is evidence to suggest that knowledge of a person's intention to donate organs after death has a positive effect on the willingness of relatives to consent to donation when a request is made to them (Oroy, Stromskag, & Gjengedal, 2013; Siminoff, 2007; Sque, Payne, & Long, 2005).
2.5. Defining the organ donation process
The main stages in the organ donation process include: identification of the potential donor; determination of brain death; preparation of the potential donor for a possible transplant procedure; and approaching the family about donation. (Israeli Ministry of Health, 2001).

Recently, based on studies conducted by the Israel Transplant Centre with donor family members, and on case analyses of the years 2004-2009 (unpublished data), a practical Israeli approach for the hospital transplant teams has been established by Ashkenazi & Klein (2013). This approach can be divided into two stages, early and later. The early stage includes rules governing behaviour: not to project personal feelings and opinions on others, to avoid being judgmental and to avoid making generalizations. The healthcare staff must be well aware of their own personal position and opinions (social, political, religious). The later stage of this approach includes critical sub-stages of the process taking place before and at the time of determination of brain death, notification of death itself and the request for organ donation. It includes persuasion skills, coping with resistance and with expressions of anger, and the physical leave-taking by the family from the deceased (Anker & Feely, 2011).

The next section will discuss the three main stages of the process: identification of a potential donor, determination of brain death and discussion of donation issues with the family.

2.5.1. Identifying the potential donor
The identification of a potential donor is a crucial stage in the organ and tissue donation process. It is as a major stumbling block for the supply of organs for transplantation (Cohen, Ben Ami, Ashkenazi, & Singer, 2008; Lin, Lin, Lam, & Chen, 2010; Sque, Payne, & Vlachonikolis, 2000; Weiland, Marck, Jelinek, Neate, & Hickey, 2013). If the healthcare professionals fail to recognize the potential for donation, the process will not progress, unless the family of the critically-ill patient independently expresses a desire to donate organs (Rios et al., 2010).

An Israeli study from 2010 (Ministry of Health, 2011) found that healthcare staff from internal, neurosurgical, and intensive-care departments are largely ignorant about the donation process, and their responses to the study's survey were not uniform. Only 35% of the respondents thought that the appropriate time to involve the transplant-coordinator was when the possibility of brain death arises, before tests are carried out; 29% thought that the appropriate time was the admittance of a patient with traumatic brain injury who is attached to a ventilator; 24.4% thought that the correct time to contact the transplant-coordinator is after determination of brain death but before notification of the death to the family; 7.8% thought that the best time is after brain death was determined. The official policy of both the Israel Ministry of Health and the Israel Transplant Centre is that the most appropriate time to turn to the family for an organ donation is when a patient suffering from traumatic brain injury is unconscious and dependent on machines to breathe. This stance was published in an official Health Ministry Director-General circular in 2001. However, one must take into consideration that in Israel, many potential donors (about 30%), especially those suffering from non-traumatic brain injury, are initially treated in general medical wards which is the...
case in other countries as well, (Cohen et al., 2008; Cebeci, Sucu, & Karazeybek, 2011; Rios et al., 2014). Hence detection, initial management and contact with the family are the responsibility of the attending medical and nursing staff, who then notifies the local transplant coordinator (Cohen et al., 2008; Flodén, Berg, & Forsberg, 2011).

For many years, the question of identifying the moment of death of potential donors has been problematic, due to the fear of burying too soon people who were actually not dead. In essence, the determination of the point in time that a person should be considered as dead is a social-legal decision based on medical-scientific data (Cohen, Steinberg, Singer, & Ashkenazi, 2014; Elco & Wijdicks, 2002; Gorman, 2008; Siminoff, Burant, & Youngner, 2004). The next stage in this section will concern brain-death determination.

2.5.2. Determination of brain death

Human death is categorized into two alternative types – neurological or cardiorespiratory (Rady & Verheijde, 2013). The definition of brain death is irreversible termination of brain activity, including the brain stem (Siminoff, Gordon, Hewlett, & Arnold, 2001; Wijdicks, 2010). The donation of organs may begin when a patient who has suffered injury to the brain is diagnosed as brain dead. The guidelines for diagnosing brain death have been in existence since the late 1960's in the USA and the mid-1970s in the UK (Long, Sque, & Addington-Hall, 2008a); they are accepted in most Western countries (Cohen et al., 2014). However, findings from the literature indicate that there is widespread confusion even among medical personnel about why brain death should count as death, even though in many nations there is strong support for donation of organs from brain-dead patients (Alghanim, 2010; Bernat, 2010; Collins, 2010; DuBois & Anderson, 2006).

Many who are diagnosed as brain dead are the victims of road or work accidents. Other brain-dead patients have suffered from strokes, hypoxia, congenital defects of the large blood vessels in the brain, or from cancerous brain tumours. At this stage, a number of actions should be performed in order to determine clinical brain death. Some actions are carried out simply to determine that the brain has ceased to function, without any application to organ donation or involvement of the transplant staff. The objective of this stage is simply to determine the death of the patient. The importance of the determination is clear, both for declaring a patient dead and, where appropriate, proceeding with organ and/or tissue retrieval and transplantation (Cohen et al., 2014; Wijdicks, 2010).

In Israel, as in other countries (Bülow et al., 2008; Cohen et al., 2014; Lavee et al., 2009), there are regulations and laws which clearly define the determination of brain death, based on the Brain-Respiratory Death Act of 2008. This law established that brain death is determined by two doctors who are approved by a committee of medical experts from the following fields: anaesthesiology, general intensive care, neurology, neurosurgery, emergency medicine, internal medicine, or cardiology. They must not be directly involved in the treatment of the patient, or involved in organ transplantation. Patients who have been declared dead using neurological criteria (irreversible loss of all brain function) but who are maintained on ventilators are the single largest source of transplantable organs (Ministry of Health, 27/2009). Time of death is defined as time of brain death.
The acceptance and application of the concept that brain death is a valid determination of death is the central issue in organ donation, organ donation and withdrawal of life support (Cohen et al., 2008; Aghayan et al., 2009; Meyer, Bjørk, & Eide, 2012). The assumption is that attitude to brain death might impact the organ donation process. The National Transplant Centre makes every effort to entrench the idea in the popular mind that brain death is complete and total death, and that determination of brain death is done by health professionals relying on scientific research.

In a Health Ministry report from 2011, based on data from the National Transplant Centre, it was found that 85.4% of respondents agree with the proposition that brain death is total and complete death. The rate of agreement is higher among staff of transplant hospitals (88.3%) than among staff of donor hospitals (83.6%). Similar findings were found in studies in Italy (76.7%) and in Switzerland 80% (Rios et al., 2005).

Fitzgerald, Fitzgerald, Shaheen, and DuBois (2002) found significant differences between healthcare staff in their level of agreement with decisions to obtain brain-dead donors that were not reducible to gender or religious differences. Support for the decision to donate organs was strongly correlated with whether the health care staffs was concerned that the brain-dead patient might in some way still be alive (DuBois & Anderson, 2006). Healthcare professionals, regardless of religious affiliation, were less likely to believe the brain-dead patient was truly dead, and therefore were less likely to support organ donation. Thus, the problem appears not to be linked to the lack of suitable donors, but to a difficulty in identifying donors and obtaining consent for the donation (Foss, Sanner, Mathesin, & Eide, 2014; Rios et al., 2014). Nurses' abilities to identify potential donors can therefore make a major contribution in bringing these patients forward for brain-death testing. But they need the cooperation and support of medical colleagues, who must agree to the test and make arrangements for it to be carried out (Akgün, Bilgin, Tokalak, Kut, & Haberal, 2003; Melo et al., 2011; Abidin, Ming, Loch, Hilmi, & Hautmann, 2013). Once this stage is carried out, the complexity of unexpected death and the experiences associated with the process of organ donation can make the initiation of discussion about donation and obtaining agreement of family problematic (Rios et al., 2014; Flodén et al., 2011).

### 2.5.3. Approaching the family

In regard to the previous stages of the donation process, seeking consent for donation organs has been called one of the most difficult aspects of the process, even for those who support donation (Mullins, Simes, & Yuen, 2012; Oroy et al., 2013). The discussion with the families of the deceased plays a key role in obtaining family approval (Rodríguez-Villar et al., 2012). Consent rates are lower in Israel than in many Western countries. The rate of positive response in Israel when an organ donation is requested is about 50%, as opposed to 60%-70% in other Western countries (National Transplant Centre, Israeli Ministry of Health, 2013). Oroy et al. (2013) described the critical time-sensitivity of the approach to the family – judging when the family is "ready" to hear information about brain death. Simpkin, Robertson, Barber, and Young (2009) emphasize that while it is important to convey
information regarding brain death to the family, this should be separated from the actual request for donation.

Considering that this is the most difficult and critical stage, it should take environmental factors into account (Ashkenazi & Kline, 2013; Sque & Galasinski, 2013). There is much support for the view that consent to donation is more likely if the request is made in a private place by trained and experienced individuals (Mullins et al., 2012; Oroy et al., 2013; Simpkin et al., 2009). Approaching the family for consent also involved religious or faith-based influences (McDonald et al., 2007; Sque & Galasinski, 2013) these are the primary factors in donor families' recovery from grief.

Walker, Broderick, and Sque (2013), in an integrative literature review, surveyed the existing literature in order to understand the factors influencing the decision of the families which should be taken into account when approaching the families. The survey was based on twenty separate studies done in eight Western countries. According to the survey, there are three main themes to the approach to the family: the past - the family's perception of the wishes of the deceased and the family's previous knowledge about organ donation; the present – how the family is coping with grief and loss; the future – explaining the potential benefits of organ donation. It is crucial, then, for the healthcare professionals to have a profound understanding of the family in question, in order to best serve them, the deceased, and those in need of organs. In more detail, Yousef, Roshani, and Nazari (2014) described the main deterrent factors: shock, hope for recovery, ignorance of the process, and conflict of opinions. Facilitating factors included humanistic desires, and respect for the deceased.

Jacoby, Breitkopf, and Pease (2005) provide a useful framework for addressing these needs more effectively in six areas: contextual, behavioural, informational, emotional, environmental, and spiritual. Other researchers (Exley, White, & Martin, 2002; Ashkenazi & Klein, 2012) have constructed a profile of a family likely to agree to donation. These factors include: 1) they understand that their loved one is dead (95%); 2) they have been given enough information about donation (93%); 3) they feel that the approach was made at an appropriate time (86%); 4) they are treated respectfully at the hospital (85%); 5) they feel their loved one received good care (74%); and 6) they had previously discussed donation with the donor (50%).

Ashkenazi and Klein (2013) emphasize that the timing of the request to donate organs is critical to gaining the consent of the families. Based on findings from an Israeli study of families, intervention is a critical stage of the process, which includes time of determination of brain death, preparation for and notification of death and the request for organ donation. All of these stages require persuasion skills and coping with resistance and expressions of anger (Cohen et al., 2008; Flodén & Forsberg, 2009). This emotional difficulty, usually described in terms such as traumatic, difficult, and shocking, may increase anxiety and unwillingness, and may affect the ability of the healthcare staff to deal with the family of the deceased (Santiago & Gomez, 1997; Thomas, Milnes, & Komesaroff, 2009; Oroy et al., 2013). Healthcare professionals are concerned about the negative impact that discussion will
have on the family's distress (Chernenko, Jensen, Newburn-Cook, & Bigam, 2005; Thomas et al., 2009).

Although the team should include the transplant coordinator of the hospital, no less important is a general nurse who has established relations of trust, empathy, and support during the hospitalisation of the family member (Collins, 2005; López-Montesinos et al., 2010; Vlaisavljevic, Milutinovic, Milicic, Jesic-Vukicevic, 2014). General nurses described their important role in preparing families for the discussion about donation with physicians (Cleiren & Van Zoelen, 2002; Thomas et al., 2009). No less important elements which affect the family decision is the quality of the relationship which has been created with the care-giving staff in the department, i.e., between the general nurses and doctors and the family of the deceased (Evans, Orians & Asher, 1990; Rios et al., 2009; Thomas et al., 2009).

Detection, initial management of this stage in the process, and contact with the family is the responsibility of the attending members of the medical and nursing staff, who then notify the local transplant coordinator (Cohen et al., 2008). Those who approach families with the option of organ donation should be aware of considerable differences that frequently exist between the attitudes of healthcare personnel and the general public. Consent processes need to take into account, for example, the fact that terms like "brain death" are often understood very differently by physicians and lay people (DuBois & Anderson, 2006).

In addition to taking social, cultural, and religious and population factors into account, it is essential that healthcare personnel be aware of the advantages of organ donation and transplantation, because there is some evidence that many hospital personnel are against it and could be a barrier to organ donation and transplantation (Radunz et al., 2010; Rios et al., 2009).

2.6. Nurse's role in the donation process

When transplant programs were in their infancy, the implicit belief was that individual people held the key to the future of transplantation organs. Researchers focused more attention on personal attitudes and behaviour among the general public in order to study the possible relationship between attitudes to donation and willingness to offer organs for transplantation after death (Paris & Katz, 1986; Radecki & Jaccard, 1997; Brug, Van Vugt, van Den Borne, Brouwers, & Van Hooff, 2000; Rachmani, Mizrahi, & Agabaria, 2000; Godin, Sheeran, Conner, & Germain, 2008; Rykhoff et al., 2010; Trompeta et al., 2012). It appears that these findings remain of interest, but have less relevance now that the potential donor rarely has the final say about donation (Gauher et al., 2013). Family members and health professionals have greater influence over the outcome of the donation process than the potential donor (Abidin et al., 2013).

Healthcare professionals, including nurses, play an important role in identifying potential donors, in approaching families for consent, in educating the public, and in nursing the potential multi-donor (Aghyan et al., 2009; Kim, Fisher, & Elliott, 2006; López-Montesinos et al., 2010; Sque et al., 2000). It appears that there is general agreement among researchers
that nurses are fundamental to the process, since they are in direct contact with patients and have an important influence on questions of healthcare and on the successful outcome of the donation and transplantation process (Cebeci & Suco, 2011; Rios et al., 2010). Kent (2002) also argued that it is often the nurse who takes the lead in initiating discussion with relatives, resulting in donor referrals to the transplant teams. Although most of the patients who are decreed brain dead are found in intensive-care units, because of the shortage of beds in these wards, they can also be found in departments of internal medicine and other wards. It is therefore imperative to widen the awareness of the role of nurses in the organ donation process to include staff in all departments of the hospital (Cohen et al., 2008; Rios et al., 2010).

There are many debates surrounding the role of healthcare professionals. Research exploring health-professional behaviour as related to organ donation examines whether healthcare professionals have a direct effect on increasing the number of organ donors (Sque et al., 2000; Kent, 2002; Kim, Elliott, & Hyde, 2004; Collins, 2005, Siminoff et al., 2001; Akgun et al., 2003; Rios et al., 2009; Lin et al., 2010; Flodén et al., 2011). Rachmani (2000) demonstrated that one of the major reasons for the organ shortage problem is the way healthcare professionals at general hospitals deal with the organ donation process. Cantwell and Clifford (2005) also discussed this question and argued that nurses have an important effect if they undertake their roles effectively. Abidin et al. (2013) argued that there is evidence that the shortage of organ donors is not primarily the result of lack of suitable donors, but rather the result of the failure to identify them and to obtain consent. Despite the literature, which clearly indicates that certain roles should be assigned to nurses in the donation process, these roles are not clear-cut and lead to confusion about who should take on a particular role in the department. Additionally, the personal feelings, the training, and the confidence of the nurses involved should be considered.

A number of studies (Aghayan et al., 2009; Collins, 2005; Kent, 2002; Kim et al., 2004; López-Montesinos et al., 2010; Sque et al., 2000; Vlaisavljevic et al., 2014) highlighted the roles best performed by the nurses in the organ donation process that include: identification of the potential donor; talking to the family; making a formal request; emotional support of the donor's family; caring for the potential donors; informing and educating (Cebeci et al., 2011; Swain, 2011). However, Israeli policy seems to be that the role of the nurses begins and ends with informing the transplant-coordinator of an unconscious patient who is placed on a ventilator. Is this really enough to increase the number of organ donations? Sque et al. (2000), in her study of 2650 nurses in the UK, stated thus: "Nurses and doctors act as gatekeepers, controlling the access to potential donors and providing broad-based consultation." (p.542). Thus it seems clear that without nurses' help and support, organ donation may not be an option presented to the family (Rios et al., 2009; Thomas et al., 2009).

But lack of a clear definition of the role of the nurse leaves it up to the personal judgment of the individual nurse, a position which can cause the nurse to feel anxiety concerning their professional responsibilities and limitations (Cebeci et al., 2011; Kent, 2002). It should be
noted that most of the studies, despite the fact that they investigated a variety of countries, reported similar conclusions as to the role of the nurse in the donation process.

In general, the shortage of organs and tissues for donation not only reflects the rise in the number of patients in need of transplants, but also illustrates the failure to acquire sufficient donors. The literature reveals a variety of factors responsible for this shortage, including poor public awareness and insufficient knowledge, cultural and religious perceptions, and the failure of healthcare professionals to identify potential donors and to initiate the donation process (Alghanim, 2010; Boey, 2002; Gauher et al., 2013; Oliver, Woywodt, Ahmed, & Saif, 2011; Saleem et al., 2009).

### 2.7. Factors influence nurses' involvement in the organ donation process

The importance of the nurse's involvement in, and contribution to, the organ donation process has already been discussed in this review. It is therefore important to understand the factors influencing the nurse's behaviour in this situation. These factors include values and attitudes, religion, and knowledge and understanding of the process. The next section of the survey will relate these factors, beginning with the religious influences and ending with professional attitudes and feelings of professional responsibility.

#### 2.7.1. Culture, Religion and organ donation

Religion is a part of culture in its wider sense and culture of many groups and nations is founded on one or other religion (Ney, 2003; Cohen & Hill, 2007; Geerts, 1993). Culture is a patterned behavioural response that develops over time as a result of imprinting the mind through social and religious structures and intellectual and artistic manifestations. It guides our thinking, doing and being, and becomes a patterned expression of which we are (Giger & Davidhizar, 2004). Leininger (1985, 1991) maintains that culture is the values, beliefs, norms and practices of a particular group that are learned and shared and that guide thinking, decisions and actions in a patterned way. Religion is "a system of symbols which acts to establish powerful, pervasive and long-lasting moods and motivations in peoples by formulating conceptions of a general order of existence, and clothing these conceptions with such an aura of factuality that the moods and motivations seem uniquely realistic" (Geerts 1973, p90). Religion is closely related to culture and it would be hard to understand religion isolated from culture. This perhaps might explain why researchers sometimes use culture as it is related to religion and vice versa. At any rate, this work relates to the aspect of religion which influences attitudes towards organ donation and is based on the work of anthropological researchers.

Religion and culture have a significant effect on the way individuals perceive their health situation and how they view illness or the way its symptoms are expressed. This affects people’s expectations from the health services and their understanding of medical terms used by the health care provider regarding diagnosis and medical treatment (Delbar, 2006). Any discussion of health issues must include reference to religion and its effects.
Israel's citizens are particularly heterogeneous, come from all over the world, and in addition the country is a meeting point of traditional Middle-Eastern healthcare practices and modern Western medicine. The population of Israel was officially reported as numbering 8,134,700 at the end of 2013. Of these, 75% were Jews and 20.9% were Arabs while 3.9% were of other nationalities. From 1990 to 2010, 1,117,000 people immigrated to Israel, of whom 87% came from Russia and 4.5% from Ethiopia. In 2013, among the Jewish population, 66% were born in Israel, 39% were born in Europe and America, 15% were born in Africa and 12% were born in Asia (Central Bureau of Statistics, 2013). Each wave of immigration has had its own characteristics in terms of geographical origin, causes of immigration, dimensions, dominant ideas and achievements. Israel's Jewish majority population is differentiated religiously, socially, and nationally from the non-Jewish, which includes 82.8% Muslims, 8.6% Christians and 8.3% Druze.

It is important to be cautious in generalizing about the health beliefs of Israeli citizens, because numerous variables influence their health practices. Doctors, nurses and other healthcare professionals are from diverse cultural, religious, and ethnic groups as well. The interaction between health providers and patients can prove frustrating for both sides is often blamed on cultural and religious differences and difficulties in communication which often affect the nature and effectiveness of the health services (Papadopoulos, 2006).

Organ donation is a controversial issue because the country's four main religions (Judaism, Islam, Christianity, and the Druze religion) each have different views on organ donation, which profoundly may affects attitudes toward organ donation from brain-dead persons. Tales about the ambiguity between life and death have deep cultural roots in many societies (Bowman & Richard, 2003). People refuse to donate their own or their loved one’s organs for complex reasons related to age, gender, education, and cultural and religious views about the body. Caring for a brain-dead patient who looks alive and is still warm to the touch provokes emotional and moral conflict in both Western and Eastern cultures (Kim et al., 2004; Pearson, Robertson-Malt, Walsh, & Fitzgerald, 2001).

An understanding of the positions taken by the major religious groups about organ donation can enhance the ability of the multidisciplinary team in the critical care unit to facilitate dialogue concerning this issue. No less significant is the ability of the team members to listen non-judgmentally to the personal, often culturally and religiously influenced beliefs of donors and family members, and to be aware that these individual beliefs may vary significantly from those of the healthcare professional (Gillman, 1999; Oliver et al., 2011).

Based on Yisraeli (1997), Oliver et al. (2011) and Scott and Jacobson (2007), no religion formally forbids donation or receipt of organs or is against transplantation from living or deceased donors (Bruzzone, 2008). But the departure of the soul from the body as a marker of death is central to some Christian, Muslim and Jewish religions (Long et al., 2008). Judaism includes three prohibitions concerning the body which could be used as a rationale for not allowing organ donation. The first is "desecration of the body"; the second is possible delay of immediate burial, which is a religious obligation; and finally, receiving benefit from the body. These strictures all point to the same idea: a desire not to interfere with the natural
process of death. The determining question involves the establishment of the moment of death. The Chief Rabbinate resolved the question when it recognized brain death in 1986 and approved a heart donation (Kunin, 2005; Mayer, 1997). Among the Orthodox, while there is no consensus regarding the criteria for death, some leaders have come out clearly in favour of brain death as the acceptable criterion, thus making organ donation possible. In Judaism there is a general legal principle affirming that the saving of human life takes precedence over all other laws. Indeed, the saving of human life is thought to be among the noblest acts a person can perform, as the Talmud asserts: “Whoever saves a single life, it is as if he had saved the whole world” (Talmud, Sanhedrin 4:5).

The majority of Muslim scholars, both Sunni and Shia, promote the value of saving human life and hence allow organ transplantation as a necessary means toward attaining a noble end. The prophet Muhammad stated that whoever can bring benefit to another let him do so. Muslims believe that life is a gift of god and a person has no legal authority over his/her own body. The Qur'an also states, “Whosoever saves the life of one person it would be as if he saved the life of all mankind” (Qur'an, chapter 5 vs. 32), and affirms that organ transplant may be used as means of alleviating pain or saving life on the basis of the rules of Shariah (Islamic law). Muslims can carry donor cards and organ donation must be given freely without reward (Oliver et al., 2011; Syed, 1998).

However, support is not unanimous among Muslims leaders for organ donation, and this creates a dilemma for lay Muslims. There are Muslims who "feel that the body should be returned to Allah in the same shape in which it was given", (as in Judaism, "violating" the human body is forbidden.) On the other hand, there are many Muslims who do carry donor cards (Bülow et al., 2008; Gillman, 1999). There is striking variability in attitudes toward transplantation throughout the Muslim world, it is therefore necessary to focus on each community separately in order to understand the prevailing attitudes toward organ donation (Fawzi, Gerry, & Anthony, 2005).

Catholics, Protestants, and Orthodox Christians support and encourage organ donation. The Christian looks to Jesus, whose message came in sacrificing his life for the benefit of all. In keeping with Catholic tradition, the Pope repeatedly advocated the donation and transplantation of organs, calling this a "service of life" (Gillman, 1999; Bülow et al., 2008; Oliver, Ahmed, & Woywodt, 2012).

The Druze is an independent religious community whose members are descendants of Muslim Arabs who diverged from Islam in the eleventh century, but continue to maintain their Arabic language and culture. No conversion is allowed, either into or out of the religion, and they have tried to keep their religion secret (Dwairy, 2006). Therefore, it is very difficult to obtain the formally-declared attitude toward organ donation.

According to the Druze, there are a certain number of souls in the world which transmigrate from one body to another. The soul is eternal, and when it leaves the body, the body has no value. Death is determined by the heart, not by the brain. Only when the heart has stopped beating can the body organs be used for donation and transplantation.
There is evidence of the impact of religion on whether or not organ donation is acceptable (Gauher et al., 2013; Morgan et al., 2006). Cohen, Ashkenazi, Katvan and Singer (2012) reported that a survey of the Israeli population found the commonest (45% of respondents) reason for refusal to donate organs was related to religious objections. People who described themselves as having stronger religious beliefs were more likely to oppose organ donation (Rumsey et al., 2003; Saleem et al., 2009; Sharif et al., 2011; Wakefield, Reid, & Homewood, 2011). Sometimes the reasons given by the family for refusing to donate organs was that they wanted to keep the body whole and wanted immediate burial. These reasons are relevant to religious beliefs (Brown et al., 2010).

Although all major world religions endorse organ donation, personal interpretations given to religious concepts appear to provide impediments to the practice. For example, even though the Catholic Church officially endorses organ donation, Hispanic American Catholics described their concern that removing body parts might affect their chance for resurrection (Bresnahan, Lee, Smith, Sherman, & Yoo, 2007). Gauher et al. (2013) and Bresnahan et al. (2007) have argued that fears of death and body mutilation were additional concerns; they also discerned among those studied a spiritual and religious connection with potential recipients of their organs.

The role of religion and religiosity is very important in considering multicultural diversity (Saleem et al., 2009). In practice, the healthcare staff involved in the donation of organs process should explore issues based on the effect of donation of organs on the donor's body, in cases where a patient may be reluctant to donate because the organ donation process seems to violate his or her religious and spiritual beliefs. Healthcare professionals who understand these beliefs may change the organ donation protocol to allow a patient to donate organs without violating these values (Oliver et al., 2011; Wakefield et al., 2011).

To increase support of the concept of brain death, changes accommodating requirements of the religious authorities were made to the brain death act in Israel. These included considering the patient's wishes regarding brain death determination, mandatory performance of apnea and ancillary testing, establishment of an accreditation committee, and a requirement for physician-training courses. However, even with these accommodations, a survey performed in 2010 showed a decrease of more than 10% in the number of brain-deaths in Israel since the passage of the Brain-Respiratory Act in 2008 (National Transplant Centre, 2011). This can be explained by the reluctance of the patients' families to test for brain death. The number of physicians authorized to determine brain death has also decreased.

To understand more about the factors influencing nurses' professional behaviour toward organ donation, the next section will discuss nurses' personal attitudes and behaviour, and then attempt to understand the influence on their professional perception and behaviour.

2.7.2. Nurses’ attitudes and personal behavior regarding organ donation

An effort to fully understand the behaviour of nurses in the context of organ donation necessarily involves an examination of the development of their beliefs, attitudes and
behaviour, all of which aid the individual in organizing their world and serve as a guide in directing behaviour (Ajzen & Fishbein, 1980).

Nursing personnel are a healthcare subgroup fundamental to patient care and to promotion of health in the general population (Abidin et al., 2013; Rios et al., 2008). Their attitudes toward healthcare issues influence patients and their families, as well as the general public. Rios et al. (2008) argued that one of the barriers to obtaining more transplantable organs seems to be present within the healthcare structure, given that a considerable percentage of professionals are opposed to organ donation. Thus if healthcare professionals are opposed to organ donation, they will generate a negative attitude towards the issue among the public. This is difficult to reverse, since the source of information is considered credible (Rios et al., 2008; Rios et al., 2009). There is general agreement among researchers that a crucial element is a positive attitude of healthcare professionals toward organ donation (Collins, 2005; Melo et al., 2011; Radunz et al., 2010; Rodrigues-Villar et al., 2009).

Understanding and acceptance of the concept of brain death was also found important (Martinez-Alarcón, 2009). Reluctance on the part of healthcare professionals to identify a brain dead patient as a potential donor is considered one reason for a shortfall in transplantable organs (Cantwell & Clifford, 2000; Sque et al. 2000). Nurses are the first professionals in a position to identify a potential donor and to notify the organ transplant coordinator or team. Thus it is crucial to identify nurses' beliefs and attitudes towards brain death and organ donation (Jung-Ran, Fisher & Doug, 2006).

Ashkenazi and Klein (2013) argued that in the early stage of intervention, the staff must be aware of their own positions and opinions, their culture, ethnicity, and religious beliefs. In addition, the research shows that knowledge has an influence on attitudes (Madsen & Bøgh, 2005; Kim et al., 2006; Radunz et al., 2010; Wakefield et al., 2011). Healthcare professionals who possess more knowledge about donation are more likely to accept organ donation and to be identified as a potential donor. These findings conform to results from different studies reported around the world indicating the significant relationship between knowledge and attitudes toward donation (Morgan & Miller, 2003; Rumsey, Herford, & Cole, 2003; Saleem et al., 2009). Melo et al. (2011) emphasized that better knowledge of the organ donation process was demonstrated to be related to a more positive impact on attitudes toward organ donation. However, it is important to note here that increased knowledge alone is not enough to change individuals' attitudes. Without a greater consensus on the concept of death in ethical and legal perspectives, "conceptual gerrymandering" will only bring about further ambiguity and reluctance regarding organ donation (Youngner et al., 1989).

Several studies (Gauher et al., 2013; Whisenant and Woodring, 2012; Edwards, Essman, & Thornton, 2007; Akgun et al., 2003; Sque et al., 2000) have shown that knowledge about organ donation was also a strong predictor of attitudes toward organ donation. Healthcare professionals with more knowledge about donation are more likely to accept organ donation and to be identified as a potential donor. These findings confirm results from different studies reported around the world indicating the significant relationship between knowledge and attitudes toward donation (Morgan & Miller, 2003; Rumsey et al., 2003; Saleem et al., 2009).
Melo et al. (2011) also emphasized that better knowledge of organ donation process was demonstrated to be related to a more positive impact on attitudes toward organ donation.

Nurses who provide care for potential organ donors and their grieving families may be the first professionals to establish an intimate relationship with family members, and may initiate the discussion about donation or referral to the transplant team (Collins, 2005; Elding & Scholes, 2005). Nurses are thus in a position to influence the staff to discuss organ donation with potential donors and their families. (Edwards et al., 2007). A number of studies have stressed that nurses’ confidence in their knowledge has influenced their positive attitudes and commitment towards organ donation after death. On the other hand, lack of knowledge or confidence can hinder the process.

Since attitudes and thoughts affect personal behavior, it is important to study them. So when nurses believed that brain death is a real death and organ transplant were important to help people who were suffering, they were more likely to have discussed donation with their families. Moreover, nurses with the most positive attitudes towards the process would more readily commit their own bodies after death (Boey, 2002; Sque et al., 2000) whereas negative attitudes about organ donation, fears of bodily mutilation and fears of medical neglect were found to be negatively related to commitment to donate (Boey, 2002).

Possession of a donor card is considered an expression of support for organ donation. A number of studies (Flodén & Forsberg, 2009; Nasrollahzadeh, Siavosh, & Ghods, 2003; Shabanzadeh, Sadr, Ghafari, Nozari, & Toushi, 2009) have also documented the connection between personal and professional behaviour. They argue that nurses with negative attitudes toward donation are not eager to obtain consent from the deceased family. Another study (Shabanzadeh et al., 2009), has found that only 15% of the nurses in ICU had a donation card, but 75% were eager to have it. Seventy nine percent of the nurses who had positive attitudes toward organ donation after death did not have a donor card; only 18% of them had a card. Similarly, in Korea, nurses demonstrated that the personal concept of death also varied, and often demonstrated cognitive dissonance and self-contradictory ideas. Some of the nurses demonstrated their personal belief that death occurs only when all cardiopulmonary functions are stopped, even though they agree with the concept of brain death legally and biometrically (Kim et al., 2004).

The gap between attitude and behaviour is expressed among other health care professionals as well. Edwards et al. (2007) state that only 25% of family doctors in the United States are signed up for organ donation and surprisingly, fewer than half of the staff working in transplant centres carry donor cards. In another research (Kim et al., 2006) conducted among Hong Kong nurses, a high support rate for transplants was found, but only 23% of the nurses were willing to commit to donating from their own bodies. The main reasons for the lack of willingness to donate were religious objections, fears, and lack of awareness.

Rumsey et al. (2003) have shown that patients have more positive attitude toward organ donation if they know that the doctors are willing to donate organs themselves. Others even said that nurses’ personal example signing the donor card or showing an already-signed card
could persuade families to give their approval for organ donation at the critical moment (Vlaisavljevic et al., 2014).

Youngner et al. (1989) posed a significant question: If health professionals lack clarity and consistency in their own understanding of death, how can they be effective in explaining it to others? According to the results of their research, one third of healthcare professionals, including physicians and nurses in ICU, do not truly believe that brain dead patients are dead. White (2003) also found that 48% of ICU nurses demonstrated ambivalence, as evidenced by their referring to brain death as "near dead or incompletely dead". They believed only cessation of cardiopulmonary functions is death.

2.7.3. Professional perception and behaviour in the organ donation process
Lack of adequate awareness of donor identification by healthcare staff causes lower donor detection and referral rates. Increased workload and unfamiliarity with the procedure may also have negative effects (Cohen et al., 2008). As a result, it is highly unlikely that every potential brain-dead patient ends up being referred to the transplant team (Cebeci et al., 2011).

Several studies (Cohen et al., 2010; Kim et al., 2004) indicated that the healthcare professionals' working area affects their knowledge level and attitudes. If health professionals are not directly involved in the organ transplant process, they are less knowledgeable and have a somewhat negative view toward organ donation and transplantation, no matter which they are physicians or nurses (Flodén et al., 2011). It is known that the close care by nurses of a patient in need of a donation or of an organ recipient contributes to an increase of willingness and awareness to act (Kent, 2002). A positive correlation has been found between the level of the nurses' knowledge and the willingness to participate in the transplant process, but many of the survey participants reported that, even though procedures do exist on this subject, identification and analysis of potential donors as a working routine was lacking in their place. Furthermore, according to a recent literature review by Flodén and Forsberg (2009), comprising 343 abstracts and as well as 24 articles, they identified a number of factors that explain why organ donation does not take place, despite the will of the deceased. The most important factor was the attitude of Intensive Care Unit (ICU) staff toward organ donation (Flodén & Forsberg, 2009). Other researchers (Bartuccci, 1987; Gold, Schulz, & Koch, 2001; Sanner, 2007) also demonstrated that ICU staff attitudes were important for consent to organ donation.

In a 2011 survey of healthcare professionals done in Israel, (Israeli Ministry of Health, Quality Assurance department, 2011) less than half of the respondents expressed willingness to be involved in identification of potential donors, while 26.7% did not want to be involved in any aspect of organ donation. This sentiment was higher among doctors (32.3%) than among nurses (23.4%). While 44.5% were willing to be involved in the preservation of an organ suitable for donation, 26.7% did not. Thirty-three and a half percent expressed willingness to attend to the family during the process, but 33.5% were not willing. The most
problematic part of this contact with the family was identified as the initial discussion with the donor family.

Similarly, Cebeci et al. (2011) presented findings that nurses are aware of nurse's role and responsibilities in the organ donation process which also includes increasing public awareness in order to increase the number of donated organs. López-Montesinos et al. (2010) argued that if nurses perform their duty as role models in organ donation, the willingness rates and social sensitivity towards organ donation could increase.

In general, as mentioned, reluctance by healthcare professionals to identify a dead person as a potential donor is one reason for the shortfall in transplantable organs. Some are not convinced of the cost-effectiveness of organ donation. Others may agree with organ donation in principle, but not in practice, owing to their cultural or religious viewpoint (Bener, El-Shoubaki, & Al-Maslamani, 2008). In addition, previous studies have shown that many healthcare professionals feel uncomfortable with involvement in the donation process (Cohen et al., 2008). Because of the high level of interpersonal skills required to approach a bereaved family regarding organ donation, nurses may not perceive organ donation as a part of their professional responsibility (Bener et al., 2008).

Thomas et al. (2009), in their qualitative study about nurses' experience in the organ donation process, reported that nurses cited the important role they play in preparing the families for discussion about donation, in recognizing their grief and subsequently, in consolidating, reassuring and supporting families after the discussion has taken place. However, health care staff very often didn't identify the right moment to approach families for their consent. In addition, it can be difficult for a staff member to approach the family of the deceased and to suggest the possibility of organ donation (Siminoff et al., 1995). The healthcare staff member may feel stress in these situations which makes them reluctant to act. They themselves may often not be personally convinced about organ donation or they may agree with organ donation in principle but not support it in practice (Bener et al., 2008; Rachmani, 2007). In any case, transplantation is a sensitive topic that addresses issues of mortality and death that could be difficult for anyone to discuss (Sque et al., 2000).

In summary, the persistent shortage of organs for transplantation could be minimized by increasing the number of potential donors; perhaps nurses hold the key to make it happen. One of the philosophical approaches of nursing, upon which the Ethical Code is based, is to meet a patient's and a community's needs. In order to fulfil that mission in the field of organ donation, all nurses must be aware of their important function.

Survey of the literature indicates many factors which influence organ donation, either as the individual or as the healthcare provider, on both personal and professional levels. Many studies investigated the importance of the nurse's involvement in the process of organ donation, studies which in the course of their research developed tools for measuring the effect of different factors on the nurse's role. However, these measurement tools did not include cultural or religious aspects and their influence on the nurse's role. The survey clearly shows that the religious and cultural aspect has a definite effect, but this has not been
included in any of the existing measurement tools. Even those who did include some religious and/or cultural aspects of the issue did not tie them into the professional behaviour of nurses (Rumsey et al., 2003). Sque (1996) developed a scale which measures the professional sides of the ward nurse, with an emphasis on the importance of the nurse's role in the organ donation process. However, this scale does not take the existence of various religious attitudes into account. The scale developed by Weiland, Marck, Jelinek, Neate & Hickey, (2013) included reference to the spiritual and cultural effects on emergency-care nurses in Australia. But this scale focused on emergency-care nurse, not the ward nurse, and it still did not emphasize these particular factors sufficiently; it is also not clear if the scale is at all relevant to the situation in Israel.

2.8. An appraisal of previous research about organ donation and nurses' involvement

Organ donation and transplantation is a success story, granting longer life to suffering patients. It is a story of technological sophistication (Rios et al., 2010; Wakefield et al., 2011; Melo et al., 2011). The research from the beginning concerned studies of the issue of brain death (Younger et al., 1989; DuBois & Anderson, 2006; Choen et al., 2008), the definition and determination of brain death. Further research dealt with the awareness of the general public (Siminoff et al., 2001; Brug et al., 2001; Rumsey et al., 2003; Wong, 2010), knowledge of and commitment to organ donation. Concurrently, studies were done investigating the various factors which influence the decision to donate: individual attitudes and opinions, social, cultural, and religious behaviours. By the beginning of the 1990's, researchers had begun to understand the complexity of the issue (Siminoff et al., 1995; Sque et al., 2000; Kent, 2002; Kim et al., 2004; Thornton et a., 2010).

Despite this progress, the gap between organ demand and supply is still a major problem in organ transplantation. It is now evident that those factors which influence the attitude toward organ donation are the same factors which can be changed. Other factors affecting the shortage include failure to identify potential donors, to determine brain death, to approach the family, and more general factors such as lack of appropriate training and education in organ donation, both on the part of healthcare professionals and for the general public. Nurses' close connections with potential donors and their families often make them the first healthcare professional to identify a potential donor. One of the central questions that arose in previous research (Abidin et al., 2013; Aghayan et al., 2009; Rachmani et al., 2000; Rios at al., 2009) was: Do nurses and other healthcare professionals have a direct effect on increasing the number of organ donors and thus reducing the transplant waiting list?

The research literature (Collins, 2005; Kent, 2002; Rios et al., 2010; Sque et al., 2000) show that nurses have an important role in the process and in promoting organ donation. Nurses’ knowledge and attitudes influence the degree of their involvement in the process, but many nurses are uncomfortable with the process. Factors such as religion influence their attitudes and behaviour on this issue. Despite all that is known, it is still not completely clear why nurses with positive attitudes avoid being involved in the process, what are the reasons for negative attitudes, and how religion influence the perception of professional responsibility regarding organ donation. The literature shows evidence that the issue of healthcare staffs’ attitudes toward brain death and organ donation cannot be described simply as binary, with
attitudes either completely positive or completely negative. Better understanding would require analysis of the causal factors that influence the person’s attitudes, and consider ways to positively modify those.

No substantive studies exist in Israel about either health care staff or nurses in general hospitals in view of religious and cultural backgrounds. Such studies are important because of the multicultural society in Israel and the differences that exist between Israel and other countries in the health care system relating to organ donation.

In seeking to explain the lack of research in Israel, it is suggested that this area of organ donation and transplantation is sensitive and subject to controversial religious opinions and tension between religion and medicine in determination of brain death. In spite of the efforts of the National Transplant Center to raise awareness of organ donation and of the importance of possession of a donor card, this is still not a priority issue of general health care staff. Additionally, health care staffs still feel discomfort in facing questions about their own commitment to organ donation and moreover to investigate behavior of others health care staff. As long as the issue is not part of everyday public discourse, it will be charged emotionally, culturally and professionally. There seems to be an absence of research examining religious factors among nurses, and how these affect their personal and professional behaviour. Considering the fact that existing questionnaires do not relate specifically to religion, there is a clear need to develop a different measuring tool which could be used in the context of the central question of this research: Are nurses' attitudes and behaviour toward organ donation shaped by their religion, and if so, how did it influence their professional behaviour?

Additionally, although evaluative tools are available, most of them aim to investigate knowledge, attitudes and beliefs as the principal parameters affecting nurses' behaviour regarding organ donation (Paris & Kat Siminoff et al., 1995; Sque et al., 2000; Lin et al., 2010; DuBois & Anderson, 2006; Aghayan et al., 2009; Vlaisavljevic et al., 2014). It seems clear that these parameters affect the issue of organ donations, but the questionnaires do not provide an in-depth explanation of what the actual determinants are of negative attitudes.

Hence, another consideration that is the central of developing this research is to use a combination of research tools to collect data from the target population, i.e., nurses.

Existing tools (Rumsey et al., 2003; Sque, 1996) do not accurately measure the prime focus of this research, which is identification of the main factors influencing nurses' awareness and commitment in the context of organ donation. The use of existing tools could provide misleading information or results which are too general. The more the researcher knows about the issue the greater the chance of developing a reliable, valid and useful tool to document change over time.

In order to achieve a deeper understanding of the relationship between nurses' attitudes and their behaviour and to answer the questions posed by this research, a sensitive psychometric scale should be formulated to measure the religious factors that influence organ donation team behaviour.
2.9. Chapter summary
In this chapter, the literature identifying the factors that may influence the supply of donated organs for transplantation has been reviewed. As demand for organs exceeds supply internationally, efforts have been directed toward overcoming barriers to organ donation at the level of the general public and also of health care staff. Although there has been increasing evidence in the empirical literature about personal attitudes and behavior of the general public regarding organ donation that may be influenced by religious beliefs, level of knowledge and awareness, emotional feelings and personal experience, the roles of health care staff are similarly influenced. This review demonstrated as well evidence from all over the world that health care staff, especially nurses, who have positive attitudes toward organ donation will refer potential donors and obtain family consent for donation more often than health care staff with a negative attitude.

Given that nurses were found to play an important role in the successful outcome of the donation and transplantation process, defining the exact nature of the nurse's role in the process has proved difficult. While this may be appropriate for countries like Spain, where there is a high degree of role specialization in donation, it is unlikely to be appropriate for countries such as Israel, or for hospitals without transplant coordinators in any hospital. Due to the nature of the medical system, it is essential that as many health care professionals as possible become involved in identifying a potential donor, notifying the transplant coordinator, and feeling comfortable with that involvement (Cohen et al., 2008; Rios et al., 2005). As long as the shortage of organs for transplantation remains an unsolved problem, more investigation in the role of nurses in Israeli hospitals must be performed.

2.10. Aims of PhD research
The literature reviewed in this study highlighted the roles associated with nurses as well as the factors affecting their readiness to be involved in the organ donation process. This research focused on the religious beliefs and attitudes, the personal and professional perceptions of nurses from a diversity of religions. A consistent, although minor theme in the research literature is the integration of the factors of religions and personal background as it relates to the nurse's role in the organ donation process, and this study attempts to fill that gap (Kent, 2002; Kim et al., 2004; Sque et al., 2000). Previous research makes a valuable contribution and offers a potential theoretical framework to aid the researcher in understanding the factors affecting nurses from general hospitals in their professional attitudes, and their responsibility to influence organ donation rates position team in Israel.

Although previous research has been developed survey tools to measure nurses' attitudes and behavior concerning organ donation, their relevance to nurses in Israeli hospitals is limited. Development of any culturally-sensitive scale which takes into account the religious backgrounds of the nurses along with their personal and professional perceptions is what is necessary for their unique professional situation.
The aim of the proposed study was to develop a valid, reliable, sensitive scale for use with nurses in a multi-religious society. In order to achieve this, the following were the research objectives divided into four stages:

- **Stage One:** To ascertain the attitudes and beliefs about organ donation among Israeli nurses groups in a multicultural/religious and clinical setting.
- **Stage Two:** To develop a sensitive scale regarding organ donation for nurses.
- **Stage Three:** To establish the reliability and validity of the culturally-sensitive organ donation scale.
- **Stage Four:** To investigate the relationship between the Care & Donate scale and key categories questions.

Measurement and evaluation of the above-mentioned factors were important for a number of reasons: first, the scale can aid in understanding the main influences on nurses' attitudes toward organ donation; second, by relying on the measurement as a predictor of nurse's behaviour, it can identify weaknesses and strengths in the nurses' behaviour and help to build an appropriate training program for them; third, the measurement can be used as an instrument for evaluating nurses' functioning and behaviour in the organ donation process.
Chapter 3: Description of the Qualitative study: Israeli Nurses' Perceptions of Organ Donation - A Focus Group Study among Nurses from Diverse Religions

3.1. Introduction

Despite the need for organ donations, there is still a serious shortage of available organs (Ashkenazi & Klein, 2013; Oliver et al., 2012). A large number of factors influence this shortage, including: the failure of health care staff to identify potential donors and to initiate the donation process; the attitudes of the health care staff toward organ donation, and poor public awareness and cultural and religious perceptions (Boey, 2002; Shabanzadeh et al., 2009; Tumin et al., 2013).

Organ donation is a complex procedure that can proceed only with the cooperation of the many stakeholders involved, including the donor, the families, and the health care staff (Aghayan et al., 2009). In the large medical centres and hospitals in Israel, specialist transplant nurses represent the National Centre for Transplant; they coordinate the transplant process, locate potential donors, accompany and support families in decision-making regarding the transplant, guide the medical staff regarding identification and care of organ donors, and maintain the required medical protocols.

Collins (2005) has claimed that in the process of organ donation, general nursing staff members rather than the transplant team are the logical candidates for preparing families for the discussion vis-à-vis possible donation. Thomas et al. (2009) demonstrated that general nurses themselves realize the important role they play in preparing the families for discussion about donation, in recognizing their grief, and in reassuring and supporting families after the discussion has taken place. The attitudes, knowledge, and willingness of nurses to care for the potential donor are, therefore, very important, and could potentially influence the family's decision-making process.

Despite the important role of nurses, many health care staff feels uncomfortable with involvement in the donation process (Cohen et al., 2008; Thomas et al., 2009). They face the conflict of caring for the patient and trying to keep them alive, while assisting the transplant team when a patient is brain dead. Health care staff must deal with the difficulties of involvement when they may feel that they lack sufficient information about organ donation and when they themselves may experience intrapersonal conflict about the whole process of organ donation. Previous research (Gillman, 1999; Zurani et al., 2010) supports the idea that social, religious and cultural issues play an important role regarding organ donation, especially in a multi-ethnic, multicultural and multireligious community such as Israel. Moreover, it should be considered that doctors, nurses and other health care staff are from diverse ethnic groups as well. The interaction between health care providers and patients can prove frustrating for both sides, and is often blamed on cultural or religious differences which affect the nature and effectiveness of the health services (Papadopoulos, 2006).
To date, research has provided limited insight into how religious beliefs and cultural factors impact upon Israeli nurses' behaviour in the organ donation process. In Israel, nurses' conflicts are compounded by the particularly wide range of different religions, levels of religious beliefs, cultural backgrounds, and even languages. The aim of this research was to examine how their specific beliefs and backgrounds affected Israeli nurses in their perception of and decisions about involvement in the transplant process.

Any research about organ donation in a multicultural context should establish the attributes of the population of interest (Andrews & Boyle, 2003). These attributes should be determined by members of the population themselves, rather than by "expert" evaluation (Kruger & Casey, 2009), as only they can offer authentic experience, which are at the heart of the study. For this type of exploratory research aimed to describing personal perceptions, a qualitative approach was chosen for this study, using focus groups. The themes and the categories represented in the findings of this study provide a broad base of authentic information in context regarding the subject of organ donation.

This information, in addition to what is already known from the literature, was then be used to develop a psychometric scale to assess the willingness of nurses to engage the families of potential donors in conversation regarding organ donation, and in order to determine if and how religious factors were influential in this process.

3.1.1. Aims of this study
The main aims of this stage of research were:
- To ascertain the attitudes and beliefs about organ donation that exist within a group of Israeli nurses in a multicultural/religious clinical setting
- To organise this information into themes associated with organ donation

The focus of the current research, as compared with previous research (Kim et al., 2006; Rodriguez-Villar et al., 2009; Sque et al., 2000; Tam, Suen, & Chan, 2012) is to obtain preliminary authentic information from the hospital nurses themselves regarding the subject. Developing a deeper understanding of the beliefs regarding organ donation requires a systematic collection of data, while maintaining awareness of the sensitivity of the subject. Drawing upon the principles of ethnography (Creswell, 2007), this may be most effectively performed by someone already working in this environment who comprehends these difficulties, yet appreciates the importance of scientific accuracy.

3.2. Method
3.2.1. Design
The main paradigm of the study was inductive-naturalistic (Alasuutari, Bickman, & Brannen, 2008) seeking to develop an understanding of beliefs about organ donation held by nurses from different religious backgrounds without making any pre-assumptions (Bryman, 2008). This was complicated by the fact that the researcher herself is a nurse who must deal with the same questions as the nurses participating in the research. Qualitative research which is interested in people's perspectives, experiences or attitudes, is particularly suited to exploring
little-researched topics in-depth. It is done in a naturalistic setting (Creswell, 2008), which appears to be especially important when seeking information about such as potentially emotionally-loaded and personal topic. Direct qualitative contact with the nurses was enable an in-depth and nuanced view of their attitudes towards organ donation and their behaviour in a possible donation situation.

3.2.2. Ethical approval
1. Ethical approval for this study was granted by the Ethics Committee, Department of Psychology, University of Portsmouth on 20 March 2009 (Appendix 3.1).
2. Based upon the instructions of the local ethics committee of each hospital, no hospital-level ethical permission was necessary for conducting this research, since it concerned nurses, but a letter of request was sent to the hospital chief of staff, and head nurse in order to notify them and request their consent for nurses' participation (Appendix 3.2).
3. Informed consent: At the focus group meeting, the nurses were required to sign document of informed consent (Appendix 3.3)
4. During the first stage of qualitative study, only the researcher and co-instructor of the focus groups were present, and they were aware of their obligation to respect and maintain the confidentiality of the participants. All participants signed a form agreeing to confidentiality.
5. Participants were aware that if they felt it was too difficult or uncomfortable for them, they could inform the researcher so that she could assist them, since this was such a sensitive subject. They also understood that they could leave at any point if they so wished.

3.2.3. Participants
Sampling in qualitative research aims at insuring that a wide range of opinions and attitudes are accessed (Bryman, 2008). Therefore, the composition of the groups was selected according to occupation and the participants' religions. Those participants who met the specific criteria were chosen.

Potential participants in this study were registered nurses from hospital in the north of Israel. The nurses were religiously diverse, and included Arab nurses (Muslims and Christians) and Jewish nurses (secular, traditional, and Orthodox); all were born in Israel. It was important that the nurses had a background of professional experience in departments of internal treatment/surgical/intensive care. Nurses who did not meet this criterion did not participate in the focus group.

Two factors must be considered when conducting this type of research: the size of the sample group, and the number of participants in the focus group. Group size was important because of the dynamics within the group. Based on the literature, the ideal size for a focus group is five to eight participants, In any case, there should be no more than ten participants, because large groups are difficult to control and they limit each person's opportunity to share insights during the discussion (Krueger & Casey, 2009). The focus group size was influenced by the necessity to include nurses from a variety of religions who treated patients from a variety of
religions. This sample has allowed to the researcher to understand the critical issues related to religion and organ donation.

A second consideration was the sample size in this qualitative study. The limit to the number of groups in social science (Zeller, 1993) is frequently summarized as the ability to stop collecting data, reaching the goal of "saturation", the point at which additional data collection no longer generates new understanding. Therefore, the sample size needed to be sufficient to reach data saturation and sufficiently diverse to ensure enough data. Another factor which can influence the number of groups is the structure of the interview. The more rigid the structure, the smaller the variance in the content of the group interviews, and the greater the adherence to the limits of the findings in which the researcher is interested.

Focus group size was affected by the number of nurses available from each religious group. Because of the decision to group nurses homogeneously, the number of participants in each group varied. For example, the Druze constitutes a relatively small percentage of the Israeli population. Therefore, it was more difficult to assemble a representative number of Druze nurses, making this group smaller than other groups.

As stated, all of the religions in Israel were represented (Muslim, Christian, Druze and Jewish). Each religion has assumed an official or semi-official position with regard to organ donation, but also encompasses a wide range of informal or semi-formal attitudes, beliefs and behaviors.

3.2.4. Recruitment
The nurses each received a personal letter of invitation to participate in this study, to which a detailed explanation of the research and its goals was, enclosed (Appendix 3.4). As soon as the researcher received their agreement to participate in the study, either by phone or by a return letter, the researcher began planning the schedule and the meeting place for each group.

During the process of recruiting participants it was important to ensure that there were enough from each religious group. The participants were asked to return their consent forms by return mail. This form contained demographic information such as phone number, place of employment, and religious background. This was important in order to make sure that the participants fulfilled the criteria established and in order to integrate them in the correct focus group. In all, 200 letters were sent to nurses and response rate was 30%. Only when there were enough participants for each of the focus groups was the date of the first meeting decided. In all, 64 nurses consented to participate in this stage of the research, and fit the criteria.

3.2.5. Data collection
Data was collected by semi-structured schedule within homogeneous focus groups, using wide-ranging questions (Appendix 3.5). The nurses participating in the focus groups were encouraged to use their own words, as recommended by Halcomb, Gholizadeh, DiGiacomo,
Phillips, and Davidson (2007). The group discussion setting encouraged informal and spontaneous discussion in response to the interview questions. Despite the common misconception that people will be inhibited in revealing intimate details in a group discussion, the relaxed atmosphere and the thoughtful and sensitive exchange of views appeared to facilitate personal disclosures. As indicated by Smithson (2008), in contrast to personal interviews, focus groups operate much closer to everyday conversation. In this case, the group discussions included a range of communicative processes, such as storytelling, joking, arguing, persuasion, challenge, and disagreement (Smithson, 2008).

The decision concerning heterogeneous or homogenous religious focus groups was based on various arguments (Halcomb et al., 2007; Morgan, 1997). First, to ensure that the nurses felt comfortable and that the voices of participants from each cultural, religious and linguistic background could be heard, participants were divided into homogenous focus groups. Another consideration was that homogeneous groups could provide some level of insight into the collective beliefs of that the group, although it was appreciated that individual factors such as personality and rank within the clinical setting could still impact on what was ultimately said. However, the researcher nurse used her experience and the participants’ evident desire to discuss this issue, and any attempt of each group member to speak freely was allowed. Moreover, Morgan (1997) argued that the homogeneity of groups also help to facilitate analyses that examine differences in perspectives between groups. Since the primary focus of this research was to examine the effect on hospital nurses’ perceptions of organ donation from various religious and cultural backgrounds, it was more appropriate to create homogeneous religious groups.

A possible difficulty which was being addressed was the difference between the interviewer’s religion and that of some of the interviewees, which might have led to expressions of social desirability rather than to honest opinions, distorting the data. In practice, this did not occur, perhaps due to the fact that professional responsibility played a significant part in the discussions. Ultimately, as described by Bryman (2008) and Creswell (2008), the groups generally functioned like brainstorming sessions in which the participants used their colleagues’ ideas as input, enabling the researcher to obtain direct information from the nurses, providing her with a deeper access to the issues.

This form of research encouraged nurses to use their own words to describe their beliefs, attitudes, and experiences. The researcher was interested in the range of themes that would emerged during the focus group discussions which would aid in developing a sensitive scale to be used in the next stage of the research.

To this end, the study involved comprehensive discussions in focus groups, which were chosen rather than individual interviews. Encouraging nurses to use their own words to describe their beliefs, attitudes, and experiences in order to learn about their perception of organ donation. The researcher was interested in the range of themes that would emerge during the focus group interviews which would aid in developing a sensitive tool to be used in the quantitative part of the research. In this case, individual interviews were not the best
choice, because organ donation is a very sensitive and complex issue about which may be easier to talk in a group than one-on-one.

Arguably, issues of depth are more appropriately accessed through focus groups, which are much closer to everyday conversation as opposed to individual interviews. They typically include a range of communicative processes such as storytelling, joking, arguing, persuasion, challenge and disagreement. The dynamic quality of group interactions is generally a striking feature of focus groups (Smithson, 2008). When a group discussion is conducted, it is like a brainstorming section, where the participants use their colleagues’ ideas and language as input, and the interaction within the group enables the researcher to obtain direct information from the nurses and to learn about the nurses' perception with a deeper access to the issues. (Bryman, 2008; Creswell, 2008).

Additionally, the difference between the interviewer's religion and that of the interviewee might obstruct the flow of information and thus create expressions of social desirability rather than honest opinions, thus distorting the data. When the researcher is one individual among many participants in the focus group, the issue of his/her background is mitigated. The interaction within the group, which is similar to a brainstorming session, enables the researcher to obtain direct information and a deeper access to the issues. (Bryman, 2008; Creswell, 2008).

Although organ donation is relevant on some level to the professional functioning of all nurses in hospitals, irrespective of religion, it was decided to use homogenous groups in respect of religion. This was aimed at promoting nurses' comfort and ensuring that the voices of participants from each cultural, religious and linguistic background could be heard (Halcomb et al., 2007). Each focus group could be said to represent the collective beliefs of that group, although it is appreciated that individual factors such as personality and rank within the clinical setting could still impact on what ultimately was said.

### 3.2.5.1. Setting
Great importance was attributed to the research setting and to the relationships within the group. Hence, the focus groups were conducted in the hospital, in a room which serves the nurses for their work. In all groups, nurses who participated worked in different departments of the hospital. Most of them did not know each other well. In addition, no authority relations were maintained among participants in each group. The meeting times were scheduled at the convenience of participants, and the nurses were more than willing to discuss the topic in general, perceiving its importance. Great effort was devoted to creating a warm and sensitive setting, and refreshments were provided.

### 3.2.5.2. Procedure
Aside from the nurses' willingness to participate in this qualitative study, the researcher contacted participants by phone, assuring their attendance. The expected number of participants in each group was important due to group cultural and religious homogeneity, so
it was important to guarantee that each group consisted of a sufficient number (between five to eight and no more than ten) of participants.

The researcher introduced herself to the participants at the meeting's opening, presented the interview's planned proceedings, explained the need to record it, and guaranteed that absolute confidentiality and safe storing of information would be maintained. The researcher also distributed a consent form to the participants, reviewed it with them, and requested the signature of those who were willing to proceed. Throughout the whole process, the researcher emphasized that any participant who wished to withdraw from the focus group should feel free to do so.

3.2.5.3. Data recording
The focus group discussions lasted 45-60 minutes, and were audio-taped to allow a verbatim transcript which enabled the researcher to listen repeatedly to the conversations. This also allowed the researcher to be available for group discussion and not to be tied to writing notes.

3.2.5.4. Data protection
The informed consent forms, the audio data collected, and transcripts of the focus groups were confidential. These were stored in a locked cabinet, accessible to the researcher alone. The electronic data were stored as a secure file with a password known only to the researcher, and all the transcribing was done by the researcher herself; hence, only she was exposed to the data at this stage.

3.2.5.5. Semi-structured Focus group schedule
In order to cover as many of the issues as possible, the researcher prepared an outline aimed at achieving an insight into the attitudes and basic opinions of group participants. The research literature (see Chapter 2) identified certain domains influencing nurses' roles in the process and promotion of organ donation.

By consulting the broad range of literature on the subject, the main themes influencing nurses' perception were identified. Relevant questions were formed for the focus groups, e.g., Knowledge and attitudes concerning organ donation. Since knowledge is a good basis for readiness to be involved in the process, the nurses were asked what they knew of the process, what is brain death. Based on to the literature on religion and organ donation, questions were asked the nurses concerning their knowledge of their religion's official stance toward the process.

Nurses’ knowledge and attitudes influence their degree of involvement in the process, and many nurses are uncomfortable with confronting the issue. It is still not completely clear why even nurses with positive attitudes avoid becoming involved in the process. Previous research has avoided investigating the reasons underlying negative attitudes, and the way religion affect perceptions of professional responsibility regarding organ donation. Thus, the semi-structured questions in the focus groups were, inter alia, aimed at clarifying these points, including identification of causal factors influencing attitudes. The subjective
perceptions of the nurses were emphasized, examining both nurses' professional and religious/cultural points of view.

Based on Krueger & Casey (2009), Krueger (1998), and Morgan (1997), the second source for the interview structure was the funnel approach to framing the questioning. In this approach, not all questions are equal and each type of question is designed for a distinct purpose, allowing for a wider perspective of individual experiences in the initial stages. This is followed by specific questioning to directly cover the topics about which the researcher seeks more information. Additionally, the five stages of questions in this method allowed the participants and the researcher to gradually delve into sensitive topics. The types of questions are outlined by stages in Table 3.1 and the interview schedule is outlined in Appendix 3.5.

This guided focus-group discussion technique assists in assuring that similar topics were explored with all participants, while enhancing the consistency of data obtained in the different groups. It may also contribute to efficiency and yielding of high-quality data analysis (Krueger, 1998). Additional questions arose following the discussion, which added a semi-structured quality to the interview allowing the researcher to restore the main research topics while allowing discussion to flow.

When the researcher allowed the participants to ask additional questions, they raised questions such as: How many people are waiting for organ transplantation in Israel? The participants wanted to receive information unknown to them, such as: Who is involved in the process? When does it begin and end? What is the situation in other countries compared to Israel? In most groups, the discussion was productive and interesting. In the final analysis, there was relative similarity in the additional questions raised in all groups.
Table 3.1: The Structure of the Interview Guide

<table>
<thead>
<tr>
<th>Question's stage</th>
<th>Example</th>
<th>Question's purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opening question</strong></td>
<td>Tell us about yourself, your professional experience and history as a nurse.</td>
<td>To assure everybody easily becomes involved in the discussion, as the question is easy to respond to.</td>
</tr>
<tr>
<td><strong>Introductory question</strong></td>
<td>What is the first thought or association that comes to mind when you think about organ donation and transplantation?</td>
<td>To introduce the topic and stimulate the participants' thinking about the topic.</td>
</tr>
<tr>
<td><strong>Transition question</strong></td>
<td>Can you tell me about your experience with the subject matter of organ donation?</td>
<td>To gradually narrow the focus of the discussion</td>
</tr>
<tr>
<td><strong>Key question</strong></td>
<td>How do members of your religion relate to organ donation and transplantation?</td>
<td>To guide the study and to represent the core of the research interest</td>
</tr>
<tr>
<td><strong>Ending question</strong></td>
<td>Is a gap between personal commitment and professional behaviour towards organ donation possible?</td>
<td>Closure of the discussion while allowing participants to reflect on previous comments.</td>
</tr>
<tr>
<td><strong>Final question</strong></td>
<td>How did you feel during this discussion?</td>
<td>To ensure full attention to all critical aspects</td>
</tr>
</tbody>
</table>

3.2.6. Data analysis

3.2.6.1. Data preparation

Although all focus group sessions were recorded, transcription began very soon after the interview was conducted. The interview was transcribed by the researcher herself, without using any aids or software. The researcher transcribed recordings using Microsoft Word, assuring that no information was omitted. Sometimes, the recordings were played and replayed several times. Relevant notes were added to the transcripts using the comments function of Microsoft Word. The preparation of the transcripts is important for the analysis stage, which was also conducted by the researcher herself.

3.2.6.2. Data analysis method

The aim of the analysis was to provide credible and trustworthy findings presenting a broad and in-depth description of the nurses' perceptions about organ donation in a multi religious background context. The choice of data analysis was made to suit study aims. The analytical approach was based on the principles of thematic analysis. Holloway & Todres (2003) have pointed out that thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data. According to Creswell (2008), it is also a highly flexible method, applied to a wide variety of different kinds of unstructured information. In this way, each transcript was read, the meaning units were identified, and a list of codes were created in
preparation for the next stage, searching for themes and generating a thematic map of the analysis which led to provisional broad categories.

However, it was clear that during the focus groups, much more information would become available, requiring the researcher to conduct a subject analysis and to glean new themes from the wide-ranging information which was not planned in advance and which had not been mentioned in the literature.

3.2.6.3. The process of data analysis

There were several steps in this analysis, which are discussed in more detail below. First, the researcher reread the transcript of each group in order to obtain a general sense of the information and to reflect on its overall meaning (Creswell, 2008). This first stage aimed at familiarising the researcher with the text. The transcripts were reread several times and any initial thoughts were noted. Upon further reading, the researcher achieved a sense of each of the seven focus groups as a whole.

Analysing the meaning of each transcript as a whole is almost impossible. Hence, the transcript was broken down into meaning units in preparation for coding. A meaning unit is a section of the text that contains one meaning which can be words, phrases, or sentences relevant to the topic of organ donation. All unrelated conversation was removed and a note was made about why the section of transcript was not relevant for analysis or for the subject. For example, during the interview, the subject of donation of organs from living people was raised. Even though this topic proved to be very important for the participants, it was not relevant to the specific issue being examined in the discussion and was removed by the researcher.

At this stage, the researcher used colour coding to mark similar or identical meaning units. All the words or sentences that reflected positive thoughts or feelings toward organ donation were marked in one colour: “gift of life”, “saving lives”, “joy”, “success”. See a detailed example in Appendix 3.6. During the rereading, the researcher asked herself about the subject of every meaning unit. At this point, based on seven focus groups, seven transcripts were produced and 298 meaning units were identified. Next, the researcher used interpretation to grant meaning to what was said in the context of the topic being researched, with reference to the differences between the groups. Each transcript was read, meaning units were identified, and a list of codes was created in preparation for the next stage, while searching for themes leading to broad provisional categories. For instance, why did nurses state that brain death was like murder? These questions aided in the search for other themes as the analysis continued. Examples of part of the analysis can be seen in Table 3.2. The following is an example showing the process stemming from the question “What do you know about organ donation in Israel?” The small meaning units were marked in the following quotes.
### Table 3.2: Example of interpretation and create themes process

<table>
<thead>
<tr>
<th>Meaning units</th>
<th>Researcher Notes</th>
<th>Emerging optional themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;I don’t know so much about organ donation, how many patients are awaiting an organ transplant.</td>
<td>Participants say that don't know much about the organ donation, How many patients need organs. Reason for the shortage – no willingness.</td>
<td>Knowledge about organ donation in Israel</td>
</tr>
<tr>
<td>&quot;I know there is a major organ deficit – because people are not willing to donate, they are afraid, they don't know, and perhaps because organ donation is against religion&quot;</td>
<td>Participants also describe their feelings or thoughts about no willingness. They also relates to their religion – the Jewish nurse said that organ donation is not acceptable in her religion</td>
<td>Negative feelings – fear of organ donation Religion and organ donation</td>
</tr>
<tr>
<td>&quot;There are tests to be carried out in order to declare brain death. I don't know exactly what kind of tests,&quot; and &quot;I have no idea what the death declaration criteria are;&quot;</td>
<td>The nurses knows that are some test for diagnosis brain death, don't know exactly what they are.</td>
<td>Knowledge of brain death</td>
</tr>
</tbody>
</table>

These meaning units contributed to the theme of the essential knowledge and awareness regarding the organ donation process and tests for brain death, but were also associated with and relevant to another theme that emerged: religion and organ donation and thoughts and feelings about organ donation.

At this point, after the text was reduced to concepts through open coding, the concepts were sorted into logical groups according to the questions that were planned and questions that came up during the discussion following the answers. In order to achieve this interpretation or transformed meaning units for each focus group were examined and were the meaning were similar they were grouped into themes.
3.3. Rigour – the validity of the present study

Both qualitative and quantitative research methods require the researcher to strive for rigour. Rigour is a strict process of data collection and analysis and also reflects the overall quality of that process in qualitative research. The major methods for ensuring rigour are intricately linked with reliability and validity checks (Boswell & Cannon, 2006). Rigour is reflected in the consistency of data analysis and interpretation, the trustworthiness of the data collected the transferability of the themes and the credibility of the data (Lincoln & Guba, 1985).

The first aspect of rigour was credibility. That means the confidence in the truth of the findings. In the current study credibility was achieved by using another researcher colleague who was present and observed some of the group interviews. He checked that the transcript was complete and had included all information from the group interviews and assured the accuracy of the data.

A second aspect of ensuring rigour was trustworthiness, which refers to the honesty of data collected from and about participants. This criterion was achieved during the focus group discussion, during which the researcher felt that participants wanted to share information and their feelings and that discussion was allowed to flow freely, with participants contributing from their personal experience even without the prompting of the researcher.

Transferability is the third aspect that the researcher used to evaluate the quality of qualitative research. Transferability refers to the applicability of the findings to other settings or groups. Transferability is judged by the reader of research, but it is the responsibility of the researcher to provide sufficient information to allow the reader to make an informed judgment. In this study the researcher provided detailed information about the context of the research, including the conduct of the interview, the method used to generate the data in the focus group discussions and also the analytical approach to the cultural, professional background of the nurses. All of these details are essential to inform the reader about the potential transferability of the research.

The last aspect that required ensuring rigour was confirmability, which represents freedom from bias or neutrality in the data analysis process. To achieve this criterion the researcher used experts. Five of the seven transcripts (one transcript from each religious group) were presented to an independent qualitative researcher, who is a lecturer and researcher with experience in qualitative analysis, but unrelated to the field of nursing or organ donation. Thus, the independent researcher was familiar with the technique but had no personal experience of the topic which could bias his analysis. This researcher read and analysed the transcripts as samples of the data and met with the author to discuss and compare the coding process and to obtain clarifications if needed. Although there were minor semantic variations in how the themes were described, the data validation process revealed a consistency in both the process and the emergent categories and themes, and we can be sure that the analysis process was objective.
3.4. Participants' characteristics

A total of 58 registered nurses from an assortment of religions and levels of religiosity, all employed in hospitals in northern Israel, participated in seven focus groups. Time spent in the nursing profession ranged from two to thirty years. At the time of the research, nurses were working in a variety of departments in hospitals and community clinics, and represented a wide range of positions, including hospital head nurses, general ward nurses, and shift managers. All were registered nurses (RN), some with a Bachelor of Science degree in nursing (BSN) and others with a Master's Degree in Nursing (MA/MSN); at least 15 had taken an advanced course. Table 3.3 presents the participants' characteristics.

As mentioned in section 3.2.3, the focus group size was influenced by the numbers of participants from the various religions. For some religious groups, it was more difficult to recruit participants, and thus the groups were smaller. In total, seven homogeneous focus groups were conducted between February and May 2010. Table 3.4 presents the characteristics of these focus groups.

Determination of the number and size of the sample is a product of the amount of data collected and whether it has reached a saturation point. In this research, the researcher was at first quite confused: the first group was a heterogeneous group, consisting of religious and secular Jews, which made it impossible to form valid data from the opinions voiced during the discussion. The researcher then decided to separate the groups according to level of religiosity; in the end, four groups of Jewish nurses were formed, with differing levels of religiosity. This did not happen with the other religious groups, and so each religious group formed one focus group. It should be considered that using homogenous groups has the cost of requiring more groups because sometimes it takes a certain minimum number of groups to achieve a range of opinion and responses to a topic (Morgan, 1997).
Table 3.3: Characteristics of participants in focus groups

<table>
<thead>
<tr>
<th>Group #</th>
<th>Number of participants</th>
<th>Religion</th>
<th>Age Range (years)</th>
<th>Female</th>
<th>Male</th>
<th>Professional Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>Jewish Secular &amp; Traditional</td>
<td>43-60</td>
<td>8</td>
<td>0</td>
<td>RN- 4 BSN- 3 MSN- 1</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>Jewish Secular</td>
<td>22-55</td>
<td>13</td>
<td>1</td>
<td>RN- 14</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>Jewish Traditional</td>
<td>36-55</td>
<td>6</td>
<td>4</td>
<td>RN- 6 BSN- 2</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Jewish Religious</td>
<td>25-34</td>
<td>3</td>
<td>1</td>
<td>RN- 2 BSN- 1 MSN- 1</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>Muslim</td>
<td>24-45</td>
<td>7</td>
<td>3</td>
<td>RN- 8 BSN- 2</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>Christian</td>
<td>28-50</td>
<td>7</td>
<td>1</td>
<td>RN- 2 BSN- 3 MA-3</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>Druze</td>
<td>25-38</td>
<td>3</td>
<td>1</td>
<td>RN- 2 BSN- 1 MA-1</td>
</tr>
</tbody>
</table>

Note: RN=Registered nurses; BSN= Bachelor of Science degree in nursing; MA/MSN Master's Degree in Nursing.

3.5. Qualitative study findings

The themes were labelled according to their meaning. Through an analysis and clustering process, similar themes were compared across religious groups to see which of the themes similar (Appendix 3.7). The 12 central themes were reduced into four categories reflecting the perceptions that nurses hold towards organ donation which were expressed during the focus group discussion. The themes and the categories were labeled according to their meaning as shown in Table 3.4.
Table 3.4: Categories and themes arising from analysis of focus groups

<table>
<thead>
<tr>
<th>Category</th>
<th>Central themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Religion and organ donation</td>
<td>a) Religious formal declaration; b) the gap between the official declaration of the religion and the nurses' personal perception of the official declaration;</td>
</tr>
<tr>
<td></td>
<td>c) Religion as a source of information and support; d) Religion's involvement in organ donation decision;</td>
</tr>
<tr>
<td>2. Nurses' thoughts, feelings and personal behaviour</td>
<td>a) Feelings and thoughts about brain death, death, and after death; b) Positive–passive behaviour; c) The family as a partner in a decision making process;</td>
</tr>
<tr>
<td>3. Professionalism</td>
<td>a) Perception of professional duty; b) Moral dilemma: conflict between the nurse’s religion and the professional duty;</td>
</tr>
<tr>
<td>4. Essential knowledge</td>
<td>a) The meaning of brain death; b) who is the potential donor; c) the meaning and legality of donor card; d) unknown process;</td>
</tr>
</tbody>
</table>

3.5.1. Description of the categories and themes

The analysis of these focus group discussions produced four categories with various themes, giving the researcher a framework for understanding the attitudes and beliefs that nurses hold about organ donation. Although differences in religious background were in the forefront of this study, the participants related to all aspects of organ donation process: brain death, possession of a donor card, and the process of organ donation. Perhaps surprisingly, categories and central themes were the same in most of the religious groups. Direct quotes from the focus groups are cited here in order to demonstrate that the wide range of attitudes of the nurses is common to all the religions.

The following section will present the central perceptions of the nurses as they were expressed in the focus groups. The participants raised issues concerning organ donation from a religious, professional and personal viewpoint, expressed thoughts about the afterlife and organ donation, and opinions about what information is vital to them in their positions as nurses.

**Category 1: Religion and organ donation**

Religion was a decisive factor influencing attitudes towards organ donation. Most decision-making about organ donation involves the religious beliefs of the prospective donor and family at some level. This category emerged from four themes related to religion:
1a) Religious formal declaration; 1b) The gap between the official declaration of the religion and the nurses' personal perception of the official declaration; 1c) Religion as a source of information and support; and 1d) The involvement of religion in the organ donation decision.

**1a. Religious formal declaration**

"I do not really know how Judaism relates to organ donation. I think there's a lot of contradiction". (FG1, Jewish, Traditional & Secular)

"I have read the Q'uran and other Islamic books, and I have never found any reference to the issue of organ donation ". (FG5, Muslim)

Christianity formally supports organ donation and expresses no restrictions. It lets the individual and the family make the decision. Some Christian participants seemed to be aware of this:

"Christianity regards organ donation as a good deed; an act of love, an act of charity". (FG6, Christian)

"Each family and each individual decide for themselves, I don't think there is a formal position of religion, and the church does not intervene in such matters" (FG6, Christian)

There were also contrasting opinions:

"As far as I know, the church does not support organ donation, let alone signing a donor card, at least in some of the branches". (FG6, Christian)

Because the Druze religion is secret, this group expressed more uncertainty about the religion's official views and mentioned that it was very hard to know what the formal position of the religion was:

"I think that for us, in the Druze religion, signing a donor card is prohibited, and organ donation is prohibited as well; they won't permit receiving of organs, either, unless it is from a Druze person, who probably won't happen, but since nobody talks about it, I am not sure about this information". (FG7, Druze)

This theme also demonstrates confusion and lack of awareness about other religion's official declarations and, for some of the participants it was sometimes stressful and even an embarrassment:

"I find it very hard to care for a family of a brain dead patient if I don't know what is religiously essential to them, for instance, when burial should take place". (FG1, Jewish, Traditional & Secular)

"I don't know what is permitted and what is prohibited. I barely know about my own religion, which makes care harder; at such moments, there is neither time nor is it appropriate to start probing...". (FG6, Christian)
**1b. The gap between the official declaration of the religion and the nurses' personal perception of the official declaration**

Despite the fact that the official statements of most religions support organ donation and brain death as a real death, the nurses’ perception sometimes contradicted the religious perception:

“I know there is no trust between religion and medicine, therefore it cannot be that my religion approves organ donation”. (FG5, Muslims)

“My religion does not accept brain death and forbids donating organs; the body should be buried whole”. (FG6, Christian)

“I don’t have a problem, I know it is forbidden in the Druze religion”, “Nobody in our religion has any doubts about the official declaration. It is absolutely clear”. (FG7, Druze)

"Despite official statements of my religion, the religion's representatives do not express support for organ donation". (FG3, Jewish, Traditional)

"Even I know there is a major organ deficit … because people are not willing to donate, they are afraid, they don't know and moreover because it against the religion". (FG4, Jewish, Religious)

**1c. Religion as a source of information and support**

These statements raise the question as to whether nurses will approach a religious authority when needed for professional information. A partial answer to this question was found in the statement of the participants:

“Although I’ve been a nurse for many years, and I can obtain information from any professional authority. At these hard moments I suppose I will also approach various religious authorities for assistance. Why is that? I can’t really explain. Perhaps because it is convenient when somebody else will make the decision you support but don’t dare make”. (FG3, Jewish, Traditional)

"As far as I know a main concept in my religion is a person is considered dead only when the heart stops, so it doesn't really matter what we are doing as healthcare staff”. (FG7, Druze)

"……There is no difference between observant people and secular people. When it is convenient, everybody sticks to religion”. (FG4, Jewish, Religious)

"Even professionally, it will be important for me to hear the position of religion and consider it, even if it sometimes contradicts the professional aspect”. (FG5, Muslim)

"I really understand the families at these moments. Even secular and religious, we all try to find information, help and even support …" (FG6, Christian)
Id. Religion involvement in organ donation decision

Most decision-making about organ donation involves religious beliefs at some level. The nurses indicated their tendency to approach a religious authority for consultation before making a personal decision:

“Eventually, at the point of ruling, the family will approach the religious authorities. At a time of distress, even secular people will turn to religion, which will act as the most suitable source of knowledge, assisting them in making a decision, or ruling for them”. (FG6, Christian)

“I know that in case of a religious authority’s opposition – even if the family consents – an organ donation will not take place. I even think that signing a donor card is absolutely prohibited”. (FG7, Druze)

"I don't know much about what is permitted and what is forbidden by Islam. I usually refer to our religious scholars. If they say its fine, then it is fine, and if it's not, then it's not... The local religious authority is like supervisor whom one cannot ignore. Sometimes his opinion matches ours, sometimes it doesn’t". (FG5, Muslim)

"I think that the opinion of the religious functionaries about organ donation is more important than the family's say, so it doesn't matter whether you are secular or religious, I'm sure that at a critical moment, I would contact a religious leader to help me decide”(FG3, Jewish, Traditional)

“If the rabbi tells me what’s right to do, according to Judaism, it will be easier for me to make a decision if I need to”. (FG2, Jewish, Secular)

Category 2: Nurses’ feelings, thoughts and personal behaviour

This category emerged from three themes of: 2a) mixed feelings and thoughts organ donation; 2b) positive/passive behaviour; and 2c) the family as a partner in the decision-making process. Positive attitudes were evident among the Jewish nurses, even more so among the Christian nurses, and less among the Muslim and Druze nurses.

2a. Feelings and thoughts about death, brain death and after death

The nurses considered the donation as the saving of a life. However, the joy of giving did not always seem to apply once the issue became more personal. Less positive views were sometimes expressed when facing the question of what they would do in the case of their own family members.

"Organ donation means saving people's lives, it is an act of heroism which is rewarded by pride and satisfaction". (FG2, Jewish, Secular)

"I think organ donation is about social responsibility; The family's grief will be eased a bit if they know that their loved one will continue to live in somebody else's body, Organ donation is a gift for life”.(FG1, Jewish, Traditional & Secular)

“Organ donation can be double happiness, to the donor family that has continued of deceased person, and those who have received the organs for transplant”. (FG6, Christian)
“I support organ donations, as well as signing a donor card, yet if I were obliged to decide regarding any family member of mine, I don’t think I would be able to apply that in real life” (FG6, Christian)

Less supportive thoughts and feelings also emerged, and those were expressed when the discussion took a more personal aspect. These referred to family suffering, fear of discussing the issue that would expedite death, an opening for trouble, and fear of thinking about the sight of a body from which organs have been removed and were often emotional rather than logical:

“I dread dealing with it. Speaking of organ donation is an opening for trouble, damage to the body, an unnecessary pressure on the family, destroying the body”. (FG4, Jewish, Religious)

“Personally, I have trouble regarding the issue positively. I have never thought this over up until this discussion. I usually prefer discussing happy things. A discussion concerning organ donation has to do with death and grief, thus I’d rather not talk about it”. (FG5, Muslim)

“I fear damaging the body; a whole body looks monster-like, especially removal of corneas, against human nature, pain and suffering”. (FG5, Muslim)

2b. Positive-passive behaviour

Personal behaviour is the nurse’s own commitment to donation, such as possession of donor cards or willingness to donate a relative’s organs. The data indicate that although the opinion in most of the groups expressed empathy toward the patients awaiting transplants and toward their family members, there were also some who maintained that they would not be willing to donate their organs or the organs of their family members or their children. This attitude may be called positive-passive behaviour:

“I won’t be willing to donate my organs after I die. Neither would I consent to a donation of an organ of any family member of mine, nor of my children’s, God forbid...”(FG5, Muslim)

"I know this is important and can help many people, but it’s hard for me, the thought that they would stop the treatment to remove the organs, I don’t know if I could do this..."(FG6, Christian)

As to the question what happens if any of you or any of your relatives need an organ donation, nurses claimed they would prefer any other treatment to organ donation.

“My family objects to organ donation. They believe that when it's time to die, then so be it”. (FG5, Muslim)

2c. The family as a partner in a decision making process

Despite acknowledging organ donation’s importance for saving lives, findings concerning the donor card were somewhat contradictory. The data consistently indicated that the nurses would let the family decide. This appears also to be creating the next common theme: The place of family in organ donation decision.
“I have been thinking for a long time about signing a donor card. I do support it, but I won’t be able to do so until my family approves. I cannot act against their will.” (FG2, Jewish, Secular)

“In my opinion, the card has no value. My family knows what my position is, and I leave them to do the rest…” (FG6, Christian)

“Personally, even if I decided I would like to donate my organs after I die, I will not make the decision on my own; I will consult those who are closest to me; people whose opinion I value, family, of course, and a religious authority;”. (FG5, Muslim)

**Category 3: Professionalism**

The third category to be presented is the nurses' professionalism, which includes three central themes: 3a) the perception of professional duty; this theme also related to who should be involved in this process; 3b) Moral dilemma: conflict between the nurse’s religion and the professional duty;

3a. The perception of professional duty

Nurses' professional behaviour consists of two aspects: 1) the way the nurses perceive their professional responsibility regarding the issue of organ donation, and 2) to what extent they perceive themselves as committed to the process. This included the nurses’ readiness to start the process, approach the family and talk to them about the issue of organ donation, and discuss the possibility of consenting to donate. As for the question of responsibility as professionals regarding the issue, nurses maintained that it was not their responsibility:

“I do not think nurses hold any responsibility throughout the process, especially if she has not undergone suitable training; I don’t even feel responsible for encouraging the signing of a donor card. The issue is too sensitive to get into it”. (FG1, Jewish, Traditional & Secular)

“This is not ward nurses’ responsibility. There are other people who should do that”. (FG6, Christian)

“I am very glad this is not my job. Even though my relationship with the family is good, I do not want to interfere with that. An outside party should do that” (FG5, Muslim)

“This issue is not part of the nurse’s responsibilities. I am not experienced enough and I am not sure I would like to be involved in that” (FG7, Druze)

There were also a few who thought differently:

“I think it is our professional responsibility, like whatever is related to treatment and saving lives, but I know that due to my own attitude, I won’t be able to do so, and that’s very hard” (FG6, Christian)

Similarly, nurses generally do not regard themselves as responsible for encouraging the public to sign donor cards:

“...I don’t even feel responsible for persuading anyone to sign a donor card” (FG5, Muslim)
**3b. Moral dilemma - the conflict between the nurse’s religion and professional duty**

Thus far, nurses’ perceptions of the organ donation issue have been presented from the cultural/religious and the personal viewpoints. This calls into question how all of these affect nurses’ professional culture. During the discussion there were different voices relating to the awareness of a possible gap between personal perception and what is expected of the nurse in accord with the values and norms of professional culture:

"How can I stand up to the family and request consent for donation or encourage signing a donor card when I'm not ready to do so, it seems unfair, inhumane and even irresponsible" (FG7, Druze)

But there was also another voice:

"Professionalism requires them to put their attitudes, personal beliefs aside and follow what is expected of them as nurses in accord with professional culture". (FG2, Jewish, Secular)

"Sometimes I feel guilty and even suffer when I'm thinking about this operation, why we have to do this? Is it really a good thing?" (FG4, Jewish, Religious)

"As I stand in front of my patients, I'm there! My beliefs and values have no relation to my professional performance; I am committed to the norms expected of me as a nurse" (FG6, Christian)

**Category 4: Essential knowledge**

The participants also emphasized that knowledge of the donation process had relatively weak effect on nurses’ perceptions of their ability to discuss donation issues with bereaved relatives. The essential knowledge related to each stage of the organ donation process and emerged from the themes such as 4a) the meaning of brain death; 4b) establishment of brain death and familiarity with brain death criteria; 4c) the meaning of donor card and 4d) unknown process.

**4a. The meaning of brain death**

The nurses described the meaning of brain death and the meaning of irreversible death for them. They raised the possibility that a person could recover from brain death after a time in parallel to recovery from a persistent vegetative state. In the context of brain death and organ donation issues, it was found that even nurses who know that brain death is death in every sense of the word had difficulty in accepting this and behaving in a professional manner.

"A persistent vegetative state is a synonym for brain death. One may return to function even after brain death has been diagnosed – there are miracles – there have been cases where people return to function, even partially". (FG2, Jewish, Secular)

Even when the participants could describe what happens in a state of brain death, they also expressed difficulty in accepting it as such:

"Brain death is an irreversible death; it is lack of brain function....In a state such as brain death, it is as if the person is dead, but he is still breathing..." (FG6, Christian)
"No such thing as brain death". "It is death only when the soul leaves the body", "A patient diagnosed with brain death is not dead yet; his soul is alive and therefore he cannot be considered as dead". (FG7, Druze)

"Stopping treatment for such a patient is like murder... How can that be done, I don’t get it..." “He'll die at his time". (FG5, Muslim)

4b. The criteria of brain death determination
The nurses described some of the criteria for determining brain death, criteria or required tests, as well as the staff authorized to determine brain death. Sometimes the scientifically accurate view was also expressed, and it was also accepted that it was the medical staff who gives the diagnosis:

"It is not the public's job to determine whether or not a person is dead, but medicine's and science's...There are enough medical tests to prove that it is death and it is irreversible" (FG6, Christian)

"I don't know exactly what kind of tests," and "I have no idea what the death declaration criteria are; I've never encountered and/or studied them". (FG2, Jewish, Secular; FG5, Muslim)

Regarding the authority for determining brain death, the general opinion was accurate in saying that doctors were responsible, with some reservations – no immediate confirmation of diagnosis would be obtained until test results arrived:

"I do know that rabbis very much want to be involved and that doctors will not declare brain death independently". (FG2, Jewish, Secular)

"The doctors alone cannot determine brain death, and insist that there be a representative of all religious committees. It is important to the family."(FG5, Muslim)

4c. The meaning of the donor card
Another important theme according to the essential knowledge category was about the meaning of the donor card and creates concerns relating to the participants' own mortality:

"Once you sign a donor card, it is impossible to cancel the signature"; "In case a family member objects, a signed card overrules the objection". (FG2, Jewish, Secular)

"I know a donor card is legally significant and therefore I am concerned about donating. I am concerned that if I sign a donor card they will hastily declare brain death, and therefore, I will not sign such a card" (FG5, Muslim)

4d. Unknown process
Discussion of the organ donation process includes three main stages: identification of a potential donor, brain death declaration, and finally, approaching the family. The data show various degrees of ability to explain the process and of familiarity with the situation in Israel
"It is permitted to get organs for transplant from any person who has passed away, who had indicated willingness to donate, and there is no age limitation". (FG5, Muslim)

"Organs for transplant may be gotten from healthy people only". (FG3, Jewish, Traditional)

Furthermore, hesitations were expressed as to the nature of the process, at what point it begins, at what point it ends and which personnel are involved. This sometimes led to embarrassment:

"I don't know well enough what the process stages are; who begins the process – I have never taken any interest in that". (FG5, Muslim; FG1, Jewish, Traditional & Secular)

"The personnel handling the matter may not be from the same ward, there are specific personnel who are responsible for that, and it has nothing to do with the field of transplants" (FG6, Christian)

I don't think that I can to describe it (the donation process) to a bereaved family; I'm not feeling that I knew enough to do that... They have so many question to ask before they would make their decision, I really don't know, I'm sorry, but we need more training to be able to do so, not just because we are the nurses from the ward". (FG3, Jewish, Traditional)

"The process doesn't have anything to do with the hospital wards; there is one centre in Israel which handles the issue of organ transplants". (FG4, Jewish, Religious)

".....There are personnel from the National Transplant Centre who are responsible for that; it is subsidiary of the Ministry of Health". (FG1, Jewish, Traditional & Secular; FG5, Muslim; FG6, Christian)

3.6. Discussion

The findings demonstrate that while many aspects of nurses' positions vis-à-vis organ donation were consistent with the literature in this area (Kent, 2002; Kim et al., 2004; Thomas et al., 2009), some new themes emerged. These include the moral conflict nurses face and their attitudes in the context of religion; the meaning of the personal environment; the close family and religion; perceptions about their professional behaviour; and the gap between the official declarations and their own perceptions of these declarations.

Understanding nurses' attitudes towards organ donation could potentially be effective in increasing the incidence of organ donation.

Focus groups created four categories with thirteen central themes surrounding religious, personal, and professional aspects of organ donation. Each theme was affected by religious considerations and was common to most of the religions represented by the participants. First, through data analysis, an independent category was created linking organ donation and religion. Second, the participants presented their feelings and thoughts regarding death and organ donation. Third, the participants presented their thoughts concerning their professional position and how it related to organ donation and how it affects their professional behaviour. Finally, they emphasized the importance of professional education on the subject of organ donation, and its contribution to raising both their personal and their professional awareness of the subject.
3.6.1. Relation of the findings to previous research and implications for future research

Four central categories which emerged from the findings will be presented in this chapter: religion as it applies to organ donation, the personal attitudes of the nurses towards organ donation, the nurses’ professional behaviour in the process, and the knowledge required of nurses to successfully negotiate this process.

Religious views on organ donation are diverse, ranging from almost complete opposition to proactive support (Gilman, 1999; Oliver et al., 2011). Most of the participants indicated that there was a discrepancy between the formal declarations of the religions and their personal knowledge of their religions' attitudes. Oliver et al. (2012) also emphasized that the scriptures upon which the different faiths are based do not specifically mention transplantation of organs, so that different scholars within a religion may arrive at different conclusions.

The findings of the current analysis concur with Lynch (2005), who argued that many religious authorities do officially support organ donation, yet many people are unaware of their religion's support and continue to have cultural fears and misconceptions about donation. These findings are supported by Saleem et al. (2009), who found that a belief that organ donation was not allowed in their religion was only one of three significant predictors of motivation to donate organs. A good example was given by Oliver, Ahmet and Woywodt (2012): Muslims in the UK are not fully aware that the Muslim Law Council of Great Britain has explicitly advocated deceased donor transplantation as a meaning of saving life, accepting the medical diagnosis of brain-stem death for the purposes of transplantation.

Another important finding is the low level of understanding of religions other than their own that the current group of nurses displayed. This may be crucial to how they interact with people from different religious groups. The families of patients who are at the critical moment of decision are not always sure of what to do, what is allowed, and who to contact for help, and if the nurses dealing with the patient are also unsure, this may hinder any useful discussion about donation. Oliver et al. (2012), who explore the religious aspects of organ donation, argued that nurses and physicians must view this as an opportunity to explore and learn how different religions view organ donation and transplantation.

The question arises as to the extent to which the nurses' religion of origin affects the principles of their professional culture. While some of the nurses stated that there was no connection between their own religion and their professional beliefs and behavior, there were others who felt that it is very difficult to separate them. Most of previous researches were not conducted on nurses, and there is little evidence in the literature on this topic, but it is noteworthy that religious concerns do play a role among health care staff. A survey in 2005 in Turkey showed that as many as 21% of doctors cited religious concerns as a reason not to be more proactive about organ donation (Oliver et al., 2011; Topbas, Can, Can, & Ozgün, 2005).
In the context of the nurses’ thoughts, beliefs and personal behaviour, this study found that thoughts and feelings of personal involvement in the process, coping with the assessment of brain death, fear of death and of the entire situation, were expressed, along with the positive thoughts of altruistic giving and life-saving. These thoughts and feelings influenced the nurses’ behavior during the donation process.

These findings support arguments that attitudes toward organ donation determine commitment toward organ donation (Cohen et al., 2008; Rios et al., 2010). The findings concerned with the nurses' personal behaviour found that, though they supported organ donation, it was difficult for them to obligate themselves to donate their own organs or those of any of their family members. In order to specifically examine each nurse's willingness to donate organs, the nurses were questioned about possession of a donor card; only five nurses out of fifty-eight participants in the seven focus groups reported possession of a donor card, which is a lower rate than that reported by the Ministry of Health, which was 14% in 2013. The rest of the nurses did not express willingness to do so in the future. Shabanzadeh et al. (2009) found that only 15% of the nurses in ICU had a donation card, although 75% expressed willingness to acquire one. Seventy nine percent 79% of the nurses who had positive attitudes toward organ donation after death did not have a donation card; 18% of them had one.

One of the explanations is that religious beliefs held by his/her close family circle influence the nurses, even if they themselves were non-religious in daily life. This was more prominent among the Jewish and Muslim nurses, who indicated that they would contact a religious representative for help in times of distress and serious illness, even though their personal level of religiosity was not high. This conforms to previous research in the area (Radecki & Jaccard, 2009; Rumsey et al., 2003; Saleem et al., 2012), which found that knowledge and religious beliefs play a large role in a person's willingness to donate organs following death. Moreover, Skowronsksi (1997) found that people were more willing to donate organs if they anticipated the support of their religious community and its leaders. This suggests that religious leaders are in a powerful position to convey a strong message of support for organ donation, dispelling inaccurate religious assumptions.

The findings presented here also indicate other factors related to the personal environment, including the nurses' close family as participants in decision-making; sometimes nurses pointed out that it was the father of the family who determined what the final decisions would be. In line with previous research, it was found by Schirmer and Roza (2008) that the decision of the family regarding the request for donation took place after they had enough time to reflect on the matter was 81.8%, when the decision was made by the family (43.5%), by both family and donor was 76.8%, and only by the donor (11.6%). Sixty-three point two percent of the families were aware of their deceased relative's wish. Women were most frequently responsible for the decision to donate (55%). It is clear that the donation process is experienced by all the family, regardless of who signs the consent form. The donor's autonomy alone was shown to be a poor indicator, as the people who decide about the donation are the family.
As Walker et al. (2013) reported, the level of family involvement in the organ donation decision making process is dictated by the legal practices in the countries. As in European countries, in Israel even if the deceased person had a donor card, the healthcare staff involved the family in the decision to accept or decline organ donation. It is clear that giving the possibility to the families is an important step in the organ donation process (Simpkin et al., 2009).

The theme of professional responsibility was found to be connected to the participants' moral dilemma. Nurses found it difficult to speak to families about organ donation or to persuade the public to sign a donor card, when they were not willing to do so themselves. This argument appeared to be true for all faiths: Muslim, Christian, Jewish, and Druze. This raises questions about their obligations to their professional practice. The participants stated that they felt guilt and skepticism concerning the question: Is organ donation really a good thing? Kim et al. (2004) reported similar findings, which posited an emotional basis for the nurses' moral conflict. Previous research (Kim et al., 2004; White, 2003) concerning professional behavior indicates that nurses' personal example, such as signing the donor card, could persuade families to give their approval for organ donation at the critical moment (Vlaisavljevic et al. 2014).

When considering nurses' possible involvement in the organ donation process, two aspects were raised: the way the nurses perceive their professional responsibility regarding the issue, and to what extent they perceive themselves as committed to the process. There appeared to be a consensus that they were not responsible, and most nurses were unwilling to become involved in the organ donation process.

However, by avoiding any discussion of the topic, the nurses may be sending a confusing message to families. Once the subject was raised, the way a nurse responds to the families’ questions could be influential in the decision-making process of the potential donor’s family. Nurses may express supporting views on the subject of organ donation in principle, stating that organ donation is the gift of saving lives. They may feel empathy for patients and their families who are awaiting an organ donation. However, as the issue becomes more personal and relates to themselves or to their family members, there is less support, and their professional behavior may express this.

It is possible that this finding results from low awareness of the issue, lack of suitable training, and lack of experience. The reluctance to deal with organ donation has partial support in the literature. For example, Bener et al. (2008) pointed out that many physicians and nurses supported organ donation in principle, although they apparently do not support it in practice, in part owing to a lack of knowledge about various issues of organ donation. In a Canadian survey, critical-care nurses supported organ donation in principle but were reluctant to approach potential organ donors (Molzahn, 2007). The findings in this study indicate confusion as to the difference between brain death and a persistent vegetative state, and about the criteria for a necessary diagnosis for considering
organ donation. From analysis of the Jewish, Muslim, and Druze groups, it appears that some people believed that there was a possibility that a person could recover from brain death. Only the Christian nurses responded that brain death was irreversible was unambiguous, as reflected in the following quotation:

"Brain death is an irreversible death; it is lack of brain function...In a state such as brain death, it is as if the person is dead, but he is still breathing...”

Similarly, other researchers (Aghyan et al., 2009; Akgun et al., 2003; Rios et al., 2009) also found lack of knowledge, despite the nurses’ involvement, which negatively affected people's attitudes toward organ donation. Additional support for these findings can be found in the research of Cohen et al. (2008), who have shown that the attitudes, knowledge, and willingness of nurses are very important when approaching a family to request an organ donation and significantly influence the family's decision-making process.

3.7. Constraints
The main aim of this qualitative exploratory study was to ascertain existing perceptions, views, attitudes, and positions of nurses from a variety of religions regarding organ donation in order to identify the underlying themes that give rise to these belief systems. However, some constraints should be noted.

Although the researcher allowed additional issues to be raised during the interviews, the questions asked were structured according to the aim of the study, and this may have restricted conversations that followed the information and questions on the subject.

Another constraint of this study refers to the ability to draw conclusions about the differences between groups of nurses from different religions and generalization capability. This stems from the small number of interviews, and in order to draw clearer conclusions, the data were analysed as a whole, rather than for each religious group. This would have required more focus groups, until each religious group produced no new themes. It is possible that adding more focus groups, or interviews with heterogeneous religious groups, might have yielded additional themes. However, since the purpose of the first stage of this research was merely to identify the underlying themes upon which nurses’ belief systems about organ donation are based, this was not considered new.

3.8. Reflections on the interview style
The focus groups were structured as a conversation during which a set of prepared questions focused participants' attention and served to gather information related to multicultural aspects of organ donation.

Two significant issues drew the researcher's special attention. First, it was important to attend to the way the participants influenced each other during the discussion. As suggested by Rubin and Babbie (2011), this greatly depends on the researcher. The skilled moderator establishes a relaxed and safe atmosphere, remains in control and sets the tone. In this study, the researcher's expertise and experience in leading groups, along with her familiarity with
the population of nurses, achieved the proper atmosphere, giving space to each participant through questions directed at them while they were speaking. For example, when one participant stated that stopping treatment was like murder, despite the reactions provoked, the researcher continued to focus on the same issue with that participant, and only afterwards asked to hear other opinions, from one participant at a time.

Another issue worth noting is that participants' responses to the questions may have been influenced by their perceptions of the role and status of the interviewer. As stated, the fact that the researcher is a nurse herself draws her closer to the participants. In addition, Richard and Emsil (2000) suggest that the way researchers present themselves may influence the participants' responses. The researcher presented herself as a nurse, a colleague of the participants, who faces difficult issues regarding organ donation. This aided in obtaining authentic data from the participants from various religious backgrounds, while potentially minimising the phenomenon of social desirability.

A vital feature for the qualitative interviewer is the ability to reflect upon them. Thus, after each of the focus groups, the researcher reflected critically on her own performance while listening to the recordings of the interviews and reading the transcripts, in order to ascertain that she had not omitted any topic and had succeeded in emphasizing the important points raised by the participants. She learned from the process and modified her behavior in the next interview, when necessary.

3.9. Conclusions
The emphasis of this qualitative research was to ascertain what were the themes underlying nurses’ perceptions of organ donation. Many Western countries are becoming increasingly multicultural, but immigrants are likely to retain their original religious concerns. The findings suggest the influence of religion on the perception of nurses, as well as the fact that differences between various religions are substantial in Israel and arguably in other Western countries.

More research is needed however to identify and expand on the themes and to attempt to discover more about what is associated with a nurse’s willingness to engage in conversations about organ donation with the family of potential donors. Knowing this could aid with the development of interventions to increase the nurse's awareness and sense of duty regard organ donations. Finally, the emphasis of this qualitative research was to learn what forms the basis of nurses’ perceptions regarding organ donation in the context of their religion. This data can now be used to develop a sensitive, unique scale designed to identify what makes nurses willing to be involve in the organ donation process and what factors may hinder this process.
Chapter 4: Development of a psychometric scale assessing the influence of religion on northern Israeli nurses' attitudes and professional perception regarding organ donation

4.1. Introduction
Solid organ transplantation is an established and successful treatment (Rios et al., 2009). For many patients with chronic or acute organ failure, it is the treatment of choice (Cohen et al., 2008). However, the shortage of organs for transplantation is a crucial problem all over the world, and many patients on transplant waiting lists die every year. At the same time, there are a large number of potential organ donors who fail to become actual donors (Radunz, 2012).

The shortage of organ donors results from various factors, including poor public awareness, cultural and religious perceptions, or the failure of healthcare staff to identify potential donors and to initiate the donation process (Abidin, 2013). There is agreement among researchers that general knowledge regarding donation and transplant of organs is necessary for the success of the process (Shabanzadeh et al., 2009; Sque et al., 2000), and that the attitudes of caregivers may affect the rate of donations (Rios et al., 2009). Indeed, Sque and Galasinski (2013) have argued that in the key area of increasing donation rates, nurses and doctors have the most responsibility in identifying and caring for the potential donors.

In Israel, only doctors may officially determine brain death; thereafter, Ministry of Health procedures (National Centre for Transplant, Ministry of Health, 2012) suggest that it should be the coordinator-transplant nurse who makes the request to the family and coordinates the transplant process. Nevertheless, general nurses often play a pivotal role in the family’s decision-making process, as they are more likely to be working closely with the family when the potential organ donor is being initially assessed and treated (Flodén et al., 2011).

Other researchers (Kent, 2002; Kim et al., 2004; Rios et al., 2009; Sque et al., 2000) have argued that general nurses can have an important impact on organ donation rates if they undertake their roles effectively. Nurses as a part of the healthcare team are fundamental to the organ donation process; they are in direct contact with patients and families and can have an important influence on questions of health care (Rios et al., 2011). Cleiren and Van Zoelen (2002), Cantwell and Clifford (2005) and Collins (2005) have all emphasized that it is the general nurse, who will have established relations of trust, empathy, and support during the hospitalisation of the family member, rather than the transplant team, who should be the logical candidate to prepare families for the organ donation discussion.

Although general nurses will treat patients and provide support for the family of potential organ donors, it is not clear whether they think they should have a formal role in the process of organ donation, or what their level of knowledge or attitudes are towards such a task. In Israel, sensitivities to issues of cultural, ethical and religious diversity can contribute significantly to the reluctance of general nurses to discuss organ donation with the family.
Existing assessments of the nurses' knowledge and attitudes regarding organ donation do not relate specifically to all of the aspects regarding organ donation. Some of the tools used focus on religion in relation to organ donation (Bresnahan et al., 2013; Ismail et al., 2011; Rumsey et al., 2003), or on the knowledge and attitudes of the nurses (Aghayan et al., 2009; Pont Castellana et al., 2008) or even with professional aspects (Flodén et al., 2011; Sque, 1996). The main limitation with previous measures is that not one of them relates to all of these aspects combined: religion, nurses' thoughts, attitudes and feelings and personal behaviour, professional perception and essential knowledge regarding organ donation especially according to general nurses as target population. This limitation suggests that there is a clear need to develop a sensitive psychometric scale to measure nurses' personal and professional perception and behaviour toward organ donation from religious viewpoint which could be used to understand whether nurses' attitudes and behaviour toward organ donation are shaped by their religion, and if so, how this influences their professional behaviour. If it were to be created, such a psychometric scale could then be used as a tool to educate and support general nurses on the following issues:

1. The factors reflecting the knowledge and awareness of nurses to the issues of organ donation.
2. The skills of nurses in dealing with families concerning organ donation.
3. The obstacles faced by nurses in communicating with the families.
4. The religious factors influencing the process of organ donation.

The aim of this chapter is to explain the development of the Care &Donate questionnaire, a reliable and valid psychometric scale designed to determine the personal and professional attitudes and behaviour of general nurses towards organ donation. The development of the C&D scale will involve consideration of the major variables raised during the first stage of this research of the qualitative study (Chapter 3) and the key factors from the literature that have been shown to affect nurses' perception towards organ donation. The overall aim of this research is therefore to reveal new information concerning nurses' involvement in organ donation in Israel, with the eventual goal of improving conditions for organ donation.

4.2. Methods

Psychometric scales have been developed to measure an extremely broad range of attitudes, motives, competencies, and personality traits (Breakwell, Hammond, Fife-Schaw, & Smith, 2006). A psychometric scale is distinguished from other research tools by exacting standards of validity and reliability. DeVellis (2003) has argued that we develop scales to measure phenomena that we believe to exist but cannot assess directly.

This chapter explains the development of a scale to measure nurses' personal and professional attitudes and behaviour toward organ donation from religious viewpoint among nurses in general hospitals in Israel. The approach taken for this research is based on the guidelines of psychological measurement scale development (DeVellis, 2003; Domino & Domino, 2006; Miller et al., 2011; Smith & Smith, 2007). According to these guidelines, development of a sensitive psychometric scale should involve the following objectives:
1. Development of a pool of items and the scale construction for the preliminary scale.
2. Testing of the preliminary scale and refinement for the pilot study.
3. Pilot study conducted with statistical analysis evaluating the test's performance aiding in preparation of the field study.
4. Field test of the C&D scale and production of the final C&D scale.

4.2.1. Development of a preliminary psychometric scale: the conceptual framework of the sensitive psychometric scale of organ donation

Before starting to generate items for any new measure, researchers should have theoretical knowledge about what they seek to measure and how the new measure relates to existing phenomena (DeVellis, 2003). This research has entered into the conceptual framework surrounding the evaluation of general nurses’ personal and professional perceptions and behaviour toward organ donation will include issues such as nurses' personal attitudes and thoughts, commitment, sympathy, and knowledge about brain death and the organ donation process.

Based on the findings of the qualitative data (See Chapter 3, Table 3.2), the following four categories were identified as relevant to developing such a scale:

- Religion and organ donation
- Nurses' thoughts, feelings, and personal behaviour
- Professionalism
- Essential knowledge

Additionally, previous research (Cohen et al., 2007; Kent, 2002; Kim et al., 2006; Shabanzadeh et al., 2009; Sque et al., 2000; Sque & Galasinski, 2013; Thomas et al., 2009; Vlaisavljevic et al., 2014) revealed that these issues influence both nurses’ professional perceptions of organ donation and the degree of their involvement and commitment. The literature also agrees that the family is the most important partner for decision-making in organ donation (Long et al., 2008); this was identified as part of the personal behaviour category. Rios et al. (2010) emphasized the place of family in the decision even in cases where the deceased person possessed a donor card.

The religion category was also identified in the literature as an important factor (Gillman, 1999; Rumsey et al., 2003; Turkyilmaz et al., 2013; Wakefield et al., 2011). Even so, the effect of religious beliefs on healthcare staff has been investigated only among the general public, and not among nurses.

This category included lack of knowledge of their own religion's stand on organ donation, as well as ignorance of other religion's attitudes toward organ donations. This gap should be further investigated.
These issues were identified as part of the larger issue of religion and organ donation in the qualitative study. However, this issue appeared less often in the literature, especially in the sensitive and stressful Israeli multicultural context made up of four distinct religions: Jewish, Muslim, Christian and Druze.

Other issues mentioned in the literature concerned communication skills and other aptitudes necessary for nurses to succeed in the organ donation process (Ashkenazi & Klein, 2013; Siminoff et al., 2009). None of these issues arose during the present research. This is probably due to the fact that there were no direct questions, but also because this theme was included in the professionalism category.

Abidin et al. (2013) assumed that health care staff are at least somewhat responsible for the shortage of organ donors, due to their reluctance and passivity in identifying suitable donors and thus activating the organ donation process. Considering the high level of interpersonal skills required to approach a bereaved family about organ donation, nurses probably do not often think of organ donation advocacy as part of their professional responsibility (Bener et al., 2008).

To summarize, the theoretical framework for the development of the measurement tool includes six distinct areas identified in the qualitative study (four areas) as well as in the professional literature (two additional areas). These were the areas upon which it was necessary to concentrate in order to reach a thorough understanding of the influences on nurses’ professional behavior and attitudes during the organ donation process.

4.2.2. Generating an item pool for the culturally-sensitive psychometric scale

To develop potential questions or "items" to be included in the questionnaire, all the meaning units created from the qualitative data were first analysed to ensure that all the key issues were covered in the preliminary scale. Candidate items were then generated through a consideration of the themes arising from the literature review and from existing scales which were adapted to the specific purpose of this study. For the knowledge items, questions about procedures and laws regarding brain death, the donation process, and the laws regarding the organ donor card were based on Israeli policy, procedures and laws. This stage of generating items was based on recommendation of Domino and Domino (2006), who argue that a psychometric test is not created in a vacuum, but is intrinsically related to the person doing the creating, and more specifically, to that person’s theoretical views.

4.2.3. Item attributes

To be included in a psychometric scale, a scale item should be unambiguous and concise in order to ensure that it's meaning is interpreted consistently (DeVellis, 2003). It should be relevant as well to the issue we wish to examine. In this study, guided by the research aims (section 4.1.1), items focused on the personal and professional behaviour of nurses toward organ donation in a religious context. According to DeVellis (2003), the initial pool of items should be large, as should be the number of items representing the same idea. This contributes to internal reliability and validity, and is a form of insurance against poor internal consistency.
An item should be written in language that is easily understood by the target population, particularly in the present scale, which focuses on the religious context. Miller et al. (2011) also provide suggestions about item attributes, such as the avoidance of slang or colloquial language, again especially when the test developer and the respondents may come from diverse cultural backgrounds.

Hence, potential items were judged by the following criteria:

- The item must contain only one idea.
- The item must be as short as possible.
- The item must be unambiguous.
- The item must not contain any double-negatives.
- The item must be culturally sensitive.
- The item must be easily understood

Finally, items should be worded more positively than negatively. The advantage of having a few negative items along with the positive ones is that people tend to create a pattern of agreement along the questionnaire that does not really reflect their opinion. However, the disadvantages of the negative items are, as stated by DeVellis (2013), that it confuses the respondents, especially in long questionnaires. Some respondents do not notice the reversal, which would confuse the findings. It seems that the advantages outweigh the disadvantages, but due to the current questionnaire's length, only a small number of negatively-worded items were initially included.

4.2.4. Response format for a culturally-sensitive psychometric scale

There are several methods of response formats appropriate for measuring attitudes and beliefs using a psychometric scale, such as the Thurstone, the Guttman, and the Likert scales (DeVellis, 2013). Usually these measures are self- and direct-report questionnaires, in which participants respond to direct questions about their opinions.

The Thurstone scale is known as the equal interval scale (Babbie, 2013). The selection of items, their length, and their meaning are determined by judges from within the studied population, so that the numeric interval between the items on the final scale is similar or equal. This method of scale construction is relatively complex and is rarely used by researchers and to be effective the Thurstone scale would be updated periodically (Babbie, 2013).

The Guttman scale is also a direct measure of attitudes. It is one-dimensional and its response scale is dichotomous, such as agree/disagree, and true/false. While this scale enables direct measurement, it is not suitable for attitudes with more than one dimension, as in the current study. Another disadvantage of this scale for the researcher, which may be an advantage for the respondent, is that the respondent is tempted to guess at one of the two possible answers, thus rendering the scale unreliable. Some experts (DeVellis, 2003; Nunnally & Berenstein, 1994) caution against using this scaling approach for measuring attitudes.
The Likert scale is widely used in instruments measuring opinions, beliefs, and attitudes, and is generally considered familiar and comfortable by respondents (DeVellis, 2003). Likert scales allow the use of a diverse range of items, and tend to have greater accuracy than the same number of items as the Thurstone scale (Coaley, 2010). In a Likert scale, the respondent usually marks the degree of agreement (or satisfaction, or frequency, etc.) with the item stem (i.e., the question) on a scale from 1 to 5, or 1 to 7. Goodwin (2010) argued that there is no clear advantage to either the 5-point or the 7-point scale. Thus, it was decided to use the 5-point Likert scale for this research (1=Strongly Disagree, 2= Disagree, 3=Neutral, Agree, 4=Agree, 5=Strongly Agree). One area of consideration was whether to include "I don't know" as an alternative. Although the use of "I don't know" is controversial when referring to closed questions (Converse & Presser, 1985), this possibility enables the respondent to avoid being forced to express a position with which they do not agree. The alternative argument states that giving this possible answer will prevent some people from thinking about the subject. Since this research investigates a complex and sensitive subject and includes factual questions rather than questions of attitude, it is possible that the respondent actually does not know the answer; it was therefore decided to add the response "I don't know", giving six (i.e., 5 + 1) alternative answers.

4.2.5. Demographic questions
In addition to all the items related to organ donation in the context of religion, it was also important for the understanding of the results to include basic demographic questions. In this research, these questions include age, gender, marital status, religion and level of religiosity, and professional education. These data were found to be important based on the qualitative study and on the literature review. For example, Kim et al. (2004) found that the department where the nurse works may influence the nurse’s awareness, attitudes, and behaviour regarding organ donation. The findings from the focus groups also illustrated that the degree of religiosity influences the awareness and willingness to be involved in the process, so this was also included as a question in the initial item pool. The demographic questions were to help the researcher understand whether respondents of different age groups, genders, religions, and degrees of professional experience respond differently to the issue of organ donation. This part of the questionnaire included six questions, and the response format remains closed questions with several answers from which to select.

4.2.6. Developing the Item Pool
At the end of the initial item-writing process, the item pool contained about two hundred items divided into eight subscales. Table 4.1 also presents the issues, the source of items, and the number of items in the preliminary measurement.

Based on the guidelines of Domino & Domino (2006), the detailed categories of Table 4.1 indicate the subtopics to be covered by the proposed test. These subtopics were based on the conceptual framework (section 4.2.1) and came from the qualitative data, the literature review, and their relative importance to the research aims, and the number of items each subtopic would contribute to the overall test.
Table 4.1: The source and the numbers of the items pool.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Source of questions / items</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Religion and organ donation</strong></td>
<td>Qualitative data- Category 1 Literature</td>
<td>30</td>
</tr>
<tr>
<td><strong>Nurses' attitudes, thoughts, feelings and personal behavior</strong></td>
<td>Qualitative data – Category 2 Literature</td>
<td>40</td>
</tr>
<tr>
<td><strong>Decision regarding organ donation: the influence of the close environment: family and religion</strong></td>
<td>Qualitative data – Category 2 Literature</td>
<td>20</td>
</tr>
<tr>
<td><strong>Professionalism</strong></td>
<td>Qualitative data – Category 3</td>
<td>40</td>
</tr>
<tr>
<td><strong>Essential knowledge</strong></td>
<td>Qualitative data – Category 4 Literature</td>
<td>30</td>
</tr>
<tr>
<td><strong>Personal &amp; professional experience</strong></td>
<td>Qualitative data – Category 2 Category 3</td>
<td>20</td>
</tr>
<tr>
<td><strong>Nurse’s personality traits</strong></td>
<td>Literature</td>
<td>14</td>
</tr>
<tr>
<td><strong>Nurse’s communication skills</strong></td>
<td>Literature</td>
<td>6</td>
</tr>
</tbody>
</table>

4.3. Pre-testing the preliminary scale

Once a measure has been developed, the item pool should be refined and tested to ensure that it has content validity, that the pool of items reflects what it is intended to measure, and to ensure that all of the items are relevant (DeVellis, 2003). Hence, the aims of refining the item pool were:

- To assess content validity.
- To indicate issues that seem important and were not included in the preliminary measure.
- To evaluate the items' clarity, readability and conciseness.
- To pre-test completion instructions for clarity and ease of understanding.
- To pre-test the presentation and layout of the measure.

In order to refine the item pool, the researcher used focus groups of expert reviews. The experts who reviewed the pool of items also considered the areas examined by the measure (DeVellis, 2003). It was also very important to examine the clarity of the instructions given to the participants.

The purpose of this stage was to gain the input of relevant user groups (DeVellis, 2003; Miller, 2011). The issue of organ donation is potentially sensitive (Gillman, 1999; Thomas et al., 2009); multiple medical, cultural and religious viewpoints can help reduce such sensitivities in the final measure. For this reason, it was felt particularly important to include general nurses, patients, and a family representative in the expert review group.
4.3.1. **Expert-group method for assessing the preliminary scale**

Each expert reviewer received a request to participate in a discussion group; the letter presented the aims of the study, the purpose of the focus-group discussion, and a short explanation of the procedure. The expert groups included healthcare professionals – nurses, physicians, transplant-coordinator nurse, and patients who had undergone transplantation not directly connected to the research. Every group received a letter detailing the purpose of participation in the focus groups (Appendix 4.1). The letters were sent to the relevant experts in the field, to transplant-coordinators in two hospitals in the north. The patients were part of an awareness-raising group which circulates throughout the north in schools and colleges. The researchers were chosen from one of the area's colleges. In all, response rate was 60%.

Each group meeting was held on a different day, with meetings lasting about four hours, with a break in the middle. During the first part of the meeting, participants received the items of the measure and were requested to study them individually and to assess each item in terms of its content, relevance, clarity, readability, all with reference to religious sensitivity. The expert nurses' group was asked to rate how relevant they thought each item was to what the researcher intended to measure.

The items were first reviewed individually by each of the participants, who wrote comments and provided a perspective about the items that, in their opinion, differed from the researcher's perspective. They also evaluated how clear and precise each item was, marked confusing items, and suggested rephrasing. This was followed by a recorded group discussion. The researcher collected the items with the experts’ comments and the information which arose during the discussion. The researcher examined the information and based on the data decided which recommendations to accept, and made the changes resulting from these decisions, as recommended by DeVellis (2003). At the end of this process, the researcher, who was the scale developer, had a set of items that had been reviewed by experts and modified accordingly.

At the end of each discussion, the researcher summed up the main points that had arisen and asked the participants to examine their feedback sheets in light of what had been discussed. Each participant received a thank-you letter from the researcher for participating in the discussion group and contributing to the study and received updates on the progress of the study (Appendix 4.1)

4.3.2. **Expert review group one - physicians and nurses**

This group included two physicians, one from internal medicine who had been trained to determine brain death and one intensive-care physician; both physicians had professional experience of ten years or more. In addition, there were three general nurses, one each from internal medicine, emergency medicine, and intensive care, all of whom had professional experience of five years or more. The group was requested to evaluate the content of each of the items of the scale; to determine how relevant it was to the subject of this research, and whether there were additional issues not included which they believed could help study the
phenomenon. Since the target population was general nurses, it was also important for this group to examine the clarity of the items and the instructions.

In the discussion and the feedback, the participants raised several important issues. First, all participants claimed that the questionnaire was very long and that at a certain point they had lost patience and needed a break to maintain concentration. They argued that several items were clumsily-worded, necessitating repeated reading in order to understand them.

In the first part of the questionnaire, more nurses than physicians felt that they were being tested on their level of knowledge about brain death and organ donation, something which made them uncomfortable. A difference was apparent between the physicians and the nurses in the section on professional behaviour regarding organ donation. This group suggested removing about 25 out of 53 items as irrelevant, while the physicians suggested removing only ten.

There was complete agreement among the participants that items should be added referring to their work environment, team members in their departments, and the organizational culture, which they claimed has a great influence on the functioning of all professionals. In total, the participants suggested removing 53 items out of 200 in the pool of items and changing ten items.

4.3.3. Expert Review Group Two - patients and transplant coordinator nurses

The second group included two transplant-coordinator nurses from the National Transplant Center of the Ministry of Health, each from a different hospital, both of whom had five or more years of experience in organ donation and transplantation. There were also three other participants: a transplant patient who had received a kidney transplant two years previously, after a wait of three years; a patient waiting for a transplant (a nurse by profession, who had lost her eyesight and was waiting for a cornea transplant); and a representative of a family who had experience in organ donation of a relative. This group was able to evaluate the content, and to determine whether there were any other issues they considered important from their personal viewpoint.

The close connection between the patients and the transplant-coordinator nurses enabled a very open, interesting, and even touching discussion. The patients and relatives referred mainly to the nurses' professional responsibility and behaviour. The participants in this group claimed that there were a few unclear items such as: If a deceased patient has signed an organ donor card, but the family does not wish to donate the organs, the hospital is required to honour the wishes of the deceased.

The participants in this group also thought the questionnaire too long and should be reduced by at least half. The main feedback in this group was also about the items on professional behaviour. The transplant-coordinator nurses suggested removing items that seemed irrelevant to the functioning of nurses who are not specialists in the field, such as: Approaching the family is part of my job and so I must be involved in the process/ I feel
comfortable approaching the family for consent to donate organs because I represent the health care system.

In contrast, the patients presented feedback from their personal experience and that of their relatives in those critical moments. They believed that the nurses and physicians who are in the department all the time must take part in the process and suggested adding items relating to activities to raise public awareness.

Most participants in this group did not feel that the questionnaire was a test of knowledge, even in the section referring to knowledge about brain death and organ donation. Perhaps the level of confidence in their knowledge was higher among this group, because of their personal and professional experience. The participants suggested removing 43 items out of 200 in the pool of items, changing 20 items, and adding items about raising public awareness of the subject.

4.3.4. Expert review group three - Researchers
This group included three researchers, with extensive experience (over ten years) in quantitative research. Two were involved in medical research, and the third in behavioural and social-science research. None had had prior experience and/or deep acquaintance with the field of organ donation. This group followed after the first two groups, and received a slightly different version of the scale which had been amended to reflect the comments of the first two groups. Therefore, this group received a preliminary measurement with 143 of the original 200 from the items' pool.

The participants in this group considered the response format to be good and not to require changing, particularly in the section referring to knowledge. All the participants suggested adding positive items or making negative items positive. They suggested removing 30 items that did not contribute to promoting the research aims or whose contribution was minor. They argued that items referring to religion, as well as professional functioning in general, were missing. They also recommended more direct items, and suggested changing the root question in some places to suit the questions and/or items better; for example, in the field of knowledge, instead of: What do you know about…?, to write What do you think about...?

From the feedback and the discussion at the end of the process, the participants suggested the removal of 49 items.

4.4. Developing the Pilot Scale
Following the participants' recommendations, the researcher made changes to create a new version of the scale for the pilot (see Appendix 4.2). The number of items, including demographic details, had been reduced from 200 to 104. After consideration by the researcher, a further 16 repetitive items were removed, leaving 88 pilot scale items in total. These items were divided into six subscales as can be seen in Table 4.2.

Although the nurses in Group One and the transplant-coordinator nurses in Group Two believed that further items in the professional behaviour section should be removed, the researcher chose to leave them in for research purposes. The participants also suggested
changing the items related to nurses' professional role. Thus the statement: "It is not my job to explain to the family about brain death," was changed to: "As a nurse, it is my job to explain to the family about brain death."

According to participant recommendations, several items were added which referred to hospital activity regarding organ donation. In accordance with the main aim in developing the measure, greater emphasis was placed on religious context. As a result, a few general items were removed and eight added, in order to deal with more completely the significant issues for each religion in the context of organ donation. For example, regarding Islam, an item was added about the time of burial. This dimension is important when dealing with organ donation and transplantation, since immediate burial is not possible. Also, attention was given to having a similar number of items for each of the religions and basing items on the most important concept of the religion. There is a different emphasis in the four religions, which is why items are not the same for each of them.

At this stage, the measure retained 104 items. Additionally, before the pilot, the researcher decided to accept the recommendation of the expert group and reduce repetitive items, but also keep enough items in all of domains. Finally, version 2 for the pilot study included 88 items. DeVellis (2003) points out that redundancy is not a bad thing when developing a scale and that reliability varies as a function of the number of items. He notes that a measure’s internal reliability is a function of how strongly items correlate with one another and the overall number of items in a scale (DeVellis, 2003). In the next stage, the main emphasis was testing the scale’s reliability.

Table 4.2: Subscales of items in the pilot version of the scale

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Description</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion and organ donation</td>
<td>What is the significance of official declarations of the religion for the nurse personally and professionally? What does she know about the perceptions of organ donation, death and brain death in each of the religions?</td>
<td>20</td>
</tr>
<tr>
<td>Nurses' attitudes, thoughts, feelings and personal behavior</td>
<td>How personal thoughts and beliefs impact perception, attitudes about organ donation, death, brain death; impact of thoughts and beliefs on nurses' intentions to donate own or relatives organs</td>
<td>28</td>
</tr>
<tr>
<td>Organ donation decision</td>
<td>Using the family as a main partner as well as religious leaders in a decision-making process; religion as a source of information and support</td>
<td>10</td>
</tr>
<tr>
<td>Professional behaviour &amp; perception of responsibility</td>
<td>How nurses are involved in organ donation, what they think about their roles and professional duties</td>
<td>14</td>
</tr>
<tr>
<td>Essential knowledge &amp; awareness</td>
<td>What the nurses know about brain death, donor cards and the organ donation process</td>
<td>10</td>
</tr>
<tr>
<td>Personal &amp; professional experience</td>
<td>The effect of personal and professional experience on the topic of organ donation,</td>
<td>6</td>
</tr>
</tbody>
</table>

88
4.4.1. The format of the measure – layout and presentation

The final design of the remaining 88 items was also important. The formatting affects people's initial decision to respond to the survey, what data they might miss, and which questions they will answer (Dillman, 2000). One of the usual strategies is to start with simple, interesting questions that are directly relevant to our stated purpose, so that the respondents accept the legitimacy of the questionnaire (Weisberg, 2005).

With the help of two people who were not connected to the issue or the research population, an introduction to the questionnaire was written requesting that the participants aid in achieving the objectives of the research by filling out the questionnaire. The introduction stressed the importance of the participants' contribution and provided an explanation, including a realistic estimate of the time required to answer the questionnaire, and how the questionnaire should be returned to the researcher. The questionnaire was arranged so that the participant would not feel confused, despite the many statements. It was also important to maintain enough spacing on the page between the questions and to use a readable font.

The statements were arranged according to subject. Questions referring to personal, family, and religious perceptions in the context of organ donation did not appear at the beginning, but were moved to the end. Attention was given to the instructions in each section of the questionnaire. At the end, the participants were thanked again for taking part in this research.

In addition to the layout and the presentation of the final version of the scale, the researcher took pains to develop a name for the scale that not only reflected the objective of the questionnaire, but was also intriguing and easily remembered. Therefore the title decided on for the measurement scale was:

Care & Donate: Care and Religion & Donation of Organs, Nurses' Attitudes and Experience, which can be abbreviated to the C&D scale

4.5. Testing the Pilot version of the Care & Donate scale

Implementation of a pilot test was the next step in the development of the C&D scale. This was intended to provide a measure of the validity and reliability of the scores (Miller et al., 2011). Although the pretesting, which was based on feedback from three expert groups, did refine the content of the scale (see section 4.4.3), it was still possible that questions were misunderstood or that there were items which were either too easy or too difficult to answer (Clark-Carter, 2010; Miller et al., 2011). In addition, participants may have provided unexpected answers or may not have wished to answer particular questions.

Moreover, the preliminary C&D scale still included a large pool of 88 items; a pilot test could serve to reduce the number of items to a more manageable number by deleting items which did not meet certain psychometric criteria or which did not appear to contribute significantly to the main study (Netemeyer et al., 2003).

The main purpose of the pilot test was to study how well the new scale performed and to ascertain that the design and the procedure worked. It is important that the Pilot scale was
tested in a situation matching as closely as possible the actual circumstances in which the scale would eventually be administered. A pilot study should use respondents, setting, and methods of data collection and data analysis similar to those of the larger target sample (Clark, 2010; Miller et al., 2011; Musil, 2005).

If the pilot study is of sufficient size, estimates about the relationships between variables and of effect size can be made (Musil, 2005). This is essential not only for statistical power analysis, but for a better understanding of the phenomena under study. Statistical procedures are used to analyse the test responses for information regarding each item's difficulty, ability to discriminate among individuals, and likelihood of introducing bias or error. According to Musil (2005), pilot studies often provide important insights into the problem being investigated, and may lead to a re-conceptualization of the problem or a refinement of the research question (Netemeyer et al., 2003).

Therefore, the pilot study aims were:
- To identify difficult or problematic items
- To identify the contribution of each item to the purpose of the C&D scale
- To reduce the number of items

4.5.1. Pilot test methods
One of the most important purposes of the pilot study was to reduce the number of items and to identify any sub-components or subscales within the wider scale. The pilot study also allowed the scale to be tested for problems with data accuracy, distributions, missing data, and identification of extreme values. Initial internal reliability scores can also be calculated.

4.5.2. Pilot test sample
The composition of the participants in the pilot was determined by the aim of the study. The main socio-demographic feature of the participants' selection was the participants' religion. The sampling strategy aimed to reflect a variety of attitudes and experience from diverse religions, and included Arab nurses, both Muslims and Christians, as well as secular, traditional, and Orthodox Jewish nurses. All participants were born in Israel and all were employed in hospitals.

The recommendation for the size of the pilot sample is 200-300 nurses (Netemeyer et al., 2003). DeVellis (2003) recommends that the sample size should be large, whereas others suggest that 100 to 200 respondents will suffice. In an analysis of required sample sizes for initial pilot studies for scale development, Johanson and Brooks (2010) suggest a minimum of 30 respondents, although "a comprehensive item analysis should be conducted with larger samples as well, perhaps N = 100 to 200" (p. 396).

4.5.3. Pilot test procedure
A letter was sent to the manager of the medical centre and to the nursing management requesting their approval to conduct the study with nurses working in the general hospital (Appendix 4.3). Nurses meeting the sample's criteria were sent a letter containing the aims of the study and an explanation of the study's procedure (Appendix 4.4). As described in the
covering letter, willingness to answer and return the questionnaire was taken as a sign of consent to participate in the study. Participants were aware that their involvement was anonymous and that no use would be made of their personal information.

The nurses receiving the pilot C&D scale were requested to answer the questionnaire in their free time and to return it by the date specified, in a closed envelope to the address provided by the researcher. The contact details of the researcher were included in case the participants had any questions or comments.

All data collected in the pilot were handled securely. The completed questionnaires were stored in a locked closet to which only the researcher had access. Electronic data were also treated as confidential, stored in password-protected files. In addition, identifying details were never used in any way during the study. Data were entered in an Excel file and later transferred to an SPSS data base.

4.5.4. Analysis of the pilot test data
After the questionnaires were returned, the researcher used a variety of data cleaning methods. An initial step after recording the data was to check for missing data (where respondents had returned, but not filled in every item in the questionnaire), incorrect responses and whether missing information was random or was part of a pattern of intentionally ignoring problematic subject material (Field, 2013).

There are no guidelines for how much missing data values are too many. Tabachnick and Fidell (2013) suggest that for large data sets with 5% or less data points missing, the problems are unlikely to be serious and any method for handling missing data should be satisfactory. The main problem with large amounts of missing data is that the result can be an under-powered study with non-significant findings.

In this stage of exploratory analysis, the researcher also looked for outliers, which are cases that have data values very different from the data values for the majority of cases. In addition, information about the distribution of scores was obtained from skewness and kurtosis values, as well as from box plots (Tabachnick & Fidell, 2013). The skewness value provides an indication of symmetry of the distribution. Kurtosis, on the other hand, provides information about the peakedness of the distribution.

The decision to remove items may be based on many criteria, but a combination of factor analysis and scale reliability is appropriate when the items are mature and theoretically derived (DeVellis, 2003). Exploratory factor analysis is the best choice for achieving the main objectives of the pilot test: reducing the number of items, examining the relationship between variables, and detecting and assessing the uni-dimensionality of the theoretical construct. Sampling adequacy for exploratory factor analysis can be assessed measured by the Kaiser-Meyer-Olkin (KMO) statistic, which should be greater than .60, and by Bartlett's test value, which should be highly significant (Tabachnick & Fidell, 2013).
4.5.5. **Pilot test – sample characteristics**
One hundred eighty and six nurses who returned the pilot questionnaire. Thirteen questionnaires had less than 70% items completed. Thirty-three questionnaires were returned after the deadline. The final sample therefore included 173 questionnaires. Table 4.3 outlines the demographic characteristics of the sample.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>50 (28.9%)</td>
</tr>
<tr>
<td>Female</td>
<td>123 (71.1%)</td>
</tr>
<tr>
<td>Age: Mean (SD)</td>
<td>39.4 (8.09)</td>
</tr>
<tr>
<td>Religious backgrounds: n (%)</td>
<td></td>
</tr>
<tr>
<td>Jewish</td>
<td>75 (43.4%)</td>
</tr>
<tr>
<td>Muslim</td>
<td>53 (30.6%)</td>
</tr>
<tr>
<td>Christian</td>
<td>28 (16.1%)</td>
</tr>
<tr>
<td>Druze</td>
<td>16 (9.3%)</td>
</tr>
<tr>
<td>Religiosity level</td>
<td>63 (36.4%)</td>
</tr>
<tr>
<td>Not all religious</td>
<td>97 (56%)</td>
</tr>
<tr>
<td>Other (Some religious to Orthodox)</td>
<td>76 (44%)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>128 (73%)</td>
</tr>
<tr>
<td>Other</td>
<td>45 (26%)</td>
</tr>
<tr>
<td>Professional education</td>
<td></td>
</tr>
<tr>
<td>RN</td>
<td>28 (16.2%)</td>
</tr>
<tr>
<td>BA/BSN</td>
<td>68 (39.3%)</td>
</tr>
<tr>
<td>MA</td>
<td>69 (39.9%)</td>
</tr>
<tr>
<td>PhD</td>
<td>8 (4.6%)</td>
</tr>
</tbody>
</table>

4.5.6. **Accuracy of data of the pilot test**
Twenty-nine questions had more than 5% missing values or ‘don’t know’ responses. Nine of these items were from the knowledge area about brain death and organ donation process; three of these had missing value of more than 30.4%. All of these items indicated problems of confusion or acceptability to the respondent. None of the demographic items had missing value. In the outlier examination, no extreme values were found in all of the variables (Z>3.29). Therefore, no items were considered for removal on this basis.

4.5.7. **Data reduction in the pilot test**
At this stage of exploratory factor analysis (EFA), as the researcher removed 16 statements from the 29 defined as missing value, 72 items were left. Scale reliability (Cronbach’s alpha) with 72 items was .959. Although the reliability was very high, DeVellis recommends that with reliability above .90, the researcher must consider shortening the scale. Therefore, item reduction was considered using factor analysis. Sampling adequacy for the factor analysis was KMO -.822, which is excellent, as was the Bartlett test (p<0.0001).
A low-loading variable factor reduction process was used to produce a more stable factor structure and a shorter scale. This process used PCA, deleting items with low loading based on the guidance of Comfrey and Lee (1992, cited in Tabachnick and Fidell (2013)) for loading values. Those items that did not load on any factor with at least a loading of 0.5 were deleted from the item pool.

In sum, using principal component analysis and loading tests, five strong, stable factors remained. Forty-seven statements were removed. The whole scale reliability was .961. This reliability is higher than from the beginning of item reduction (.959) but as mentioned before, shortening the scale should be considered if the reliability is above .90. Table 4.4 shows the reliabilities of the resulting five factors, comprising 25 items.

**Table 4.4: Pilot Sample Factor extraction and reliabilities.**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Initial Label</th>
<th>Number of items</th>
<th>Reliability</th>
<th>Judgment criteria (Devellis description)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The role of the nurse in the organ donation process</td>
<td>8</td>
<td>0.947</td>
<td>Excellent</td>
</tr>
<tr>
<td>2</td>
<td>Religion and organ donation</td>
<td>5</td>
<td>0.921</td>
<td>Excellent</td>
</tr>
<tr>
<td>3</td>
<td>Beliefs about brain death</td>
<td>4</td>
<td>0.740</td>
<td>Respectable</td>
</tr>
<tr>
<td>4</td>
<td>The place of family in the organ donation decision</td>
<td>5</td>
<td>0.797</td>
<td>Respectable</td>
</tr>
<tr>
<td>5</td>
<td>Personal thoughts about organ donation</td>
<td>3</td>
<td>0.884</td>
<td>Very good</td>
</tr>
</tbody>
</table>

**4.5.8. Modifications arising from the pilot test**

Based on the item reduction exercise, the scale was reduced to 25 items expressed within five factors. Consideration of the scale at this stage led to further amendment. After considering comments, changes in wording were made to thirteen items in order to make them more an expression of opinion rather than of fact, so that the scale examined ideas and thoughts instead of specific knowledge.

For example, the item: "After death, the body must be returned to God complete, as it was given," became: "I believe that after death, the body must be returned to God complete, as it was given." The item: "It doesn't matter whether you are secular or religious; the opinion of a religious authority is important," became: "I think it doesn't matter whether you are secular or religious, the opinion of a religious authority is important."
The item reduction process produced factors with had relatively few items which it was recognized could cause problems validity check (Kline, 1994). Aiming for six to eight items in each factor the researcher asked a group of six expert nurses to recommended wording for new items related to the existing factors. Ten of these items were subsequently added to the item set as presented in Table 4.5.

Additionally, after data analysis, a number of items were found to have been answered by many respondents as "don't know" (DK), questions were not taken into account as missing, and the result was loss of data which could have been significant. It is known from the professional literature that there is disagreement concerning the use of DK and what the implications might be. Therefore, after the researcher weighed the pros and cons, at this point of modifications the researcher decided to remove the possibility of DK.

The final version of the scale ready for field testing consisted of 35 items. These were again passed to the expert group of nurses for final approval. Based on evaluation of acceptability, redundancy of items and the recommendations of expert nurses, the version of the C&D scale for the field test was finalized (Appendix 4.5).

### Table 4.5: Number of items by factor before and after validity additions.

<table>
<thead>
<tr>
<th>Sub-scale</th>
<th>Label</th>
<th>Number of items</th>
<th>Number of items after modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The role of the nurse in the organ donation process (RON)</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>Religion and organ donation (ROD)</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Beliefs about brain death (BBD)</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>The place of family in the organ donation decision (POF)</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>Personal thoughts about organ donation (PTD)</td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

**4.6. Field study of the revised Care & Donate scale**

There were two main objectives to the field test. The first was the development of a scale for evaluation of nurses' perceptions of the organ donation process as they are influenced by religious, professional, and personal attitudes. This process will be described in detail in this chapter.

The items in the preliminary questionnaire were arranged according to the dictates of the qualitative data and the relevant professional literature, in order to build a working scale for evaluation. The challenge in developing a measurement scale of this nature is in keeping the relevant content areas which would make the measurement scale a practical tool for improving nurses' performance in the organ donation process. Therefore, the final stage in the
development of the measurement scale was to determine the main relevant topics, to reduce the items so that only those relevant to the evaluation of the nurses would remain and would make the scale relevant and useful.

There are some approaches for item reduction but factor analysis is a particularly useful method, in which the aim is to simplify complex sets of data such as items on a questionnaire. This is especially true when the researcher suspects that the construct being measured is multidimensional, which is the case in organ donation, which includes religious, personal and professional dimensions. The challenge in building any psychometric scale is to find a balance between generating a short and useful scale while still keeping enough items to make the instrument meaningful, reliable and valid. So the second main aim of the field test was to evaluate the validity and reliability of the scale in a representative sample of nurses.

The original C&D scale questionnaire in the field test included 51 items, including the demographic questions. However, the researcher decided that, in order to test the construct validity, two additional questionnaires were also added to this version. Thus the field test questionnaire included 93 statements, along with two additional questionnaires to evaluate reliability and validity of the scale which were given to all participants. The decision to present all participants with the more detailed questionnaire was the idea that the larger the sample, the more likely it is that the results will represent the population in a more valid manner (Tabachnick & Fidell, 2013).

4.6.1. Participants in the field study
Participants in the field test included general nurses from hospitals in the north of Israel and were from diverse religions. Nurses who were defined as experts in this area of organ donation and transplantation, such as transplant-coordinator nurses, were excluded.

The sample size was determined by two considerations. The first was based on the decision to conduct a factor analysis of the field test, so the sample had to be large enough for this method. As Tabachnick and Fidell (2013) recommended, there should be at least 300 cases for factor analysis. The other consideration was the aim of this research, which requires that the sample must be heterogeneous and representative of all of the religions in Israel. Based on the assumption that response rates are generally between 40%-50% and on the requirement of a sample of at least 500, 1310 questionnaires were distributed.

4.6.2. Ethical approval
Ethical approval to conduct the field test was granted by the Ethics Committee, Department of Psychology, and University of Portsmouth on 14 January 2014 (Appendix 4.6). Based upon the instructions of the local ethics committee of each hospital, no separate consent was necessary for conducting this research, since it concerned nurses who can decide whether they returned the questionnaire. However, a letter of request was sent to each hospital director and head nurse in order to request their permission for nurses' participation (Appendix 4.7).
4.6.3. Recruitment and data collection
The first step of recruiting participants was to send a letter to the manager of the medical centre and to the nursing management requesting their approval to conduct the study with nurses working in the hospital (Appendix 4.7). This letter provided them with information concerning the aims of the research.

After requesting and receiving permission from the director of the medical centre and from the supervisor of nursing, the researcher requested that participants take part in the research. The nurses from the general hospital were sent a letter providing information about the study (Appendix 4.8). The envelope contained the full version of Care & Donate questionnaire (Appendix 4.9) and an envelope in which to return it. The entire process of applying to the nurses to take part in the research was carried out via the head nurse's office in each organization, so that personal details about the nurses was not reach the researcher.

This process carried out in three hospitals in order to reach the desired number of research participants. It should be noted that the researcher is not personally acquainted with any of the nurses and they have no working relations. Willingness to answer and return the questionnaire was taken as a sign of consent to participate in the study. Nurses who took part in the field test were also informed that they were allowed to leave the study at any stage if they wished to.

The nurses receiving the Care &Donate field test scale were requested to answer the questionnaire in their free time and to return it to the nursing management office of their hospital by the date specified. The contact details of the researcher were included, in case the participants had any questions or comments.

All data collected in the field test were handled securely. The completed questionnaires were stored in a locked closet to which only the researcher had access. Electronic data were also treated as confidential, stored in password-protected files. In addition, identifying details were never used in any way during the study. Data were entered in an Excel file and later transferred to an SPSS data base version 20 for analysis.

4.6.4. Principal component analysis (PCA)
There are two approaches to locating underlying dimensions of a data set: factor analysis (FA) and principal component analysis. These techniques differ in the communality estimates that are used in that a PCA analyses variance, an FA analyses covariance (communality). The goal of PCA is to extract maximum variance from a data set with a few orthogonal components. Tabachnick and Fidell (2013) recommended the PCA approach at this stage in the development of a scale.

4.6.5. Prerequisites for analysis in the field study
There are some prerequisites for analysis of the field test: a sufficient sample size, the Kaiser-Meyer-Okin measure, Bartlett's test. The sample size should be big enough (Field, 2013; Tabachnick & Fidell, 2013). A common rule of thumb is that a researcher needs at least 10-
15 participants per item. Based on this suggestion, the sample size in the field test should be at least 350, although 500 would be even better (Comfrey and Lee, 1992)

Using the KMO measure of sampling adequacy for information as to whether the sample size was suitable for a reliable extraction of factors (Field, 2013). When the KMO is near 0, it is difficult to extract a factor. When the KMO is near 1, a factor can probably be extracted. Therefore, KMO values between 0.5-0.7 are mediocre, values between 0.7-0.8 are good, values 0.8-0.9 are great, and values above 0.9 are superb (Field 2013; Tabachnick & Fidell, 2013) Because PCA is based on a correlation matrix, Bartlett's test of sphericity also was investigated, in order to evaluate whether the variables are suitable and should be significant (p<.05). After this test, the researcher can assume that the items correlate.

4.6.6. Determination the number of factors
Determining the number of factors to extract is important in producing scale unidimensionality and simplifying the factor solutions in PCA. There are several criteria that are available, such as Kaiser's criteria or the eigenvalue >1 rule. Using this rule, only factors with eigenvalue of 1 or more are retained for further analysis, and represent the amount of total variance explained by that factors (Field, 2013). Another, more conservative approach is the scree plot test if the sample size is above 200 it can be used, but, as noted by Tabachnick and Fidell (2013), interpreting scree plots is subjective and requires researcher judgment. The component is inspected for the point at which the shape of the curve changes and becomes horizontal. These components contribute the most to explanation of the variance in the data set. Another method is parallel analysis, which is more accurate, but also has the limitation of not being available in a conventional statistics program. In parallel analysis, actual eigenvalues are compared with random-order eigenvalues. Components are considered retained when actual eigenvalues surpass random-ordered eigenvalues. Parallel analysis was chosen because of its relative accuracy. Following this analysis, the final number of components with a best fit solution was achieved.

4.6.7. Determination of rotation method for PCA
In another consideration after components were extracted, rotation was used to improve the interpretability and scientific utility of the solution. The interpretability of what they represent should be based on the items that load on them (Field, 2013). There are two main approaches to rotation orthogonal (uncorrelated) or oblique (correlated) component solutions. According to Tabachnick and Fidell (2013), in orthogonal rotation the researcher usually assumes that the underlying components are independent and not correlated, and oblique approaches allow for the components to be correlated.

At a theoretical level, it is more realistic to assume that influences in nature are correlated. By allowing for correlated components, oblique rotation often represents the clustering of variables more accurately (O'Rourke & Hatcher, 2013). In the context of organ donation and the scale, the researcher assumes that there will be correlation between the factors, and therefore, the second method is more suitable.
Factor loading represents the correlation between items and the latent variable or component. In general the higher factor loading is better and loading below 0.3 is not interpreted. A low loading variable component reduction process was used to reduce the number of variables in the initial scale to produce a more stable factor structure, and a greater degree of overlapping true variance between the variable and component. Tabachnick and Fidell (2013) provide guidance for loading values which are shown in table 4.6.

In the field test version of the C&D scale, a minimum loading of .50 was employed. If items were found to have loadings less than .5 they were removed and the PCA was recalculated. This process is repeated so that at each time, items with a low load are removed until stable factors with a good number of variables are produced.

Table 4.6: Goodness criteria for variables loading on factors (based on Comfrey and Lee, 1992)

<table>
<thead>
<tr>
<th>Loading value</th>
<th>Overlapping variance (%)</th>
<th>Judgment criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 0.32</td>
<td></td>
<td>Unacceptable</td>
</tr>
<tr>
<td>0.32 – 0.4499</td>
<td>10</td>
<td>Poor</td>
</tr>
<tr>
<td>0.45 – 0.5499</td>
<td>20</td>
<td>Fair</td>
</tr>
<tr>
<td>0.55 – 0.6299</td>
<td>30</td>
<td>Good</td>
</tr>
<tr>
<td>0.63 – 0.7099</td>
<td>40</td>
<td>Very good</td>
</tr>
<tr>
<td>0.71 and above</td>
<td>50</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

4.7. Results of field test the Care &Donate Scale

4.7.1. Participants in the field test of Care & Donate Scale

A total of 662 completed questionnaires were returned from three hospitals, 48 of which were returned after the cut-off date, and following a number of reminders. The first reminder was sent ten days after the original questionnaire was mailed. The reminders were directed to the head of the nursing staff of the hospital, which encouraged her staff to respond to and return the questionnaires. Two days after sending the reminders, the researcher sent an additional letter to non-respondents, urging them that only two days remained to the deadline and that most of the questionnaires and been answered and returned to her. On the final day, a last reminder was sent, emphasizing the importance of the survey.

Because the sample included nurses from three hospitals, collecting the data was spread over a number of weeks, according to a plan which was determined in advance and which was arranged with the hospitals (Appendix 4.10).

Some of the questionnaires returned were substantially incomplete and some were returned without being filled out at all. For purposes of data analysis, the sample included 602 valid
questionnaires, resulting in a response rate of 48%. An overview of the process is shown in Figure 4.1.

Demographic characteristics of the sample indicated that there were more women than men, and most were married with children. Distribution of religious backgrounds approximated the distribution in the population of northern Israel. Table 4.7 presents an overview of the sample by demographic characteristic.

Most of the respondents worked in the internal medicine and surgical departments of the hospitals and defined themselves as either general or senior nurses. Almost half of the nurses had undergone general training in organ transplantation. About 42.5% reported that they had signed donor cards and more than 50% reported previous personal acquaintance with the subject. In terms of professional experience, only 16% reported any experience with one of the activities which were cited at least once (As part of your professional role, have you participated in an explanation to a family about brain death?; As part of your professional role, have you participated in asking a family to approve organ donation?; As part of your professional role, have you participated in an activity to promote the issue of signing donor cards?; As part of your professional role, have you succeeded in persuading a family to agree to organ donation?).

Figure 4.1: distribution and returned questionnaire process in the field test
Table 4.7: Demographic characteristics of the field study sample

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>206 (34.9%)</td>
</tr>
<tr>
<td>Female</td>
<td>385 (65.1%)</td>
</tr>
<tr>
<td>Age: Mean (SD)</td>
<td>42.6 (9.09)</td>
</tr>
<tr>
<td>Religious background</td>
<td></td>
</tr>
<tr>
<td>Jewish</td>
<td>291 (42.2%)</td>
</tr>
<tr>
<td>Muslim</td>
<td>176 (29.8%)</td>
</tr>
<tr>
<td>Christian</td>
<td>85 (14.4%)</td>
</tr>
<tr>
<td>Druze</td>
<td>39 (6.6%)</td>
</tr>
<tr>
<td>Religiosity level</td>
<td></td>
</tr>
<tr>
<td>Not at all religious</td>
<td>312 (52%)</td>
</tr>
<tr>
<td>Other (Some religious to Orthodox)</td>
<td>279 (48%)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>481 (81%)</td>
</tr>
<tr>
<td>Other</td>
<td>100 (19%)</td>
</tr>
<tr>
<td>Professional education</td>
<td></td>
</tr>
<tr>
<td>RN</td>
<td>98 (16.6%)</td>
</tr>
<tr>
<td>BA/BSN</td>
<td>370 (62.9%)</td>
</tr>
<tr>
<td>MA</td>
<td>114 (19.3%)</td>
</tr>
<tr>
<td>PhD</td>
<td>9 (1.6%)</td>
</tr>
<tr>
<td>Main clinical area of nurse</td>
<td></td>
</tr>
<tr>
<td>Internal medicine</td>
<td>220 (37.2%)</td>
</tr>
<tr>
<td>Surgery</td>
<td>104 (17.6%)</td>
</tr>
<tr>
<td>Intensive-care unit</td>
<td>83 (14.1%)</td>
</tr>
<tr>
<td>Paediatrics</td>
<td>63 (10.7%)</td>
</tr>
<tr>
<td>Emergency room</td>
<td>78 (13.2%)</td>
</tr>
<tr>
<td>Other</td>
<td>43 (7.3%)</td>
</tr>
<tr>
<td>Nurse role in hospital</td>
<td></td>
</tr>
<tr>
<td>General nurse</td>
<td>434 (73%)</td>
</tr>
<tr>
<td>Other</td>
<td>154 (26%)</td>
</tr>
</tbody>
</table>

4.7.2. Preparing the field test dataset for analysis

In a check of the questionnaires after data had been entered, 43 questionnaires were found with typing errors and were entered a second time. The next step was to check whether there was missing data, and if so, how much and what the pattern of the missing data was.

4.7.3. Detecting outliers

Outliers are cases that have data values that are very different from the data values for the majority of cases in the data set. Outliers are important because they can change the results of our data analysis. The decision as to whether we include or exclude outliers from a data analysis depends on the reason why the case is an outlier and the purpose of the analysis. There are two kinds of outliers: univariate and multivariate. Univariate outliers are cases that
have an unusual value for a single variable. The reasons for finding outlying values could be typing errors or a problem with the research population.

4.7.4. **Assessment of univariate outliers**

Univariate outliers are cases with extreme value on one variable (Field, 2013). Detecting univariate outliers was done by creating Z score for all variables, then inspecting all variables with scores $Z > 3.29$ that were considered univariate outliers. In the field test data set no univariate outliers (variables with $Z$ scores $>3.29$) were found.

4.7.5. **Assessment of multivariate Outliers**

In order to identify cases with multivariate outliers Mahalanobis distances were calculated. Using a multivariate outlier criterion of $\alpha = 0.001$ with 32df. The critical Mahalanobis distance Chi square for determining multivariate outliers was 62.5. Table 4.8 shows all cases with multivariate outliers.

**Table 4.8:** Mahalanobis distance for cases exceeding 62.5 criterions

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Mahalanobis distance value</th>
</tr>
</thead>
<tbody>
<tr>
<td>198</td>
<td>80.7</td>
</tr>
<tr>
<td>101</td>
<td>72.3</td>
</tr>
<tr>
<td>715</td>
<td>72.2</td>
</tr>
<tr>
<td>1388</td>
<td>70.1</td>
</tr>
<tr>
<td>1123</td>
<td>68.5</td>
</tr>
<tr>
<td>508</td>
<td>68.1</td>
</tr>
<tr>
<td>798</td>
<td>66.3</td>
</tr>
<tr>
<td>185</td>
<td>64.3</td>
</tr>
<tr>
<td>84</td>
<td>64.2</td>
</tr>
<tr>
<td>1299</td>
<td>64.2</td>
</tr>
<tr>
<td>151</td>
<td>63.7</td>
</tr>
</tbody>
</table>

4.7.6. **Assessing Normality**

Most of the variable in the field data set demonstrated low to high levels of negative skew between -1.194 to 0.178 (4 variables) and the kurtosis value was between -1.56 to -0.847. Kolmogorov-Smirnov was significant. These results are quite common in larger samples. As Tabachnick and Fidell (2013) state, with reasonably large samples, skewness will not make a
substantive difference in the analysis and kurtosis can result in an underestimate of variance, but the risk is also reduced with a large sample (above 200).

The results indicate that most of the variables did not distribute normally, and this is not so surprising considering the type of survey and sample size (591), as Pallant (2010) argued that many scales and measures used in the social sciences have scores that are skewed either negatively or positively. This does not necessarily indicate a problem with the scale, but rather the underlying nature of the construct being measured. Tabachnick and Fidell (2013) state that the decision to transform data should be considered in all situations unless there is some reason not to. Hence, it was decided to leave the original data as the sample was big enough for the field study and the ability to generalize.

4.7.7. Principal component analysis and item reduction of the field test C&D scale

First principal component analysis was conducted on the 35 items with oblique rotation. A KMO statistic test was done for the field test data and was 0.926. This considered a "superb" value for PCA. Next, the Bartlett test was significant (p<0.001), as it should be for PCA. The two values indicated that the sample in the field test was adequate.

Based on Tabachnick and Fidell (2013) loading variable guidance, a low-loading variable factor reduction process was used to produce a more stable factor structure and a shorter scale. Items below 0.5 loading were deleted from the item set. Using these procedure 4 items in total were deleted.

A second analysis with 31 items was run to extract components to obtain eigenvalues for each factor, from these 5 factors had eigenvalue over Kaiser's criterion of 1 and in explained 60.5% of the variance. One of the factor consisted of only two items. This indicated that it is not the best solution of PCA. Additionally, the scree plot showed inflexion that would justify retaining 4 factors. The parallel analysis was also conducted and indicated that there were 4 factors in the field test dataset and confirm the number of factor should be extracted. Table 4.9 presents differences between the eigenvalues from the field test data and randomly generated dataset.

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Field test data</th>
<th>Random data</th>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10.63</td>
<td>1.373</td>
<td>9.260</td>
</tr>
<tr>
<td></td>
<td>3.743</td>
<td>1.317</td>
<td>2.426</td>
</tr>
<tr>
<td></td>
<td>2.003</td>
<td>1.275</td>
<td>0.728</td>
</tr>
<tr>
<td></td>
<td>1.329</td>
<td>1.239</td>
<td>0.090</td>
</tr>
<tr>
<td></td>
<td>1.054</td>
<td>1.205</td>
<td>-0.152</td>
</tr>
<tr>
<td></td>
<td>1.039</td>
<td>1.174</td>
<td>-0.135</td>
</tr>
</tbody>
</table>
Running PCA with oblique rotation required to ascertain the factor correlation matrix if the factors are dependent or independents. Table 4.10 did not show independence between factors so, the oblique rotation is appropriate.

Table 4.10: Component Correlation Matrix

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.000</td>
<td>.086</td>
<td>.497</td>
<td>-.300</td>
</tr>
<tr>
<td>2</td>
<td>.086</td>
<td>1.000</td>
<td>.250</td>
<td>-.328</td>
</tr>
<tr>
<td>3</td>
<td>.497</td>
<td>.250</td>
<td>1.000</td>
<td>-.240</td>
</tr>
<tr>
<td>4</td>
<td>-.300</td>
<td>-.328</td>
<td>-.240</td>
<td>1.000</td>
</tr>
</tbody>
</table>


Whole scale reliability for the 4 component solution was an "Excellent" Alpha of 0.924. Further reliability analyses were calculated for each of the factors. The factor that consisted items about the place of family in the organ donation process was found with "undesirable" reliability of Alpha=.623. Based on DeVellis' recommendation, the items of this factor were removed; to reach a robust solution, another PCA was conducted. Table 4.11 performed the judgment criteria for scale reliability (DeVellis, 2003).

Table 4.11: Criteria for scale reliability.

<table>
<thead>
<tr>
<th>Reliability</th>
<th>Judgment criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 0.60</td>
<td>Unacceptable</td>
</tr>
<tr>
<td>0.60-0.65</td>
<td>Undesirable</td>
</tr>
<tr>
<td>0.65-0.70</td>
<td>Minimally acceptable</td>
</tr>
<tr>
<td>0.70-0.80</td>
<td>Respectable</td>
</tr>
<tr>
<td>0.80-0.90</td>
<td>Very good</td>
</tr>
<tr>
<td>Above 0.90</td>
<td>Consider shortening scale</td>
</tr>
</tbody>
</table>

To determine the most robust solution a third PCA with oblimin rotation was conducted with 23 items. No items loaded on more than one factor, all items were loaded above 0.50 and 3 factors were extracted. Table 4.12 shows the differences between the eigenvalues from the field test data and randomly generated dataset.

The scree plot with 23 items also shows three factors. It appeared at this point that the best solution was reached with three robust factors and very good reliability as shown in the table below:
Table 4.12: subscales and overall scale reliability

<table>
<thead>
<tr>
<th>Factor #</th>
<th>Initial label</th>
<th>Number of items</th>
<th>Reliability (Alpha)</th>
<th>De Vellis criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Religion and organ donation (ROD)</td>
<td>9</td>
<td>0.900</td>
<td>Excellent</td>
</tr>
<tr>
<td>2</td>
<td>Role of the nurse in organ donation process (RON)</td>
<td>7</td>
<td>0.866</td>
<td>Very good</td>
</tr>
<tr>
<td>3</td>
<td>Personal thoughts about organ donation (PTD)</td>
<td>7</td>
<td>0.845</td>
<td>Very good</td>
</tr>
<tr>
<td><strong>Overall scale</strong></td>
<td>Care &amp; Donate (C&amp;D)</td>
<td>23</td>
<td>0.924</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

4.7.8. **Interpretation of the PCA**

After the initial pilot study version of the C&D scale, the researcher had two main objectives in testing the revised scale. The first objective was to continue the development of the scale to the final version. The second objective was to test its validity and reliability and this will be described in chapter 5.

The overall aim in developing this scale was to disentangle some of the complexities of the organ donation process. The researcher created a psychometric scale, which defines the aptitudes necessary for dealing with the families, and assesses religious and cultural factors influential in the process of organ donation. In all, twelve items were removed from the scale during the PCA, in order to create a scale with a simple, easy-to-understand structure, with great reliability for the overall scale and for all its components.

The final version had three factors and contained 23 items. That is accounted for 58.5% of the total variance. Each factor reflected the same content world, and all of them together reflected the main issues concerning to the organ donation process. The content and interpretation of each factor will be discussed in more detail below.

**Factor One - Religion and organ donation (ROD)**

Factor one was composed of nine items and accounted for 38.59% of the variance. The reliability of this factor was 0.900, which is considered excellent.

Factor one contained nine items about the place of religion in organ donation. This factor examined the impact of religious beliefs and values on organ donation, thoughts after death and brain death. All of these items stem from nurses' professional and personal viewpoints. The label of this group of items is: Religion and organ donation.
Table 4.13: items loading on factor one – Religion and organ donation

<table>
<thead>
<tr>
<th>Item</th>
<th>factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>q20rev: I believe that a patient diagnosed as brain dead has not really died because his soul is alive</td>
<td>.728</td>
</tr>
<tr>
<td>q11rev: I believe organ donation is against the will of God</td>
<td>.722</td>
</tr>
<tr>
<td>q12rev: I think that it doesn't matter whether you are secular or religious; the opinion of a religious authority is important</td>
<td>.712</td>
</tr>
<tr>
<td>q22rev: I believe that a person should be considered dead only when his heart stops</td>
<td>.706</td>
</tr>
<tr>
<td>q03rev: I believe that after death, the body must be returned to God complete</td>
<td>.697</td>
</tr>
<tr>
<td>q15: I believe that brain death should be considered death in the full sense of the word.</td>
<td>.692</td>
</tr>
<tr>
<td>q14rev: I believe that any unnecessary intervention with the body after death should be avoided</td>
<td>.666</td>
</tr>
<tr>
<td>q19rev: I believe that it is possible for a person who is brain dead to recover</td>
<td>.514</td>
</tr>
<tr>
<td>q16rev: I believe that when anyone suffers or dies, it is God's will</td>
<td>.503</td>
</tr>
</tbody>
</table>

Note: "rev" indicates the question posed negatively

Factor Two – The Role of the Nurse in the organ donation process (RON)

Factor Two contained seven items and accounted for 13.1% of the variance. The reliability of this factor was 0.866, which is considered good. This factor examined the role of the nurse in the organ donation process and the nurse's perception of her/his involvement in the process. The title of this factor is: The role of the nurse in the organ donation process.

Table 4.14: Items loading on factor two – The role of the nurse in the organ donation process

<table>
<thead>
<tr>
<th>Item</th>
<th>factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>q04rev: I think that the general nurse from the ward should not be involved in the process of organ donation</td>
<td>.779</td>
</tr>
<tr>
<td>q05rev: My role as a general nurse is just to inform the transplant coordinator about locating a potential donor candidate</td>
<td>.740</td>
</tr>
<tr>
<td>q02: A close caring professional relationship with relatives and patients enables open discussion about the willingness for organ donation</td>
<td>.666</td>
</tr>
<tr>
<td>q01: As a nurse, I would be more likely to request an organ donation if I knew that my patient had signed an organ donor card</td>
<td>.659</td>
</tr>
<tr>
<td>q08rev: I think that you have to support organ donation in order to be involved in the process of organ donation</td>
<td>.605</td>
</tr>
<tr>
<td>q07rev: As a general nurse, it is not my job to explain to the family about brain death</td>
<td>.594</td>
</tr>
<tr>
<td>q30: Raising public awareness of the subject of organ transplantation is an inseparable part of a nurse's work</td>
<td>.565</td>
</tr>
</tbody>
</table>

Note: "rev" indicates the question posed negatively
Factor Three – Personal thoughts about organ donation (PTD)

Factor Three included seven items and accounted for 6.86% of the variance. The reliability of this factor was 0.845, which is considered good.

Table 4.15: Items loading on factor three – Personal thoughts about organ donation

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>q24rev: I think that organ donation leaves the body of the donor mutilated and disfigured</td>
<td>-.755</td>
</tr>
<tr>
<td>q34: I think that I would be willing to donate organs upon my death</td>
<td>-.733</td>
</tr>
<tr>
<td>q29: I think that donating a body part would enable that part of me to remain alive after my death</td>
<td>-.604</td>
</tr>
<tr>
<td>q31: I think it is important to me that I could give someone else a chance of better life after my death</td>
<td>-.554</td>
</tr>
<tr>
<td>q21: I believe that organ donation helps to give meaning and significance to death.</td>
<td>-.532</td>
</tr>
<tr>
<td>q06: I believe that brain death is irreversible death</td>
<td>-.512</td>
</tr>
<tr>
<td>q33: I think that if I donate my organs at the time of death, I am doing something good for someone else</td>
<td>-.508</td>
</tr>
</tbody>
</table>

Note: "rev" indicates the question posed negatively

This factor examines the nurses' thoughts about the life after death, the meaning of death and thoughts about organ donation from a personal viewpoint. The title of this factor is: Personal thoughts about organ donation.

4.8. Discussion of the final version of the CARE & DONATE scale

Based on principal component analysis conducted (PCA), the scale included three factors with 23 items and reliability of .924. According to the detailing of each factor, factor one, Religion and organ donation includes the largest number of items and the highest explained variance. Factor two – The role of the nurse in organ donation process deals with the perception of the nurse's role in the organ donation process and factor three - Personal thoughts about organ donation was with the lowest explained variance. This combination also suits the theoretical hypotheses. Additional analyses presented in chapter 6 will indicate that more than the subject of religion, it is the level of religiosity which is more important.

In summary, the process of developing the scale included a number of stages and processes beginning with the development of the preliminary survey with a wide item pool covering all relevant areas of the topic of organ donation, and those which were presented in the theoretical framework along with the findings of the qualitative study which presented the perceptions of nurses from different religions regarding organ donations (presented in Chapter 3).

The evaluations of the groups of content experts in examining the preliminary survey aided in clarifying and sharpening the issues and contributed to the statistical validity of the scale. Later, based on the findings and the preliminary evaluation and the changes which were made following these, a pilot study was created which was the second version of the scale. The pilot study included a sample of 173 nurses working in hospitals. These nurses represented
different religions. The main objective was to create a psychometrically strong, stable scale with a small number of items which would respond to the aims and the content areas required for the research. The last stage of scale development was the field study after changes had been made to the third version of the questionnaire.

The pilot study consisted of five created factors. A number of items were added which were found to be relevant in the literature and according to the recommendations of the nurses. Some of the statements which had been in the original item pool were rewritten to be clearer.

The field study included 591 participants, nurses from three hospitals in the north of Israel. The nurses came from a variety of religions. Making use of a PCA of 35 items from the field study scale, three factors were created which clearly described the theoretical structure. This analysis created three psychometrically strong and stable factors.

Finally, the main aim of this research was to investigate perceptions of organ donation among general nurses in the context of religion and their involvement in the process. The fact that not all areas identified in the theoretical framework were expressed as factors does not mean that they are not important to the subject but that they were relatively less important than other factors and not consistently identified in the data.

The differences between the theoretical framework created in the field study and the theoretical framework based on the qualitative study and the theoretical literature indicate that the theoretical framework should be amended. This includes three main areas concerning nurses’ perception of the issue of organ donation in the context of religious and professional backgrounds.
Chapter 5: Evaluation of the reliability and validity of the Care & Donate scale

5.1 Introduction
The literature review (see Chapter 2) revealed a variety of factors affecting the acute global shortage of organs for donation and transplantation which have been the focus for various research tools (Kent, 2002; Khalila, 2013; Parisi and Katz, 1986; Rios et al., 2006; Shabanzadeh et al., 2009; Sque et al., 2000). Most of these tools have examined attitudes and behaviour involving organ donation. The qualitative study described in Chapter 3 highlighted the need to combine some of the relevant factors from previous research in order to investigate the effect of religion attitudes, perceptions and professional behaviour toward organ donation on general nurses process. This research has a unique contribution: a scale which integrates major factors of the religion/religiosity level with nurses' personal thoughts and behaviour and with their professional perceptions regarding organ donation, in the context of a multicultural society.

Previous research has investigated the relationship between attitudes and commitment to donate (Ashkenazi, Miniero & Hornik, 2006; Boey, 2006; Kim et al., 2002; Parisi & Katz, 1986). Parisi and Katz (1986) developed the organ donation attitude scale to measure positive and negative dimensions of attitudes about organ donation. They also developed a behavioural commitment scale to ascertain willingness to sign a donor card. The findings of that research suggest that the two-dimensional (positive and negative) attitude-measurement approach appears to correspond more closely to the actual nature of peoples' feelings and views about organ donation than an approach based on a single underlying bipolar dimension of favourability.

Questionnaires and scales investigating organ donation have been conducted in various cultures and religions, such as Korea, Hong Kong, Spain, England, Iran, and Saudi Arabia (Aghayan et al., 2009; Cohen et al., 2008; Kim et al., 2006; Radunz et al., 2010; Rios et al., 2010). However, few of these studies have referred specifically to the variables of local culture and religion and general hospital nurses. Furthermore, no specific instruments have been available to measure all of the aspects of this research together.

The uniqueness of the current research is to combine the aspects of organ donation, religion, and professional and personal views to assess nurses' aptitude for the organ donation process in general hospitals. Bowman and Richard (2003) have argued that culture profoundly affects attitudes toward organ donation from brain-dead persons, and should be a salient factor in any discussion of attitudes towards brain death and removal of organs. As Gillman (1999) and Oliver et al. (2011) have pointed out, ambiguous attitudes towards the division between life and death have deep cultural roots; a comparison of different cultural contexts may reveal a complex interplay of factors.

Development of the C&D scale (Chapter 4) is based on previous studies, including the qualitative study described in Chapter 3. The measure was designed to be suitable for general
nurses in Israeli hospitals. It covers the most relevant aspects of these nurses' attitudes towards organ donation. However, the reliability and validity of any scale must be examined before it can be applied in the field, either as the basis for changing nursing education or for developing training sessions for nurses.

5.2 Methods for evaluating reliability and validity
The overall aim of this chapter is to establish the reliability and validity of the C&D scale. Reliability is concerned with the degree of measurement error for a particular assessment and with the consistency of a measure of a concept. When a measure is reliable, there is stability over time and internal consistency. Stability is the best indicator of an instrument's reliability, and is usually assessed using the test-retest method, which involves administering and re-administering the test to the same sample. If the correlation of results between the two tests is low, the measure would appear to be unstable and therefore unreliable. High correlation should result in correlations of +0.8 or higher (Jackson, 2008).

Internal consistency is another factor of reliability, referring to the degree to which items on a scale correlate with one another. Cronbach's alpha coefficient is the test most frequently used to establish internal consistency; if the Cronbach’s alpha for internal consistency is high it is assumed that that the items are measuring the same concept (DeVellis, 2003).

In statistical terms, validity concerns whether the variable is the underlying cause of item covariation (DeVellis, 2003). There are several ways to evaluate validity. As with reliability, validity is measured by the use of correlation coefficients (content validity, criterion validity and construct validity).

Criterion validity describes the extent to which a measuring instrument accurately predicts behaviour or ability in a given area. There are two types of criterion validity, depending on whether the test is used to estimate present performance (concurrent validity) or to predict future performance (predictive validity).

In this research, construct validity was most appropriate, because it is directly concerned with the theoretical relationship between variables, assessing the extent to which a measuring instrument accurately measures a theoretical construct or trait (Jackson, 2008). The extent to which empirical correlations match the predicted pattern provides some evidence of how well the measure behaves like the variable it is supposed to measure (DeVellis, 2003).

Convergent and discriminant validity are both considered subcategories and subtypes of construct validity (Jackson, 2008). When the researcher can demonstrate evidence for both, she has by definition demonstrated evidence for construct validity. But neither one alone is sufficient. In other words, measures of constructs that theoretically should be related to each other would be expected to correlate highly, measures of constructs that theoretically should not be related to each other should not correlate (Harrington, 2009).

In order to evaluate the construct validity of the C&D Scale in the present study, a number of questionnaires used in previous studies were examined, using certain criteria. The first
criterion concerned the essential themes in a questionnaire and the degree of detail given to each theme in the questions. It was clear that the questionnaire used to establish construct validity in the present study must emphasize the theme of religion. Another theme that should be examined is professionalism - the nurses' perception of their professional responsibility in the organ donation process. Finally, it was important to examine the validity in the context of the target population of the study, which should be general nurses, rather than those whose specialty involved organ donation.

In all, five questionnaires were considered (Flodén et al., 2011; Khalaila, 2013; Rumsey et al., 2003; Siminoff, 2009; Sque, 1996). It should be emphasized that most of the questionnaires examined professional standing and nurses' knowledge and training, while the theme of religion was at best a minor theme.

Given these criteria, two relevant questionnaires were chosen; the combination of both was similar to the C &D Scale. The first, the Organ/Tissue Donation (OTD) questionnaire developed by Sque (1996), examined the attitudes, knowledge and behaviour regarding organ donation of general nurses in general hospitals. The OTD includes 47 items, based on the literature and on previous research. The main hypothesis was that continuing and close contact by nurses with potential donors establishes a link to a positive attitude toward organ donation. Thus, success in obtaining organs for donation could depend on nurses' awareness and on their personal involvement (Sque et al., 2000). Another reason for using this questionnaire is that it was meant for, and distributed to, general hospital nurses from general wards such as internal medicine and surgery in addition to nurses in emergency-care, dialysis, and intensive-care, and so again it is most relevant to the target population of nurses of the current research. The questionnaire was evaluated for validity and reliability by the researcher (Sque et al., 2000) and was found to be acceptable and sensitive.

The OTD questionnaire is divided into three sections (Sque et al., 2000). Section A includes six central factors from 12 items referring to six aspects of organ donation: (1) the value and contribution of organ donation, (2) the unique idea of having another's tissue in one's own body, (3) the importance of organ donation, (4) the individual's moral, and nurses' professional rejection of the responsibility for organ/tissue donation, (5) the post-mortem mutilation of the body and (6) the potential distress donation may cause a bereaved family. Section B included knowledge items regarding brain death and organ/tissue donation, and the activities which were appropriate for nurses to carry out during the donation process. Section C included personal and professional biography items regarding organ donation, since the research of Sque et al. (2000) tested the similar subjects on the same target population. Most of the items were found relevant to the Care &Donate scale, but the researcher did not wish to overburden the participant; in the end, all the items from section A and four items from section B were adopted.

Use of additional tools was to provide a comparative evaluation of the validity of the scale and the sub-scales. This yielded the following result: 12 items from Section A (all of Section A) were found relevant in content to the research and facilitated validity analysis. This section was found valid and reliable in the original research as well; in the present research
the reliability of OTD/A questionnaire was .881 and with high correlation \( r (591) = .907 \) to the scale developed by Rumsey et al. (2003) with OTD/A questionnaire (all 12 items). These findings provide evidence that even though only part of the questionnaire was used, it still is a reliable and valid scale.

Therefore, items that although important in previous research was less relevant to the current scale: questions concerning knowledge and policy.

Another important reason for using this questionnaire is that it easy to answer, being similar in format to the Likert scale. Finally, it was important to investigate the nurses’ perceptions of their role in the donation process in order to develop a valid and reliable scale. This follows previous research, and so additional items were included from Section B of the OTD which were deemed relevant to this question. This section of the questionnaire will be discussed more fully in Chapter 6. Because the full scale was not used, it will be referred to as OTD /Section A (OTD/A).

The OTD did not include reference to the issue of religion, or its application to personal and professional attitudes towards organ donation. So a second questionnaire was used in the construct validity study, the Organ Donation Attitude Survey (ODAS) developed by Rumsey, Hurford and Cole (2003), his questionnaire does cover religion in organ transplant in one factor (eight items). The second ODAS factor includes five items dealing with a positive attitude toward and acceptance of organ donation. The third factor includes five items focusing on behaviour and personal obligations.

Between them, the OTD/ A and ODAS questionnaires provides coverage for all areas of the C&D scale and were therefore appropriate for validity assessment. Participants in the present research were asked to answer an additional questionnaire on the C&D scale, which was analysed in conjunction to the C&D scale and the other questionnaires.

Table 5.1 summarizes the methods and sources used to evaluate reliability and validity of the Care &Donate scale. The evaluation of the reliability and validity of the Care &Donate scale includes internal consistency reliability, test re-test reliability, convergent and divergent validity and known group's validity (DeVellis, 2003) and will be described separately below.

**Table 5.1: Methods to evaluate reliability and validity of Care & Donate Scale**

<table>
<thead>
<tr>
<th>Source</th>
<th>Aim</th>
<th>The method</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care &amp; Donate Scale</td>
<td>To assess reliability</td>
<td>Internal consistency</td>
<td>Cronbach Alpha</td>
</tr>
<tr>
<td>Care &amp; Donate Scale</td>
<td>To assess the stability of the scale over time</td>
<td>Test re-test reliability</td>
<td>2 weeks after the first questionnaire</td>
</tr>
</tbody>
</table>
Validity evaluation of Care & Donate Scale

<table>
<thead>
<tr>
<th>Scale</th>
<th>To assess</th>
<th>Correlations between similar questionnaires and Care &amp; Donate scale and subscales</th>
<th>When?</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTD/A (Sque, 1996) ODAS (Rumsey et al., 2003)</td>
<td>To assess convergent validity</td>
<td></td>
<td>Continuation of the Care &amp; Donate scale</td>
</tr>
<tr>
<td>Care &amp; Donate Scale</td>
<td>To assess the ability of scale to discriminate between groups</td>
<td>Known groups validity</td>
<td></td>
</tr>
<tr>
<td>Care &amp; Donate Scale: Professional Seniority</td>
<td>To assess discriminant validity</td>
<td>Correlations between</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.3 Preparations before analyses reliability and validity
Before full analysis was performed, diagnostic tests were conducted, as described in Chapter 4.4. There were some important issues to be considered, such as the accuracy of data, missing data, finding outliers, normality of distribution. All of these were found relevant to most analyses in the field test and to ensure the quality of data (Tabachnick & Fidell, 2013). Thus, in this stage, the researcher was sure that accuracy of data was checked and corrections were completed appropriately.

The data were also screened for univariate and multivariate outliers. In the field test, no variables with Z scores >3.29 were found, meaning that there were no univariate outliers (Pallant, 2007). To identify multivariate outliers, the Mahalanobis distance was calculated and 11 cases out of 602 in the sample which constituted (1.82% of the entire sample) were then deleted (Tabachnick & Fidell, 2013).

5.4 Evaluation of internal consistency of Care & Donate Scale
The test for internal consistency and reliability is whether the items in the scale have a strong relationship to the underlying latent variable (DeVellis, 2003). If all items on a test measure the same construct or idea, then the test has internal consistency reliability.

5.4.1 Procedure for evaluating internal consistency
The best and most common procedure for estimating internal consistency is to calculate Cronbach's alpha reliability (Stangor, 2014). Excellent internal consistency reliability is indicated by an alpha of .90 or more; good reliability is .80 to .89, while the lowest acceptable level is usually .70 (Nunnally & Bernstein, 1994). Values any lower than this means that some items do not connector reflect the same thing or in the same way on the scale.
5.4.2 Results of the internal reliability using Cronbach's alpha

The sample characteristics and response rates from the field test data were described in Chapter 4 Section 4, where we stated that 591 cases were found to be admissible to this study. Cronbach's alpha was calculated for the whole scale and for each subscale. The whole scale included 23 items, Cronbach's alpha was 0.924 excellent reliability for the scale, and the reliability of the subscales was between 0.845 and 0.90.

Table 5.2: Cronbach's alpha to assess the internal consistency reliability of the Care & Donate scale

<table>
<thead>
<tr>
<th>Scale</th>
<th>Initial label</th>
<th>Reliability (Alpha)</th>
<th>De Vellis criteria</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Religion and organ donation (ROD)</td>
<td>0.900</td>
<td>Excellent</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Role of the nurse in organ donation process (RON)</td>
<td>0.866</td>
<td>Very good</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Personal thoughts about organ donation (PTD)</td>
<td>0.845</td>
<td>Very good</td>
<td>7</td>
</tr>
<tr>
<td>Overall scale</td>
<td>Care &amp; Donate scale (C&amp;D)</td>
<td>0.924</td>
<td>Excellent</td>
<td>23</td>
</tr>
</tbody>
</table>

5.5 Evaluating the test-retest reliability of the C&D scale

The test-retest reliability method is one of the simplest ways of testing the stability and reliability of an instrument over time. The researcher gives the scale to the same group of participants on two different occasions, which allows the examination of the performance of the test over time. If there is good test re-test reliability, the scores from the first occasion will be correlated with those from the later administration (DeVellis, 2005; Miller et al., 2011). The choice of time interval between the two administrations of the test is somewhat controversial and may vary from a few hours to several years (Miller et al., 2011). If the interval is too short, the participants may remember their responses to the first administration and thus distort their responses. Usually, test re-test reliability estimation requires an interval of two weeks to one month as the generally accepted time interval for retesting (Breakwell et al., 2006; Waltz, Strickland, & Lenz, 2005). It is also crucial that no relevant intervention was conducted in the interval between the tests.

5.5.1 Procedure for evaluating the test-retest reliability

In order to assess the test-retest reliability of the C&D scale, participants were asked if they would be willing to complete the C&D scale again (Appendix 5.1). This request was presented at the end of the first questionnaire (Appendix 4.10). People who agreed were then sent a second questionnaire within two weeks of the first test. All of the questionnaires in the retest sample were screened for outliers and normality.
5.5.2 Analysis of the test-retest reliability
The most common methods for assessing test re-test reliability are Pearson correlation coefficients and intraclass correlations. In test-retest reliability there should be absolute agreement between scores from the first occasion and from the second occasion; thus Intraclass correlations should be used (Field, 2013; Tappen, 2011). Common interpretive guidelines for ICC are shown in Table 5.3.

Table 5.3: Intraclass correlation value and interpretation

<table>
<thead>
<tr>
<th>ICC value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 0.40</td>
<td>Poor agreement</td>
</tr>
<tr>
<td>0.40-0.59</td>
<td>Fair agreement</td>
</tr>
<tr>
<td>0.60-0.74</td>
<td>Good agreement</td>
</tr>
<tr>
<td>Greater than 0.74</td>
<td>Excellent agreement</td>
</tr>
</tbody>
</table>

5.5.3 Results of the test re-test reliability
5.5.3.1 Sample characteristics
Two hundred and forty-eight participants returned the questionnaire (41% of the total returned) with their agreement to participate in the retest questionnaire. In total, 158 completed re-test questionnaires were returned, a response rate of 63%. The sample characteristics of the field test have been described in Chapter 4, Section 4. The demographic characteristics of those who returned the test-retest questionnaire are presented in Table 5.4.

The distributions of demographic characteristics of the participants in the retest were very similar to those of the field test sample with only slight differences. Further tests were conducted looking for significant differences between the characteristics of participants who agreed to participate in the re-test and those who didn't agree, but no significant differences were found.
Table 5.4: Demographic characteristics of test re-test participants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Re-test sample</th>
<th>Full Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Gender n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>56 (35.7%)</td>
<td>206 (34.9%)</td>
</tr>
<tr>
<td>Female</td>
<td>101 (64.3%)</td>
<td>385 (65.1%)</td>
</tr>
<tr>
<td>Age: Mean (SD)</td>
<td>41.7 (8.85)</td>
<td>42.6 (9.09)</td>
</tr>
<tr>
<td>Religious backgrounds: n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jewish</td>
<td>73 (46.5%)</td>
<td>291 (42.2%)</td>
</tr>
<tr>
<td>Muslim</td>
<td>49 (31.2%)</td>
<td>176 (29.8%)</td>
</tr>
<tr>
<td>Christian</td>
<td>26 (16.6%)</td>
<td>85 (14.4%)</td>
</tr>
<tr>
<td>Druze</td>
<td>9 (5.7%)</td>
<td>39 (6.6%)</td>
</tr>
<tr>
<td>Religiosity level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not all religious</td>
<td>81 (53.5%)</td>
<td>312 (52%)</td>
</tr>
<tr>
<td>Other (Somewhat religious to Orthodox)</td>
<td>48 (46.4%)</td>
<td>279 (48%)</td>
</tr>
<tr>
<td>Marital status n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>130 (82.8%)</td>
<td>481 (81%)</td>
</tr>
<tr>
<td>Other</td>
<td>27 (17.1%)</td>
<td>100 (19%)</td>
</tr>
<tr>
<td>Professional education n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RN</td>
<td>19 (12.1%)</td>
<td>98 (16.6%)</td>
</tr>
<tr>
<td>BA/BSN</td>
<td>105 (66.9%)</td>
<td>370 (62.9%)</td>
</tr>
<tr>
<td>MA</td>
<td>32 (20.4%)</td>
<td>114 (19.3%)</td>
</tr>
<tr>
<td>PhD</td>
<td>1 (0.6%)</td>
<td>9 (1.6%)</td>
</tr>
<tr>
<td>The main clinical area of nurse n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal medicine</td>
<td>54 (34.4%)</td>
<td>220 (37.2%)</td>
</tr>
<tr>
<td>Surgery</td>
<td>26 (16.6%)</td>
<td>104 (17.6%)</td>
</tr>
<tr>
<td>Intensive care unit</td>
<td>26 (16.6%)</td>
<td>83 (14.1%)</td>
</tr>
<tr>
<td>Paediatrics</td>
<td>12 (7.6%)</td>
<td>63 (10.7%)</td>
</tr>
<tr>
<td>Emergency room</td>
<td>29 (18.5%)</td>
<td>78 (13.2%)</td>
</tr>
<tr>
<td>Other</td>
<td>10 (6.4%)</td>
<td>43 (7.3%)</td>
</tr>
<tr>
<td>Nurse role in hospital n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General nurse</td>
<td>117 (74.5%)</td>
<td>434 (73%)</td>
</tr>
<tr>
<td>Other</td>
<td>40 (25%)</td>
<td>154 (26%)</td>
</tr>
</tbody>
</table>

5.5.3.2 Assessing appropriateness of data for test re-test analysis
First, tests for accuracy of the data were conducted. There were no irregular values, and all of the values for each of the variables were in the correct range. A missing-value analysis was also conducted in the sample data of the test-retest reliability analysis, which indicated that there were no more than 3.8% of cases had missing data.
For the participants in the test-retest sample, Z scores were calculated for each of the subscale and whole-scale of Care & Donate. No cases with scores Z> 3.29 was found, which means (Pallant, 2007) that there were no significant outliers in the data of test-retest (Time 2).

Based on the data distributions, most of the variables in the field data set and in test-retest data demonstrated low to high levels of negative skew and kurtosis. The Q-Q plots also indicated deviation from normality in all variables and subscale in the test-retest data. This was true also for the field-test data and is usual for this type of large-scale survey data (Pallant, 2007). Additionally, Although data transformation are recommended as a remedy for failures of normality they are not universally recommended because an analysis is8s interpret from the variables that are in it and transformed variables are sometimes harder to interpret (Tabachnick & Fidell, 2013).

5.5.3.3 Intra-class correlations of the Care &Donate Scale

For test-retest reliability, intraclass correlations were calculated between Time 1 and Time 2 for all subscales and the whole-scale of the C&D Scale. The correlations are presented in Table 5.5. All of the subscales of the C&D Scale exhibited excellent test re-test reliability; the whole C&D Scale also exhibited excellent test-re-test reliability. Additionally, mean scores of the retest group in the overall scale and of each subscale were calculated by using t tests for paired simples. Table 5.5 also presents the mean score of whole scale and subscales of the test re-test sample. Significant (p<0.01) differences were found for all subscales. However, this shows that there were significant differences. It might be because during Time 1 and Time 2 there were discussions among the participants about the issues of the study. This could have contributed to the overage score change. Another explanation for the change could be that those who agreed to the re-test had more hidden opinions even before the retest.

Table 5.5: Mean scores of test re-test sample and Intraclass correlations n= 158

<table>
<thead>
<tr>
<th>Scale</th>
<th>Initial label</th>
<th>Field sample scores mean</th>
<th>Retest sample scores mean</th>
<th>Paired t-test probability</th>
<th>Intraclass correlation</th>
<th>Interpretation of intraclass correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Religion and organ donation</td>
<td>2.977</td>
<td>3.369</td>
<td>0.00**</td>
<td>0.840</td>
<td>Excellent</td>
</tr>
<tr>
<td>2</td>
<td>Role of the nurse in organ donation process</td>
<td>3.103</td>
<td>2.987</td>
<td>0.03*</td>
<td>0.876</td>
<td>Excellent</td>
</tr>
<tr>
<td>3</td>
<td>Personal thoughts about organ donation</td>
<td>3.033</td>
<td>3.145</td>
<td>0.00**</td>
<td>0.941</td>
<td>Excellent</td>
</tr>
<tr>
<td>Overall scale</td>
<td>Care &amp; Donate whole scale</td>
<td>3.081</td>
<td>3.176</td>
<td>0.01*</td>
<td>0.919</td>
<td>Excellent</td>
</tr>
</tbody>
</table>
5.6 Evaluation convergent and divergent validity of Care & Donate Scale

There are various methods of evaluating the validity of the C&D scale. In contrast to face and content validity, which are concerned with whether a measure appears to measure the topics in the scale, construct validity assesses whether this particular scale truly measures the intended construct. Construct validity is essentially a hypothesis-testing endeavour linked to a theoretical perspective regarding the construct on which the measure is based (Polit & Tatano Beck, 2008). If the hypotheses are accepted, support is provided for the construct validity of the measure.

There are a number of ways to gather evidence of construct validity: if measures of the same concept are highly correlated, there is evidence of convergent validity. On the other hand, discriminant or divergent validity is demonstrated when measures of different concepts or constructs are distinct. Brown (2006) notes that correlations between constructs of 0.85 or above indicate poor discriminant validity (Harrington, 2009), but there is no clear consensus on this. There is agreement that convergent validity should be higher than discriminant, and that discriminant validity should at most be moderately intercorrelated (Campbell & Fisk, 1959; Suen, 2012). Based on Lindley's (2001) recommendation about evaluating construct validity, there is some degree of correlation which enables us to make a decision about convergent and divergent validity. Although there are various recommendations, DeVellis (2003) argued that there are no absolute criterion values which can be used to establish a minimal level for validity coefficients about convergent and divergent validity.

In this research, using two other questionnaires with similar constructs which had been seen to be reliable and valid enabled us to provide evidence for convergent and divergent validity. The first OTD questionnaire (Appendix 5.2) was developed by Sque (1996). The questionnaire examined the attitudes, knowledge and behaviour of regular nurses in general hospitals regarding organ donation. The second questionnaire, the ODAS—Organ Donation Attitude Survey (Appendix 5.3) relates in greater detail to the aspect of religion in organ transplant. It includes twenty items, and the main assumption was that religious beliefs play a role in determining one's view of organ donation. This scale did not have one specific factor relating to religion, but each factor included items related to this aspect.

First, it was important to test whether the C&D Scale was indeed measuring religious aspects by ODAS (Rumsey et al., 2003) and personal and professional aspects of the attitudes toward the organ donation by OTD/A as it was intended to. It was hypothesized that if this was the case, the whole-scale of C&D scores should be correlate highly with the whole ODAS (Rumsey et al., 2003) and with the OTD/A questionnaire (Sque et al., 2000). Second, the ODAS and OTD/A were used to test further the convergent and divergent validity of the C&D scale.
5.6.1 Procedure for evaluating the convergent and divergent validity
In order to assess the convergent and divergent validity of the C&D Scale, the field test included the ODAS Scale (Rumsey et al., 2003) and the OTD/A questionnaire (Sque, 1996).

5.6.2 Analysis of the convergent and divergent validity data
Pearson’s correlations were calculated between each of the subscales and the whole-scale of the ODAS (Rumsey et al., 2003) and OTD questionnaire (Sque, 2000) and the C&D scale. Correlations above 0.75 were taken to indicate a high correlation between the scales and provided evidence for convergent validity. To provide evidence for divergent validity, the correlation value should be less than 0.3 (Cohen, 1988). These correlations were compared to the hypothesized relationships between the whole-scale and subscales of the three measures in order to evaluate the convergent and divergent validity.

5.6.3 Results of the convergent and discriminate validity analyses
As described at the beginning of this chapter, several checks of the data must be conducted prior to analysis. Hence the Care & Donate, ODAS (Rumsey et al., 2003) and Organ Donation (Sque, 1996) subscale and whole-scale scores were screened for missing data, univariate outliers and normality and were found to be acceptable.

5.6.3.1 Appropriateness of the field-test data for convergent and discriminate validity analyses
Z scores were calculated for each of the items and the subscales of the ODAS and the OTD questionnaire. No outlying values (Z > 3.29) were identified. For assessing normality, Kolmogorov-Smirnov statistics were produced for the C&D Scale and the ODAS questionnaire. The tests for all variables were significant, indicating deviations from normality (Field, 2013). The Normal Q-Q plots were also examined, and indicated deviation from normality on all variables. As recommended by Tabachnick and Fidell (2013), no transformation was performed on the data and the original data were used in subsequent analyses. There were 591 cases available for analysis.

5.6.3.2 Correlation between Care & Donate Scale ODAS, and OTD/A Questionnaire
Pearson’s correlations were calculated between the whole-scale score of the C&D Scale, the ODAS and OTD questionnaire. The C&D Scale whole-score was highly correlated with the whole ODAS whole score, \( r(591) = 0.9, p<.01 \) (See Figure 5.1).
Figure 5.1: Scatterplot of the Care & Donate and ODAS whole scale values.

The C&D Scale whole-score was also highly correlated with whole OTD/A whole score with $r(591) = 0.87$, $p<0.01$. These give clear evidence for convergent validity of the C&D scale (see Figure 5.2).

Figure 5.2: Scatterplot of the C&D scale and the whole scale Organ/Tissue Donation questionnaire.
Additionally, Pearson’s correlation coefficients were calculated between the whole scale and the subscales of the C&D scale, ODAS subscales and OTD/A questionnaire subscales. The correlations can be seen in Table 5.6. The subscales from the C&D scale were correlated with ODAS and OTD/A questionnaire subscales in different degrees, generally demonstrating good convergent validity (Brown, 2006; Lindley, 2001).

Table 5.6: Pearson's correlation coefficients between Care & Donate scale, ODAS and OTD questionnaire.

<table>
<thead>
<tr>
<th></th>
<th>Care &amp; Donate Scale and subscales: Pearson's correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Care &amp; Donate Whole scale</td>
</tr>
<tr>
<td></td>
<td>Religion and organ donation</td>
</tr>
<tr>
<td></td>
<td>The Role of the nurse in organ donation process</td>
</tr>
<tr>
<td></td>
<td>Personal thoughts about organ donation</td>
</tr>
<tr>
<td>Whole Scale</td>
<td>0.897** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.826** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.598** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.748** (Convergent validity)</td>
</tr>
<tr>
<td>Opposing organ donation</td>
<td>0.870** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.774** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.563** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.746** (Convergent validity)</td>
</tr>
<tr>
<td>Accepting organ donation</td>
<td>0.877** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.756** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.529** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.803** (Convergent validity)</td>
</tr>
<tr>
<td>Potential donor</td>
<td>0.776** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.776** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.574** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.574** (Convergent validity)</td>
</tr>
<tr>
<td>ODAS</td>
<td>Whole scale</td>
</tr>
<tr>
<td>Factor 1</td>
<td>0.868** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.724**</td>
</tr>
<tr>
<td></td>
<td>0.656**</td>
</tr>
<tr>
<td></td>
<td>0.738**</td>
</tr>
<tr>
<td>Factor 2</td>
<td>0.716**</td>
</tr>
<tr>
<td></td>
<td>0.639**</td>
</tr>
<tr>
<td></td>
<td>0.542**</td>
</tr>
<tr>
<td></td>
<td>0.594**</td>
</tr>
<tr>
<td>OTD questionnaire</td>
<td>Whole scale</td>
</tr>
<tr>
<td>Factor 3</td>
<td>0.796** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.696**</td>
</tr>
<tr>
<td></td>
<td>0.606**</td>
</tr>
<tr>
<td></td>
<td>0.676**</td>
</tr>
<tr>
<td>Factor 4</td>
<td>0.693** (Convergent validity)</td>
</tr>
<tr>
<td></td>
<td>0.502**</td>
</tr>
<tr>
<td></td>
<td>0.604**</td>
</tr>
<tr>
<td></td>
<td>0.633**</td>
</tr>
<tr>
<td>Factor 5</td>
<td>0.597**</td>
</tr>
<tr>
<td></td>
<td>0.630**</td>
</tr>
<tr>
<td></td>
<td>0.488**</td>
</tr>
<tr>
<td></td>
<td>0.497**</td>
</tr>
<tr>
<td>Factor 6</td>
<td>0.692**</td>
</tr>
<tr>
<td></td>
<td>0.706**</td>
</tr>
<tr>
<td></td>
<td>0.567**</td>
</tr>
<tr>
<td></td>
<td>0.548**</td>
</tr>
</tbody>
</table>

Notes: Values above .75 denote good convergent validity. Values lower than 0.3 demonstrate divergent validity.
The correlations between the subscales for all scales were all highly significant, although they varied in ODAS from 0.529 to 0.574; OTD/A from 0.388 to 0.606.

Discriminate validity was demonstrated by correlates with the professional seniority which should not necessary be linked to organ donation attitudes. Correlations were found to be between 0.155 and 0.240 and thus the findings provide evidence for divergent validity (Cohen, 1988).

5.6.4 Evaluating the known groups validity of the Care & Donate scale
Known group's validity evaluates the ability of this scale to discriminate between groups of participants hypothesized by being likely to have different scores concerning organ donation and transplantation.

5.6.4.1 Procedure for evaluating the known-groups validity
In order to assess the known-groups validity of the C&D scale, participants in the field-test sample were asked if they had received education about organ donation in general (Item 89). The participants' answers created two groups for a comparison suitable for exploring aspects of known-groups validity. Based on the assumption that knowledge, attitudes, beliefs and behaviour are influenced on some level by education about organ donation, it was hypothesized that if the scale measured all aspects of the organ donation process, including knowledge, attitudes, religious and professionals aspects, it should be able to distinguish between groups of nurses who had different self-reported levels of education about organ donation. The different scores in the C&D scale would be the evidence of this ability of the scale to distinguish between participants.

5.6.4.2 Analysis of the known-groups validity data
In order to evaluate the known-groups validity of the C&D scale, a MANOVA test was conducted to investigate scores differences of those participants who had reported they received education about organ donation and those who did not on each of the subscales of the C&D whole scale. Three dependent variables were used in MANOVA, including the three subscales scores. The independent variable was whether they had received education about organ donation.

5.6.5 Results of the known-groups validity analyses
5.6.5.1 Assessing appropriateness of the field test data for known-groups validity analysis
Descriptive statistics indicated that all values were in range, and missing values had been coded correctly. Checking of missing values indicated that 24 cases had missing data on the known-groups question (4% of the field test sample), and these cases were excluded from further analysis.

The presence of univariate and multivariate outliers was examined. For univariate outliers, Z scores were calculated by group for each of the subscales and the whole scale score of the C&D. None of them had Z scores >3.29, meaning that there were no univariate outliers. In order to identify cases with multivariate outliers, Mahalanobis distances were calculated for the whole scale and subscales of the C&D scale. Using a multivariate outlier criterion of
Alpha=0.001 with 4df, the critical value Chi square for determining multivariate outliers was 16.2. No case had Mahalanobis distances greater than 16.2, therefore all of the cases were included for analysis.

In sum, 567 cases were included for MANOVA. Scatter plots were produced in order to examine whether a linear relationship existed between variables. All relationships were found to be linear. Assessing multicolinearity showed that the correlations were not lower than .2 or above .90 between the whole scale and the subscales of C&D.

5.6.5.2 Results of the MANOVA analysis for known-groups validity
A MANOVA was conducted on the subscales of the C&D scale as dependent variables and whether or not the participants received general education about organ donation (q89). Two groups were established, for the purposes of the analysis: one group consisted of those who had received training and the other of those who had not. The sample size of the category with no training was 200, and the sample size of the category with training was 367. These sample sizes indicate unequal samples, and, according to MANOVA analysis, the results would not be robust enough. Therefore, use of Pillai’s trace statistic test is the most appropriate (Field, 2013).

Using Pillai’s trace, a significant effect of training was found (F (2, 562) =63.3, p<0.01). The separate univariate ANOVA on the dependent variables revealed a significant effect of education. The mean score was significantly higher for those who reported receiving education about organ donation that than who reported having received no education about organ donation. The results can be seen in Table 5.7. These results provide evidence for the known-groups validity of the three subscales.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Received education about organ donation: Mean (SD)</th>
<th>Results</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>F</td>
</tr>
<tr>
<td>Religion and organ donation</td>
<td>3.41 (0.70)</td>
<td>2.59 (0.84)</td>
<td>F (1,565)= 151.87</td>
</tr>
<tr>
<td>Role of the nurse in organ donation process</td>
<td>3.50 (0.97)</td>
<td>2.73 (0.98)</td>
<td>F (1,565)= 79.11</td>
</tr>
<tr>
<td>Personal thoughts about organ donation</td>
<td>3.48 (0.85)</td>
<td>2.55 (1.00)</td>
<td>F (1,565) =136.70</td>
</tr>
</tbody>
</table>
5.7 Summary of the validation findings of the Care & Donate scale

Chapter 5 described the reliability and validity of the C&D scale; these were determined by using various methods. For reliability, the internal consistency and test-retest reliability of the scale were assessed, and for validity the convergent and divergent validity and the known-groups validity were assessed. A summary of the findings can be seen in Table 5.8.

Table 5.8: Summary of the reliability and validity of the Care & Donate scale

<table>
<thead>
<tr>
<th>Care &amp; Donate Scale</th>
<th>Internal consistency</th>
<th>Test re-test reliability</th>
<th>Convergent validity</th>
<th>Divergent Validity</th>
<th>Known-groups validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole scale</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Religion and organ donation</td>
<td>Very good</td>
<td>Excellent</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>The role of the nurse</td>
<td>Very good</td>
<td>Excellent</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Personal thoughts about organ donation</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The internal consistency of three subscales of the C&D scale was on very good to excellent levels. The whole scale presented excellent internal consistency. Additionally, all scales displayed excellent test re-test reliability.

The results indicated that the C&D scale was both internally reliable and stable over time. Use of these methods was necessary, since reliability deals with the degree of error for a particular measure and with the consistency of the measure of a concept.

The validity of a scale measures to what degree the scale performs its intended function. The construct validity assessment provides evidence for convergent and divergent validity by asking participants in the field test to complete two additional questionnaires based on the original version of the C&D scale. Correlations between the whole and sub-scales of the C&D scale and ODAS (Rumsey et al., 2003) and the OTD/A questionnaire (Sque, 1996) were then calculated and the results confirmed the hypothesized relationships. Some unexpected relationships arose between the Religion subscale and the whole scale and subscales of the OTD/A questionnaire, with correlations being higher than expected. Another unexpected relationship was found in the Role of the nurse subscale and ODAS and OTD/A questionnaire whole scale and subscales. These did not contain a construct relating specifically to the role of the nurse. One explanation for the unexpected results could be the nature of the relationship between personal attitudes and the influence of religion.

The known-groups validity was also explored and confirmed, and provided further evidence for the construct validity of the C&D scale.

A further issue must be taken into account when interpreting the findings of the known-groups validity analyses. The univariate ANOVAs for the subscales violated the assumption
of homogeneity of variance, but using Pillai’s is said to be more robust in this case. Despite this, the known-groups validity of the scales may benefit from further exploration in order to be able to make reliable statements about the ability of the C&D scale to detect differences between groups.
Chapter 6: Further analysis

6.1 Further analysis of the Care & Donate scale
The purpose of this thesis was to develop a valid, reliable instrument for measuring the degree to which nurses from a variety of cultural and religious backgrounds could positively affect the organ donation process. The scale development was described in Chapter 4; Chapter 5 described the process of testing for validity and reliability. This chapter will present further analyses of the data collected, including descriptive statistics and basic analysis, factorial ANOVA and multiple regression analysis.

6.2 Introduction
The three factors produced in the development of the C&D scale can be used to interpret data and items correlated but not included in the development of the Care &Donate scale. Previous research has identified broad factors that influence attitudes, personal and professional perceptions regarding organ donation including lack of awareness, insufficient knowledge (Kim et al., 2004; Rykhoff et al., 2010; Shabanzadeh et al., 2009; Sque et al., 2000; Vlaisavljevic et al., 2014), religious beliefs and high degree of self-related religiosity (Oliver et al., 2011; Rumsey et al., 2003), previous experience (Rios et al., 2010), concepts of death and structure of family (Gauher et al., 2013), age and gender (Whisenant & Woodring, 2012). The attitudes and professional perceptions of nurses, the first-line caregivers for patients and families, play an important role in organ donation agreement (Flodén et al., 2011; Lin et al., 2014; Rios et al., 2010).

The overall aim of this chapter is to examine the relationships between the independent variables and the C&D scale and subscale scores which are: Religion and organ donation (ROD); Role of the nurse (RON) and Personal thoughts about organ donation (PTD). It was reasonable to hypothesize that if the C&D scale measures the level of nurses' involvement in the organ donation process in relation to religion, then some of the independent variables gathered would be related to differences in the C&D scores. These could be used to explain the differences in scores and enable the identification of the best predictor for high scores on the scale; there could possibly be a combination of values with predictive power. This chapter therefore gives an insight into factors not previously studied but important in understanding the data as a whole, such as the influence of gender in relation to religion, religiosity level and the influence of the role and clinical area of the nurse.

In order to meet the aim of this stage of research and to be able to answer the questions, descriptive statistics and basic analysis was performed first, followed by multiple regression analysis, and finally factorial ANOVA. This chapter will describe in detail all phases of analysis, including the findings and the conclusions of both multiple regression analysis and factorial ANOVA, based on description of independent variables and the means scores of C&D overall scale and subscales.
6.3 Assessing appropriateness of data
Assessing outliers, normality, linearity and homoscedasticity was performed by inspecting normal probability plot (P-P) of the regression standardized residual and the scatter plot that is part of the analysis. No univariate and multivariate outliers were found. Tests for normal distribution were conducted using histograms and graphs, both of which showed a normal distribution. Tolerance and VIF Tolerance statistics did not indicate multicollinearity. All of the cases were therefore included in the analysis.

6.4 Descriptive statistics and basic analysis
Sixteen non-scale independent variables were collected during the Field Test, and were available for analysis. Independent samples t-tests were conducted to compare mean scores of C&D overall scale and the three subscales of Religion and organ donation (ROD), Role of the nurse (RON) and Personal thoughts about organ donation (PTD) for two-condition variables. One-way between-subject ANOVAs was conducted to compare the means scores of multi-condition independent variables. Table 6.1 presents the mean scores and significance of these tests for the overall scale and the subscales scores.

6.4.1 Gender
Table 6.1 shows that males received a significantly higher score than females on the ROD (Male Mean = 3.3, Female = 3.04; t (589) = 3.832, p<0.001) and RON (Male = 3.46, Female = 3.11; t (589) = 4.275) subscales. However, males received a significantly lower score on TAD than females (Male = 2.95, Female = 3.23; t (589) = 3.23, p<0.001). The overall C&D scale score did not differ significantly by Gender. These results are interesting as previous research has not always found that gender affected nurse's attitudes toward organ donation (Rios et al., 2010).

6.4.2 Marital status
In the field test, 81% of the participants were married and received a significantly higher score than the other (single, divorced, etc.) participants on all three subscales (ROD (Married Mean = 3.76; Other = 3.21; t (589) = 4.653, p<0.001; RON (Married =3.3; Other = 2.8), t (589) = 4.63, p<0.001; TAD (Married = 3.22; Other = 2.80), t (589) = 4.09, p<0.001)), and the overall C&D scale (Married = 3.30; Other = 2.80), t (589) = 4.64, p<0.001). These results suggest that marital status has a strong effect on C&D scores, with married nurses being more favourable toward organ donation in both personal and professional aspects. In contrast to these findings, Kim et al. (2004) found that married nurses were less favourable toward organ donation than unmarried. Rios et al. (2010) found that gender marital status did not affect nurse's attitudes toward organ donation.

6.4.3 Children under 18 years
In the field test, Participants who had children under 18 received a significantly lower score than childless participants on subscale ROD, (ROD (Had children Mean=3.06; Childless Mean = 3.40; t (589) = 4.54, p<0.001) and on subscale TAD (Had children Mean =3.0; Childless Mean = 3.53), t (589) = 5.16, p<0.001). and on the overall C&D scale, (Had children Mean = 3.40; Childless Mean = 3.79), t (589) = 4.02, p<0.001). These results
suggest that having children under 18 has a strong effect on overall C&D scale scores and on RON and TAD subscales, with nurses who were childless being more favourable toward organ donation in both personal and professional aspects.

The findings of the qualitative study also showed that the wishes of families were regarded as being highly important, no matter what the nurses' personal view of organ donation was; possibly this is even more noticeable when there are small children involved. This interpretation is supported by the research (Kim et al., 2004). However, because participants were asked only about children under 18, we do not have evidence concerning the effect of older, independent children on whether the parent's attitude toward organ donation changes.

### 6.4.4 Donor card

It seems clear that those who reported possession of a signed donor card would have higher scores than those without one. Participants who had signed a donor card received a significantly higher score than participants with no signed donor card on all three subscales (RON (Signed donor card Mean = 3.93; No signed donor card Mean = 2.72), t (588) = 18.27, p < 0.001; TAD (Signed donor card Mean = 3.74; No signed donor card Mean = 2.70), t (588) = 14.85, p < 0.001), and on the overall C&D scale, (Signed donor card Mean = 3.79; No signed donor card Mean = 2.71) t (588) = 24.63, p < 0.001). These results suggest that having a signed a donor card has a strong effect on C&D scores, with a higher degree of willingness to participate in the organ donation process in both personal and professional aspects. Overall, 42% of the participants reported possession of a signed donor card. Men reported a higher level of possession of a donor card (51.5%) than women (35.2%), but both of these rates were higher than in the general population.

### 6.4.5 Previous education regarding organ donation

Those participants who reported that received previous education regarding organ donation received a significantly higher score than participants with no previous education on all three subscales (RON (Received education Mean = 3.50; No received education Mean = 2.55), t (565) = 11.14, p < 0.001; TAD (Received education Mean = 3.49; No received education Mean = 2.55), t (565) = 11.14, p < 0.001), and on the overall C&D scale, (Received education Mean = 3.47; No received education Mean = 2.63), t (565) = 12.95, p < 0.00.

These results suggest that previous education about donation issues has a strong positive effect on C&D scores, with nurses who received previous education regarding organ donation being more favourable toward organ donation in both personal and professional aspects. This finding has a number of important implications in terms of nurses' role and professional experience. The value of previous knowledge and appropriate training in forming personal and professional attitudes is also supported in previous research (Melo et al., 2011; Saleem et al., 2009).
6.4.6 Nurses' role in the ward

The findings show that senior nurses (head of a ward or shift leaders) received a significantly higher score than general nurses. There was a significant difference in the score for overall C&D scale \((\text{Senior nurse Mean} = 3.31; \text{General nurse Mean} = 2.98), t (586) = 4.556, p<0.001\), and similarly, there was significant difference in the score for ROD \((\text{Senior nurse Mean} = 3.11; \text{General nurse Mean} = 2.82), t (586) = 5.97, p<0.001\), but not for RON or TAD scores. These results suggest that the role of the nurse in ward has a strong positive effect on overall C&D scale scores and on ROD, with senior nurses being more favourable toward organ donation. In contrast, previous research found that clinical area was more important than the role of the nurse (López-Montesinos et al., 2010; Rios et al., 2010).

6.4.7 Previous acquaintance with the donor

There were three questions concerning the nurse's previous acquaintance with the donor or recipient: know someone who donates while living; know someone who donate after death; know someone who has received an organ transplant. Those participants who reported previous acquaintance with the donor while they were alive and/or with the potential recipient of the organ and with someone who donated after death received higher scores in overall C&D scale and subscales ROD, RON and TAD.

Participants who had acquaintance with someone who donated while living received a significantly higher score of overall C&D scale than participants had no acquaintance with someone who donated while living \((\text{Mean} = 3.72; \text{Mean} = 2.59), t (589) = 19.80, p<0.001\); for knowing someone who donated after death \((\text{Mean} = 3.36; \text{Mean} = 2.47), t (589x) = 15.0, p<0.001\). And for acquaintance with someone who received an organ transplant \((\text{Mean} = 3.36; \text{Mean} = 2.65), t (589) = 12.85, p<0.001\). These results suggest that previous acquaintance with the donor while living or after death or with someone who donate after death have a strong positive effect on overall C&D scale scores. Statistical differences in the subscales were evident in the questions concerning acquaintance with the donor or recipient, but these were not consistent.

The literature shows that previous acquaintance favourably affects attitudes to organ donation. It can be assumed that those who reported on acquaintance meant a close and personal acquaintance and not a random one; at any rate, the differences were not statistically significant.

6.4.8 Age

The age variable was divided into four groups: 20-29 (VY); 30-39 (Y); 40-49 (M); 50+ (O). A one-way ANOVA showed that the difference in overall C&D scale scores between the very young (20-29) age group \((\text{Mean} = 2.76)\), group of M age \((\text{Mean} = 3.27)\) and the old age group \((\text{Mean} = 3.62)\), were statistically significant \((F (3,587) = 12.63, p<0.05)\). Tukey’s HSD tests showed that both groups M and O scored statistically significantly higher than the VY group age. However, the Y group age did not differ significantly from the others.
Taken together, these results suggest that as the age of the nurses rises, so does the C&D scores, both overall and subscale, but significantly in overall C&D scale scores. Previous research on this aspect is ambiguous. There is research showing that younger nurses were more supportive of donation (Boye, 2002), and other research (Rios et al., 2010) which found that age had no influence at all.

6.4.9 Seniority
Seniority was divided into three groups: less than six years seniority, 6-15 years, and 16-25 years. A one-way ANOVA showed that the difference in seniority groups overall C&D scale scores between the seniority group of <6 years (Mean = 3.01), seniority group of 6-15 years (Mean = 3.19) and the seniority group 16-25 (Mean = 3.62), were statistically significant, (F (2,588) = 21.39, p<0.05). Tukey’s HSD tests showed that groups with seniority 6-15 years and 16-25 years scored statistically significantly higher than the group with <6 years. The same significant difference in scores was found in ROD, RON and TAD subscales. These results suggest that as the nurses’ seniority rises, so do the scores, both overall and subscales and overall C&D scale scores. These findings match the nurses’ age as well.

6.4.10 Hospital
The participants in the field test were from three hospitals. Hospitals 1 and 2 showed lower scores than Hospital 3, in overall C&D scale and in ROD, RON and TAD subscales scores. A one-way ANOVA showed that the difference in overall C&D scale scores between the Hospital 1 (Mean = 3.01), Hospital 2 (Mean = 3.13) and Hospital 3 (Mean=3.45) were statistically significant, F (2,588) = 13.759, p<0.05. Tukey’s HSD tests showed that both Hospital 1 and Hospital 2 scored statistically significantly lower than Hospital 3. The same significant difference in scores was found in TAD subscale.

Hospital 3 is not specifically designated as a transplant hospital, although some transplants are carried out; Hospitals 1 and 2 do not perform any transplants. They do, however, identify potential donors among their patients. Thus the findings may be explained by the fact that proximity and familiarity with the transplant process contributes to positive support among nurses (Ashkenazi et al., 2011; Rios et al., 2004). This is supported by previous research by the Israeli National Transplant Centre in 2011, which showed a statistically significant difference in attitudes toward organ donation between staffs of transplant hospitals and staff of donor hospitals.

6.4.11 Clinical department
The participants in the field test were from different hospital departments: surgical, internal, paediatric and intensive-care and emergency-care clinical. A one-way ANOVA showed that the difference in overall C&D scale scores between the nurses from internal medicine (Mean = 3.50), paediatrics (Mean = 3.39), intensive care (Mean = 3.35), surgery (Mean = 3.13) and emergency (Mean = 2.17), were statistically significant: F (5,585) = 56.53, p<0.05. Tukey’s HSD tests showed that surgical, internal, paediatric and intensive-care nurses scored statistically significantly higher than emergency clinical area. The same significant difference in scores was found in RON and TAD subscale.
Sque et al. (2000) also conducted a comparison of specialist nurses, which showed significant differences in nurses’ factor scores. The findings showed that dialysis nurses scored the highest and were more positive toward organ donation than nurses in intensive-care, emergency-care, internal and surgical departments. Intensive-care and surgical nurses scored in the next-highest group. Nurses from general departments such as internal care scored significantly lowest, with emergent-care nurses in the middle. Since the current research is concentrated on general nurses, further research may be necessary to examine the influence of the specialty on nurses' attitudes in more detail.

6.4.12 Professional education
The field study included nurses with varying levels of professional training. All were registered nurses, but some had a BA degree and others had a master's degree as well. A one-way ANOVA showed that the difference in overall C&D scale scores between the RN nurses, BA/BSN degree and nurses with MA degree (Mean = 3.25, Mean = 3.18, Mean = 3.29, respectively), were statistically not significant, $F(3,587) = 1.856, p = 0.13$.

6.4.13 Religious background
The variable of religion/religiosity is central to this research. The participants in the field test were from four religions background: Jewish, Muslim, Christian and Druze. The scores of the Jewish and the Christian nurses were similar for the overall C&D scale and higher than those for the Muslim and Druze nurses.

A one-way ANOVA showed that the difference in overall C&D scale scores between the Jewish nurses, Christian nurses (Mean = 3.50, Mean = 3.41, respectively), and the Muslim and Druze nurses (Mean = 2.78, Mean = 2.55, respectively) were statistically significant, $F(3,587) = 42.87, p<0.05$. Tukey’s HSD tests showed that both Jewish and Christian nurses scored statistically significantly higher than Muslim and Druze nurses.

6.4.14 Religiosity
In general, the higher the level of reported religiosity, the lower the C&D score. This is true for all religions. A one-way ANOVA showed that the difference in overall C&D scale scores between the group of not at all religious (Mean = 3.62), and the group of some religious, traditional and religious (Mean = 2.95, Mean = 2.52, Mean = 2.40) were statistically significant, ($F(3,587) = 93.22, p<0.05$). Tukey’s HSD tests showed that the not at all religious group scored statistically significantly higher than some religious, traditional and religious groups.

This finding is supported by previous research (Ashkenazi et al., 2009; Saleem et al., 2009) showing that level of religiosity influences support for organ donation. However, it is possible that with appropriate training in the importance of organ donation, the religious influence can be mitigated and thus the scores on the scales could rise.
Table 6.1: Means scores of independent variables, Care &Donate overall scale & subscales

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>ROD</th>
<th>RON</th>
<th>PTD</th>
<th>C&amp;D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>206</td>
<td>3.30*</td>
<td>3.46*</td>
<td>2.95</td>
<td>3.29</td>
</tr>
<tr>
<td>Female</td>
<td>385</td>
<td>3.04</td>
<td>3.11</td>
<td>2.80</td>
<td>3.17</td>
</tr>
<tr>
<td>2. Marital status</td>
<td></td>
<td>3.21</td>
<td>3.33*</td>
<td>3.22*</td>
<td>3.30</td>
</tr>
<tr>
<td>Married</td>
<td>481</td>
<td>3.21</td>
<td>3.33*</td>
<td>3.22*</td>
<td>3.30</td>
</tr>
<tr>
<td>Other</td>
<td>110</td>
<td>2.76</td>
<td>2.80</td>
<td>2.76</td>
<td>2.80</td>
</tr>
<tr>
<td>3. Children under 18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>471</td>
<td>3.06</td>
<td>3.26</td>
<td>3.04</td>
<td>3.11</td>
</tr>
<tr>
<td>No</td>
<td>120</td>
<td>3.40</td>
<td>3.15</td>
<td>3.53</td>
<td>3.40</td>
</tr>
<tr>
<td>4. Possess donor card</td>
<td></td>
<td>3.76</td>
<td>3.93*</td>
<td>3.74</td>
<td>3.79</td>
</tr>
<tr>
<td>Yes</td>
<td>251</td>
<td>3.76</td>
<td>3.93*</td>
<td>3.74</td>
<td>3.79</td>
</tr>
<tr>
<td>No</td>
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<td>2.67</td>
<td>2.72</td>
<td>2.70</td>
<td>2.71</td>
</tr>
<tr>
<td>5. Have you received education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>367</td>
<td>3.41</td>
<td>3.50*</td>
<td>3.40*</td>
<td>3.47</td>
</tr>
<tr>
<td>No</td>
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<td>2.59</td>
<td>2.74</td>
<td>2.55</td>
<td>2.63</td>
</tr>
<tr>
<td>6. Role of the nurse in ward</td>
<td></td>
<td>3.62</td>
<td>3.80</td>
<td>3.48</td>
<td>3.72</td>
</tr>
<tr>
<td>General</td>
<td>175</td>
<td>2.82</td>
<td>3.18</td>
<td>2.96</td>
<td>2.98</td>
</tr>
<tr>
<td>Senior</td>
<td>413</td>
<td>3.11</td>
<td>3.26</td>
<td>3.19</td>
<td>3.31</td>
</tr>
<tr>
<td>7. Know someone who donated while living</td>
<td></td>
<td>3.28*</td>
<td>3.30</td>
<td>3.26</td>
<td>3.36</td>
</tr>
<tr>
<td>Yes</td>
<td>268</td>
<td>3.28*</td>
<td>3.30</td>
<td>3.26</td>
<td>3.36</td>
</tr>
<tr>
<td>No</td>
<td>323</td>
<td>2.59</td>
<td>2.59</td>
<td>2.69</td>
<td>2.59</td>
</tr>
<tr>
<td>8. Know someone who donated after death</td>
<td></td>
<td>3.12</td>
<td>3.23</td>
<td>3.08</td>
<td>3.19</td>
</tr>
<tr>
<td>Yes</td>
<td>493</td>
<td>3.12</td>
<td>3.23</td>
<td>3.08</td>
<td>3.19</td>
</tr>
<tr>
<td>No</td>
<td>98</td>
<td>2.38</td>
<td>2.95</td>
<td>2.40</td>
<td>2.47</td>
</tr>
<tr>
<td>9. Know someone who has received an organ transplant</td>
<td></td>
<td>3.56</td>
<td>3.60</td>
<td>3.68</td>
<td>3.71</td>
</tr>
<tr>
<td>Yes</td>
<td>466</td>
<td>3.56</td>
<td>3.60</td>
<td>3.68</td>
<td>3.71</td>
</tr>
<tr>
<td>No</td>
<td>125</td>
<td>2.69</td>
<td>2.93</td>
<td>2.41</td>
<td>2.65</td>
</tr>
<tr>
<td>10. Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29 (Y)</td>
<td>30</td>
<td>2.78(1.01)</td>
<td>2.86(0.78)</td>
<td>2.59(0.84)</td>
<td>2.70(0.83)</td>
</tr>
<tr>
<td>30-39 (Y)</td>
<td>216</td>
<td>2.76(0.83)</td>
<td>3.06(1.07)</td>
<td>2.93(1.08)</td>
<td>2.93(0.93)</td>
</tr>
<tr>
<td>40-49 (M)</td>
<td>193</td>
<td>3.27(0.73)</td>
<td>3.45(0.92)</td>
<td>2.96(0.90)</td>
<td>3.27(0.73)</td>
</tr>
<tr>
<td>&gt; 50 (O)</td>
<td>152</td>
<td>3.53(0.68)</td>
<td>3.28(1.05)</td>
<td>3.70(0.76)</td>
<td>3.62(0.67)</td>
</tr>
<tr>
<td>11. Seniority</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤6 (a)</td>
<td>195</td>
<td>2.94(0.89)</td>
<td>3.05(1.03)</td>
<td>2.94(1.06)</td>
<td>3.01(0.93)</td>
</tr>
<tr>
<td>6-15 (b)</td>
<td>309</td>
<td>3.12(0.77)</td>
<td>3.23(1.00)</td>
<td>3.08(0.94)</td>
<td>3.19(0.76)</td>
</tr>
<tr>
<td>16-25 (c)</td>
<td>87</td>
<td>3.56(0.79)</td>
<td>3.60(0.98)</td>
<td>3.68(0.84)</td>
<td>3.71(0.78)</td>
</tr>
<tr>
<td>12. Hospital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>169</td>
<td>2.92(0.87)</td>
<td>3.10(0.95)</td>
<td>2.96(1.00)</td>
<td>3.01(0.86)</td>
</tr>
<tr>
<td>2</td>
<td>229</td>
<td>3.05(0.84)</td>
<td>3.18(1.06)</td>
<td>3.03(1.03)</td>
<td>3.13(0.75)</td>
</tr>
<tr>
<td>3</td>
<td>200</td>
<td>3.37(0.74)</td>
<td>3.40(1.02)</td>
<td>3.59(0.91)</td>
<td>3.45(0.75)</td>
</tr>
<tr>
<td>13. Clinical department</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal (I)</td>
<td>220</td>
<td>3.50(0.70)</td>
<td>3.32(1.07)</td>
<td>3.66(0.80)</td>
<td>3.50(0.73)</td>
</tr>
<tr>
<td>Paediatrics (P)</td>
<td>63</td>
<td>3.27(0.75)</td>
<td>3.47(0.83)</td>
<td>3.35(0.90)</td>
<td>3.39(0.75)</td>
</tr>
<tr>
<td>Int. Care (C)</td>
<td>83</td>
<td>3.47(0.54)</td>
<td>3.51(0.91)</td>
<td>3.09(0.86)</td>
<td>3.35(0.54)</td>
</tr>
<tr>
<td>Surgery (S)</td>
<td>104</td>
<td>2.95(0.74)</td>
<td>3.34(0.90)</td>
<td>3.11(0.85)</td>
<td>3.13(0.67)</td>
</tr>
<tr>
<td>Emergency (E)</td>
<td>78</td>
<td>2.12(1.63)</td>
<td>2.47(1.02)</td>
<td>1.94(0.75)</td>
<td>2.17(0.52)</td>
</tr>
<tr>
<td>14. Professional education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RN</td>
<td>98</td>
<td>2.96(0.72)</td>
<td>3.45(0.82)</td>
<td>3.29(0.88)</td>
<td>3.25(0.74)</td>
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<tr>
<td>BA/BSN</td>
<td>370</td>
<td>3.12(0.92)</td>
<td>3.10(1.01)</td>
<td>3.15(1.07)</td>
<td>3.18(0.94)</td>
</tr>
<tr>
<td>MA</td>
<td>123</td>
<td>3.30(0.62)</td>
<td>3.46(0.85)</td>
<td>2.92(0.84)</td>
<td>3.29(0.65)</td>
</tr>
<tr>
<td>15. Religious background</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jewish</td>
<td>291</td>
<td>3.43(0.71)</td>
<td>3.41(0.94)</td>
<td>3.40(0.92)</td>
<td>3.50(0.74)</td>
</tr>
<tr>
<td>Muslim</td>
<td>176</td>
<td>2.75(0.84)</td>
<td>2.86(1.04)</td>
<td>2.67(1.02)</td>
<td>2.78(0.86)</td>
</tr>
<tr>
<td>Christian</td>
<td>85</td>
<td>3.25(0.76)</td>
<td>3.48(1.09)</td>
<td>3.38(0.90)</td>
<td>3.41(0.81)</td>
</tr>
<tr>
<td>Druze</td>
<td>39</td>
<td>3.27(0.61)</td>
<td>3.10(0.95)</td>
<td>2.51(0.66)</td>
<td>2.55(0.52)</td>
</tr>
<tr>
<td>16. How religious are you</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all</td>
<td>279</td>
<td>3.58(0.68)</td>
<td>3.74(0.84)</td>
<td>3.56(0.90)</td>
<td>3.62(0.63)</td>
</tr>
<tr>
<td>Some religious</td>
<td>191</td>
<td>2.93(0.74)</td>
<td>2.61(0.96)</td>
<td>2.98(0.94)</td>
<td>2.95(0.64)</td>
</tr>
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<td>Traditional</td>
<td>77</td>
<td>2.43(0.71)</td>
<td>3.12(0.93)</td>
<td>2.47(0.86)</td>
<td>2.52(0.56)</td>
</tr>
<tr>
<td>Religious</td>
<td>44</td>
<td>2.38(0.68)</td>
<td>2.94(0.89)</td>
<td>2.28(0.79)</td>
<td>2.40(0.61)</td>
</tr>
</tbody>
</table>

NOTES: Religion and organ donation (ROD); Role of the nurse (RON) and Personal thoughts about organ donation (PTD).
6.5 Nurses' perceptions of their role in the organ donation process

As part of the questionnaire, a selection of questions from the OTD section B (Sque, 1996) was included concerning nurses’ perception of their role in organ donation. Figure 6.1 shows the distribution of relevant items concerning the nurse's role. The nurses were asked if certain activities were appropriate for nurses as a part of their role in the ward. The results indicated that, identification of a potential donor was deemed the most appropriate activity of the general nurse (87.5% said yes); next was, suggesting an appropriate individual to discuss donation with relatives (81.9% said yes). Generally from Figure 6.1 it can be seen that the greater the actual involvement in the process, the less the nurses saw themselves as part of it.

Figure 6.1: Distribution of nurses' perception regarding appropriate activities for nurses in the organ donation process.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of a potential donor</td>
<td>87.5%</td>
</tr>
<tr>
<td>Suggesting an appropriate individual to discuss donation with relatives</td>
<td>81.9%</td>
</tr>
<tr>
<td>Supporting the family throughout the donation process</td>
<td>73.6%</td>
</tr>
<tr>
<td>Giving information about donation</td>
<td>61.3%</td>
</tr>
<tr>
<td>Initiating the discussion about donation with relatives</td>
<td>47.3%</td>
</tr>
<tr>
<td>Being present when donation is discussed with relatives</td>
<td>35.9%</td>
</tr>
<tr>
<td>The nurse has no role in this process</td>
<td>33.8%</td>
</tr>
<tr>
<td>Helping a family to make the offer of organs /tissues</td>
<td>28.7%</td>
</tr>
</tbody>
</table>

These findings have important policy implications, both for the organisation and for future training programs for general nurses. In line with previous research, there is no doubt that identification of the potential donor is the most appropriate activity for general nurses, considering that nurses and doctors act as "gatekeepers" controlling the access to potential donor (Sque et al., 2000). Moreover, Cebeci et al. (2011) argued that nurses are in the best position to recognize potential donors, and have the opportunity to initiate discussion with family. However, responsibilities of nurses to increase organ donation are not limited to those issues (López-Montesinos et al., 2010).

Additionally, independent samples t-tests were conducted to compare means scores of the overall C&D scale score between those who said YES, meaning that this activity is appropriate for the general nurse in the ward, and between participants who said NO, meaning that this activity is not appropriate for the general nurse (see Table 6.2).
Table 6.2: Compare means scores of overall Care & Donate scale about nurses' activities in organ donation process.

<table>
<thead>
<tr>
<th>Question from OTD (Sque, 1996)</th>
<th>Over all C&amp;D scale Mean score (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Identification of a potential donor is appropriate activity for the nurse during the donation process</td>
<td>3.32 (0.77)</td>
</tr>
<tr>
<td>Initiating the discussion about donation with relatives is appropriate activity for the nurse during the donation process</td>
<td>3.33 (0.78)</td>
</tr>
<tr>
<td>Helping a family to make the offer of organs/tissues is appropriate activity for the nurse during the donation process</td>
<td>3.29 (0.90)</td>
</tr>
<tr>
<td>Offering donation as an option to relatives is appropriate activity for the nurse during the donation process</td>
<td>3.35 (0.64)</td>
</tr>
<tr>
<td>Suggesting an appropriate individual to discuss donation with relatives is appropriate activity for the nurse during the donation process</td>
<td>3.31 (0.81)</td>
</tr>
<tr>
<td>Being present when donation is discussed with relatives is appropriate activity for the nurse during the donation process</td>
<td>3.32 (0.71)</td>
</tr>
<tr>
<td>Giving information about donation is appropriate activity for the nurse during the donation process</td>
<td>3.41 (0.79)</td>
</tr>
<tr>
<td>Supporting the family throughout the donation process is appropriate activity for the nurse during the donation process</td>
<td>3.30 (0.82)</td>
</tr>
<tr>
<td>Suggesting that donation should not be discussed with family is appropriate activity for the nurse during the donation process</td>
<td>2.27 (0.66)</td>
</tr>
<tr>
<td>The nurse has no role in this process is appropriate activity for the nurse during the donation process</td>
<td>2.69 (0.77)</td>
</tr>
</tbody>
</table>

*p < 0.05. **p < 0.01. ***p < 0.001

NOTE: Yes = the activity is appropriate for the general nurse in the ward; No = the activity is not appropriate for the general nurse in the ward.

As can be seen in Table 6.2, there were significant differences in the scores of overall C&D scale in for all activities. These results suggest that when participants thought that the activity
is appropriate and a part of their role, their scores for overall C&D scale is higher than those who thought the activity not appropriate.

6.6 Multiple regression analysis

A multiple regression was run in an attempt to identify the best predictor for the overall C&D scale score. This analysis included the eleven continuous variables from the original sixteen, based on previous descriptive and basic analysis (Table 6.1). Table 6.3 shows how seven of these eleven variables were found significant predictors of overall C&D scale score. These seven variables account for over 66% of the variation in the scores for the overall C&D scale score.

Table 6.3: Multiple regression of independent variables as predictors of Care & Donate score

<table>
<thead>
<tr>
<th>Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unstandardized Coefficients</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>(Constant)</td>
</tr>
<tr>
<td>Know someone who donated organ while living</td>
</tr>
<tr>
<td>Have you received education</td>
</tr>
<tr>
<td>Possess donor card</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Nurse’s role in ward</td>
</tr>
<tr>
<td>Know someone who donated organ after death</td>
</tr>
</tbody>
</table>

Dependent Variable: Overall C&D scale score

It can be seen from the 't' values in Table 6.3 that knowing someone who donated organs after death was the best predictor of overall C&D scale scores, followed by education received. The higher the score, the greater the support of organ donation and for the nurse's involvement in the donation process. The variables possession of a donor card, gender (male), greater age, and acquaintance with a donor are all linked to a higher score. As for the role of the nurses in the ward participants with more seniority in work showed lower scores on the overall scale.

These findings should be carefully considered in the attempt to understand support for organ donation among nurses when building a training program. Particular attention should be paid...
to those variables found to be the most statistically significant predictors: possession of a donor card, previous training, and acquaintance with the family. These variables should receive special attention, especially in comparison with variables of age, gender and position in the clinical area, because these are variables that can be changed. We know this from previous studies (Abidin et al., 2013; Ashkenazi et al., 2009; Rios et al., 2008; Kent, 2002) which reported changes in behaviour and attitudes, both personal and professional.

Of all the factors upon which multiple regression analysis was performed, religiosity was not found to be a predictor. However, religiosity is associated with the variable of religion (which was not included in the multiple regression as it is not a continuous variable). Religion and religiosity were found in the literature as central factors having influence of organ donation, so that although religiosity was not found to be predictive, it could be that the interaction between religion and religiosity was the influence in overall and subscale scores. To investigate this relationship further a Factorial ANOVA was conducted.

6.7 Factorial ANOVA
Since this study tested the cultural and religious influences on nurses' attitudes and professional behaviour, additional analyses were conducted in order to test the effect of these variables and the interaction between them on overall C&D scale score. Thus, the next analysis was a factorial ANOVA. The aim of this analysis was to provide empirical evidence about the effect of religion and religiosity variables on nurses' involvement in organ donation process.

Overall C&D scale score was subjected to a two-way analysis of variance, with three different religions (Jewish, Muslim, and Christian) and four levels of religiosity (not at all religious, somewhat religious, traditional and religious), with the data shown in Figure 6.2. The group of Druze nurses was too small and not representative enough.

The main effect of religious background was significant \((F(3,575) = 7.64, p < .001)\), with Jewish and Christian nurses having higher scores than Muslim nurses. The main effect of religiosity was significant \((F(3,575) = 18.68, p < 0.001)\), indicating that less religious nurses had generally higher C&D scores. The interaction effect was significant \((F(9,575) = 3.85, p < .001)\), indicating that different profiles of religiousness existed for some of the religions. Generally, when the level of religiosity rises, the overall C&D scale score falls, and this was observed for the Jewish, Muslim and Christian religions sample. In addition, the Jewish group generally had higher C&D scores, at the other religiosity levels, but was lower than the others for the most ‘Religious’ category.
6.8 Chapter Summary

This chapter presented descriptive and basic statistical analyses based on the sixteen demographic question variables. Based on the descriptive statistics and the results from the basic analysis a number of independent samples t-tests and one-way ANOVAs were conducted. Next, based on descriptive statistics and the literature review, eleven of these variables were included in a multiple regression analysis to predict overall C&D scale scores. From the multiple regression analysis, it was found that the variables which were predictive for the overall C&D scale score; Know someone who donated organ while living, Have you received education and Possess donor card, Age, Gender, Role of the nurse in ward and Know someone who donated organ after death.

Finally, a factorial ANOVA was conducted to investigate the effect of religion and religiosity variables on nurses' involvement in organ donation process which showed a significant interaction between type of religion and level of religiosity. Additional findings concerning the nurses' perception of their role in the organ donation process indicate that there are a number of activities deemed appropriate by the nurses to their position, but these activities are not assigned great importance in the organ donation process.
Chapter 7: Discussion of the research

7.1. Introduction to general discussion
This chapter will present a discussion of the findings of this research, and divided into five sections. The first section concerns the rationale and initial aims for the research. In section two each of the studies will be described. Next a summary of the main findings will be discussed. Then, the original contribution of this research will be presented. Section four will present the implications of this research for practical nursing and recommendation for future research. Finally, the strengths and limitation of the research will also be presented.

7.2. Rationale and aims for the research program
The literature review presented in Chapter 2 summarises the importance of nurses' involvement in the organ donation and transplantation process in the context of religious, personal and professional issues. The most important part of the research is the emphasis on the nurse's role as the healthcare staff most intimately connected to the patient and patients' family (Collins, 2005; Lin et al., 2010; Rykhoff et al., 2010; Sanner, 2007; Sque et al., 2000), and thus in the best position to influence decision-making in the organ donation process (Shabanzadeh et al., 2009).

However, there is a need for a specific measure to assess the willingness and sense of professional responsibility among Israeli general nurses during this critical process. Similar research has been conducted in this area (Cohen et al., 2008; Kent, 2002; Rios et al., 2006; Sque et al., 2000) with an aim to evaluate attitudes, knowledge, and the cultural and religious beliefs of healthcare staff all over the world as demand for organs exceeds supply. But this research does not apply specifically to the Israeli nurses, who are part of a unique multicultural society. Previous research investigated ICU nurses or other specific units (Flodén et al., 2009; Lin et al., 2010; Shabanzadeh et al., 2009; Weiland et al., 2013), while other research was conducted with nurses in general hospitals, but with a different focus (Kent, 2002; Kim et al., 2004; Sque et al., 2000). The present research was developed to provide in-depth understanding of cultural and religious factors affecting general nurses, which is essential because of the religious and cultural differences that exist in Israel. A culturally-sensitive psychometric scale was developed to assess Israeli nurses' personal and professional perceptions of the organ donation process.

A mixed-method research approach was used to collect a rich body of data, with high levels of internal and external validity that allowed for generalization of research findings. Additionally, the C&D scale was developed using a sample of nurses from general hospitals in the north of Israel, using a representative sample of a range of religions within the nursing population. This research was conducted by four stages:

a) **Stage One**: Descriptive qualitative study to ascertain the personal and professional attitudes, beliefs and experiences of nurses in the context of religion.

b) **Stage Two**: Development of a psychometric scale for Israeli nurses from general hospitals and from diverse of religious backgrounds to assess nurses' willingness and ability to be involvement in the organ donation process.
c) **Stage Three:** Reliability and validity of the of Care & Donate scale.

d) **Stage Four:** The relationship between the Care & Donate scale and key categories questions (independents variables).

7.3. **Summary of research stages**

7.3.1. **Stage one: Descriptive of qualitative study**

The qualitative study is described in Chapter 3. Its purpose was to ascertain the beliefs, experiences, and attitudes towards organ donation existing within a multicultural clinical setting, of Israeli general nurses using focus groups. The semi-structured questions in the focus groups were aimed at clarifying the way religion affect perceptions of nurses' responsibility regarding organ donation, examining both nurses' professional and religious/cultural points of view. The focus groups were conducted with a sample of seven homogeneous religious groups aimed at promoting nurses' ease during the research process, as well as ensuring that voices from the each religious and linguistic background could be heard (Halcomb et al., 2007). The analytical approach was based on principles of thematic analysis (Smithson, 2009).

7.3.2. **Stage two: Development and evaluation of the Care & Donate scale**

This stage, described in Chapter Four, describes the stages involved in the development of the C&D scales. The first step was based on the conceptual framework derived from the qualitative findings and from a review of the literature and aimed to generate a pool of items for the preliminary scale. Developing the preliminary scale involved pre-testing the coverage, relevance and readability of the scale with a range of content experts: healthcare staff, including general nurses, organ donation coordinator nurses, patients and family who had personal involvement with organ donation. A pilot study of the scale was then carried out to examine the acceptability, discriminability and contribution of the items, with a sample of 173 nurses from general hospitals and from diverse religious backgrounds. Finally, the last stage tested the field study scale of the C&D scale with a sample of 591 nurses from various hospitals. In this stage, a principal components analysis was used to empirically identify the number and content of C&D factors in the data. Based on these findings, the final C&D scale was produced.

7.3.3. **Stage three: Evaluation reliability and validity of Care & Donate scale**

Chapter Five describes a series of studies used to evaluate the reliability, validity, of the final C&D scale. The first study evaluated the internal consistency of the whole and subscales of the C&D scale, while another evaluated the test-retest reliability using a sub-sample of 153 participants from the field test who agreed to complete the C&D scale a second time. The correlation between the C&D whole scale and sub-scales and ODAS (Rumsey et al., 2003) and OTD questionnaire (Sque et al., 2000) were examined.

7.3.4. **Stage four: The relationship between the Care & Donate scale and key categories questions**

This study includes a series of analyses, including descriptive statistics, factorial ANOVA and multiple regression analysis. The overall aim of the further analysis was to examine the
relationships between some of the independent variables and C&D scale and subscale scores. It was reasonable to hypothesize that if the C&D scale measures the level of nurses' involvement in the organ donation process, then some of the independent variables would be significantly related to the C&D and subscales scores.

7.4. Summary of the findings and relation to previous research
This research is underpinned by the development and testing of a robust conceptual framework. The initial framework was based on the findings of the qualitative study and on a review of the literature. The field study produced a conceptual framework grounded in empirical data, reflecting three central content areas which were: Religion and organ donation (ROD), Role of the nurse in organ donation process (RON) and Personal thoughts about organ donation (PTD).

From the qualitative study, various themes emerging from the seven focus-group discussions yielded four thematic categories, representing the range of beliefs held by the participants. The thematic categories were:
- Religion and religiosity and organ donation
- Nurses' thoughts, attitudes and personal behaviour;
- Professionalism;
- Essential knowledge regarding organ donation.

Each of the categories were related to all aspects of the organ donation process: brain death, possession of a donor card, and organ donation.

The results demonstrated that while many aspects of nurses' positions regarding organ donation were consistent with the literature in this area (Boey, 2002; Kent, 2002; Kim et al., 2006; Sque et al., 2000), there were new themes, such as the moral conflict nurses face in the context of their religion, their perceptions of professional obligations, and their ignorance of official religious attitudes.

The research reported in in this thesis has been the first to describe the general nurses' professional perceptions regarding organ donation in view of religion in Israeli hospitals. Its unique contribution is that it is the first research to explore the subject from the nurses' point of view. This is important when considering the lack of organs in Israel. Only 14% of the population of Israel possessed a donor card in 2013, and the rate of family consent to organ donation is internationally low (60%-70% and even higher) and stood at 50% in Israel.

Organ and tissue donation for transplantation can be affected by a number of factors (Rios et al., 2010). The findings from this research demonstrated the personal attitudes and beliefs of the nurses. In keeping with previous research on the subject (Abidin et al., 2013; Sque et al., 2000; Vlaisavljevic et al., 2014), those who support organ donation consider it to be a life-saving act of kindness, bringing good out of tragedy. In addition to a wide variety of these personal attitudes, there is also the element of knowledge of and education on the subject. Most research (Collins, 2005; Kim et al., 2004; Kim et al., 2006) attributes great importance
of the knowledge regarding organ donation as an important influence on behavior and attitudes, both within the general public and in the smaller population of healthcare staff. The findings of this research point to the importance of paying attention to the healthcare staff's attitudes toward organ donation; this attention will influence the nurse's behavior in real time.

Sque et al. (2000) studied nurses' attitudes, knowledge and behavior regarding cadaveric donor transplantation in UK which emphasized that nurses with positive attitudes about organ donation would be more readily commit their for organ donation after death, Moreover, The importance of the personal attitudes and behavior are because nurses would certainly present themselves to the relatives more convincingly if they themselves have committed to organ donation after death and carry donor card with them (Boey, 2002; Vlaisvljevic et al., 2014).

The findings from the qualitative study highlighted the complexity of the role of the general nurse in the organ donation process in light of personal, professional, cultural and religious views. These findings appear to be consistent with the theoretical literature (Boey, 2002; Cebeci et al., 2011; Collins, 2005; Rios et al., 2010; Sque et al., 2000). This gave the researcher a framework for understanding the attitudes and beliefs that a general nurse from a range of different cultural and religious backgrounds might hold about organ donation.

More evidence (Rios et al., 2006; Shabanzadeh et al., 2009) emphasized that one of the barriers to the collection of more organs for transplant is located within the healthcare structure, since a significant percentage of professionals working in hospitals may be personally opposed to organ donation. In this research nurses express the opinion that they do not have enough knowledge or training to contribute to the organ donation process and that they are not aware of what their precise role is, in terms of identification of a potential donor and in dealing with the family of the potential donor. Many nurses see their role as simply one of liaison between the family and the transplant coordinator. Based on the survey report of the Ministry of Health from 2011, the unclear role of nurses which was presented in this research is especially critical in donor hospitals, where awareness of organ donation is lower.

According to the guidelines of the Israeli Ministry of Health (2001), the role of the healthcare staff is to notify the transplant coordination team when any patient is unconscious and reliant on a ventilator.

This is similar to protocols in place in other countries, e.g., the UK, but these protocols are somewhat in contrast to the arguments in previous researches which grants the primary healthcare team a much larger role in the donation process (Kim et al., 2006; Rios et al., 2006, 2008; Sque et al., 2000; Weiland et al., 2013). For instance, it is a fact that many patients remain in this vegetative state in the ward, while the healthcare staff continues to care for the patient and his family. This alone makes the general nurses from the ward more involved than the guidelines suggest (López-Montesinos et al., 2010). Nurses in wards other than ICU, are involved in the care of patients who are potential organ and tissue donors (Cebeci et al., 2011).
In the present research religion was found to be the first factor which fit both the findings of the first stage of the research from the qualitative study and the literature. This factor reflects the nurses' perception of the religious issue while focusing on the question of brain death (Lavee et al., 2009; Oliver et al., 2011). One theme of the religion regarding organ donation category, which arose from the qualitative study, is ignorance of official religious stances toward organ donation. For example: "I do not really know how Judaism relates to organ donation I think there's a lot of contradiction" (FG1, Secular & Traditional Jewish). The nurses spoke of this as a cause of confusion and a hindrance to their involvement in the process.

Moreover, based on transcultural nursing theory (TCN) (Leininger, 2002), one of the most important skills for healthcare staff is to be cultural competent. To be able to do so, the nurse must be aware and understand that the patient may come with a different worldview and should also have a familiarity with the patients' religion. It is essential that a nurse show awareness of the unique sensitivities of the patient and relate to the patient's culture, religion and beliefs. Thus the nurse provides “culture care” tailored to the patients' needs; care which, according to Spector (1992), is "sensitive, appropriate and competent" (Boyle, 1987; Papadopoulos, 2006).

There are a number of sub-themes within the category of religion. The first sub-theme relates to the lack of knowledge about the official religious stance of each faith, on the part of the nurses. This leads to confusion and possibly to an inability to be involved in the donation process. There is another theme as well, which can be described as a gap between the religious beliefs of the nurse and nurses’ personal perception of organ donation. This can be the cause of tension, as the nurse feels she must act according to the ethical responsibilities of her position, despite her personal beliefs.

Findings from the field study in extracting subscales supported the theoretical hypotheses of the literature about personal attitudes and behaviour, professional behaviour and the religion regarding organ donation. Nevertheless, there were subjects which arose from the literature that were not included in the field study. These included the importance of the family in the process, the significance of communication skills and of personal attributes of the nurses. These subjects were included in themes and categories according to their significance but did not arise from the PCA. The fact that not all areas identified in the theoretical framework were expressed as factors does not mean that they are not important to the subject, but perhaps that they were subsumed by other factors or the items used were not phrased correctly.

The evaluation of the construct validity and reliability of the C&D scale has important implications for the adequacy of the conceptual framework which is based on three subscales religion and organ donation, the role of the nurse and personal thoughts about organ donation. The overall scale of C&D and all of the subscales were well supported by the comparison with ODAS (Rumsey et al., 2003), and the OTD/A questionnaire (Sque et al., 2000). The combination of these tools provided cover for all the factors identified in the scale and even
though this meant that the participants had to answer a very detailed questionnaire, the response rate was over 40%.

However, since the C&D scale was developed using a large sample of northern Israeli nurses and was based on qualitative data from nurses from different religions its construct validity is arguably well supported that it seems that the scale reflects the salient aspects of the nurses' personal and professional perception regarding organ donation and their involvement in this process.

The findings also supplied empirical support for the validity and the reliability of the scale and for its usefulness in differentiating between known groups. It might be interesting to explore further known groups studies in the future such as using the personal commitment to organ donation or clinical area.

Since the role of religious attitudes has been shown by this study to be crucial, further exploration of these attitudes should be undertaken. This could include an examination of all the factors involved in the topic of organ donation in the context of nurses' original religion, which will enable a prediction of the personal and professional behaviour of the nurse and try to answer two main questions:

1. *What are the factors that influence how a nurse should approach families to discuss organ donation with them?*
2. *Are nurses' awareness and behaviour toward organ donation shaped by their religion, and if so, how does it influence their professional behaviour in the organ donation process?*

Knowing this could aid with the development of interventions increase the nurse's awareness and sense of duty regard organ donation.

Hence, additional analyses carried out using basic analysis, multiple regression and factorial ANOVA to examine if the independent variables have the ability to predict the C&D score to assess nurses' involvement in organ donation. Know someone who donated organ while living, previous education and possess donor card, Age, Gender, Role of the nurse in ward and Know someone who donated organ after death, were found to be best predictors of C&D scores. In the interaction between independent variables, religion and religiosity the religious degree is affecting more than the religion itself. These findings were found consistent with previous research (Ashkenazi et al., 2009; Cebeci et al., 2011; Oliver et al., 2012; Rios et al., 2010; Sque et al., 2000).

### 7.5. The original contribution of Care & Donate scale

There are several potential contributions to the field of organ donation from the development of the C&D scale First, the items initially generated for the measures were unique; this was accomplished by using different approaches for data collection and generating an original pool of items from diverse religious backgrounds and by using experts to evaluate the content
of the dimensions in the scale. Second, this was the first study which used a variety of analytical methods to provide a valid and reliable scale. Third, this study used a much larger sample size than had ever been achieved in this field, with seven focus groups composed of 58 participants from various religions, and with 591 participants in the field test.

Furthermore, the findings of this research will contribute to understanding influences on nurse’s behaviour, to understanding the gap between the attitudes and the motivation to act on organ donation process and how this may be influenced by the nurse’s religion. The C&D scale is arguably a breakthrough in the advance of culturally-congruent care and can be used to raise awareness of the nursing staff to organ donation. It is planned that these findings will provide the basis for the design of an instruction program for nurses and even with other healthcare professionals with the aim of increasing their involvement in identifying and encouraging organ donation to improve the organ donation rates in Israel.

The utility of C&D scale was provided also by evidence that this scale is highly related similar measures, developed in UK and in the United States, lends the scale universality. The scale should be further tested all religions and not just within Israel.

According to behavioural theory, knowledge and attitudes are not sufficient conditions for behaviour change. Motivation, commitment and skill are also necessary, especially considering the claims that corporate workplace interventions to promote organ donation may be effective in increasing willingness to donate, which will give more validity to the research findings (Fishbein & Ajzen, 1975).

The basic assumption is that following the use of the scale, intervention with a small group of nurses who shared low scores would eventually lead to a rise in increase participants’ intentions to be organ and tissue donors, would increase communication of nurses with the families regarding intentions of organ and tissue donation, would increase nurses’ communication with the deceased's family about their consent to organ donation, and finally, would increase their willingness to be involved in the organ donation process.

### 7.6. Implications for nursing practice

Throughout the present research, attention has been focused on the role of the nurse in the first crucial stages of the donation process (Collins et al., 2005; Rios et al., 2010; Sque et al., 2000). In order to do this, this research aimed to develop a culturally-sensitive organ donation scale to evaluate nurses’ attitudes.

The three subscales of the C&D scale included the key domains relevant to the role of the general nurse in the organ donation process. But the findings from this research also suggest that there is a clear need to define the role of the general nurse and to define which activities can help to promote the organ donation process.

The following are activities which, according to the qualitative study and C&D scale, should be performed by nurses. These activities were generated in the professionalism category and
from the C&D subscale Role of the nurse in the organ donation process (RON). In line of these findings other researchers such as Cebeci et al. (2011), and López-Montesinos et al. (2010), also gave support about these activities that are most appropriate for general nurses.

- Supporting relatives of potential donors during the donation process
- Paving the way to prepare relatives for the formal request stage of the donation process
- Raising the possibility of donation with other members the healthcare team, an activity not frequently performed in many hospitals where there is no transplant team in place.
- Raising awareness of the public regarding organ donation.

These recommendations are potentially more important in hospitals where transplants are not part of the hospital's activities and there is no transplant-coordinator. In line with Cohen et al. (2008) and Rios et al. (2010), this has implications in countries such as Israel, where attending staff rather than transplant coordinators are responsible for the detection of potential donors.

Furthermore, based on a 2011 survey conducted by the Israeli Health Ministry, many hospitals are not identifying potential donors. The survey included smaller hospitals with no transplantation activities, where an opportunity to identify potential brain death is smaller and healthcare teams have less experience in the process of organ donation. The C&D scale can be used to identify individuals or groups that could benefit from further education on the subject. There is also a clear need to increase awareness among healthcare teams on both personal and professional levels, for them to be cognizant of the expectations from them based on the local policy of hospital. Even if a small number of potential donors were identified, this would contribute to shortening the waiting-list population, considering that each donor could potentially save at least seven people (Ashkenazi & Klein, 2013).

7.7. **Implications for education**

Education has been identified as an access point for changing individuals' knowledge and attitudes toward organ donation (López-Montesinos et al., 2010). Similarly, the findings of this research support educational recommendations that highlight the knowledge, attitudes, and beliefs about organ donation and present the educational needs of nurses and other healthcare staff (Thomas et al., 2009). The assumption behind these recommendations is that healthcare staff must be able to respond to family-initiated questions about donation, to explain to the family about brain death and to be partners to the transplantation teams in approaching the families (Anker, Feeley, Friedman, & Krueger, 2009; Cohen et al., 2008).

Additionally, studies revealed that nurses who felt knowledgeable and had positive attitudes toward donation were better able to assist in the initial identification of potential donors, to participate in the referral process and to support the donor's family (Collins, 2005; Kent et al., 2006; Sque et al., 2000; Whisenant & Woodring, 2012).
Once there is general agreement about the importance of educational needs, it may be best to educate nurses still in nursing school to the entire donation-transplantation continuum, not just the role the bedside nurse plays in identifying a potential donor (Whisenant & Woodring, 2012). Past and current research demonstrates that very little time is devoted specifically to the issue of organ donation and transplantation in nursing training (López-Montesinos et al., 2010). These recommendations are in continuous to the findings performed in Chapter six about the best predictors of C&D scores such as, signing a donor card and previous education.

7.8. **Implications for future research**

There are also recommendations for future research. Because the organ donation process is a sensitive and complex one, nurses are not only healthcare providers with the responsibility to identify the potential donors or to approach the families. Physicians, physicians' assistants, or social workers may be involved with this process (Cebeci et al., 2011). Hence, more research should be carried out on other members of the healthcare community who should also be involved in the organ donation process.

It would also be beneficial to conduct future research using the C&D scale to compare healthcare staffs’ perceptions and ability to be involved in the organ donation process, with a comparison of donation hospitals and transplant hospitals.

The C&D scale, although it did test positively for reliability and validity, was not tested for sensitivity to change (Houser, 2013). A further study should use the scale to test for change in the same population after undergoing a course of training; this will provide more evidence for validity of the scale, thus turning the scale into an instrument for quality control of the training.

7.9. **Strengths and weaknesses of the overall research**

This research aimed to develop a scale to evaluate nurses' potential for involvement in the organ donation process. This established much strength, as well as weaknesses, for the research. The challenges presented themselves in the process of literature search and data-collecting using some source of information and methods, as well as in choosing appropriate data analysis systems for developing a valid and reliable scale. Although the scale was found to be valid and reliable, there are various issues limiting the generalisability of the research findings. These arise from the research methods, sample, statistical tests and the ability of the scale to be sensitive enough to detect changes.

7.9.1. **Strengths of the research**

7.9.1.1. **Triangulation**

Triangulation was included in this research as a strategy for gaining a rich data source to analyse. Triangulation, then, involves the use of two or more methods of data collection in the study of a particular aspect of human behaviour. This multiple approach results in ‘greater confidence in the findings’ (Bryman, 2001:274). The decision to use a mixed approach to
gather data and to develop a reliable scale was the main strengths of this research. In particular, in this research, triangulation was created of several sources of information.

Firstly, the reliance on authentic information began with the decision to conduct a qualitative study in the first stage of this research, which involved creating a database of nurses’ perceptions, thoughts and attitudes about their personal experiences with organ donation. This approach enabled an investigation into a relatively unknown subject: the religious, personal and professional behaviours of nurses in the organ donation process (Creswell, 2008). The ability to gather authentic data directly from the nurses while possessing a thorough understanding of the subject in relation to the nurses' religion made it possible to develop a scale appropriate to the nurses' population, to deal with every relevant issue within the framework of their role as ward nurses.

Although the literature review brought into play the different aspects of the nurse's role in the organ donation process, the literature itself does not engage in the central question of how the nurse is influenced by her religious and cultural values in her attitudes toward death and organ donation. This aspect has not been little researched in the world, and not all in Israel.

In the second stage of this research two more strengths presented themselves during the development of the measurement scale. The first was to develop a unique theoretical framework for this research, based on empirical data. The C&D scale was based on an explicit definition and incorporated inductively derived domains, as recommended by DeVellis (2003). Such clarity helped to ensure that C&D scale contains items that directly related to nurses' perception of involvement in the organ donation process in view of a multicultural setting.

Finally, another strength was in the development of a measurement was the involvement of the nurses and the families as a source of information and data. This was an emotional and complex situation, but it was necessary, as part of the goals of the research was to understand how the nurses' involvement impacted the donation process and those involved in it. This aspect thus ensured that the content of the research was relevant and significant. The acquisition of authentic data was unique, as in the previous stage. The response of the patients and/or their families emphasizes the relevant issues of the nurses' role from the viewpoint of the different people involved in the process, and not just from the viewpoint of the researcher or the healthcare staff.

7.9.1.2. Response rate

Another strength worth mentioning which enabled reaching such a challenging outcome was the response rate in every stage of the research. Although in the first stage of data-gathering it was 30%, in the expert focus groups it was over 50% and in the field test itself it was over 40%. This is especially impressive when we take the sensitivity of the issue itself into consideration. It should never be taken for granted that response would be this high.
7.9.2. Weaknesses of the research

7.9.2.1. Sample bias

The sample for this study was found mainly in hospitals where transplants are not done on-site. This could possibly have skewed the results both of the scores of the scale and of the qualitative study. Therefore, generalising from the results from this study may be limited, and in further next studies, the population should be broadened to include nurses from all types of hospitals. The geographical element is also limited, as the sample was taken only from the North of Israel. Thus, even though the sample is religiously representative of the entire population of Israel, the next research should include a larger, less geographically limited sample.

Another potential weakness was the response rate of 40-50%. This may be considered as a weakness because although the distribution of religions is similar to that of the society as a whole, there were other demographic variables which should be corrected: most of the nurses in the study were married with children, and although this again represents the population as a whole, future studies might demand a more varied population.

Although the sample was sufficient for a study of this type (DeVellis, 2003) large enough for doctoral thesis, it is possible that further recruitment of participants, in more hospitals, might present a more varied population, with a possibility of comparison between variables such as personal characteristics (age, marital status) clinical setting, role of the nurses, the organisational properties regarding organ donation from previous research (Ashkenazi & Klein, 2013; Shabanzadeh et al., 2009; Sque et al., 2000).

7.9.2.2. Response bias

This is a weakness arising from the personal perceptions of the participants, but also from their desire to satisfy the researcher. Participants are influenced by their social need to present themselves in a certain way to the researcher. The C&D scale includes subjective and sensitive issues relevant to organ donation and transplant. The subject of organ donation and transplant is sensitive on all levels: religious, personal, professional, and cultural Thus, the overall score could be influenced by the social pressure felt by the participants to respond in a socially-acceptable way to the questions. This might be seen, for instance, in the statistically-high proportion of nurses who reported possession of a signed donor card.

Another possible weakness of this research is that the researcher is herself a nurse. This might have possibility presented itself as an obstacle, despite the relatively high response rate and the empathy that the researcher felt for the participants/ This is due to the fact that she comes from the same background and is familiar with the subject; this might have caused a measure of "social ingratiation," where the participants were eager for her approval and thus answered accordingly. This point must be taken into account and treated with care.

However, this could also be seen as an advantage, as the participants felt more comfortable answering the questions.
7.10. Conclusions

The original contribution to knowledge made by this research is in the provision of authentic information about the experiences of general nurses from diverse religions in the content of organ donation in Israel. Second, this research has developed a conceptual framework (See section 4.2) that includes the main issues found relevant to nurses' involvement in the organ donation process in Israel. The strength of the methodology was that it was based on information collected directly from the nurses, which contributed to the development of a clear conceptual framework and to a C&D scale which could identify the most important factors influencing nurses' involvement in the organ donation process.

This particular study highlights specific personal and professional attitudes affecting beliefs about organ donation and the afterlife which underlie the nurse's role in this process. The study also illuminated the many misunderstandings on the part of the nurses as to what the stand of their particular religion is on the subject of organ donation. Finally, the study points out the dilemma of the primary-care nurses as to what their precise role in the organ donation process is vis-à-vis the physicians and the transplant-coordinator.

It is recommended that a program of education and training should be implemented on the subject of organ donation and transplant, a program which would lay emphasis on the crucial role of the primary-care nurse in this process, as well as expose nurses to religions other than their own.

The approach used in this research should help to ensure that the content of the measure is salient, appropriate and practical for use in the field. Furthermore, the use of principal components analysis identified the number of underlying dimensions in the data and produced an empirical model of the relationships between items, which provided evidence supporting the construct validity of individual subscales.

However there are several limitations to this study. Measures of subjective constructs such as C&D scale responses may be biased by a number of factors, including the personality of the respondent, the respondent’s perception of the scale, and a social-desirability bias. This is especially true in light of the sensitivity of the subject of religious and cultural attitudes, and by the fact that the researcher is herself a nurse.

The most important potential outcome and a true measure of the future effectiveness of this study will be the increased participation of nurses in the organ donation process. This could contribute to an increase in the number of organ donations, as nurses are in the optimal position to influence and encourage patients' families.

Finally, what was most interesting was the execution of this research among the nursing population, a previously neglected element of the medical profession who participate in the organ donation process. The discourse of the nurses with the researcher took place in the very location of their work, even with nurses who did not participate directly in the research. As one nurse wrote to the researcher:
"I would like to share my feelings with you, after answering the questionnaire. First, I never dared to think about this subject, and definitely not to talk about it with anyone. It is amazing to me how we accept all the taboos surrounding this subject, without any protest on our parts. The questions resounded in my head, personally, as I thought of my own family, and of course professionally as well. The thought that I could have done more and maybe save other people followed me all the time. Since then, and it’s been a few weeks since I returned the questionnaire, the question arises over and over in my department. It must have also made an impression on my colleagues. I don’t know what the long-lasting effects of the research will be, but I think that for me and for those around me, there will be change."
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Appendix 2.1: Description of Strategy for the literature review

**Strategy for the literature review**
In this chapter, I could have taken one of two approaches: either a systematic or a non-systematic review. Both approaches include a summary of the existing literature available on the subject, but there are differences between the two, as well as similarities. Basing this decision on references such as Bettany-Saltikov (2012), I chose the non-systematic review.

The literature review began with a general overview of the topic of organ donation in Israel and in the world, and continued with a focus on the research question, concerning religion and culture, organ donation and nurses in general hospitals who are not experts in organ donation. This characteristic is one of the differences between the two approaches.

Additionally, the evaluation of the quality of the literature for inclusion in a non-systematic review is based in the reviewer's opinion. In this research, although it's not required in non-systematic review, in order to evaluate the quality of the literature, the following criteria were used:

1. Who is the author of the article?
2. Does the author belong to a known institution? How is he/she connected to the subject?
3. Are the data reliable and exact?
4. Does the article appear in a peer-reviewed professional journal?
5. The sources used for each article were also examined

The strategy for the literature search included a number of stages:

1. General search for material on the subject of organ donation and transplantation
2. Search for articles from the last five years, and if relevant further back
3. **Criteria for inclusion**: relevant keywords: organ donation, organ transplantation, nurses, professional behaviour, healthcare staff, religion, culture
4. **Types of research/papers**: qualitative research, quantitative research
5. Procedures, health directives, relevant laws from Israeli Ministry of Health

6. Books, articles, academic works published on the subject
7. **The following databases were searched**:
   - PubMed – MEDLINE
   - Ebsco
   - ProQuest
   - Sage Journals
   - Science Direct
   - CINAHL

To summarise, although this was not a systematic review, the review did give include a broad spectrum of literature on the subject, and the survey developed a focus on the research question, which influenced the criteria for inclusion in the survey. I have added this information as an additional appendix and referred to it in the text.
Appendix 3.1: Description of the Qualitative Study: Israeli Nurses' Perceptions of Organ Donation - A Focus Group Study among Nurses from Diverse Religions and Culture study: Ethics' document

Research Proposal submitted for scrutiny by the Ethics Committee, Department of Psychology, University of Portsmouth

Title of proposed research:

The influence of culture and attitudes on nurse's behaviour towards organ donation

Name of Researcher: Levana Ogni

a. Proposal - Specific Aims and Methods

Research Aims
1. To examine the religious and cultural beliefs of nurses and how they influence attitudes towards organ donation.
2. To examine the knowledge and attitudes of nurses on the subject of organ donation and transplants.
3. To examine the influence of nurses' cultural backgrounds on their attitudes and willingness to act on the subject.
4. To examine how knowledge, attitudes and culture influence behaviour of nursing staff in so far as it affects their willingness to discuss the subject with patients and families, and their commitment to donate organs from their own bodies.

Research Methods
In the first stage of the research described here, a focus group method will be used.

Research Population
Reregistered nurses working in hospitals in northern Israel are eligible to take part in this research. The nurses are culturally diverse and will include Arab nurses, both Muslims and Christians. Jewish nurses born in Israel in addition to some who emigrated from the former Soviet Union will also be included.

Focus group.
Focus groups are an increasingly common research tool used to obtain the opinions, values, and beliefs from an identifiable group with a facilitated interview technique. The focus group method is a group interview technique that generates data through the opinions expressed by participants, both individually and collectively, and has great potential in assessing issues from culturally diverse perspectives (Halcomb et al. 2007).

Some researchers such as Hughes and DuMont characterise focus groups as in-depth group interviews employing relatively homogenous groups to provide information around topics specified by the researchers; and others define them as a group discussion, an informal discussion among selected individuals about specific topics. These definitions show the tension between participant-researcher interaction and interaction between participants, with interaction between participants in the group being a particularly distinctive characteristic of focus group methodology (Smithson, 2008)
Focus groups are not only used to derive new knowledge or programmes but also to seek opinions, values, and beliefs in a collective context. Focus groups are an appropriate data collection method when the researcher is seeking a range of ideas and needs to provide information for a larger scale quantitative study (Krueger & Casey, 2000). A research method such as focus groups provides some of the best opportunities to elicit the opinions of culturally diverse people on a variety of important topics. Focus groups are often conducive to qualitative research and offer preliminary explorations of a cultural group’s attitudes. As we strive to achieve more culturally competent practice, it is imperative that we identify cultural norms and values of people who interact with the health care system. An increasing number of studies demonstrate the usefulness of the focus group method in conducting health-related research in culturally and linguistically diverse populations. The involvement of numbers of the target culture during each phase of the research enhances the sensitivity of the research team to cultural issues, such as roles, communication patterns and traditions (Huer & Saenz, 2003).

It is only through culturally sensitive modifications to the traditional focus group method that the voices of participants from culturally and linguistically diverse backgrounds can be heard (Halcomb et al. 2007). In addition, because participants may feel more comfortable discussing experiences with others like them, a more open and honest discussion might ensue rather than in a one-to-one interview with a researcher who is not a member of the target population (Krueger & Casey, 2000).

In this research, participant groups comprising a 6-10 nurses will discuss an issue or subject related to organ donation. Feelings aroused while talking about organ donation will be discussed in order to obtaining a deeper understanding of the effects of cultural and religious values on attitudes and behaviours. Thus, the information obtained from focus groups, in which the relevant issues have been discussed, is particularly important in helping to develop the basis for a future research questionnaire.

References:


b. **Responses to Items 1-19 requested:**
1. Name of Researcher: Levana Ogni
2. Name of Director of Studies: Dr. Darren Van Laar
   Name of Supervisor: Dr. Maggie Linnell.
3. Full Title of Research Proposal: The influence of culture and attitudes on nurse's behaviour towards organ donation
4. No advertised title of research
5. Type of proposal: Ph.D. Research
6. The participants in my research are registered nurses from hospitals in northern Israel. The nurses will be culturally diverse and will include Arab nurses, both Muslims and Christians. Jewish nurses born in Israel in addition to some who emigrated from the former Soviet Union will also be included. I will recruit them with a personal letter to each nurse after receiving permission to send the letter (Appendix 1) from the Hospital Directors and Nursing Service Managers. A letter will be sent to the nurses to recruit participants for interviewing.
7. Appendix 2: Advise of Consent Form
8. No possible harm is expected
9. Appendix 3: Debriefing
10. There is no deception involved in this research
11. During the qualitative section, only the researcher and co-instructor of the focus groups are present, and they should be aware of their obligation to respect the confidentiality of the participants. All participants will sign a form agreeing to confidentiality. As for the quantitative section, the questionnaires are anonymous. The researcher is not present during the completion of the questionnaire. The only person reading the questionnaire is the researcher.
12. Raw (unprocessed) data will be stored and available only to the Researcher, the Director of Studies, and the Supervisor and the Advice of Consent Form will be kept separately from the data.
13. No sensitive population is required for this research.
14. No experiments will be included in the research.
15. The research will be conducted in several hospitals in Israel. There are no subordinate relationships between the Researcher and those completing the questionnaire (the Researcher is an Assistant Nursing School Director). The Researcher, the Director of Studies, and the Supervisor are the sole owners of the data, and they should be aware of their obligation to respect the confidentiality of the participants.
   In Israel, research carried out with non-patient participants does not require Ethics approval. Only the Hospital Managers' approval is required.
16. No psychometric assessments are involved in this research.
17. The interviews will be included in the first stage of the research during focus group interviews. In this focus group, feelings aroused while talking about organ donation will be discussed, in order to obtain a deeper understanding of the effects of cultural and religious values on attitudes and behaviours.
18. To my knowledge, there are no potential conflicts of interest.
19. I do not foresee any potential ethical problems (Appendix 4: Focus group schedule).
<table>
<thead>
<tr>
<th>Researcher name and signature</th>
</tr>
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<tbody>
<tr>
<td>&quot;I Levana Ogni confirm that I have read and agree to conform to the code of conduct and ethical principles as detailed in the BPS 1993 publications.&quot;</td>
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</tbody>
</table>
Appendix 3.2: Description of the Qualitative Study: Israeli Nurses' Perceptions of Organ Donation - A Focus Group Study among Nurses from Diverse Religions and Culture study: Letter to hospital management

To: The Hospital Director

Dear Sir,

Re: Request to carry out research among Hospital nurses

As part of my Ph.D. studies, I am carrying out research on the subject of: "The influence of culture and attitudes on nurses' behaviour toward organ donation."

In general, the shortage of organs and tissues for donation reflects the rise in the number of patients in need of transplants, together with the failure to acquire sufficient donors. Factors that influence the shortage of organ donors include poor public awareness, cultural and religious perceptions, or the failure of health care professionals to identify potential donors and initiate the donation process.

In Israel in general, and the northern region in particular, there is an abundant diversity of cultures. The knowledge, which will be obtained, acquired from this innovative research is very significant in the cultural tailoring of care.

I would like to request your permission to recruit nursing staff for my research, participation in focus group interviews. Participation in my research will be conducted, in accordance with your approval, through the Head Nurses in the wards and coordinated with the nurses.

I shall be most grateful for your attention and cooperation.

Yours faithfully,

Levana Ogni
Appendix 3.3: Description of the Qualitative Study: Israeli Nurses' Perceptions of Organ Donation - A Focus Group Study among Nurses from Diverse Religions and Culture study: form of inform consent from nurses

Inform Consent for Focus Group Interview

Title of Research: "The influence of culture and attitudes on nurses' behaviour toward organ donation."

Researcher: Levana Ogni
Director of Studies: Dr. Darren van Laar
Research Supervisor: Dr. Maggie Linnell, University of Portsmouth, U.K
For information: levana.o@ziv.health.gov.il

Purpose of Research: To obtain data for research on the influence of culture and attitudes on the personal and professional behaviour of nurses toward organ donation.

Description of Procedure: the researcher and co-instructor on your personal attitudes and beliefs toward organ donation will interview you.

The interview will be in a group of 6-8 nurses from your hospital lasting an hour and a half. The text of the interview will be audiotaped and transcribed for the research and will be treated with the strictest confidentiality.

To be completed by the participant:

1. I understand that I will be interviewed about my attitudes and beliefs toward organ donation.
2. I have been informed by the researcher of the purpose of the data obtained from the interview.
3. I understand the importance of the data obtained from the interview.
4. I agree for my interview to be audiotaped, providing the tape is kept in a locked filing cabinet.
5. I understand that I am free to withdraw my participation at any time and for any reason.
6. I understand that I can terminate the interview at any time and for any reason.
7. I understand that, although my participation in this study cannot be completely anonymous, my name will not be used in connection with the results in any way.
8. I understand that the transcript of my interview will be kept confidential and that only the researcher (named above) will have access to it.
9. I understand that I have the right to obtain information about the findings of the study and about how they will be used after the study is completed.

I hereby consent that my data will be used for the above study:
- Research purposes
- Teaching purposes
- Both of the above

Name of participant: _______________________________
Signature of participant: __________________________ Date: ______________
Debriefing

1. The purpose of the interview we conducted was to try and understand the attitudes and beliefs of nurses in hospitals towards organ donation, and your willingness to act in the matter. I hope to use this information to inform my future research.

2. If in the future you feel the need to contact me on the subject of the research, you may reach me at: levana.o@ziv.health.gov.il.

3. At the conclusion of the research, the findings can be received by contacting me at the above e-mail address.

If you have concerns about this study, or the way in which it was conducted, you should, in the first instance, contact the Supervisor of the project using the contact information provided in this form. If your concerns are not dealt with then you can contact the Chair of the Psychology Research Ethics Committee in confidence by writing to: Chair of Psychology Department Research Ethics Committee, Department of Psychology, King Henry I Street, Portsmouth, Hampshire, PO1 2 DY.
Thank you for your participation in this focus group discussion. It has been really interesting to hear about nurse's perceptions and experiences regarding organ donation. Your contribution will be very helpful to my project.

I would like to ask you for some demographic details. All of these details will keep separately from the transcript of focus group discussion, and will treat confidentially.

**Time of focus group discussion _________________**

**Demographic details:**

Name __________________

Gender: Female / male

Age _____________

Religious background_____________

How do you define your religiosity level? _____________

Professional education _____________

Professional training _____________

Your main clinical area _____________

If you have any questions please feel free to ask me. Thanks again for your help.

Yours faithfully

Levana Ogni
Appendix 3.4: Description of the Qualitative Study: Israeli Nurses' Perceptions of Organ Donation - A Focus Group Study among Nurses from Diverse Religions and Culture study: Letter of invitation for nurses

Dear Colleague,

My name is Levana Ogni and I am Assistant Director of the Ziv Nursing School. My reason for writing to you is to ask for your help with a research project that I am conducting for my Ph.D.

The purpose of this research is to investigate the influence of culture and attitudes on nurses' behaviour toward organ donation. This is a very important area of research when considering the importance of the involvement of nurses in the organ donation process and the multicultural character of the nurses working in Israel today.

The research will be conducted through group interviews, to be held in the hospitals in which you work. The research aims to obtain data on understanding what influences nurses’ behaviour and the connection with nurse's affinity to her or his culture and religion.

The interviews will be treated with the strictest confidentiality.

If you feel able to help with this project, please enter your details on the slip below and return it through a ward representative who will deliver it to me. Please do not feel under any obligation to take part in this research, especially if you feel it would make you uncomfortable in any way.

If you have any further questions or you need more information about the research, before deciding, please feel free to get in touch with me by e-mail levana.o@ziv.health.gov.il

Thank you in advance for your help and for taking the time to read this letter.

Levana Ogni

Your name: __________________________________________

How would you like us to contact you to arrange the time of focus group discussion?

By Phone (please write phone number) ____________________________

What time of day is best to call? _________________________________

By e-mail, (please provide e-mail address): ________________________

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Please complete the following demographic details:

Name __________________

Gender:  Female / male

Age _____________

Religious background_____________

How do you define your religiosity level? ____________

Professional education __________

Professional training _____________

Your main clinical area _____________

If you have any questions please feel free to ask me. Thanks again for your help.

Yours faithfully

Levana Ogni
Appendix 3.5: Description of the Qualitative Study: Israeli Nurses' Perceptions of Organ Donation - A Focus Group Study among Nurses from Diverse Religions study: Semi structured Focus group schedule

Opening question

- I would like to ask you to tell us who you are?
- What is your professional experience as a nurse?

Introductory question

- What is the first thought or association that comes into your mind when you think about organ donation and transplantation?
- Which words or images come into your mind when you think about organ donation?

Transition question

- Can you tell me about your experience with the subject of organ donation?
- Do you know of anyone among your family and/or friends and/or in your workplace?
- Can you tell me what you know about the organ donation process in Israel?
- Can you tell me what your feelings are when we talk about organ donation?

Key questions

- What is the meaning of terms such as: death, brain death, and cardiac death in your culture / religion?
- How do people in your culture or religion relate to the deceased person, burial and mourning?
- Can you tell us if there is any concept of "life after death" in your culture/religion?
- How do people in your culture / religion relate to organ donation and transplantation?
- Can you tell me what the declared position of your culture/religion is about organ donation and transplantation?
- What do you know about the declared position of your culture/religion on holding a donor card?
- Some people find it very difficult to decide about organ donation. Who are the most significant people that you can consult with?
- What are the factors that influence decision-making about organ donation?
• If you are in favour of organ donation, and what are your reasons?

• If you have any objection to organ donation, what are your reasons?

• What do you think about the professional responsibility about the organ donation process?

• What are the factors that influence the professional involved in the organ donation process?

• What do you think about the nurses' role in the organ donation process?

Ending question

• Is there any possibility that culture/religion and nurses' attitudes will influence their behaviour in the organ donation process? In what way will it influence it and what do you think about this?

• Is there any possibility that there will be a gap between personal commitment and professional behaviour towards organ donation?

• What do you think about this gap, and the influence on nurses' involvement in the organ donation process?

Final question

• Is there something else that anyone feels that we should have talked about but didn't?

• How did you feel during this discussion?
Appendix 3.6: Description of the Qualitative Study: Israeli Nurses’ Perceptions of Organ Donation - A Focus Group Study among Nurses from Diverse Religions and Culture study: Example from transcript from focus group’s discussion

NOTE: The focus group's discussions were done in Hebrew language that is the official language and the nurses of all religions spoken this language. And also the analysis was done in Hebrew (this is the researchers’ mother tongue). This translation was done to perform an example of transcript and a part of analysis.

Focus Group #1 – Secular & Traditional Jewish Nurses

**Acquaintance**

Q-1: What's the first thought you having when you think about organ donation?

P6 – Saving lives; saving another person’s life

P2 – I don’t want to think about it, it’s scary. I didn’t even sign a donor card so as not to put a jinx on the whole subject. I find it very scary. For me, it’s like thinking about death, and I don’t want to think about death. I’m speaking as a person, not as a nurse.

P4 - As a nurse, it’s very clear to me what is necessary and what has to be done, and it’s clear what I expect of myself as a nurse, no questions at least for me!! . But if we’re talking about me as a person, I’m afraid for my children.

P8 – Happiness. Saving life, but even so, I hope that we know what are we doing.

M- Why? What do you mean?

P8- Sometimes, I’m not sure that organ donation really helps people, it’s dependent in quality of life. I’m not sure that always the patients received quality of life.

P2 – I think about my father. About illness. My father was very sick, and after he died, they called me and asked for a donation of his cornea, and I slammed the phone on them. So, every time I heard about organ donation I feel angry, maybe if it was not in this way, I would think differently……, that's it, let stop here before I will start to cry.


------------

you want to take a break, you to drink something?

No, it's OK. We can go, we can continue.

P5 - As a nurse, I might have reacted differently. As a nurse – it’s very clear; as a mother – my thinking is very different. It's much more frightening. I don't want to think about it. As a nurse, I think of it as life-saving. It's hard for me to think of it as a person, as a mother.

P1 - I never thought about it, even now I’m not sure that I want to do it, I didn’t thought it will be so hard. Stimulating bad thoughts.

P3 – Fear, death. Don’t want to think about it, it scares me. I mainly think about my family, who would have to deal with this issue. Along with this, there are some good things, saving lives, doing something altruistic, making a large contribution, doing something good for someone else.

<table>
<thead>
<tr>
<th>POSITIVE THOUGHTS</th>
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<tbody>
<tr>
<td>Saving lives</td>
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<td>Saving another person’s life</td>
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<thead>
<tr>
<th>FEELINGS</th>
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<tbody>
<tr>
<td>Scared</td>
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<td>Scary</td>
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<td>Frightened</td>
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<tr>
<th>ATTITUDES/FEELINGS</th>
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<tr>
<td>Somatic</td>
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<td>Feels</td>
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<td>Bad/ Negative</td>
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<tr>
<th>PROFESSIONAL ATTITUDES &amp; BEHAVIOUR</th>
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<tbody>
<tr>
<td>Saving lives, life-saving</td>
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<td>Professional? Personal? Ambivalent</td>
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<tr>
<th>ATTITUDES/FEELINGS/behaviour</th>
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<tr>
<td>Professional? Personal?</td>
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<td>Ambivalent feelings</td>
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<th>ATTITUDES/FEELINGS</th>
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<td>Positive</td>
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<th>FAMILY</th>
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<td>Think of me as a nurse</td>
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<tr>
<th>GOOD THINGS/POSITIVE</th>
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<tr>
<td>families</td>
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<tr>
<td>save lives</td>
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<tr>
<td>doing something altruistic</td>
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<tr>
<td>making a large contribution</td>
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P4 – Thoughts of death, fear, fear of impending doom, along with thoughts of saving a life, social contribution, continuing something in another way, sometimes even as relief – that a relative's life is not absolutely over, that there is continuity in another way that could even be empowering.

P7 – When I think about organ donation is about social responsibility; The family's grief will be eased a bit if they know that their loved one will continue to live in somebody else's body. Organ donation is a gift for life, I really think that is an amazing solution.

P5 – Mainly fear of what it would look like, what to do, fear of letting go, fear of death. It makes me feel very bad when I think of it, even though I know that it’s important, life-saving, and in the long run does well for the donor’s family. There’s a huge difficulty in making this decision.

Q-2: What words or images connect with your thoughts of organ donation?

P1 – Death, fear, passing of the body, is digging into the body, what’s left afterward.

P2 – Mainly bad thoughts, fear, how will the dead person look after the removal of the organs, like for instance removal of the corneas.

P8 – Dying instead of living, dying life.

P2 – Death. As a individual person sometimes I think it is like a murder; against nature. The patient looks is alive, I'm sorry it's hard for me.

M – I know it's not simple, but I would like to ask why do you think it is like a murder?

Because the patient is still the patient still breathing! How we can stop this????

P6 – Huge contribution, noble act, new life, I can imagine the person who receives the organs, the life bestowed on him.

P1 – Fear, death, opening the body. who needs it, additional weight on the family and its suffering.

M - You say suffering, In what sense do you mean?

For everybody, for the waiting family for organs, to family needs to think about it at a critical moment, sorry, why we need this, and who say that it's help, how many times we cared about patient that wait 5 years and after he received a transplant the body rejected the organs, sometimes we’re extending the suffering (Some participants agree with this).

Q-3: Can anyone relate an experience to do with organ donation?

P2 – I had a bad experience, when my father died. Even now I remember it as a very bad experience. The way I was approached, I thought to myself, "How dare they come to me at this critical moment and ask me for his corneas?" I wouldn’t want to have to go through that again. Even though as an intensive-care nurse I don't remember it as a difficult experience. I distinguish between being a nurse and being a mother or a daughter. It's not the same. As an ICU nurse, I have experience waiting for the family's decision to donate or not. The quiet in the waiting period, care for the patient, keeping him stable – It's all emotionally difficult. It's a great burden that's hard to get free of.

P1 – I haven't had any experience, and I hope I never do. I can't imagine myself coping with this issue.
P5 – I cared for a young girl who had undergone a kidney transplant that her body rejected, and in the end, she died. There are many bitter obstacles to go through before and after. I have a lot of experience with bone-marrow transplants, although that is somewhat different, it’s not the same thing.

Once I overheard a conversation between the transplant-coordinator with the family of a traffic-accident patient. The family couldn’t decide, and in the end decided to donate his organs. Even though I completely support organ donation and have a donor card. It does something very positive, it strengthens your choice, your choice for yourself and for your family.

P4 - I will not deny it, and although I know that sometimes the question comes up concerning a patient with brain death - maybe a miracle will occur. Even though as a professional I know that it’s impossible. Even so, it’s there in my head.

P6 – I have cared for a lot of patients waiting for a heart transplant, who didn’t leave the hospital for a year. In the end, many went abroad for the transplant. I really understand them.

M - Anybody else want to tell us about personal or professional experience?

P8 – I cared for a 5-year-old girl who had a liver transplant and this left a deep impression on me. The family who had to cope with the liver failure, the wait for the phone call that called them to the hospital for the transplant, the daily waiting with no feeling of despair, but rather a lot of hope and optimism.

M - How has this affected you?

When you stand against this family you start to think different, you start to ask yourself some question. This cope did something to me.

Q-4: Does this familiarity, both personal and professional, affect the way you feel?

P3 – Yes, for me it really strengthens my wish to donate, against all my concerns, the positive side outweighed the negative thoughts. I feel differently today, as far as I'm concerned, they can take everything, from me and from my family.

P6 – I've always had a positive attitude towards donation, and my experiences only strengthened them. You can't be indifferent to the process.

P2 – My personal experience with my father just made me angry, unwilling to talk about the subject. Also my experience as a nurse in intensive-care is not easy. Even today I feel the tense silence as we cared for a patient, waiting for the family's decision. It’s very difficult, and maybe because of that I don't want to think about it at all.

Can we take a break? It is very difficult; I didn't thought that it will be so hardeven to speak about it.

M - Yes, we can of course.

Q-5: What do you know about the organ donation process?

P6 – As far as I remember, as soon as brain death is determined by a disinterested party or someone interested in another patient, the family is first approached, usually by a transplant-coordinator. They explain to the family who is on the team, which...
includes a nurse, a social worker. Then the process begins. They explain to the family and ask for the donation. That’s what I remember.

**P3** – I also know that that’s the procedure, **but I know it mainly from the media**.

**P1** – I don’t exactly remember the process. The only thing I know is that you must get the family’s consent even **if the patient had a donor card**.

**P2** – I don’t really know how it’s done.

**P5** – I know that the transplant-coordinator has a very, very important part in the process. According to my little professional experience they have to deal with it.

**P8** – I’m not sure I really know the whole process even I had an experience with family who are waiting for transplant. I never learned about it formally. I think that we to know more, every nurse in hospital it professional behavior we never know when we will need this knowledge.

**P4** - I don’t know well enough about the process **what the process stages are; who begins the process – I have never taken any interest in that**.

**M** - There is anybody year who learned about this topic? Participate in any training about organ donation?

**P8** – I never had an opportunity, and I didn’t hear about any training at least in my hospital.

Q-6: **What do these terms mean – death, brain death – in religious terms, to Judaism or other religions?**

**P1** – I don’t think Judaism recognizes brain death as death, **as long as the soul has not left the body, the person isn’t dead**.

**P3** – I really have no idea. I would guess that only death is considered real death, and that brain death as far as they’re concerned isn’t real death.

**P4** – I actually think that there’s a big change. **Many rabbis today recognize brain death but they have a lot of restrictions in the law. It’s important for them to be involved in the process of determining brain death. They don’t trust medicine.**

**P5** – I also think that brain death isn’t real death. I believe a miracle will happen and the person will live.

**P5** – Additionally, it should be remember that in Judaism a dead person is unclean and so it’s difficult to donate from the unclean. When he has no breath a person is dead, but unclean.

Q-7: **What is Judaism’s attitude to the dead person, to mourning, to burial?**

**P2** – Why is it important **how it treats the dead?**

**P1** – **Sorry, it is very important!!** It’s important to bury the dead as soon as possible, and this stands in contradiction to the organ donation process.

**P5** - I actually think that Judaism treats the dead with respect and that is why it is forbidden to “disrespect” the body. You must keep it as it is. All this dealing with the body is disrespect to the dead. Burial and mourning are two very important things in Judaism and there are very clear customs. That’s why I don’t understand the declaration of consent to have one's organs donated.

**P3** – You must give respect to the dead, bury as quickly as possible.

**P6** – I really don’t know what’s important in Judaism. I’m a little bit confuse. As a professional nurse, **I find it very hard to care for a family of a brain dead patient if I...**
don't know what is religiously essential to them, for instance, when burial should take place.

Q-8: How does Judaism treat organ donation? What is the official stance?

P3 – There are more and more rabbis who are not opposed. Some even encourage it. Maybe because of the new law which includes rabbis in the law. I mean that the decision is not just up to the doctors, but that other people are involved.

P5 – I know that there have been attempts to add a law preventing donations from someone who does not have a donor card, but it hasn't passed.

P4 – There isn’t something in Judaism about who to donate to? Where will the organs go? According to religion, you can’t donate to everyone, and you can't donate every organ.

P6 – I don’t really know how Judaism looks at it. I think there are a lot of contradictions. The public doesn’t really know what religion says. It takes what’s easy and comfortable. If he doesn’t want to donate organs, he’ll find someone in the religion to support him and his opinion.

P2 – I don’t know what Judaism says. I hear so much, but if Judaism supports it so much, why aren’t there more donations?

Q-9: What does Judaism have to say about signing a donor card?

P1 – I don’t know what Judaism says, but I think that if it was more positive, there would be more religious people with a donor card.

P3 – I think religion is against. It doesn’t encourage signing a donor card. I think there's an explanation that's not necessarily connected to religion, that maybe if there's a donor card, there would be a quicker decision regarding donation, and this would involve brain death.

P6 – I’m definitely sure that the religion is against organ donation and signing a donor card. It certainly doesn’t encourage it. It would be interesting to know how many rabbis have donor cards, they leave the discussion to the moment, if at all.

P4 – I really don’t know.

P5 – Neither do I, but I would suppose that Judaism doesn’t encourage it.

Q-10: What is your position concerning donor cards?

P8 - I have a donor card and I am unequivocally in favor of organ donation.

P6 – I am in favor and I have one, and even so when I was faced with the question it was very difficult for me to donate my father's organs. When you are exposed to the body, it is very hard. That's why I'm not sure about the real significance of a donor card.

P7 – I think if there's a donor card it's easier to make a decision, and least for me. I'm sure that for my family as well it will be easier to make a decision when the time comes, if they know that's what I wanted.

P4 – I don’t know, it’s hard for me to decide, I'm afraid.
P2 - I'm against having a donor card, I won't do it and I hope nobody in my family does it. Not for religious reasons. I don't want to sign because of the "evil eye", that God forbid something will happen to someone.

P5 – I know that it's not necessary, I'm afraid that it could be hurt more than help, sorry that I have to say it. In the critical moment I think that I could make a decision and I don't need to do it earlier. Even I know my opinion

P8 - I don't agree with this. I think that it is like a last will of the patient, without this it will be more difficult to make a decision about donation.

P7 – Exactly, that's what I told to my family.

Q-11: When people must decide about organ donation, who should they choose to confer with, according to Judaism?

P1 – always with the rabbis. It's practice to confer with them about the difficult decisions in life.

P2 – It depends on your religion and the level of religiosity and where you live. I think there's a difference between people in the North, and those who live in the center of the country. Those in the North are more likely to ask their rabbi. People in the center will involve their family and significant people in their lives. That's what I think and I was both in North and Centre, it's different population. Maybe because people in the North are more traditional than those in the center.

P3 - I think that in any case it's good to confer with more medical staff, who will confirm the brain death and that this is really irreversible. That's what I would do if I had to.

P6 - I think that in these crisis situations, it doesn't matter if you're religious or not, it's comforting to hang on to religion, maybe because you know that they will decide what you want but don't dare to express. When a person is in crisis, he turns to religion if he's religious or not.

P7 - Definitely not just religious people, but everyone. I also think I would turn to a rabbi in this situation.

M - Why?

P7 - I can't explain, maybe because it's easy for someone else to decide what to do, something that you want but don't dare to say.

P2 - I can't think about the reasons, I understand why religious people. I definitely wouldn't think of a religious representative as a secular. Even I was there, I thought only about my own family

P8 - I think many Jews would confer with a rabbi even if they're secular. I can't explain it, and it is not only about organ donation, it is the same in a critical situation usually according to health.

(Sounds as all others agree)
Appendix 3.7: Description of the Qualitative Study: Israeli Nurses' Perceptions of Organ Donation - A Focus Group Study among Nurses from Diverse Religions study: Summary of categories and themes by religion's groups

### Summary of Themes by Religion's Groups

<table>
<thead>
<tr>
<th>Category</th>
<th>Themes</th>
<th>Group 1: Secular &amp; Traditional Jewish nurses</th>
<th>Group 2: Secular Jewish nurses</th>
<th>Group 3: Traditional Jewish nurses</th>
<th>Group 4: religious Jewish nurses</th>
<th>Group 5: Muslim nurses</th>
<th>Group 6: Christian nurses</th>
<th>Group 7: Druze nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Religion and organ donation</td>
<td>1a. Religious formal declaration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td></td>
<td>1b. The gap between the official declaration of the religion and the nurses' personal perception of the official declaration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td></td>
<td>1c. Religion/culture as a source of information and support</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td></td>
<td>1d. Religion's involvement in organ donation decision</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</table>

√ The theme emerged in each group

± The theme emerged partially in each group

-- The theme did not emerge in group discussion
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<th>Group 6: Christian nurses</th>
<th>Group 7: Druze nurses</th>
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<tbody>
<tr>
<td>2. Nurses' thoughts, feelings and personal behaviour</td>
<td>2a. Feelings &amp; Thoughts about brain death, organ donation</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>-</td>
<td>±</td>
<td>√</td>
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<td></td>
<td>2b. Positive –passive behaviour</td>
<td>±</td>
<td>-</td>
<td>±</td>
<td>-</td>
<td>√</td>
<td>±</td>
<td>-</td>
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<tr>
<td></td>
<td>2c. The family as a partner in a decision making process</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>-</td>
<td>√</td>
<td>±</td>
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<tr>
<td></td>
<td>3a. The perception of responsibility / Experience</td>
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<tr>
<td>3. Professionalism</td>
<td>3b. Moral dilemma</td>
<td>√</td>
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<table>
<thead>
<tr>
<th>Category</th>
<th>Themes</th>
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</table>
| 4. Essential knowledge | 4a. The meaning of brain death
|                   | 4b. The criteria for determining brain death
|                   | 4c. The meaning of donor card
|                   | 4d. Unknown process

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<thead>
<tr>
<th></th>
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<tr>
<td>4a. The meaning of brain death</td>
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<tr>
<td>4b. The criteria for determining brain death</td>
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<tr>
<td>4c. The meaning of donor card</td>
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<tr>
<td>4d. Unknown process</td>
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Appendix 4.1: Development of a psychometric scale assessing the influence of religion on Northern Israeli nurses' attitudes and professional perception regarding organ donation—experts' group evaluation sheet feedback.

Dear ____________

Thank you so much for agreeing to have a quick look at my questionnaire for me. I realise you are very busy but I would really appreciate any feedback you can provide.

My main concern in this stage of the research that I have covered any potential issues that are relevant regarding organ donation and hospital nurses' role in viewpoint of diverse of Israeli religions. In consideration of the importance of nurses' involvement in the organ donation process, and in recognition of the multicultural character of nurses working in Israel today, this research would appear to be of vital importance.

I have generated the items from the literature and from the focus group discussions with nurses who are working in general departments and were from diverse religions, but since you have a lot of experience with organ donation and transplantation I would be really interested in your perspective.

I have attached a pdf copy of the questionnaire. I would be especially grateful for your comments about all of the items as it is possible.

I have also included a sheet for feedback but please feel free to just detail it in an e-mail if you would prefer. I am grateful for any feedback. As it is still in the draft stage I would be grateful if you did not pass this on to anyone else to look at.

Many thanks,

Levana Ogni
Please also feel free to write on the questionnaire or indicate changes (but please do so in a coloured ink so I can see them!).

1. Are there any questions that you think nurses from general wards in hospital would not understand or feel could be worded better? (Any suggestions of improvements to wording would be welcome)

________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________

2. Are there any questions that you think are irrelevant?

________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________

3. Are there any relevant questions that you think have not been included?

________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________

4. Are there any improvements to the layout or presentation that you would recommend?

________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________

5. Do you think the instructions about how to complete the questionnaire are clear?

Yes/No.

Many thanks for reading the questionnaire and giving me your valuable feedback.

Levana Ogni

My email address: Levana.o@ziv.health.gov.il
Appendix 4.2: Development of a psychometric scale assessing the influence of religion on Israeli nurses' professional perception regarding organ donation: Pilot study questionnaire
The purpose of this questionnaire is to learn more about what nurses think about organ donation and transplantation. Your response is very important and will be used to improve this research. Remember, this is not a test. Please note that no one will see your answers except for the researcher, and all forms will be kept confidential. Please try to answer all of the questions. The questionnaire will take about 30-45 minutes.

In the first section of the questionnaire I would like to ask about your opinion regarding to organ donation.

### To what extent do you agree with the following?

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The thought of organ donation lessens my fear of death</td>
<td></td>
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<tr>
<td>2.</td>
<td>I think that donating a body part would enable that part of me to remain alive after my death</td>
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<td>3.</td>
<td>I believe that the decision about organ donation is an individual one, not a religious one</td>
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<tr>
<td>4.</td>
<td>At a critical moment, I would contact a religious leader to help me decide</td>
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<tr>
<td>5.</td>
<td>As organ donation becomes more personally relevant, beliefs can change</td>
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<tr>
<td>6.</td>
<td>I think that organ donation leaves the body of the donor mutilated and disfigured.</td>
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<td>7.</td>
<td>I think that determining brain death is like committing murder</td>
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<tr>
<td>8.</td>
<td>I think it is a social responsibility to donate organs</td>
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<tr>
<td>9.</td>
<td>Organ donation would enable me to help someone who is</td>
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<tr>
<td>10.</td>
<td>I believe organ donation is a positive option for the family at the time of a family member's death.</td>
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<tr>
<td>11.</td>
<td>Families often want to see something positive come from a tragedy</td>
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<tr>
<td>12.</td>
<td>If I decide to donate organs, it is as if I am ready to die and this makes me uncomfortable</td>
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<tr>
<td>13.</td>
<td>I am not sure I could make an organ donation decision about a member of my family</td>
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<td>14.</td>
<td>My family does not allow me to talk about a donor card</td>
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<tr>
<td>15.</td>
<td>Women may not decide whether or not to sign a donor card. They are required to receive their husband's consent</td>
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<td>16.</td>
<td>I think that decisions about organ donation are usually made with the close environment: family or a religious representative</td>
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<td>17.</td>
<td>I identify with the patients waiting for transplantation, so I am willing to donate my organs after death</td>
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<td>18.</td>
<td>I think that the opinion of the religious functionaries about organ donation is more important than the family's say</td>
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<tr>
<td>19.</td>
<td>I cannot decide about signing a donor card. I have to ask permission from my partner</td>
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<tr>
<td>20.</td>
<td>I believe that signing a donor card might hasten death</td>
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<tr>
<td>21.</td>
<td>Signing a donor card gives me a feeling of pride and self-respect</td>
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</tbody>
</table>
In the following section I'm interesting about your perception as a nurse about organ donation.

To what extent do you agree with the following:

Strongly Disagree=SD, Disagree=D, Neutral=N, Agree=A, Strongly Agree=SA, Don't Know= DK

Please mark X in the appropriate box

<p>| | | | | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>22.</td>
<td>I think that I am confident of my communications ability to approach a family and to request an organ donation.</td>
<td></td>
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<tr>
<td>23.</td>
<td>Approaching the family about organ donation is a part of my job</td>
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<tr>
<td>24.</td>
<td>As a nurse, I would be more likely to request an organ donation if I knew that my patient had signed an organ donor card</td>
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<tr>
<td>25.</td>
<td>A close caring professional relationship with relatives and patients enables open discussion about the willingness for organ donation</td>
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<tr>
<td>26.</td>
<td>The general nurse from the ward should not be involved in the process of organ donation</td>
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<tr>
<td>27.</td>
<td>My role as a nurse is just to inform the transplant coordinator about locating a potential donor candidate</td>
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<td>28.</td>
<td>Raising public awareness of the subject of organ transplantation is an inseparable part of a nurse's work, both in hospital and in the community</td>
<td></td>
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<td>29.</td>
<td>If nurses don't believe that brain death is really death, they will not be able to approach the family for their agreement to donate an organ</td>
<td></td>
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<td>30.</td>
<td>Because I am personally opposed to organ donation, I cannot be involved in the process</td>
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<tr>
<td>31.</td>
<td>Nurses' own belief system significantly influences their ability to offer an explanation about organ donation to others</td>
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<tr>
<td>32.</td>
<td>I feel guilty about approaching the family and adding the issue of organ donation</td>
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<tr>
<td>33.</td>
<td>As a general nurse, it is not my job to explain to the family about brain death</td>
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<tr>
<td>34.</td>
<td>My main job as a nurse in organ donation process is only to support the family during its grief</td>
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<tr>
<td>35.</td>
<td>It doesn't matter what your personal beliefs and opinions are; as a nurse you are part of the organ donation process.</td>
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<tr>
<td>36.</td>
<td>The intensive care nurses have more knowledge than the general nurse and thus, they have greater ability to be involved in the process of organ donation.</td>
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<tr>
<td>37.</td>
<td>You have to support organ donation in order to be involved in the process of organ donation</td>
<td></td>
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<tr>
<td>38.</td>
<td>It is a great challenge for me to help the family cope with death and to try to lead them to a good deed despite their sadness.</td>
<td></td>
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<tr>
<td>39.</td>
<td>When dealing with death, I try to keep my distance from the grieving family</td>
<td></td>
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<tr>
<td>40.</td>
<td>I am sure of my ability to give suitable culture-sensitive care when I am engaged in the subject of organ donation.</td>
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<tr>
<td>41.</td>
<td>The organ donation process is a stressful experience and nurses have difficulty coping with it</td>
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</tbody>
</table>
In this part of the questionnaire, I would like to know something about your professional experience with organ donation.

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
</table>
| 42. As a part of your professional role, have you participated in an explanation to a family about brain death? | □ Never  
□ At least 1 time  
□ At least 2 times  
□ At least 3 times  
□ At least 4 times  
□ 5 times or more |
| 43. As a part of your professional role, have you participated in requesting a family's approval for an organ donation? | □ Never  
□ At least 1 time  
□ At least 2 times  
□ At least 3 times  
□ At least 4 times  
□ 5 times or more |
| 44. As a part of your professional role, have you participated in an activity to promote the issue of signing donor cards? | □ Never  
□ At least 1 time  
□ At least 2 times  
□ At least 3 times  
□ At least 4 times  
□ 5 times or more |
| 45. As a part of your professional role, have you succeeded in receiving family consent for organ donation? | □ Never  
□ At least 1 time  
□ At least 2 times  
□ At least 3 times  
□ At least 4 times  
□ 5 times or more |
| 46. In the last year, in which of these activities have you had an opportunity to participate? Tick all that apply | □ In an explanation to a family about brain death  
□ In requesting a family's approval for an organ donation  
□ In promoting the issue of signing donor cards  
□ In Persuading a family to agree to organ donation |
| 47. In the last year, how many times you participated at least in one of these activities? | □ Never  
□ At least 1 time  
□ At least 2 times  
□ At least 3 times  
□ At least 4 times  
□ 5 times or more |
The following section refers to organ donation in the context of religion. I would like to know your opinion about the following questions.

To what extent do you agree with the following?

<table>
<thead>
<tr>
<th>Strongly Disagree=SD, Disagree=D, Neutral=N, Agree=A, Strongly Agree= SA, Don't Know= DK</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>48. My religion supports organ donation and transplantation</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>49. In my religion it is obligatory to bury the deceased within 24 hours and this does not suit the time schedule of the organ donation process</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>50. I believe in the principle: &quot;Whoever saves the life of one person, it is as if he has saved the lives of all mankind&quot;</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>51. From my religion point of view, the body of the deceased should not be harmed</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>52. My religious beliefs do not allow me to donate my organs after death</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>53. In my religion brain death is considered death in the full sense of the word</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>54. A main concept in my religion is &quot;A person is considered dead only when the heart stops&quot;</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>55. I believe that when anyone suffers or dies, it is God's will</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>56. Religion would not make a difference; people are people, and they should help each other</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>57. In my religion Altruism is an important principle</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>58. Saving a life is positioned very highly in my religion</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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</tr>
<tr>
<td>59. I believe that after death, the body must be returned to God complete, as it was given</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>60. Organ donation is an act of harm to the will of God</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>61. I believe that any unnecessary intervention with the body after death should be avoided</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>62. Burying the dead with all of his/her organs intact is an obligation</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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</tr>
<tr>
<td>63. In my religion organ donation is considered a gesture of love and nobility</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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</tr>
<tr>
<td>64. Despite official statements of my religion, the religion's representatives do not express support for organ donation</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>65. A religious authority has no mandate to waive medical intervention</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>66. In my religion, the time of death is when brain death is determined</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<td>□</td>
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<tr>
<td>67. It doesn't matter whether you are secular or religious; the opinion of a religious authority is important</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>68. Everyone is allowed to sign a donor card. It is a personal choice.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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</tbody>
</table>
To what extent do you agree with the following?
Completely True=CT, Mostly True=MT, Equally True and Untrue=ET&UT, Mostly Untrue=MUT, Completely Untrue=CUT, Don’t Know=DK

Please mark X in the appropriate box

<p>| | | | | | |</p>
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<tbody>
<tr>
<td>69.</td>
<td>Potential organ donors are patients who have been declared brain dead</td>
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<tr>
<td>70.</td>
<td>It is possible for a person who is brain dead to recover</td>
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<tr>
<td>71.</td>
<td>Brain death occurs when the brain stops functioning, even if the heart is kept beating by artificial means</td>
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<tr>
<td>72.</td>
<td>Brain death is irreversible death</td>
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<tr>
<td>73.</td>
<td>Legally, if a person has agreed to donate organs, there is no need to obtain family consent</td>
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<tr>
<td>74.</td>
<td>Brain death and a vegetative state are the same</td>
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<tr>
<td>75.</td>
<td>An organ donor card expresses the agreement of the individual to donate his/her organs after death</td>
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<tr>
<td>76.</td>
<td>If a deceased patient has signed an organ donor card, but the family does not wish to donate the organs, the hospital is required to honour the wishes of the deceased</td>
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<tr>
<td>77.</td>
<td>According to Israeli law of organ donation and transplantation, signing a donor card gives precedence to transplantation to the card holder and relatives</td>
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<tr>
<td>78.</td>
<td>The number of donors is insufficient to meet the needs of people awaiting transplant</td>
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</table>

In the previous section, I would like to know something about you. These questions will help us to understand how different groups respond about organ donation.

79. Your Gender □ Male □ Female

80. Your birth year

81. Your marital status □ Single □ Married □ Widowed □ Separated
□ Other- please specify ________________________________

82. Do you have children? □ Yes □ No

83. Your religious background □ Christian □ Jewish □ Muslim □ Druze
□ Other- please specify ________________________________
**Biographical questions continued...**

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>84. How religious are you?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1= Not at all religious 5= Very religious</td>
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<tr>
<td>85. What is your professional education? (tick all that apply)</td>
<td>RN</td>
<td></td>
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<tr>
<td>□ RN □ BA/BSN □ MA □ PhD</td>
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<tr>
<td>86. What is your main clinical area in which you are working?</td>
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<tr>
<td>□ Internal Medicine □ Surgery Department □ Intensive care unit □ Pediatrics □ Emergency room □ Other - please specify below</td>
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<tr>
<td>87. What is your role in hospital/department?</td>
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<tr>
<td>□ General Nurse □ Senior Nurse □ Department supervisor □ Shift supervisor □ Other - please specify below</td>
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<tr>
<td>88. How many years have you been working in your clinical area?</td>
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**That's it!**

Thank you very much for taking the time to answer these questions. Your opinion really matters to me. **If you have any comments or questions, please use the space below.**

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

If you would like to know anything more about the study or if you have any questions about it, please contact me: **Levana.o@ziv.health.gov.il**

or the project supervisor: **Darren.van.laar@port.ac.uk**

**Yours sincerely,**

Levana Ogni, A senior nurse in Ziv medical centre
PhD Student, Psychology Department
Portsmouth University, U.K.
Appendix 4.3: Development of a psychometric scale assessing the influence of and religion on Israeli nurses' professional perception regarding organ donation: Letter for hospital management - Request to carry out the Pilot study among hospital nurses

To: The Hospital Director

Dear Sir,

Re: Request to carry out Pilot study among hospital nurses

As part of my Ph.D. studies, I am carrying out research about the influence of culture and religion on the barriers nurses experience when approaching families to consent to donate organs in Israel. In consideration of the importance of nurses' involvement in the organ donation process, and in recognition of the multicultural character of nurses working in Israel today, this research would appear to be of vital importance.

The first stage of the research will be conducted using a questionnaire to assess the influence of culture and religion on nurses who are often the first people to approach families of candidates for organ donation and to request their consent.

In Israel in general, and the northern region in particular, there is great cultural and religious diversity. There is also a significant shortage of donated organs and tissues to fulfil the needs of the patients who so desperately need them. It is hoped that the knowledge which will be obtained from this innovative research will be significant in helping to take the cultural needs of all parties into consideration when making the effort to increase the numbers of organs donated.

I would like to request your permission to recruit your nursing staff for my research. This involves distributing questionnaires among nurses in various wards in your hospital. Only nurses who agree to participate will be included in the research and any questionnaires returned by staff will be treated in strictest confidence. Participation will be conducted, in accordance with your approval, through the head nurses in the wards.

I would be most grateful for your attention and cooperation.

Yours faithfully,

Levana Ogni
Senior nurse in Ziv hospital
PhD student
Appendix 4.4: Development of a psychometric scale assessing the influence of religion on Israeli nurses' professional perception regarding organ donation: A letter of information and invitation for nurses to the Pilot study

Dear Colleague,

My name is Levana Ogni and I am a senior nurse in Ziv Medical Centre and PhD student. I am writing to you to ask for your help with a research project that I am conducting for my PhD.

The purpose of this research is to investigate the influence of culture and attitudes on the barriers nurses experience when approaching families to consent to organ donation in Israel. This is a very important area of research when considering both the importance of the nurses' involvement in the organ donation process and the multi-cultural character of the nurses working in Israel today.

On the next pages you will find a questionnaire. The questionnaire should take no longer than 10-20 minutes to complete, and I would be very grateful if you could complete the questionnaire and return it in the sealed envelope to the head nurse's office in your hospital.

Please note that your individual data will remain completely confidential and that no information will be released on who does and who does not return the questionnaire. The main results will be made available only to this research and a summary may be prepared as part of a journal article. No information will be released that might identify any individual. In addition any raw data will be kept strictly confidential and destroyed after use.

Your contribution will be very valuable to me but please do not feel under any obligation to take part in this research, especially if you feel that it would make you uncomfortable in any way. If you decide to do so please be aware that you will not be able withdraw your data later as we will not know who it is from. By returning the completed questionnaire to us, this means you understand and agree to this condition.

If you would like any further information or have any other questions please e-mail me levana.o@ziv.health.gov.il or the project supervisor Dr Darren Van Laar, darren.van.laar@port.ac.uk.

Many thanks,

Levana Ogni
Senior nurse, PhD student
Appendix 4.5: Development of a psychometric scale assessing the influence of religion on Israeli nurses' professional perception regarding organ donation: Care & Donate questionnaire for the field study
The purpose of this questionnaire is to learn more about what nurses think about organ donation and transplantation. Your response is very important and will be used to improve this research. This is not a test, simply a measure of your attitudes and beliefs about organ donation and transplantation. The responses will be analysed by the researcher, no one will see your answers except for the researcher and all forms will be kept confidential. Please note that no information will be released that might identify and individual. The questionnaire will take about 10 to 20 minutes, please try to answer all of the questions.

Statement of consent
I have read the information above and understand, by sending the questionnaire I am giving my consent to take part in this research.

To what extent do you agree with the following?
Strongly Disagree=SD, Disagree=D, Neutral=N, Agree=A, Strongly Agree=SA
Please mark X in the appropriate box

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
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<tbody>
<tr>
<td>1. As a nurse, I would be more likely to request an organ donation if I knew that my patient had signed an organ donor card</td>
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<td>2. A close caring professional relationship with relatives and patients enables open discussion about the willingness for organ donation</td>
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<td>3. I believe that after death, the body must be returned to God complete</td>
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<td>4. I think that the general nurse from the ward should not be involved in the process of organ donation</td>
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<td>5. My role as a general nurse is just to inform the transplant coordinator about locating a potential donor candidate</td>
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<td>6. I believe that brain death is irreversible death</td>
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<td>7. As a general nurse, it is not my job to explain to the family about brain death</td>
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<td>8. I think that you have to support organ donation in order to be involved in the process of organ donation</td>
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<td>9. I cannot decide about signing a donor card, I have to ask permission from my partner</td>
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<td>10. I believe that signing a donor card might hasten death</td>
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<td>11. I believe organ donation is against the will of God</td>
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<td>12. I think that it doesn't matter whether you are secular or religious; the opinion of a religious authority is important</td>
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<td>13. The thought of organ donation lessens my fear of death</td>
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<td>14. I believe that any unnecessary intervention with the body after death should be avoided</td>
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<td>15. I believe that brain death should be considered death in the full sense of the word.</td>
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<td>16. I believe that when anyone suffers or dies, it is God's will</td>
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<td>17. I would contact religious leaders to help me decide if I were asked to donate my relative's organs</td>
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<td>18. Women are required to receive their husband's consent before they decide to sign a donor card</td>
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<td>19. I believe that it is possible for a person who is brain dead to recover</td>
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<td>20. I believe that a patient diagnosed as brain dead has not really died because his soul is alive</td>
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To what extent do you agree with the following?

Strongly Disagree=SD, Disagree=D, Neutral=N, Agree=A, Strongly Agree=SA

Please mark X in the appropriate box

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<tr>
<td>21.</td>
<td>I believe that organ donation helps to give meaning and significance to death.</td>
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<td>22.</td>
<td>I believe that a person should be considered dead only when his heart stops</td>
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<td>23.</td>
<td>I am not sure I could make an organ donation decision about a member of my family</td>
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<td>24.</td>
<td>I think that organ donation leaves the body of the donor mutilated and disfigured</td>
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<td>25.</td>
<td>Brain death and a vegetative state are the same</td>
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<td>26.</td>
<td>Regarding donor cards, I think it is more important what my family wants because they have to deal with it after my death</td>
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<td>27.</td>
<td>It doesn't matter what your personal beliefs and opinions are, as a nurse you are part of the organ donation process</td>
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<td>28.</td>
<td>I think that it does not really matter what I want. In the end, it will be my family who decides if I donate organs</td>
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<td>29.</td>
<td>I think that donating a body part would enable that part of me to remain alive after my death</td>
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<td>30.</td>
<td>Raising public awareness of the subject of organ transplantation is an inseparable part of a nurse's work</td>
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<td>31.</td>
<td>I think it is important to me that I could give someone else a chance of better life after my death</td>
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<td>32.</td>
<td>I believe that if my family know my intentions regarding organ donation they will respect them</td>
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<tr>
<td>33.</td>
<td>I think that if I donate my organs at the time of death, I am doing something good for someone else</td>
<td></td>
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<td>34.</td>
<td>I think that I would be willing to donate organs upon my death</td>
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<td>35.</td>
<td>My religious beliefs influence the way I carry out my professional duties</td>
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In this part of the questionnaire, I would like to know something about your professional experience with organ donation.

Please mark X in the appropriate box

36. As a part of your professional role, have you participated in an explanation to a family about brain death?
   - □ Never
   - □ At least 1 time
   - □ At least 2 times
   - □ At least 3 times
   - □ At least 4 times
   - □ 5 times or more
   - □ Other, please specify __________________________

37. As a part of your professional role, have you participated in asking a family to approve organ donation?
   - □ Never
   - □ At least 1 time
   - □ At least 2 times
   - □ At least 3 times
   - □ At least 4 times
   - □ 5 times or more
   - □ Other, please specify __________________________
38. As a part of your professional role, have you participated in an activity to promote the issue of signing donor cards?

☐ Never  ☐ At least 1 time  ☐ At least 2 times  ☐ At least 3 times  ☐ At least 4 times  ☐ 5 times or more  
☐ Other, please specify __________________________

39. As a part of your professional role, have you succeeded in receiving family consent for organ donation?

☐ Never  ☐ At least 1 time  ☐ At least 2 times  ☐ At least 3 times  ☐ At least 4 times  ☐ 5 times or more  
☐ Other, please specify __________________________

If yes, what was the deciding factor? _________________________________________________________

In the following section, I would like to know something about you. These questions will help us to understand how different groups think about organ donation.

40. Your Gender  ☐ Male  ☐ Female

41. The year you were born

42. Your marital status  ☐ Single  ☐ Married  ☐ Widowed  ☐ Separated  ☐ Divorced

43. Do you have any young children (under 18)?  ☐ Yes  ☐ No

44. Your religious background  ☐ Jewish  ☐ Muslim  ☐ Christian  ☐ Druze

☐ Other, please specify __________________________

45. How religious are you?  
1= Not at all religious  5= Very religious  
☐ 1  ☐ 2  ☐ 3  ☐ 4  ☐ 5

46. What is your professional education? (tick all that apply)  
☐ RN  ☐ BA/BSN  ☐ MA  ☐ PhD

47. Do you currently have a signed a donor card?  ☐ Yes  ☐ No
50. How many years have you been working in your clinical area? ____________________ years

51. The name of the hospital you are working ____________________________

52. I would like to ask you for your email if you want to take part in test re-test reliability in this research. As part of ongoing development of this research scale I would like to see how the scores of individuals change over time. If you would like to help me by completing a shorter version of this questionnaire within 2-3 weeks, please add your email address in those who take part. Please note that I will delete your email address from my records as soon as this research is completed (within 4 months).

If you agree I would like to contact you in 2-3 weeks to ask you to fill in a shorter version of this questionnaire, please enter your email address in the box below:

That's it!

Thank you very much for taking the time to answer these questions. Your opinion really matters to me.

If you have any comments about how general nurses should contribute to organ donation or transplantation, please use the space below.

If you would like to know anything more about the study or if you have any questions about it, please contact me: Levana.o@ziv.health.gov.il or the project supervisor: Darren.van.laar@port.ac.uk.

Yours sincerely,
Levana Ogni, A senior nurse in Ziv medical centre
PhD Student, Psychology Department
Portsmouth University, U.K.
Appendix 4.6: development of a psychometric scale assessing the influence of culture and religion on Israeli nurses' professional perception regarding organ donation: ethical approval from Portsmouth university

ETHICAL REVIEW APPLICATION FORM

1. **Proposal Title**: DONATE & CARE Scale – Donation of Organs: Nurses' Attitudes, Experience, Culture and Religion. A scale to assess the influence of culture and religion on the barriers nurses experience when approaching families to consent to organ donation in Israel.

2. **Principal Investigator (PI)**: Levana Ogni

3. **Co-investigator(s)**: No

4. **Supervisor(s)**: Director of Studies: Dr. Darren Van Laar  
   Name of Supervisor: Dr. Maggie Linnell.

5. **School / Department**: Psychology Department

6. **Date of Submission**: December 13 2013

7. **Proposed study start date**: July 2008

8. **Is the research**: PhD Research

9. **Review Type**: a) Full committee  
   b) Light-touch review

   **Rationale for review type choice** (no more than 50 words): We already have ethical approval to conduct the first part of the study in which the items for the scale were generated through a series of focus group discussions. We are now seeking ethical approval to administer the final questionnaire. Relevant previous comments on a previous ethics application from the ethics committee are enclosed as Appendix 3.

10. **Funding details**: Fully funded by student

---

1 Please read the notes if you have not submitted an application to the SFEC previously  
2 If the PI is a student.  
3 The exact date of starting may not be known, but please indicate the likely start date, mindful of the timescales for ethical review.
11. **Peer Review**: Yes

12. **Lay summary**: This research first aims to understand the complexities involved in approaching families to ask them to agree to consent to organ donation in multicultural hospital settings in Israel. The second aim was to use this understanding to develop a psychometric scale to assess the ethnic, cultural and related barriers and attitudes nurses may need to overcome when approaching the families.

13. **Scientific Summary of proposal**

Based on the Israeli multicultural context and the qualitative study findings for which we already sought and received ethical approval, this research aims to unravel some of the complexities of the unique multicultural and multi-religious situation in Israel by creating a suitable psychometric scale. The overall aim of this part of the research is to develop a valid and reliable psychometric scale in order to measure the following:

a) The factors that influence nurses’ attitudes toward organ donation.

b) The nurses’ aptitude to approach the family and to discuss the option of donating organs with them.

c) The nurses’ barriers to promoting the families’ compliance to donate organs.

d) The religious and cultural factors which are influential in this process of organ donation.

The conceptual framework has been guided by the research aims: to evaluate and measure nurses’ awareness of organ donation and transplantation issues, which may include properties such as: professional commitment, sympathy, personal perception, and personal qualities such as extroversion, coolness, introversion, and knowledge. The researcher also identified other important domains that were less emphasized in the qualitative study, and which have not been investigated enough in the literature: the nurse’s personality traits and the nurse’s communication skills with patients and their families.

**Research Methods**

The method is based on the guidelines of psychological measurement scale development (DeVellis, 2003; Smith & Smith, 2007; Miller et al., 2011; Domino & Domino, 2006). According to these guidelines, a culturally sensitive psychometric scale development involves the following objectives:

a) To develop a pool of items for the preliminary measurement.

b) To pre-test the preliminary measurement and to modify this measure according to preliminary results.

c) To conduct the pilot study with statistical analysis to evaluate the test’s performance and to revise the test according to the findings for a final format.

d) To conduct the field test with the final measurement of the culturally sensitive psychometric scale.

e) To test the reliability and validity of the psychometric scale – In the final questionnaire, there are 51 statements which were developed by the researcher.
for the final research. In addition, there are 40 additional statements in the questionnaire which are meant to investigate the structural validity of the scale.

**Research Population**
In order to carry out the CFA research the desirable size of the final sample for the research is at least 500 participants. In order to reach this goal and considering that the response rate is usually 50%, the researcher will distribute 1000 questionnaires.

After requesting permission from the director of the medical centre and receiving his/her approval and the approval of the supervisor of nursing, the researcher will request that participants take part in the research. Each nurse who agrees to participate in the research will receive a questionnaire and an envelope in which to return it. The entire process of applying to the nurses to take part in the research and afterwards, sending the questionnaires will be carried out via the head nurse’s office in each organization so that details about the nurses will not reach the researcher.

This process will take place in at least three hospitals in order to reach the desired number of research participants. It should be noted that the researcher is not personally acquainted with the nurses and they have no working relations.

**Statistical Analysis**
Confirmatory factor analysis will be carried out to evaluate the validity of the composition of the attitudes questionnaire. In order to test the internal reliability of the questionnaire Cronbach’s coefficient alpha will be used. In addition, correlation, regression, ANOVA and other statistical tests will be used as required.

14. **Recruitment and informed consent procedures:**
   a) The participants in my research are registered nurses from hospitals in northern Israel. The nurses will be culturally diverse and will include Arab nurses, both Muslims Christians and Druze. Jewish nurses born in Israel in addition to some who emigrated from the former Soviet Union will also be included. I will recruit them with a personal letter to each nurse after receiving permission from the Hospital Directors (Appendix 1).
   b) Appendix 2: Cover Letter

15. **Safety of the researcher:** No possible harm is expected from this survey research.

16. **Confidentiality**
   a) During this stage of research, only the researcher will be involved and she is aware of her obligation to respect the confidentiality of the participants. All participants will sign a form agreeing to confidentiality. The questionnaires are anonymous. The researcher is not present during the completion of the questionnaire. The only person reading the questionnaire is the researcher.
b) Raw (unprocessed) data will be stored and available only to the researcher, the Director of Studies, and the Supervisor and the Advise of Consent Form will be kept separately from the data.

17. Please identify any ethical issues and strategies to deal with them e.g.
   a) Deception
   b) Human tissue use (in terms of the Human Tissue Act)
   c) Vulnerable groups
   d) Sensitive cultural or scientific sites

There is no deception involved in this research. Although the topic is sensitive, the participants are all practitioners who have to deal with these issues on a daily basis. By its very nature there may be sensitive cultural/religious issues, but since the responses are anonymous they should not be major problems.

18. Risks and Benefits: Risks in the research are minimal. The subject being examined is very complex and emotionally, socially and religiously sensitive. However, the research may help many families and hospital staff members to develop a more positive approach to the subject.

19. Please state any conflict of interests: To my knowledge, there are no potential conflicts of interest. I do not work in the hospitals where the participants for this study will be drawn; therefore there are no conflicts of interest.

20. Conformation with current conventions: In Israel, research carried out with non-patient participants does not require ethics approval. First, the hospital managers' approval is required, followed by the agreement of the participants to take part in the research.

21. Finally please complete the following checklist, answering each question ‘yes’ or ‘no’.
   a. Does the study involve human research participants? Yes
   b. Are there risks of damage to physical and or ecological environmental features? No
   c. Are there risks of damage to features of historical or cultural heritage? No
   d. Will the research be conducted in protected scientific, cultural or heritage sites? No
   e. Are there risks of damage to sensitive flora or fauna? No
   f. Do human participants take part in studies without their consent or will deception of any form be used? No
   g. Does the study involve vulnerable or dependent participants (e.g. children or people with learning difficulties) No
   h. Are drugs, placebos or other substances (e.g. food, vitamins) to be administered to participants? No
   i. Will human tissue samples be obtained from participants? No
   j. Is pain or more than mild discomfort likely to result from the study? No
   k. Does the study involve observation or discussion of sensitive, sexual, political, and financial or illicit behaviour? No
1. Could the study induce psychological distress or anxiety in participants? Or third parties? No

m. Will the study involve prolonged or repetitive testing or participants? No

n. Does the study involve the use of ionising radiation? No

o. Will financial inducements other than reasonable expenses be offered to participants? No
Date 14/1/14

FAVOURABLE OPINION

Proposal Title: DONATE & CARE Scale – Donation of Organs: Nurses' Attitudes, Experience, Culture and Religion. A scale to assess the influence of culture and religion on the barriers nurses experience when approaching families to consent to organ donation in Israel.

Dear Levana,

Thank you for submitting your revised protocol for ethical review.

Having reviewed the revised application, I’m confident that your responses have addressed the reviewers’ concerns, and your application has now received a favourable opinion. Thus, no further action is required on your part.

Good luck with the study.

Best wishes,

Dr Jim Sauer
Psychology rep, Science Faculty Ethics Committee

CC -
Dr Chris Markham – Chair of SFEC
Sci.fac@port.ac.uk
Appendix 4.7: Development of a psychometric scale assessing the influence of culture and religion on Israeli nurses' professional perception regarding organ donation: Letter for hospital management - Request to carry out the field study among hospital nurses

To: The Hospital Director

Dear Sir,

Re: Request to carry out field study among hospital nurses

As part of my Ph.D. studies, I am carrying out research about the influence of religion on the barriers nurses experience when approaching families to consent to donate organs in Israel. In consideration of the importance of nurses' involvement in the organ donation process, and in recognition of the multicultural character of nurses working in Israel today, this research would appear to be of vital importance.

This research will be conducted using a questionnaire to assess the influence of culture and religion on nurses' attitudes and professional behaviour toward organ donation.

In Israel in general, and the northern region in particular, there is great cultural diversity. There is also a significant shortage of donated organs and tissues to fulfil the needs of the patients who so desperately need them. It is hoped that the knowledge which will be obtained from this innovative research will be significant in helping to take the cultural needs of all parties into consideration when making the effort to increase the numbers of organs donated.

I would like to request your permission to recruit your nursing staff for my research. This involves distributing questionnaires among nurses in various wards in your hospital. Only nurses who agree to participate will be included in the research and any questionnaires returned by staff will be treated in strictest confidence. Participation will be conducted, in accordance with your approval, through the head nurses in the wards.

I would be most grateful for your attention and cooperation.

Yours faithfully,

Levana Ogni
Senior nurse in Ziv hospital
PhD student
Appendix 4.8: Development of a psychometric scale assessing the influence of culture and religion on Israeli nurses' professional perception regarding organ donation: A letter of information and invitation for nurses to the field study

Dear Colleague,

My name is Levana Ogni and I am a senior nurse in Ziv Medical Centre and PhD student. I am writing to you to ask for your help with a research project that I am conducting for my PhD.

The purpose of this research is to investigate the influence of culture and attitudes on the barriers nurses experience when approaching families to consent to organ donation in Israel. This is a very important area of research when considering both the importance of the nurses' involvement in the organ donation process and the multi-cultural character of the nurses working in Israel today.

On the next pages you will find a questionnaire. The questionnaire should take no longer than 20-30 minutes to complete, and I would be very grateful if you could complete the questionnaire and return it in the sealed envelope to the head nurse's office in your hospital.

Please note that your individual data will remain completely confidential and that no information will be released on who does and who does not return the questionnaire. The main results will be made available only to this research and a summary may be prepared as part of a journal article. No information will be released that might identify any individual. In addition any raw data will be kept strictly confidential and destroyed after use.

Your contribution will be very valuable to me but please do not feel under any obligation to take part in this research, especially if you feel that it would make you uncomfortable in any way. If you decide to do so please be aware that you will not be able withdraw your data later as we will not know who it is from. By returning the completed questionnaire to us, this means you understand and agree to this condition.

If you would like any further information or have any other questions please e-mail me levana.o@ziv.health.gov.il or the project supervisor Dr Darren Van Laar, darren.van.laar@port.ac.uk.

Many thanks,

Levana Ogni
Senior nurse, PhD student
Appendix 4.9: Development of a psychometric scale assessing the influence of culture and religion on Israeli nurses’ professional perception regarding organ donation: Care & Donate questionnaire for the field study (the full version with OTD/A questionnaire and ODAS
Care & Donate Scale

The purpose of this questionnaire is to learn more about what nurses think about organ donation and transplantation. Your response is very important and will be used to improve this research. This is not a test, simply a measure of your attitudes and beliefs about organ donation and transplantation. The responses will be analysed by the researcher, no one will see your answers except for the researcher and all forms will be kept confidential. Please note that no information will be released that might identify and individual. The questionnaire will take about 20 to 30 minutes, please try to answer all of the questions.

Statement of consent
I have read the information above and understand, by sending the questionnaire I am giving my consent to take part in this research.

<table>
<thead>
<tr>
<th>To what extent do you agree with the following?</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree=SD, Disagree=D, Neutral=N, Agree=A, Strongly Agree=SA</td>
<td></td>
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<tr>
<td>Please mark X in the appropriate box</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1. As a nurse, I would be more likely to request an organ donation if I knew that my patient had signed an organ donor card</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>2. A close caring professional relationship with relatives and patients enables open discussion about the willingness for organ donation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. I believe that after death, the body must be returned to God complete</td>
<td></td>
<td></td>
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<tr>
<td>4. I think that the general nurse from the ward should not be involved in the process of organ donation</td>
<td></td>
<td></td>
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<tr>
<td>5. My role as a general nurse is just to inform the transplant coordinator about locating a potential donor candidate</td>
<td></td>
<td></td>
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<tr>
<td>6. I believe that brain death is irreversible death</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. As a general nurse, it is not my job to explain to the family about brain death</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8. I think that you have to support organ donation in order to be involved in the process of organ donation</td>
<td></td>
<td></td>
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<tr>
<td>9. I cannot decide about signing a donor card, I have to ask permission from my partner</td>
<td></td>
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<tr>
<td>10. I believe that signing a donor card might hasten death</td>
<td></td>
<td></td>
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<tr>
<td>11. I believe organ donation is against the will of God</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>12. I think that it doesn't matter whether you are secular or religious; the opinion of a religious authority is important</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13. The thought of organ donation lessens my fear of death</td>
<td></td>
<td></td>
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<tr>
<td>14. I believe that any unnecessary intervention with the body after death should be avoided</td>
<td></td>
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<tr>
<td>15. I believe that brain death should be considered death in the full sense of the word.</td>
<td></td>
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<tr>
<td>16. I believe that when anyone suffers or dies, it is God's will</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>17. I would contact religious leaders to help me decide if I were asked to donate my relative's organs</td>
<td></td>
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<tr>
<td>18. Women are required to receive their husband's consent before they decide to sign a donor card</td>
<td></td>
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<tr>
<td>19. I believe that it is possible for a person who is brain dead to recover</td>
<td></td>
<td></td>
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<tr>
<td>20. I believe that a patient diagnosed as brain dead has not really died because his soul is alive</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
To what extent do you agree with the following?
Strongly Disagree=SD, Disagree=D, Neutral=N, Agree=A, Strongly Agree=SA

Please mark X in the appropriate box

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. I believe that organ donation helps to give meaning and significance to death.</td>
<td></td>
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<td></td>
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<tr>
<td>22. I believe that a person should be considered dead only when his heart stops</td>
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<tr>
<td>23. I am not sure I could make an organ donation decision about a member of my family</td>
<td></td>
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<tr>
<td>24. I think that organ donation leaves the body of the donor mutilated and disfigured</td>
<td></td>
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<tr>
<td>25. Brain death and a vegetative state are the same</td>
<td></td>
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<tr>
<td>26. Regarding donor cards, I think it is more important what my family wants because they have to deal with it after my death</td>
<td></td>
<td></td>
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<tr>
<td>27. It doesn't matter what your personal beliefs and opinions are, as a nurse you are part of the organ donation process</td>
<td></td>
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</tr>
<tr>
<td>28. I think that it does not really matter what I want. In the end, it will be my family who decides if I donate organs</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>29. I think that donating a body part would enable that part of me to remain alive after my death</td>
<td></td>
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</tr>
<tr>
<td>30. Raising public awareness of the subject of organ transplantation is an inseparable part of a nurse's work</td>
<td></td>
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<tr>
<td>31. I think it is important to me that I could give someone else a chance of better life after my death</td>
<td></td>
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</tr>
<tr>
<td>32. I believe that if my family know my intentions regarding organ donation they will respect them</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>33. I think that if I donate my organs at the time of death, I am doing something good for someone else</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>34. I think that I would be willing to donate organs upon my death</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>35. My religious beliefs influence the way I carry out my professional duties</td>
<td></td>
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</tr>
</tbody>
</table>

In this part of the questionnaire, I would like to know something about your professional experience with organ donation.

Please mark X in the appropriate box

36. As a part of your professional role, have you participated in an explanation to a family about brain death?
   □ Never   □ At least 1 time   □ At least 2 times   □ At least 3 times   □ At least 4 times   □ 5 times or more   □ Other, please specify ____________________________

37. As a part of your professional role, have you participated in asking a family to approve organ donation?
   □ Never   □ At least 1 time   □ At least 2 times   □ At least 3 times   □ At least 4 times   □ 5 times or more   □ Other, please specify ____________________________
38. As a part of your professional role, have you participated in an activity to promote the issue of signing donor cards?
- Never □
- At least 1 time □
- At least 2 times □
- At least 3 times □
- At least 4 times □
- 5 times or more □
- Other, please specify __________________________

39. As a part of your professional role, have you succeeded in receiving family consent for organ donation?
- Never □
- At least 1 time □
- At least 2 times □
- At least 3 times □
- At least 4 times □
- 5 times or more □
- Other, please specify __________________________

If yes, what was the deciding factor? ____________________________________________

---

To what extent do you agree with the following?

*Please answer the following questions using this system:*
- Strongly Disagree=SD, Disagree=D, Neutral=N, Agree=A, Strongly Agree=SA
- Please mark X in the appropriate box

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. I believe in an afterlife</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>41. I have religious objections to organ donation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>42. I am knowledgeable about organ procurement and the organ procurement system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>43. I support organ donation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>44. I would agree to an organ transplant, if my life were danger without one</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>45. I am willing to have organs donated after my death</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>46. I have signed an organ donor card or the back of my driver's license</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>47. I know someone who has signed an organ donor card or the back of his/her driver's license</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>48. It is important to discuss my wishes for after my death with my family</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>49. I have discussed my wishes for after my death with my family</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>50. If needed, I would receive an organ from a person of a different race than myself</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>51. I would be willing to donate my organs to a person of a different race than myself</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>52. I believe that organ donation is against my religion</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>53. I have been taught that organ donation is against my religion</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>54. I think that organ donation is a safe, effective practice</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>55. I think that organ donation is mutilation to the body</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>56. I trust that doctors and hospitals use donated organs as they are intended to be used</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>57. I think that doctors would try just as hard to save my life whether or not I plan to be an organ donor</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>58. In general, I think that organ donation is a good thing</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>59. Organ donation is consistent with my moral values and beliefs</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
To what extent do you agree with the following?

In this section please use the scale below each statement to indicate your opinion.

Very Strongly Agree=VSA, Strongly Agree= SA, Agree=A, Don't Know= DK, Disagree=D, Strongly Disagree= SA, Very Strongly Disagree=VSD

Please mark X in the appropriate box

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>60.</td>
<td>It is unnatural to prolong life by replacing organs and tissues</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>61.</td>
<td>Individuals have no moral responsibility to donate their organs and tissues</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>62.</td>
<td>Individuals have no moral responsibility to donate their organs and tissues</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>63.</td>
<td>I would donate the organs/tissues of my immediate family members, upon their death, if their wishes were not known</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>64.</td>
<td>Participation in the process of organ/tissue donation is not an essential part of a nurse's professional role</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>65.</td>
<td>Pledging to donate organs/tissues after my death would make me feel proud</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>66.</td>
<td>In principle, organ/tissue donation should always be discussed with bereaved families, if there are any viable organs or tissues</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>67.</td>
<td>I would not accept human organs/tissues into my own body</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>68.</td>
<td>In principle, nurses should support the concept of organ/tissue donation</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>69.</td>
<td>Discussing organ or tissue donation with a grieving family is most likely to increase their distress</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>70.</td>
<td>The thought of having an operation to remove organs/tissues after I die makes me feel uneasy</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>71.</td>
<td>Organ/tissue donation helps to give meaning and worth to death</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
<tr>
<td>72.</td>
<td>I would accept organs/tissues from another species into my own body</td>
<td>VSA</td>
<td>SA</td>
<td>A</td>
<td>DK</td>
<td>D</td>
</tr>
</tbody>
</table>

To be declared dead an organ donor must sustain:

- Irreversible loss of all brain function
- Irreversible loss of brain stem function
- Irreversible loss of all cerebral cortical function
- Irreversible brain damage with minimal residual function
- Don't know

Which of the following activities is it appropriate for the nurse to perform during the donation process? Mark all the answers that apply.

- Identification of a potential organ/tissue donor
- Initiating the discussion about donation with relatives
- Helping a family to make the offer of organs/tissues
- Offering donation as an option to relatives
- Suggesting donation as an option to relatives
- Suggesting an appropriate individual to discuss donation with relatives
- Being present when donation is discussed with relatives
- Giving information about donation
- Supporting the family throughout the donation process
- Suggesting that donation should not be discussed with a family
- The nurse has no role in this process
- Don't know
75. Which of the following activities is it appropriate for the nurse to perform during the donation process? Mark all the answers that apply.

- identification of a potential organ/tissue donor
- initiating the discussion about donation with relatives
- helping a family to make the offer of organs/tissues
- offering donation as an option to relatives
- suggesting an appropriate individual to discuss donation with relatives
- being present when donation is discussed with relatives
- giving information about donation
- supporting the family throughout the donation process
- suggesting that donation should not be discussed with a family
- the nurse has no role in this process
- don’t know

76. I have cared for patients who were certified dead using brainstem test criteria.

- yes
- no
- helping a family to make the offer of organs/tissues
- don’t know

77. Which of the following activities is it appropriate for the nurse to perform during the donation process? Mark all the answers that apply.

- identification of a potential organ/tissue donor
- initiating the discussion about donation with relatives
- helping a family to make the offer of organs/tissues
- offering donation as an option to relatives
- suggesting an appropriate individual to discuss donation with relatives
- being present when donation is discussed with relatives
- giving information about donation
- supporting the family throughout the donation process
- suggesting that donation should not be discussed with a family
- last offices for the donor
- excluded from the process

---

**In the following section, I would like to know something about you. These questions will help us to understand how different groups think about organ donation.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>78. Your Gender</td>
<td>Male</td>
</tr>
<tr>
<td>79. The year you were born</td>
<td></td>
</tr>
<tr>
<td>80. Your marital status</td>
<td>Single</td>
</tr>
<tr>
<td>81. Do you have any young children (under 18)?</td>
<td>Yes</td>
</tr>
<tr>
<td>82. Your religious background</td>
<td>Jewish</td>
</tr>
</tbody>
</table>
83. How religious are you?  
1= Not at all religious  
5= Very religious  

84. What is your professional education?  
(tick all that apply)  
- RN  
- BA/BSN  
- MA  
- PhD  

85. Do you currently have a signed a donor card?  
- Yes  
- No  

86. I know someone who donated organ while living  
- Yes  
- No  

87. I know someone who donated organ after death  
- Yes  
- No  

88. I know someone who has received an organ transplant  
- Yes  
- No  

89. I have received education about organ donation in general  
- Yes  
- No  

90. What is your main clinical area in which you are working?  
- Internal Medicine  
- Surgery Department  
- Intensive care unit  
- Pediatrics  
- Emergency room  
- Other, please specify below  

91. What is your role in hospital / department?  
- General Nurse  
- Senior Nurse  
- Department supervisor  
- Shift supervisor  
- Other, please specify below  
- ____________________________
That's it!

Thank you very much for taking the time to answer these questions. Your opinion really matters to me.

If you have any comments about how general nurses should contribute to organ donation or transplantation, please use the space below.

If you would like to know anything more about the study or if you have any questions about it, please contact me: Levana.o@ziv.health.gov.il or the project supervisor: Darren.van.laar@port.ac.uk.

Yours sincerely,
Levana Ogni, A senior nurse in Ziv medical centre
PhD Student, Psychology Department
Portsmouth University, U.K.
Appendix 4.10: Development of a psychometric scale assessing the influence of religion on Israeli nurses' professional perception regarding organ donation: Plan of data collection per hospital
<table>
<thead>
<tr>
<th>Month</th>
<th>January</th>
<th>February</th>
<th>March</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week</td>
<td>19-24.2</td>
<td>26-30.1</td>
<td>2-7.2</td>
</tr>
<tr>
<td>Sending questionnaire</td>
<td>Medical Centre 1</td>
<td>Medical Centre 2</td>
<td>Medical Centre 3</td>
</tr>
<tr>
<td>Collecting questionnaire</td>
<td>Medical Centre 1</td>
<td>Medical Centre 2</td>
<td>Medical Centre 3</td>
</tr>
<tr>
<td>Test-retest</td>
<td>Medical Centre 1</td>
<td>Medical Centre 2</td>
<td>Medical Centre 3</td>
</tr>
<tr>
<td>Collecting test-retest ques.</td>
<td>Medical Centre 1</td>
<td>Medical Centre 2</td>
<td>Medical Centre 3</td>
</tr>
<tr>
<td>Data Entry (first ques.)</td>
<td>Medical Centre 1</td>
<td>Medical Centre 2</td>
<td>Medical Centre 3</td>
</tr>
<tr>
<td>Data Entry (test-retest ques.)</td>
<td>Medical Centre 1</td>
<td>Medical Centre 2</td>
<td>Medical Centre 3</td>
</tr>
<tr>
<td>Data Analysis</td>
<td></td>
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</tbody>
</table>
Appendix 5.1: Evaluation of the reliability and validity of the Care & Donate scale – Care & Donate scale for test re-test
To what extent do you agree with the following?
Strongly Disagree=SD, Disagree=D, Neutral=N, Agree=A, Strongly Agree=SA
Please mark X in the appropriate box

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. As a nurse, I would be more likely to request an organ donation if I knew that my patient had signed an organ donor card</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>2. A close caring professional relationship with relatives and patients enables open discussion about the willingness for organ donation</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>3. I believe that after death, the body must be returned to God complete</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>4. I think that the general nurse from the ward should not be involved in the process of organ donation</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>5. My role as a general nurse is just to inform the transplant coordinator about locating a potential donor candidate</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>6. I believe that brain death is irreversible death</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>7. As a general nurse, it is not my job to explain to the family about brain death</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>8. I think that you have to support organ donation in order to be involved in the process of organ donation</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>9. I cannot decide about signing a donor card, I have to ask permission from my partner</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>10. I believe that signing a donor card might hasten death</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>11. I believe organ donation is against the will of God</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>12. I think that it doesn't matter whether you are secular or religious; the opinion of a religious authority is important</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>13. The thought of organ donation lessens my fear of death</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
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<tr>
<td>14. I believe that any unnecessary intervention with the body after death should be avoided</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
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<tr>
<td>15. I believe that brain death should be considered death in the full sense of the word.</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
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<td>☒</td>
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<tr>
<td>16. I believe that when anyone suffers or dies, it is God's will</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>17. I would contact religious leaders to help me decide if I were asked to donate my relative's organs</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>18. Women are required to receive their husband's consent before they decide to sign a donor card</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
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<tr>
<td>19. I believe that it is possible for a person who is brain dead to recover</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
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<tr>
<td>20. I believe that a patient diagnosed as brain dead has not really died because his soul is alive.</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
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</tbody>
</table>
## To what extent do you agree with the following?

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
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</thead>
<tbody>
<tr>
<td>21. I believe that organ donation helps to give meaning and significance to death.</td>
<td></td>
<td></td>
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<tr>
<td>22. I believe that a person should be considered dead only when his heart stops</td>
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<td>23. I am not sure I could make an organ donation decision about a member of my family</td>
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<tr>
<td>24. I think that organ donation leaves the body of the donor mutilated and disfigured</td>
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<tr>
<td>25. Brain death and a vegetative state are the same</td>
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<tr>
<td>26. Regarding donor cards, I think it is more important what my family wants because they have to deal with it after my death</td>
<td></td>
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<tr>
<td>27. It doesn't matter what your personal beliefs and opinions are, as a nurse you are part of the organ donation process</td>
<td></td>
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<tr>
<td>28. I think that it does not really matter what I want. In the end, it will be my family who decides if I donate organs</td>
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<tr>
<td>29. I think that donating a body part would enable that part of me to remain alive after my death</td>
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</tr>
<tr>
<td>30. Raising public awareness of the subject of organ transplantation is an inseparable part of a nurse's work</td>
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<tr>
<td>31. I think it is important to me that I could give someone else a chance of better life after my death</td>
<td></td>
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<tr>
<td>32. I believe that if my family know my intentions regarding organ donation they will respect them.</td>
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<tr>
<td>33. I think that if I donate my organs at the time of death, I am doing something good for someone else.</td>
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<tr>
<td>34. I think that I would be willing to donate organs upon my death</td>
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<tr>
<td>35. My religious beliefs influence the way I carry out my professional duties</td>
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</tbody>
</table>

In this part of the questionnaire, I would like to know something about your professional experience with organ donation.

**Please mark X in the appropriate box**

36. As a part of your professional role, have you participated in an explanation to a family about brain death?
   - Never
   - At least 1 time
   - At least 2 times
   - At least 3 times
   - At least 4 times
   - 5 times or more
   - Other, please specify _______________________

37. As a part of your professional role, have you participated in asking a family to approve organ donation?
   - Never
   - At least 1 time
   - At least 2 times
   - At least 3 times
   - At least 4 times
   - 5 times or more
   - Other, please specify _______________________


38. As a part of your professional role, have you participated in an activity to promote the issue of signing donor cards?

☐ Never ☐ At least 1 time ☐ At least 2 times ☐ At least 3 times ☐ At least 4 times ☐ 5 times or more
☐ Other, please specify ____________________________

39. As a part of your professional role, have you succeeded in receiving family consent for organ donation?

☐ Never ☐ At least 1 time ☐ At least 2 times ☐ At least 3 times ☐ At least 4 times ☐ 5 times or more
☐ Other, please specify ____________________________

If yes, what was the deciding factor? ____________________________________________________________

________________________________________________________

That's it!

Thank you very much for taking the time to answer these questions. Your opinion really matters to me.

If you have any comments about how general nurses should contribute to organ donation or transplantation, please use the space below.

_________________________________________________________________________________________

_________________________________________________________________________________________

_________________________________________________________________________________________

_________________________________________________________________________________________

_________________________________________________________________________________________

_________________________________________________________________________________________

______________________________

If you would like to know anything more about the study or if you have any questions about it, please contact me: Levana.o@ziv.health.gov.il or the project supervisor: Darren.van.laar@port.ac.uk.

Yours sincerely,
Levana Ogni, A senior nurse in Ziv medical centre
PhD Student, Psychology Department
Portsmouth University, U.K.
Appendix 5.2: Evaluation of the reliability and validity of the Care & Donate scale – Organ/Tissue donation questionnaire (Sque, 1996)

Organ/tissue donation questionnaire

This questionnaire addresses issues concerning donation after death. Organ donation is defined as the donation of major organs such as heart, lungs, liver, kidneys, pancreas, intestines. Tissue donation is defined as the donation of body tissues such as corneas, heart valves, blood vessels, skin and bone.

SECTION A.

In this section please use the scale below each statement to indicate your opinion. Please read each statement carefully before answering.

The key shows what each point on the scale means.

1. Very strongly agree
2. Strongly agree
3. Agree
4. No opinion/don’t know
5. Disagree
6. Strongly disagree
7. Very strongly disagree

For example if you strongly agree that ‘nurses are very helpful’ you would answer like this:

1  2  3  4  5  6  7
Very strongly agree  Very strongly disagree

Please circle the number on the scale that best reflects your view of each of the following statements.

1. It is unnatural to prolong life by replacing organs and tissues.

1  2  3  4  5  6  7
Very strongly agree  Very strongly disagree
2. **Individuals have no moral responsibility to donate their organs and tissues.**

   1  2  3  4  5  6  7

   Very strongly agree       Very strongly disagree

3. **Organ/tissue donation can contribute positively to the grieving process of the donating family.**

   1  2  3  4  5  6  7

   Very strongly agree       Very strongly disagree

4. **I would donate the organs/tissues of my immediate family members, upon their death, if their wishes were not known.**

   1  2  3  4  5  6  7

   Very strongly agree       Very strongly disagree

5. **Participation in the process of organ/tissue donation is not an essential part of a nurse’s professional role.**

   1  2  3  4  5  6  7

   Very strongly agree       Very strongly disagree
6. Pledging to donate organs/tissues after my death would make me feel proud.

1  2  3  4  5  6  7
Very strongly agree  Very strongly disagree

7. In principle, organ/tissue donation should always be discussed with bereaved families, if there are any viable organs or tissues.

1  2  3  4  5  6  7
Very strongly agree  Very strongly disagree

8. I would not accept human organs/tissues into my own body.

1  2  3  4  5  6  7
Very strongly agree  Very strongly disagree

9. In principle, nurses should support the concept of organ/tissue donation.

1  2  3  4  5  6  7
Very strongly agree  Very strongly disagree
10. Discussing organ or tissue donation with a grieving family is most likely to increase their distress.

   1  2  3  4  5  6  7
Very strongly agree  Very strongly disagree

11. The thought of having an operation to remove organs/tissues after I die makes me feel uneasy.

   1  2  3  4  5  6  7
Very strongly agree  Very strongly disagree

12. Organ/tissue donation helps to give meaning and worth to death.

   1  2  3  4  5  6  7
Very strongly agree  Very strongly disagree

13. I would accept organs/tissues from another species into my own body.

   1  2  3  4  5  6  7
Very strongly agree  Very strongly disagree
SECTION B

Please mark the box that indicates your answer.

14. At what age is it appropriate to introduce individuals to education about organ/tissue donation?

- no education needed
- below 5 years
- 5-7 years
- 8-10 years
- 11-13 years
- 14-16 years
- 17 years and older
- don't know

15. To be declared dead an organ donor must sustain:

- irreversible loss of all brain function
- irreversible loss of brain stem function
- irreversible loss of all cerebral cortical function
- irreversible brain damage with minimal residual function
- don't know

16. A doctor or coroner is allowed to alter the time of an organ donor's death.

- yes
- no
- don't know
17. Present donation rates in the United Kingdom meet more than half the demand for organs and tissues.

☐ yes
☐ no
☐ don’t know

18. Which of the following activities is it appropriate for the nurse to perform during the donation process?

Mark all the answers that apply.

☐ identification of a potential organ/tissue donor
☐ initiating the discussion about donation with relatives
☐ helping a family to make the offer of organs/tissues
☐ offering donation as an option to relatives
☐ suggesting an appropriate individual to discuss donation with relatives
☐ being present when donation is discussed with relatives
☐ giving information about donation
☐ supporting the family throughout the donation process
☐ suggesting that donation should not be discussed with a family
☐ the nurse has no role in this process
☐ don’t know

19. The hospital where I work has clear, written policies about organ and tissue donation.

☐ clear, written policies
☐ unclear, written policies
☐ no policies
☐ don’t know
20. I have had personal involvement with organ/tissue donation/transplantation outside of my professional role.

☐ yes
☐ no

21. I have cared for patients who were certified dead using brainstem test criteria.

☐ yes
☐ no
☐ don’t know

22. Which of the following best described your role in the donation process, with these patients?

Mark all the answers that apply.

☐ identification of a potential organ/tissue donor
☐ initiating the discussion about donation with relatives
☐ helping a family to make the offer of organs/tissues
☐ offering donation as an option to relatives
☐ suggesting an appropriate individual to discuss donation with relatives
☐ being present when donation is discussed with relatives
☐ giving information about donation
☐ supporting the family throughout the donation process
☐ suggesting that donation should not be discussed with a family
☐ last offices for the donor
☐ excluded from the process
23. Which of the following best describes your education about organ/tissue donation?

Mark all the answers that apply.

☐ none
☐ pre registration
☐ post registration lectures/seminars/workshops
☐ read nursing/medical literature
☐ on the job
☐ public education such as television programmes, news media
☐ other, please specify

24. How well informed do you feel about the organ/tissue donation process?

☐ very well informed
☐ well informed
☐ informed
☐ poorly informed
☐ very poorly informed

25. In event of my death I would like my organs/tissues to be donated.

☐ yes (If you marked this box, please go to 26)
☐ no (If you marked this box, please see below)
☐ haven’t thought about it (If you marked this box, please go to 29)
☐ don’t know (If you marked this box, please go to 29)

If you marked no, please give your reasons

________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________(please go to 29)
26. My donation would include:

☐ all major organs and tissues (If you marked this box, please go to 29)
☐ some organs and tissues (If you marked this box, please go to 27)

27. Please specify which organs/tissues your donation would not include.

________________________________________________________________________
________________________________________________________________________

28. Please state your reasons for not donating these organs/tissues.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

29. In event of my death, I have indicated my wish for the use of my body by:

Mark all the answers that apply.

☐ signing a donor card
☐ signing my driver's licence
☐ registering with the NHS Organ Donor Register
☐ none of the above
☐ other, please specify

30. I have discussed the use of my body after death, with my family.

☐ yes
☐ no
Please use the space below if you would like to write about any issues or concerns this questionnaire may have raised for you, or make any further comments.

Would you be willing to be interviewed about your views regarding organ donation at a later date? If so, please state your name and a telephone contact number.

Name

Telephone number

Please check you have responded to all parts of the questionnaire that you are willing to answer.

Thank you very much for your help
Appendix 5.3: Evaluation of the reliability and validity of the Care & Donate scale – Organ Donation attitudes Scale (Rumsey et al., 2003)
**ODAS- Organ Donation Attitudes Scale (Rumsey al., 2003)**

**To what extent do you agree with the following?**

Please answer the following questions using this system:
- **SD**= Strongly Disagree
- **D**= Disagree
- **A**= Agree
- **SA**= Strongly Agree

<table>
<thead>
<tr>
<th>Question</th>
<th>SD</th>
<th>D</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I believe in an afterlife</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. I have religious objections to organ donation</td>
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<tr>
<td>3. I am knowledgeable about organ procurement and the organ procurement system</td>
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<tr>
<td>4. I support organ donation</td>
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<tr>
<td>5. I would agree to an organ transplant, if my life were danger without one</td>
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<tr>
<td>6. I am willing to have organs donated after my death</td>
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<tr>
<td>7. I have signed an organ donor card or the back of my driver's license</td>
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<tr>
<td>8. I know someone who has signed an organ donor card the back of his/her driver's license</td>
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</tr>
<tr>
<td>9. It is important to discuss my wishes for after my death with my family</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I have discussed my wishes for after my death with my family</td>
<td></td>
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</tr>
<tr>
<td>11. If needed, I would receive an organ from a person of a different race than myself</td>
<td></td>
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<td></td>
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<tr>
<td>12. I would be willing to donate my organs to a person of a different race than myself</td>
<td></td>
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<td></td>
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<tr>
<td>13. I believe that organ donation is against my religion</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>14. I have been taught that organ donation is against my religion</td>
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<tr>
<td>15. I think that organ donation is a safe, effective practice</td>
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<tr>
<td>16. I think that organ donation is mutilation to the body</td>
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<tr>
<td>17. I trust that doctors and hospitals use donated organs as they are intended to be used</td>
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<tr>
<td>18. I think that doctors would try just as hard to save my life whether or not I plan to be an organ donor</td>
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<tr>
<td>19. In general, I think that organ donation is a good thing</td>
<td></td>
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<tr>
<td>20. Organ donation is consistent with my moral values and beliefs</td>
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</tbody>
</table>
Appendix 5.4: Evaluation of the reliability and validity of the Care & Donate scale – Final Version of C&D scale 219
The purpose of this questionnaire is to learn more about what nurses think about organ donation and transplantation. Your response is very important and will be used to improve this research. This is not a test, simply a measure of your attitudes and beliefs about organ donation and transplantation. The responses will be analysed by the researcher, no one will see your answers except for the researcher and all forms will be kept confidential. Please note that no information will be released that might identify and individual. The questionnaire will take about 10 to 20 minutes, please try to answer all of the questions.

**Statement of consent**
I have read the information above and understand, by sending the questionnaire I am giving my consent to take part in this research.

---

### Care & Donate Scale

The purpose of this questionnaire is to learn more about what nurses think about organ donation and transplantation. Your response is very important and will be used to improve this research. This is not a test, simply a measure of your attitudes and beliefs about organ donation and transplantation. The responses will be analysed by the researcher, no one will see your answers except for the researcher and all forms will be kept confidential. Please note that no information will be released that might identify and individual. The questionnaire will take about 10 to 20 minutes, please try to answer all of the questions.

**Statement of consent**
I have read the information above and understand, by sending the questionnaire I am giving my consent to take part in this research.

---

### To what extent do you agree with the following?

Strongly Disagree=SD, Disagree=D, Neutral=N, Agree=A, Strongly Agree=SA

**Please mark X in the appropriate box**

<table>
<thead>
<tr>
<th>Statement of consent</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. As a nurse, I would be more likely to request an organ donation if I knew that my patient had signed an organ donor card</td>
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<td>2. A close caring professional relationship with relatives and patients enables open discussion about the willingness for organ donation</td>
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<td>3. I believe that after death, the body must be returned to God complete</td>
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<td>4. I think that the general nurse from the ward should not be involved in the process of organ donation</td>
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<td>5. My role as a general nurse is just to inform the transplant coordinator about locating a potential donor candidate</td>
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<td>6. I believe that brain death is irreversible death</td>
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<td>7. As a general nurse, it is not my job to explain to the family about brain death</td>
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<td>8. I think that you have to support organ donation in order to be involved in the process of organ donation</td>
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<td>9. I believe organ donation is against the will of God</td>
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<td>10. I think that it doesn't matter whether you are secular or religious; the opinion of a religious authority is important</td>
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<td>11. I believe that any unnecessary intervention with the body after death should be avoided</td>
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<td>12. I believe that brain death should be considered death in the full sense of the word.</td>
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<td>13. I believe that when anyone suffers or dies, it is God’s will</td>
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<td>14. I believe that it is possible for a person who is brain dead to recover</td>
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<td>15. I believe that a patient diagnosed as brain dead has not really died because his soul is alive</td>
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<td>16. I believe that organ donation helps to give meaning and significance to death.</td>
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<td>17. I believe that a person should be considered dead only when his heart stops</td>
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<td>18. I think that organ donation leaves the body of the donor mutilated and disfigured</td>
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<td>19. I think that donating a body part would enable that part of me to remain alive after my death</td>
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<td>20. Raising public awareness of the subject of organ transplantation is an inseparable part of a nurse's work</td>
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</tbody>
</table>
To what extent do you agree with the following?  
Strongly Disagree=SD, Disagree=D, Neutral=N, Agree=A, Strongly Agree=SA  
Please mark X in the appropriate box

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree (SD)</th>
<th>Disagree (D)</th>
<th>Neutral (N)</th>
<th>Agree (A)</th>
<th>Strongly Agree (SA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.</td>
<td>I think it is important to me that I could give someone else a chance of better life after my death</td>
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<td>22.</td>
<td>I think that if I donate my organs at the time of death, I am doing something good for someone else</td>
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<td>23.</td>
<td>I think that I would be willing to donate organs upon my death</td>
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</tbody>
</table>

In this part of the questionnaire, I would like to know something about your professional experience with organ donation.

Please mark X in the appropriate box

24. As a part of your professional role, have you participated in an explanation to a family about brain death?
   - Never
   - At least 1 time
   - At least 2 times
   - At least 3 times
   - At least 4 times
   - 5 times or more
   - Other, please specify ____________________________

25. As a part of your professional role, have you participated in asking a family to approve organ donation?
   - Never
   - At least 1 time
   - At least 2 times
   - At least 3 times
   - At least 4 times
   - 5 times or more
   - Other, please specify ____________________________

26. As a part of your professional role, have you participated in an activity to promote the issue of signing donor cards?
   - Never
   - At least 1 time
   - At least 2 times
   - At least 3 times
   - At least 4 times
   - 5 times or more
   - Other, please specify ____________________________

27. As a part of your professional role, have you succeeded in receiving family consent for organ donation?
   - Never
   - At least 1 time
   - At least 2 times
   - At least 3 times
   - At least 4 times
   - 5 times or more
   - Other, please specify ____________________________

If yes, what was the deciding factor? ____________________________________________
In the following section, I would like to know something about you. These questions will help us to understand how different groups think about organ donation.

28. **Your Gender**
   - [ ] Male
   - [ ] Female

29. **The year you were born**
   

30. **Your marital status**
   - [ ] Single
   - [ ] Married
   - [ ] Widowed
   - [ ] Separated
   - [ ] Divorced

31. **Do you have any young children (under 18)?**
   - [ ] Yes
   - [ ] No

32. **Your religious background**
   - [ ] Jewish
   - [ ] Muslim
   - [ ] Christian
   - [ ] Druze
   - [ ] Other, please specify _______________________

33. **How religious are you?**
   1= Not at all religious
   5= Very religious
   - [ ] 1
   - [ ] 2
   - [ ] 3
   - [ ] 4
   - [ ] 5

34. **What is your professional education?**
   (tick all that apply)
   - [ ] RN
   - [ ] BA/BSN
   - [ ] MA
   - [ ] PhD

35. **Do you currently have a signed a donor card?**
   - [ ] Yes
   - [ ] No

36. **What is your main clinical area in which you are working?**
   - [ ] Internal Medicine
   - [ ] Surgery Department
   - [ ] Intensive care unit
   - [ ] Pediatrics
   - [ ] Emergency room
   - [ ] Other, please specify below
     _______________________


That's it!

Thank you very much for taking the time to answer these questions. Your opinion really matters to me.

If you have any comments about how general nurses should contribute to organ donation or transplantation, please use the space below.

If you would like to know anything more about the study or if you have any questions about it, please contact me: Levana.o@ziv.health.gov.il or the project supervisor: Darren.van.laar@port.ac.uk.

Yours sincerely,
Levana Ogni, A senior nurse in Ziv medical centre
PhD Student, Psychology Department
Portsmouth University, U.K.