

**ATTITUDES AND BELIEFS, RELIGIOSITY AND ALTRUISM IN
RELATION TO ORGAN DONATION: A STUDY AMONG THE MIZO**

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Dated: 9. 12. 2014

Certificate

This is to certify that the present dissertation titled, “Attitudes and Beliefs, Religiosity and Altruism in Relation to Organ Donation: A Study Among the Mizo” is the bonafide research conducted by Ms. Grace Saihlupuii Sailo under my supervision. She worked methodologically for her dissertation which is submitted for the Master of Philosophy in Psychology under the Mizoram University.

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DECLARATION

I, Grace Saihlupuii Sailo, hereby declare that the subject matter of this Dissertation is the record of work done by me, that the contents of this Dissertation did not form basis for the award of any previous degree to me or to the best of my knowledge to anybody else, and that the Dissertation has not been submitted by me for any research degree in any other University or Institute.

This is being submitted to Mizoram University for the Degree of Master of Philosophy in Psychology.

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OPERATIONAL DEFINITION

Organ Donation	:	Organ donation is the process by which an organ is taken from living individual or cadaveric (upon death), and transplanted into another person.
In-Patient	:	A patient who is admitted to a hospital or clinic for treatment that requires at least one overnight stay.
Non-Patients	:	Normal healthy people
Cadaver/Posthumous donation	:	Organ donation upon death
Living donation	:	Organ donation while living to genetically (e.g. family members) or emotionally (e.g., spouse) related recipient.
Attitude	:	A positive or negative evaluation of organ donation
Belief	:	In which an individual holds a conjecture or premise to be true about organ donation and transplantation
Religiosity	:	Adherence to tradition (especially in cultural or religious matters).
Altruism	:	Involves the unselfish concern for other people. It involves donating organs simply out of a desire to help ,not because you feel obligated to out of duty, loyalty, or religious reasons.
Among the Mizos	:	People of Mizoram, samples are randomly selected from 4 (North, South, East, and West) areas of the capital Aizawl.

ABBREVIATIONS

TRA	-	Theory of Reasoned Action
TPB	-	Theory of Planned Behavior
PCB	-	Perceived Behavioral Control
PWM	-	Prototype Willingness Model
ODTK	-	Organ Donation and Transplantation Knowledge Scale
DONATT	-	Organ Donation Attitude Scale
DUREL	-	Duke Religiosity Index
APA	-	American Psychological Association
CH(A)	-	Civil Hospital Aizawl
PHD	-	Presbyterian Hospital Durtlang
NLH	-	New Life Hospital
AZH	-	Aizawl Hospital

CHAPTER- I

INTRODUCTION

INTRODUCTION

Advancement in modern technology enables man to explore and discover techniques for combating illness and diseases. Among which transplantation of organ a live saving technology is one of the best achievements of all. It is a procedure that has the potential to extend the life expectancy of people experiencing end-stage organ failure. First pioneered in the 1960's, surgical procedure and immunosuppressive technologies have now been refined to a level at which long term survival after organ transplantation is a norm rather than an exception. Organ transplantation has been brought into reality by years of experimental research and immense scientific advances in medical procedures and pharmacology. Human organ transplantation in its current endeavor began in the 1950s, with the first successful kidney transplant between young identical twins in 1954. Adult lung and heart transplantations followed in 1963 and 1967, respectively. However, initial transplantation efforts had limited success, with patients surviving for only short periods of days or weeks following surgery. Early transplantation efforts failed largely due to a lack of knowledge and misunderstanding of blood types, tissue matching, and the role of immunosuppressant medication in avoiding organ rejection (Engle, 2001). Organ transplant surgery success rates are rising constantly and many people wish to help others- through family, friends, or even strangers (Denny, 2012). Man is gifted with such a great ability to think analytically so as to encounter different problems of everyday life. With the development of organ transplantation into a more and more effective medical intervention, its success is impeded by a shortage of organs or tissues and more experience with treatments. Patients with organ deficiencies or in need of body tissues have increased and consequently, the number of patients requiring a donor organ has risen.

Transplantation medicine has improved worldwide, because of better technology, better medication to fight physical rejection of donor organs or tissues, and more experience

with treatments. This means that more patients with organ deficiencies or in need of body tissues are now eligible for transplantation and consequently the demand of donor organs and tissues has increased substantially (Seldenrijk, 1993). It was as recent as the end of 1987 that the public was sensationally exposed to the first successful heart transplant. With advances in immunology and surgery, human organ transplantation has increased in frequency and in rate of success, especially transplantation of kidneys (Goodmonsoon & Glaudin V, 1971).

Many factors contribute to the shortage of available organs. They include the inadequate number of cadaver (organ donation upon death) donors, public misperceptions about the process of organ donation, myths and misconceptions, poor recognition of potential donors by medical personnel, and the difficulty of obtaining consent from donors and their next-of-kin (McNatt,1992). Added to this are the beliefs of some religious groups about body mutilation and/or the afterlife (Martinelli,1993; Radecki and Jaccard, 1997), as well as differing ways of conceptualizing the human body—for example, as being inextricably linked to the “self” versus a machine-like structure with interchangeable parts (Sanner,2001). There are many discouraging factors that may contribute to the shortage of organs supply globally. Some economists argue that the gap between the demand and the supply of organs is caused by the equilibrating obstacles, in which no country is allowing financial incentives to the donors for organs acquiring (Becker and Elias, 2003). Efforts to increase organ donation include public education and media campaigns about the need for organ donors, and encouraging families to discuss donation before the situation arises (Cosse *et al.*, 1997;Wolf *et al.*, 1997).

Organ donation is the process by which an organ is taken from living individual or cadaveric (upon death), and transplanted into another person. This process begins with a patient’s need for a new organ when they are experiencing the failure of a vital organ. More often than not, the organ donor is brain dead, but it is also possible to donate while alive.

Patient with end stage disease or illness can be saved and quality life restored by transplantation with healthy organ or tissue. Some organs need to be removed before organs stop functioning so that organs can be used for transplantation e.g. kidney. Since death does not happen always in the hospital where organs may be easily removed on time, as a result it is very difficult to meet the demand of many patients in need of transplantation. In many countries, people that wish to donate their organs in the event of their death are encouraged to carry an organ donor card, but this does not always ensure that the deceased organs are donated (Lindsey M, 2012). There may also be cases where the donor tissue may be unsuitable for transplantation due to illness or other medical condition. Organs donated are used for transplantation, providing a second chance to patients suffering from end stage organ disease and failure, it enhances quality of life and saves lives of many.

Organ shortage is witnessed worldwide, low rates of donation and increasing demand led to significant waiting list mortality rates. Despite the high prevalence of receiving information, the willingness to pledge to organ donation is still very low (Yeung et al., 2000). The reason according to Khan et al., 2011; Morgan & Miller, 2002, is likely an inadequate public information campaign that was ineffective at encouraging the public to pledge as organ donors. Also, in spite of knowing the possibility of giving a second chance to the needy yet there is an immense gap between demand and supply of organ.

Findings have shown that the general population is usually aware of organ donation and the importance of transplantation, maintaining solidarity with the suffering of patients requiring such transplants and a positive attitude towards the procedure (Manninen & Evans, 1985; Nolan & Spanos, 1989). However, few of those with positive attitudes defined themselves as potential donors (Corlett, 1985; Hessing & Elffers, 1986; Kittur, Hogan, Thukral, McGaw, & Alexander, 1991). Attitudes towards helping others, advancement of science, monetary benefits (Lee & Kissner, 1986; Perkins, 1987), and acquaintance with

other donors (Nolan & Spanos, 1989) were variables found to correlate with actual holding of a donor card and to enhance willingness for eventual signing of such cards.

Early assessments of public attitude toward organ donation revealed general unfavorability despite widespread awareness of donation (Gallup Organization [Gallup], 1983). Additional reports of attitude toward tissue donation (Cleveland, 1975b), public attitude toward kidney transplantation (Moore *et al.*, 1976), and other estimates of donor favorability (Prottas, 1983) reflected this same disfavor. By contrast, today, nearly 9 in 10 Americans support the concept of organ donation (Gallup, 1993). This apparent shift in public attitudes may simply reflect differences in attitude measurement rather than true increases in attitude favorability, because there is considerable variability in measurement strategies. For example, several studies have assessed attitude toward organ donation by measuring the attitude toward donating both tissues (e.g., bone, heart valves, skin) and organs (e.g., heart, liver, kidneys (Prottas, 1983), whereas other studies measure attitudes toward donating only one or the other. Data suggest that individuals tend to hold differential views of donating organs versus tissues (e.g., Belk, 1988,1990; Belk & Austin, 1986; Wilms, Kiefer, Shanteau, & McIntyre, 1987), which, in turn, may bias the characterization of attitudes, depending on which topic is the focus of measurement (e.g., Basu *et al.*,1989).

Hessing and Elffers (1986) found that for people with low self-esteem, a positive or non-negative attitude towards death created an opportunity for improving self-esteem by signing an organ donor card. Their findings indicate that anxiety engendered by fear of premature determination of death correlates significantly with attitude towards organ donation (irrespective of self-esteem). Most researchers who included fear of death or death-related anxiety among the parameters examined, reported significant differences between participants committed to organ donation and others, with the latter reporting greater fear/anxiety or less acceptance of death (Amir & Haskell, 1997; Hessing & Elffers, 1986;

Lefcourt & Shepherd, 1995; Robbins, 1990; Skowronski, 1992). The Uniform Anatomical Gift Act (1987) in the US, allows any individual of sound mind and 18 years of age or older legally to make provision to give all or any part of his body by simply signing a witnessed statement; the gift to take effect upon his death (Sadler, Sadler, & Stason, 1968). In Europe, Some 55% of Europeans are willing to donate one of their organs to an organ donation service immediately after their death. The strongest support is noted in Sweden (83%), while high levels are recorded in Finland and Belgium (both 72%) and Denmark (70%). Those most reluctant to donate their own organs tend to reside in Eastern European countries, especially Latvia where the majority of people (52%) say 'no' to this question (Eurobarometer 72.3, 2010) . In Asia, the situation in Hong Kong is of particular concern, as the cadaveric organ donation rate is amongst the lowest in the developed world, being 3 per million of the population per year.

In recognition of the attitude- behavior discrepancy and the need for theoretical-driven investigations in the organ donation context (Radecki & Jaccard, 1997), several organ donation models have been developed (e.g. Horton & Horton, 1991; Kopfman and Smith, 1996; Morgan et al., 2003). A common feature of the models is to use elements of the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), in combination with individual differences factors (e.g. age, prior blood donation, knowledge). Many of the available research centered on attitude towards organ donation is derived from the reasoned action framework (Fishbein & Ajzen, 1975). According to this theory, one's intention to behave in a certain way generates his respective behavior, in turn, one's intention is influenced by his attitude toward that behavior and his subjective norms, their apprehensions concerning the way the behavior is perceived by those important to him (Holman. A, 2013). The theory of reasoned action proved to be useful in predicting people's organ donation related behaviors (Morgan & Miller, 2001).Another factor is the individual's previous experience with aspects

that are relevant to organ donation and transplantation, such as knowing someone who received an organ or having personally donated blood (Conesa et al., 2003). The Theory of Planned Behavior (TPB) is another theory that has been developed, it is an extension of the TRA, and is designed to account for the complexity of people's decision making especially for behaviors that are not under an individual's volitional control (Ajzen & Fishbein, 1980; Ajzen, 1991). Similar to the TRA, the TPB assumes that individuals undertake a rational, systematic, evaluation of the information available to them when considering behavioral performance (Ajzen, 1991). The TPB maintains that a person's intention (i.e. a person's readiness to act) is the most proximal determinant of their behavior. The strength of a person's intention influenced by their attitudes and subjective norms, as well as a component unique to the TPB, that of perceived behavioral control (PBC), also believed to be a direct predictor of behavior. A person's attitude, subjective norm, and PBC are determined by underlying behavioral, normative, and control beliefs, respectively (Ajzen, 1991). Perceived behavioral Control refers to the extent to which an individual perceives a behavior as easy or difficult to perform (sometimes equated with self efficacy), taking into account personal resources (abilities, skills, and knowledge) and situational variables (obstacles and opportunities; Ajzen & Madden, 1986). As outlined previously, social-cognitive model such as the TRA and TPB focus on understanding behaviors that are logical, rational, reasoned or planned (Ajzen, 1991; Fishbein & Ajzen, 1975). Although successful in predicting a variety of reasoned or planned health behaviors, these models fare less well in the prediction of risky behaviors that are not but are, instead, governed by a person's reaction to the situation (Gibbons et al., 1998; Gibbons, Houlihan, & Gerrard, 2009; Norman & Conner, 2005). In other words, a person may not intend to perform a behavior (e.g. have unprotected sex) but they may be willing to engage in behavioral performance if the opportunity is presented to them.

The Prototype Willingness Model (PWM) incorporates two pathways to account for behavioral performance: a reasoned pathway and a social reaction pathway (Gibbons et al., 1998, see Figure 2.3). Similar to the TRA and TPB (Ajzen, 1991; Fishbein & Ajzen, 1975), the reasoned pathway specifies that individual decision making occurs in a reasoned and rational manner using available information to evaluate the positive and negative outcomes related to as behavioral expectation in the PWM (Gibbons & Gerrard, 1995), it is the most proximal predictor of behavior. The unique feature of the PWM, the social reaction pathway, allows an examination of behaviors that are risky, spontaneous or reactive and decision making is largely dependent on situational factors and opportunities (Gibbons et al., 1998). The social reaction pathway suggests that a person's willingness to perform behavior is the most proximal predictor of that behavior. Willingness, in turn, is influenced by attitude, subjective norm, past behavior. And of particular interest to this program of research, the prototype associated with the behavior. Willingness is conceptualized in the PWM as a person's general openness to performing a behavior if the opportunity arises. Unlike intention, willingness does not account for behavior that is reactive or unintentional in nature (Gibbons et al., 1998). In organ donation context, for example, people can express a general willingness or openness to the idea of donating their organs upon death, the likelihood that they will be able to donate in reality is highly dependent on external circumstances such as the individual dying in a way that facilitates donation and obtaining consent from family members. Similarly, people may be open to the idea of living donation and express a strong willingness to donate to a family member or friend; however, they will be unable to donate unless a loved one needs an organ, the individual is in optimal health, and they are a suitable organ match. As a result it is difficult for the individual to form concrete donation intentions given that donation in posthumous and living situations is highly dependent on external circumstances beyond the control of the individual. It is for this reason that a person's

willingness (representing a general openness to donation if the opportunity arises) was considered as a more appropriate proxy measure for posthumous and living donation in this program of research (the use of willingness only, rather than a measure of actual behavior, prevents conclusions from being drawn about the causal link between willingness and behavior).

Given the unique nature of altruistic behaviors, such as organ donation, to involve both a 'giver' and a 'receiver' of help, there is a scope for examining an additional prototype as part of the PWM. The notion of the type of person who is the recipient of an action, however, has not been examined. For decisions about performing altruistic behaviors, people's images of the recipient of the action (i.e., recipient prototype) may impact also upon their decision-making. For instance, the effect of the characteristics of the person needing assistance (e.g., gender, ethnicity) and the helper's perceptions of themselves as similar or dissimilar to the person in need of assistance has long been established in the bystander literature as impacting upon potential givers' decisions to provide aid (e.g., Batson, 1998).

In India a nation of 1.2 billion people, there are just 0.08 people per million population who can be called organ donors, an estimated 500,000 people die each year in India because of non-availability of organs. Human organ donation has been legalized in India since 1994 through, 'The Transplantation of Human Organs Act, 1994'. The Transplantation of Human Organs Act (1994) provides for the regulation of removal, storage and transplantation of human organs for therapeutic purposes, to prevent commercial dealings in human organs and acceptance of the concept brain death and make it possible to use these patients as potential organs donors (Shaishav, P., et al., 2011). According to Mohan Foundation (www.mohanfoundation.org) the Transplantation of Human Organs Act, 1994 heralded a significant change in the organ donation and transplantation scene in India. Many of the states of India adopted the Act over the next few years, but there was hardly any

focused work done towards furthering the deceased organ donation program. In a few states, however, likeminded medical professionals and philanthropists came together to take the initiative forward. In fact, the year 2012, has been the best yet for deceased organ donation in India. A total of 530 organs were retrieved from 196 multi-organ donors in 2012, resulting in a national organ donation rate of 0.16 per million population (Purushetti V, 2012). However, even after 18 years since the country passed The Transplantation of Human Organ Act 1994, only kidney donations by live donors are in vogue – cadaver donation have still not picked up. Certification and declaration of brain death have been made mandatory in transplant hospitals, and in non-transplant organ retrieval centers registered under the Human Organs Transplant Act, 1994 (Annadurai K., et al, 2013). Specifically in regards to Eye donation 35 million people are blind or going blind in the developing world and most of them can be cured. Out of 3 million corneal blind people 60% are children below the age of 12. Target retrieval of corneas by Eye bank of India is 150,000 corneas per year (<http://health.india.com>).

The Government of Tamil Nadu in 2008, through a pioneering effort put together government orders, laying down systems and procedures for deceased organ donation and transplantation in the state. These government orders also came at a time when the public was becoming more aware about organ donation. The organ sharing registry developed by MOHAN Foundation was adopted by the state government to start the Tamil Nadu Network for Organ Sharing (www.tnos.org). With an organ donation rate of 1.15 per million population, Tamil Nadu is now the leader in deceased organ donation in the country (www.mohanfoundation.org). The Tamil Nadu model has been possible due to the coming together of both government and private hospitals, NGO's and the State Health Department.

There are number of factors that have been identified through research for the gap between demand and supply that is demand for organ far out-weight supply of organs, inadequate number of cadaver (organ donation upon death) donors, public misperceptions about the process of organ donation, myths and misconceptions, poor recognition of potential donors by medical personnel, and the difficulty of obtaining consent from donors and their next-of-kin. Added to this are the beliefs of some religious groups about body mutilation and/or the afterlife, as well as differing ways of conceptualizing the human body—for example, as being inextricably linked to the “self” versus a machine-like structure with interchangeable parts. There are many discouraging factors that may contribute to the shortage of organs supply globally. Some economists argue that the gap between the demand and the supply of organs is caused by the equilibrating obstacles, in which no country is allowing financial incentives to the donors for organs acquiring. Lack of awareness along with myths and misconceptions are the factors for low percentage of organ donation. Trained staff with requisite systems in place produced significant organ donation rates, high levels of success in increasing knowledge and subsequent rates of signing organ donor cards. Horton and Horton’s (1991) model of factors related to organ donation indicated that the strongest predictors of organ donation willingness are knowledge and attitudes, with personal values playing a much weaker role. Knowledge, attitudes, and behaviors are essential factors in fostering an environment that positively influences organ donation rates.

Lack of awareness along with myths and misconceptions are the factors for low percentage of organ donation. Also the problem with the deceased organ donation program includes lack of government funding, hospitals not identifying and maintaining brain dead donors and the community being unaware of the concept of brain death. There are also hurdles to sharing organs, mainly between government and private hospitals. Some neurosurgeons and neuro-physicians refuse to certify brain death. Though there are a few

good public and private tertiary care hospitals with laboratories in cities and a few towns, smaller towns and all villages lack well-equipped hospitals and this has a negative impact on the success of transplantation. This forces the patient to travel a fair distance for testing and check up, adding further to the financial burden.

Knowledge and Organ Donation

Motivation to donate organs has been shown to have a relationship with knowledge and awareness towards organ donation. Pham and Spinger (2004), in their study for the U.S that included 278 respondents, found that 69.1 percent knew that blood-type made a difference in donation; 61.6 percent knew that transplant survival rates were high, and 75.9 percent knew that transplants could come from living donors. A study by Mossialos et al., (2008) in European Union found that more educated, younger age, and expressing some sort of political affiliation determined the willingness to donate one's own organs and consent to the donation of those of a relative.

A study in Tamil Nadu revealed that there was a significant association between education – art and science students and knowledge on organ donation. In the same study it was revealed that all the participants were aware of the term organ donation and 73% were willing to donate, but has not produced a high rate of signed organ donor cards, only few i.e., 2.04% were registered for Organ donation. Also a qualitative study conducted in the Philippines by Abright et al., (2005) identified major themes related to organ donation; awareness of organ donation, family beliefs, religion/spirituality, attitude/emotions, personal experience with organ donation, health profession, and cultural issues.

Attitude and Organ Donation

Since its inception in the late 1800's, the attitude construct has maintained a position of stature in the field of social psychology. While specific definitions of the construct are quite varied, ranging from "a mental and neutral state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all object and situations with which it is related" (Allport, 1967) to " a relatively enduring organization of beliefs about an object or situation predisposing one to respond in some referential manner" (Rokeach, 1966), there is a general consensus in the scientific community that an attitude, in its most general form, is an evaluation (e.g. positive or negative, good or bad) of a given object (Abelson & Prentice, 1989; Ajzen, 2001; Ajzen & Fishbein, 1997, 1980; Eagly & Chaiken, 1993; Fazio, 1989; Fazio & Zanna, 1981; Smith, 1967). What is still up for debate, however, is the construct's unique effect on behavior.

Attitudes toward organ donation have been a central construct in the organ donation literature and have been found, under certain conditions, to be associated with one's willingness to donate organs (e.g., Goodmonson & Glaudin, 1971; Horton & Horton, 1990, 1991; Parisi & Katz, 1986). Across its various definitions, the core of the attitude concept entails the individual's positive and negative evaluation of the respective object. In the organ donation area, the according hypothesis concerning its role is that people's willingness to donate can be increased by shifting their attitudes towards the positive end (Holman A, 2013). Many researchers have noted an association between attitudes toward donation and the act of becoming an organ donor (Alden & Cheung, 2000; Cosse & Weisenberger, 2000; Cosse, Weisenberger, & Taylor, 1997; Dundes & Streiff, 1999; Feeley & Servoss, 2005; Marshall & Feeley, in press; Sanner, 1994). However, researches on Attitude, since 1990's have also found conflicting findings regarding attitude- behavior relationship. Some reported positive relationship while others found little or no support of the same. And according to

Eagly and Chaiken's (1993) account the diversity of findings can be attributed to the different operationalisations of the attitude construct and its corresponding behavioral act(s).

Several studies have assessed attitude toward organ donation by measuring the attitude toward donating both tissues (e.g., bone, heart valves, skin) and organs (e.g., heart, liver, kidneys; e.g., Manninen & Evans, 1985; Prottas, 1983) whereas other studies measure attitudes toward donating only one or the other. Data suggest that individuals tend to hold differential views of donating organs versus tissues (e.g., Belk, 1988, 1990; Belk & Austin, 1986; Wilms, Kiefer, Shanteau, & McIntyre, 1987), which, in turn, may bias the characterization of attitudes, depending on which topic is the focus of measurement (e.g., Basu et al., 1989).

Generally, studies indicate an association between people's attitudes towards donation and their actual donation related behaviors, such as signing a donor card (Skumanich & Kinsfather, 1996; Morgan et al., 2002). Nevertheless, some problematic issues have also been raised concerning the efficiency of targeting attitudes in order to increase organ donation rates. First there are empirical results that reveal very low or even null effects of attitude on donation intentions (e.g. Feeley & Servoss, 2005). Second, the rationale of investing efforts in enhancing the public's positive attitudes toward organ donation has been contested, since they seem to be overwhelmingly prevailing. Particularly, in the western countries, people have strong favorable attitudes toward donation, even in the absence of any organized effort to enhance their willingness to donate (e.g. Cosse & Weisenberger, 2000). A third issue is that due at least in part to this already high level of social approval of donation, many of the attempts to improve attitudes towards organ donation have failed to attain their objective. Also, fear and negative attitudes were believed to have more impact on the donation decision than positive attitudes and beliefs (Parizi & Katz, 1986).

Altruism and Organ Donation

Altruism is a frequently reoccurring value that comes up when researching about attitudes toward organ donation. Parisi (1986) states that the “positive dimension [of people’s attitudes] involves belief in the humanitarian benefits of organ donation”. From an evolutionary perspective, altruism is a behavioral act which increases the fitness of others by decreasing one’s own fitness (Sober & Wilson 1998, p. 17). However, from a social-psychological perspective altruism is a disposition or identity. It is an intentional, non-rewarded and voluntary action oriented toward the welfare of others (as cited in Healy K., 2004). This perspective often looks at the issue of the purity of motive to determine whether or not an act is altruistic or not (Healy K., 2004). With this definition one can argue that registering as an organ donor does qualify as an altruistic act.

“Altruism is generally understood to be behavior that benefits others at a personal cost to the behaving individual” (Kerr, 2004). In many cases, this selflessness may put the person doing the deed at a disadvantage, while not benefiting them in any way apart from giving them the satisfaction of helping another human being. The act of organ donation can be viewed as the ultimate act of altruism, especially when a person donates in good health, because although slight, there is a risk to the person donating in going through with a serious operation. “Most organs for transplantation come from cadavers, but as these have failed to meet the growing need for organs, attention has turned to organs from living donors” (Truog, R. D., 2005).

Religiosity and Organ Donation

Religion has a unique influence on people’s decision in organ donation. Religion often influences an individual’s acceptance of organ donation. Investigators have found that religiosity correlates negatively with willingness to donate. Attitudes toward organ donation

are influenced by individual values and religious beliefs, with various religious groups harboring different opinions regarding organ donation. Researchers have found that religion can either inhibit or facilitate whether individuals will become organ donors (Bulka, 1990; Cohen, 1988; Habgood, Spagnolo, Sgreccia, & Daar, 1997; Kunin, 2005; Mackler, 2001; Pearl, 1990; Rocheleau, 2005; Teo, 1992; Ulshafer, 1988).

Perhaps the most intriguing findings in the literature on beliefs influencing the decision to become an organ donor is that participants who belong to African Americans and Hispanic communities and those with strong Christian religious beliefs report less willingness to donate (Wakefield C.E. et al., 2011). The same study findings revealed that level of religiosity was negatively related to the attitude toward organ donation measure ($r = -0.20$, $p = .001$) and positively related to both the opposing donation and religious objection factors ($r = 0.22$, $p = .001$ and $r = 0.22$, $p = .001$, respectively), indicating that those who described themselves as having more religious beliefs held less favorable attitudes toward organ donation and were likely to be identified as potential donors.

However, religiosity did not correlate significantly with willingness in a study by Bessar A. et al. (2003) and such finding is not congruent with those of previous studies conducted among Christians in the 1970s that correlated willingness with secularity (Cleveland & Johnson, 1970; Simmons et al., 1974) the findings are also incongruent with others addressing Jewish participants (Amir & Haskell, 1997). The difference may be explainable by the shift towards flexibility in the religious community's policy towards organ donation and medical technology (Bessar A. et al, 2003). Rumsey, et al. (2003) found that regardless of an individual's religious affiliation, frequency of attending services, and religiosities were associated with attitudes toward organ donation. In addition, the support of the religious community and religious leaders facilitated willingness to donate organs.

Religion and organ donation both promote the ideal of altruism and the desire to help others. Most major religions do, in fact, encourage organ donation directly or view it as a matter of personal conscience.

Gender and Organ Donation

A recent study showed that individuals who are younger, are female, have higher educational levels and/or socio - economic status, have fewer religious beliefs, have higher knowledge about organ donation, and have fewer concerns about manipulation of a deceased donor's body are more likely to have positive attitudes toward donation and are more willing to donate. According to three surveys conducted in the UK, (New, Solomon, Dingwall & McHale, 1994), 70% of the population is willing to donate but only 27-32% carries an organ donor card. Men and women show similar willingness to donate but women are twice as likely to carry a card. Moreover, 10% of those who carry a card place restrictions on their donation; 85% are not prepared to donate their corneas and 18% do not wish to donate their heart (UKTSSA, 1999). Interestingly, women are less likely to donate either of these tissues than are men (Wilms, Kiefer, Shanteau & McIntyre, 1987). Studies of organ donation decisions also suggest that the eyes and heart are special in that bereaved relatives often refuse these organs for donation (e.g., Fulton, Fulton & Simmons, 1977). Shanteau and Harris (1992) speculated that reluctance to donate may not be due to lack of knowledge or empathy per se but to 'unstated motivations, perceived risks and unarticulated fears'. Hence, the meaning of carrying an organ donor card or of donating specific body parts, particularly the eyes and heart, may be complex and have different meanings for men and women.

According to the European Commission report (2007), that due to the fact that in Europe, women are slightly more inclined to donate their organs. The large amount of research carried out previously on the topic of gender differences in organ donation has

suggested that females donate organs more frequently than do men, which implies that women have a more positive attitude towards the idea of organ donation than men. Steinman states that “although organs in and of themselves are gender neutral and can be exchanged between the sexes, women account for up to two thirds of all organ donations”,(Steinman, J. L., 2006).

Socio Demographics

The highest organ donation rate in the world is in Spain, with 31.5 donors per one million people; other European countries have a mean of 15 donors per one million people (LP, 2010). Higher education, younger age and factors associated with political affiliation determined respondents’ willingness to donate organs, and consent was given by donors’ relatives (Saleem et al., 2009).

Findings revealed that those with higher education were more likely to have received information regarding organ donation compared with other groups. This finding is consistent with those of Wong (2010) who found that those with a tertiary education had a significantly higher mean total knowledge compared with those with other education levels. Individuals with more formal education were more likely to donate than were those with less formal education (Li, 2011). A survey in a Turkish community showed that females, the less educated and older people showed less willingness to donate organs (Bilgel et al., 1991). The same finding was reported (Bar cellos et al., 2005) that higher education levels and a younger age were associated with a higher tendency to pledge. Socio- economic factors, such as income and education level may play significant roles in influencing the decision to pledge. Another finding was in line with those of other studies is that low income earners reported being less likely to pledge compared with those with high incomes (Li, 2011; Danguilan et al., 2012).

Beliefs, Myths and Misconception about Organ Donation

One of the most influential theoretical models in the area of attitudes in general, namely the Expectancy-Value model (Fishbein & Ajzen, 1975), states that the individual's beliefs about the object are at the core of his attitude. People with little knowledge may have negative attitude towards organ donation, these may lead to misconception about the process of donation and transplantation. Hence, in order to increase people's positive attitudes, it is mandatory to persuade them that organ donation has desirable consequences (such as the fact that it saves other's lives), and to contradict and eliminate their beliefs that oppose donation such as it prevents future resurrection (Holman A, 2013).

Common reasons given for not consenting to organ donation fall in two broad categories: mistrust of the medical system and religious/cultural fears and/or standards. These reasons may both convince a family to refuse donation at the time of a loved one's death and, passed down in the family, influence the individual during his lifetime to not consider or to reject donation (Xu, 2011).

The brief discussion above revealed several factors that may refrain people from donating organs. Therefore, to be successful, it is very essential for any organ donation and transplantation policy to take into consideration the values, beliefs and the socio-cultural norms of the society. This is due to the fact that religions, beliefs, lack of information and myths on organ donation are major factors that discouraged people in donating organs (Morgan et al., 2003).

The present study is the first endeavor with regards to organ donation in the Mizo population. The purpose of this research is to explore the psychological aspects of organ donation like knowledge, attitudes, altruism and religiosity and the relationship if any with living, living related and cadaveric organ donation.

With no organ donation centers within the State other than one Eye Bank, the Mizo population still lacks awareness about the life saving medical intervention and its benefit. Many patients in the state die as a result of ignorance about the life saving organ transplantation and those who do know and avail the facility provided by hospitals outside the state spend lakhs of rupees and consequently very few people undergo transplantation because of the financial involvement.

Since the Mizoram Eye Bank, Civil Hospital, Aizawl, funded by National Programme for Control of Blindness (NPCB) was established on 31st July 2008, which provide free medical treatment for these patients more than 60 people have undergone Corneal transplantation out of the 230 patients registered (as on September, 2014).

CHAPTER- II

**STATEMENT OF THE
PROBLEM**

STATEMENT OF THE PROBLEM

Worldwide, organ transplantation saves thousands of lives. The issue of organ donation is complex and multi-factorial, involving medical, legal, ethical, organizational, and social factors. According to WHO; Kidney transplants are carried out in 91 countries and around 66,000 kidney donations, 21,000 liver donations and 6000 heart donation were transplanted globally in 2005. The medical, quality of life, psychological and economic benefits of solid organ transplantation are well documented. Extending these benefits to more individuals in need is limited by the scarcity of donated organs (Rodrigue J. R., Cornell D.L. and Howard R. J., 2006).

Organ shortage is a global problem, globally every year, 25,000 liver transplantation are done against the requirement of 2,00,000 liver transplantation, India holds the worst figures, only 500 liver transplantation were done in 2009 and only 750 in 2010. And while generally 4,000 – 5,000 heart transplantation are required to be done every year in our country only 70 were performed in 2011. Another report in 2012 – 13 4,417 corneas were collected against whopping requirement of 80,000 – 1, 00,000 per year (www.art-effusions.com). Asia lags behind much of the rest of the worlds. Organ donation following brain-stem death is infrequent in India. The current organ donation for cadaver in India is 0.08 per million. The current demand in the country for kidney transplants is 150,000; liver, 200,000 and heart, 150,000. There is a huge shortage of organs in India, and patients die while on the waiting list as they do not get an organ on time, and only 5 % of all patients with end stage kidney failure receive transplantation.

Literature focusing on the barriers to organ donation indicates that many people (sometimes half of the subject population) cannot fully articulate their reluctance to become donors (Sanner, 1994; Steven, 1998). Those who are able to articulate reasons for the unwillingness to donate cite a fear of not really being death when donation takes place

(Sanner, 1994; Steven 1998), a fear of feeling pain after death or a desire to avoid body mutilation (Skumanich & Kinsfather, 1996; Steven, 1998); distrust of the medical system (Sanner, 1994); not wanting to upset family members who disagree with organ donation (Birkimer, Barbee, Francis, Berry, Deuser, & Pope 1994; Dejong et al., 1998; Stevens, 1998) and a desire to respect the limits set by God or nature (Sanner, 1994).

Organ and tissue transplantation has gradually become an effective intervention, saving or at least improving the lives of many people (Holman, A, 2013). The universal shortage of donated organs could be diminished by increasing the numbers of organ retrieved from deceased donors (Holman A, 2013). However, this option is dependent on the consent and refusal of the appropriate parties. The deceased during his life time may have favorable attitude towards others, but an essential part in the actual donation situations is played by the deceased family members, who are entitled to give consent to donation. Many countries exercise opt-in and out –out system wherein a person in his lifetime may either opt-in or opt-out for organ donation. Furthermore, some investigations (e.g. Garrison et al., 1991) suggest that the bereaved families' denial to grant consent for the donation of their next of kin's organs is the main impediment for the loss of potential donors.

In India organ donation is relatively a new concept, the number of patients wait listed for transplantation far exceeds the number of donated organs, which portends even higher rates of morbidity and mortality unless this gap can be successfully closed. In a nation of 1.2 billion people, there are just 0.08 people per million populations who can be called organ donors, an estimated 500,000 people die each year in India because of non-availability of organs (<http://health.india.com>). The Transplantation of Human Organs Act, 1994 heralded a significant change in the organ donation and transplantation scene in India. Many of the states of India adopted the Act over the next few years, but there was hardly any focused work done towards furthering the deceased organ donation programme. In a few states,

likeminded medical professionals and philanthropists came together to take the initiative forward. Tamil Nadu and Andhra Pradesh were at the forefront in this with some hospitals and non-governmental organizations like MOHAN Foundation taking the lead in setting up an organ sharing network in the year 2000. As a result, retrieval of 616 organs and tissues were facilitated in these two states by MOHAN Foundation. In fact, the year 2012 has been the best yet for deceased organ donation in India. A total of 530 organs were retrieved from 196 multi-organ donors in 2012 resulting in a national organ donation rate of 0.16 per million population. In 2008, the Government of Tamil Nadu through a pioneering effort put together government orders laying down systems and procedures for deceased organ donation and transplantation in the state. These government orders also came at a time when the public was becoming more aware about organ donation. The organ sharing registry developed by MOHAN Foundation was adopted by the state government to start the Tamil Nadu Network for Organ Sharing (<http://www.tnos.org/>). With an organ donation rate of 1.15 per million population, Tamil Nadu is now the leader in deceased organ donation in the country (Navin, S., 2014).

Organ donation center has not yet been established in Mizoram, except for the Mizoram Eye Bank at the CH (A) under Health & Family Welfare Department, Mizoram. With no organ donation centers within the State other than one Eye Bank, the Mizo population is still lacks awareness about the life saving medical intervention and its benefit. Many patients in the state die as a result of ignorance about the life saving organ transplantation process and those who are aware and avail the facility provided by hospitals outside the state spend lakhs of rupees when they are referred to various hospital in the country. Very few people undergo transplantation as a result of this enormous financial involvement. It is seen that many people need sophisticated medical intervention and the facilities and services are still very basic, there is a need for upgrading of the facility and

services for early diagnosis, treatment and awareness among the general population about life saving medical technology. The researcher has witnessed that many patients in the state suffers from multiple organ failure, young people die untimely, some in the hospital and many at home, some can avail medical help while many poor patients wait their endings at home hopelessly. Also that people come to the eye bank and pledge to donate their eye after death, many people ask if they can donate different parts of their organ as well. While at the same time patient die as a result of unavailability of organ and financial difficulty is one of the main obstacle faced by patient, to avail better medical intervention.

Organ shortage is seen everywhere, much research has examined the discrepancy between positive attitude towards organ donation but low rates of actual donation, many factors may contribute for low rates of donation. Many a times the deceased family may forget to tell the hospital about their loved one's wishes about organ donation while they are in emotional turmoil. Some may fear disfigurement of the deceased body, some may not tolerate to see their loved one's body being mutilated or fear of misusing the donated organs. In a more predictive capacity, the influence of factors such as gender, age, ethnicity, religiosity, previous experience (Landolt et al., 2001; Radecki & Jaccard, 1997), knowledge (Horton & Horton, 1990), altruistic tendency (Morgan & Miller, 2002), and beliefs and attitudes (Boulware et al., 2002b; Skowronski, 1997) on donation decisions have been examined. It is evident that there are a multitude of possible influences on donation decisions which vary across individuals, culture, and contexts. Although these factors go some way towards explaining organ donation decisions, they do not entirely account for why individuals choose or refuse to donate their organs, evidenced by the large amounts of unexplained variance in behavior reported in quantitative studies (see Feeley, 2007; Radecki & Jaccard, 1997, for a review). As a result, further exploration of possible influences on donation decision is still needed. Many individuals have not discussed their donation

decisions wishes with family members who are consulted to give consent to donate (Matthew, 2004; Rodrigue, Cornell, & Howard, 2006). As a result the demand for organ far out-weights supply.

CHAPTER- III

METHODS
AND PROCEDURE

METHODS AND PROCEDURE

Objective of the Study:

To assess the existing level of knowledge, attitude, altruism and religiosity in regards to organ donation among Patient and Non-Patient in Mizoram.

Hypothesis

1. There will be significant difference in Knowledge, attitude, altruism and religiosity, between Patient and Non-Patient.
2. There will be significant gender difference in Knowledge, Attitude, Altruism and Religiosity toward Organ donation.
3. There will be positive relationship between Altruism and Attitude toward organ donation.
4. There will be significant positive relationship between Religiosity and Attitude towards organ donation.

Sample:

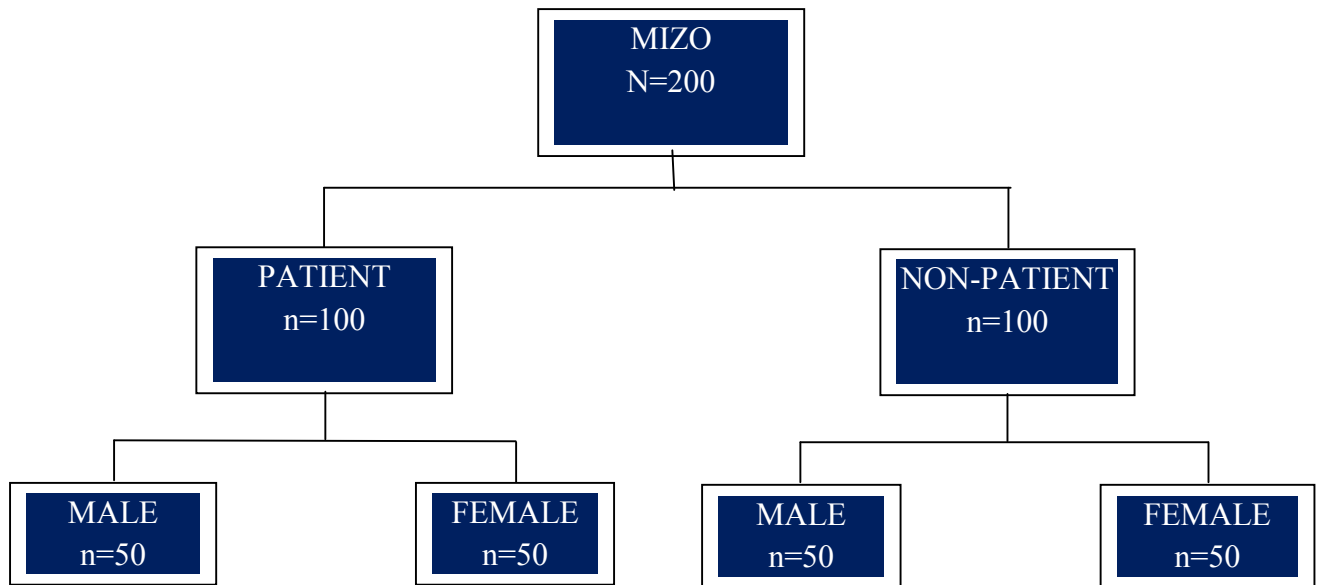
Purposive sampling procedure is used for the present study. A total of 200 samples consisting of 100 patients and 100 non-patients age ranging from 18 years to 84 years were selected to serve as subjects for the study. The study was carried out in hospitals and localities within Aizawl city covering 4 zones, one hospital each from Aizawl North, South, East and West namely Presbyterian Hospital, Durtlang, New Life Hospital, Chanmari, Aizawl Hospital, Mission Veng and Civil Hospital, Aizawl. Patients were selected from four different wards of each hospital, namely Male Medical Ward, Female Medical Ward, Male

Surgical Ward and Female Surgical Ward. These 4 wards have been identified and selected as it were the largest wards for each hospital. 10 patients each from the four wards were selected to serve as subjects from Aizawl Hospital, New Life Hospital and Presbyterian Hospital, Durtlang, and 20 patients each from 4 wards in Civil Hospital, Aizawl (It is the state biggest Government Hospital). The non-patient populations were selected from the above identified zone. It was taken care that not more than two participants were selected from one household. Almost all the research on organ donation have been conducted among students rather than diverse adult samples and there is a very limited research literature on organ donation in the general population. The present study attempts to address this aspect, the inclusion criteria is anyone above 18 years from the general population. These hospitals are attended by all the patients within their zones and providing health care support for the people.

Design of the Study:

To achieve the objectives, the study incorporate 2(Patients and Non-Patients) x 2(Male and female) factorial design for the conduct of the present study to elucidate and highlight the relationships between Knowledge, Attitude, Altruism and Religiosity on organ donation among the Mizo. Appropriate statistical techniques were used for the conduct of the study.

Figure 1.1: Showing the 2 x 2 factorial designs of the study.



Procedure:

The primary data for the study were collected in a face to face interaction between the participants and the researcher in an optimum environmental setting after formation of a good rapport. The researcher took care to see that the respondents provided honest and independent answers to the questions presented. The anonymity, confidentiality and ethics as cited/formulated by APA, 2003 (American Psychiatric Association) has been followed.

Psychological Tools

1. **Demographic Profiles** - A number of background information of the subject like age, gender, marital status, educational qualification, occupation, average monthly income, type of family details were recorded, in the desire to compare the sample according to the background demographic variable. A specimen copy of the Demographic in English and Mizo language may be seen at Appendix- III.

2. Organ Donation and Transplantation Knowledge Survey (ODTK: Trompeta et. al., 2010) - a 18-item, 4point scale: “strongly agree” (4 points), “agree” (3 points), “disagree” (2 points), and “strongly disagree” (1 point). High scores on ODTK reflect a high degree of knowledge about organ donation and transplantation issues. The evidence for reliability is that the Cronbach alpha for internal consistency was 0.83 for general knowledge about organ donation and 0.74 for knowledge about cultural limitations and barriers to transplantation

3. DONATT Scale (DS: Churchill, 1979) – an 8-item, 5-point Likert type scale to measure general attitude and knowledge towards organ donation. The range of possible scale scores is 8–40, with higher scores indicating more positive attitudes. Co-efficient for the scale across is 0.83. Test retest reliability ranges from 0.83 to 0.89.

4. The Self Report Altruism scale (AT: Rushton, 1981)-It consist of 20 items scale to suggest a broad-based trait of altruism. A correlation of at least .80 is suggested for at least one type of reliability as evidence; however, standards range from .5 to .9 depending on the intended use and context for the instrument.

5. Duke Religious Index (REL: DUREL; Koenig H.G., Meador K.G., Parkerson G., 1997) - A five-item scale is a measure of organized religiosity and the importance of religion in one’s life. Internal consistency of this scale has been estimated at $\alpha = .85$ among healthy adults (Sherman AC, et al. 2001). High scores indicate high levels of religiosity.

Statistical Analysis

Keeping in view of the problems of the study, the methodological refinements were done in a step-wise manner. Firstly, the preliminary psychometric analyses of the behavioral measures on the sampled equated and/or matched on the demographic variables included the statistical analyses of psychometric adequacy including: item-total coefficient of correlation, Cronbach alpha and split-half reliability coefficient and inter-scale relationships

was conducted as the proven psychometric adequacy of the scale used for the conduct of the present study, cannot be assumed to carry their psychometric properties when transported and applied in any other cultural setting (Witkin & Berry, 1975).

The analyses of the preliminary psychometric analyses subscribes to the admonition of researchers in culture specific and cross-cultural studies: that scale constructed and validated for measurement of theoretical construct in a given population when taken to another cultural milieu may not be treated as reliable and valid unless specific checks are made (Berry, 1974; Eysenck, & Eysenck, 1985; Witkin, et al., 1975), and that cultural researches employing the derived-etic approach assume that each group that occupies an ecological niche is equivalent to that of the other and the study is free of systematic bias (Pootinga, 1989).

Secondly, Mann-Whitney U test was employed to highlight the difference between 2 independent samples (Patient/Non-Patient and Male/Female) on the dependent measures. Kruskal Wallis one –way ANOVA was used for non-parametric analysis between the variables. 2 x 2 factorial design (2 Population x 2 Gender) with mean rank comparison was employed to highlight the interaction effects of the independent variables on the dependent measures. The analyses incorporated preliminary check of the assumptions underlying the analysis of variance for the interpretability of the finding. The responses of the subjects were computerized and analyzed employing statistical software by following the objectives set forth for this study. The overall analyses of results are presented and discussed in the following chapters.

CHAPTER- IV

RESULTS & DISCUSSION

RESULTS AND DISCUSSION

Subject-wise scores on the specific items of the behavioral measures of: (i) Organ Donation and Transplantation Knowledge Survey (ODTK, Trompeta et. al., 2010); (ii) DONATT/Attitude Scale (DS, Churchill, 1979); (iii) The Self Report Altruism Scale (AT, Rushton, 1981); (iv) Duke Religiosity Index (REL, DUREL; Koenig H.G., Meador K.G., Parkerson G., 1997); were prepared for the whole sample – ‘Patient’ and ‘Non-Patient’, ‘Male’ and ‘Female’.

Psychometric Properties of the Behavioral Measures

Psychometric analyses of the behavioral measures included the analysis of (i) item-total coefficient of correlation (as an index of internal consistency and item validity) was ascertained for the scales of the behavioral measures with the criterion of items showing item-total coefficient of correlation $\geq .01$ for the whole sample to be retained for further analysis, (ii) Reliability coefficients (Cronbach alphas & Split-half) of the specific scales, (iii) inter-scale relationships (in the instances where there were two or more sub-scales/ sub-factors). Following the broad format of analysis, the psychometric properties of the four classes of behavior measures of (i) Knowledge, (ii) Attitude (iii) Altruism and (iv) Religiosity were analyzed by employing Microsoft Office Excel 2007 and IBM-SPSS, version 21.

The preliminary psychometric analyses over the level of analyses for each of the specific items and scales/subscales are determined with the objectives to ensure further statistical analyses, and the results are presented in Table – 1 showing the means, standard deviations of the scales/subscales of the behavioral measures of: (i) Organ Donation and Transplantation Knowledge Survey (ODTK); (ii) DONATT Scale (DS); (iii) The Self Report Altruism Scale (AT); (iv) Duke Religiosity Index (REL).

Table – 1: Descriptive Statistics for the scales / sub-scale of the behavioral measures (ODTK, DS, AT and REL) showing Mean , Std. Deviation Skewness and Kurtosis for the whole sample.

	Mean	Std. Deviation	Skewness	SE of Skewness	Kurtosis	SE of Kurtosis
Organ Donation and Transplantation Knowledge Survey (ODTK)	48.03	3.81	.47	.17	.83	.34
DONATT/ Attitude (DS)	24.77	3.15	.36	.17	1.06	.34
The Self Report Altruism Scale (AT)	55.17	12.13	.18	.17	-.11	.34
Duke Religiosity Index (REL)	23.75	3.12	-1.55	.17	3.08	.34

Descriptive statistics for scales/sub-scale of the behavioral measures are presented to check the Skewness and Kurtosis. Results from Organ Donation and Transplantation Knowledge Survey (ODTK), DONATT (DS) and Duke Religiosity Index (REL) shows that the sample is not normally distributed. Further, data transformation was also done and accordingly analysis were performed, the results indicated that Parametric statistics cannot be used for the present study, therefore, a Non-Parametric statistical method was employed.

The reliability and predictive validity of the scales namely ODTK, DS, AT and REL were ascertained by the Cronbach Alpha and Guttman’s split half for each of the scales to ensure the psychometric adequacy of the scales used for the study. The total coefficient of correlation and reliability of the scales emerged to be satisfactory for Organ Donation and Transplantation Knowledge Survey (.56 for alpha and .54 for Split half), The Self Report

Altruism (.85 for alpha and .83 for split half) and Duke religiosity Index (.63 for alpha and .56 for split half). The Guttman split half coefficient also emerged to be robust indicating the trust-worthiness of the scales for measurement purposes in the study. On the otherhand DONATT scale (.40 for alpha and .37 for split half), came out unexpectedly below the satisfactory level, socio-cultural difference may contribute to low dependability of the scale.

Table – 2.1: Mean, Standard Deviation, Skewness, SE of Skewness, Kurtosis, and SE of Kurtosis of ‘Patient’ and ‘Non Patient’; ‘Male’ and ‘Female’ on the measures of the dependent variable ODTK.

Samples	Gender	N	Mean	Std. Deviation	Skewness	SE of Skewness	Kurtosis	SE of Kurtosis
Patient	Male	50	48.58	4.24	.550	0.337	.297	0.662
	Female	50	48.78	3.85	0.197	0.337	0.204	0.662
Non Patient	Male	50	47.28	4.06	0.666	0.337	1.788	0.662
	Female	50	47.46	2.28	-0.088	0.337	0.706	0.662

Table – 2.2: Mean, Standard Deviation, Skewness, SE of Skewness, Kurtosis, and SE of Kurtosis of ‘Patient’ and ‘Non Patient’; ‘Male’ and ‘Female’ on the measures of the dependent variable DS.

Samples	Gender	N	Mean	Std. Deviation	Skewness	SE of Skewness	Kurtosis	SE of Kurtosis
Patient	Male	50	25.72	2.59	.882	0.337	2.067	0.662
	Female	50	25.62	3.33	0.706	0.337	1.972	0.662
Non Patient	Male	50	23.46	2.85	0.217	0.337	-0.231	0.662
	Female	50	24.26	3.27	0.044	0.337	0.225	0.662

Table – 2.3: Mean, Standard Deviation, Skewness, SE of Skewness, Kurtosis, and SE of Kurtosis of ‘Patient’ and ‘Non Patient’; ‘Male’ and ‘Female’ on the measures of the dependent variable AT.

Samples	Gender	N	Mean	Std. Deviation	Skewness	SE of Skewness	Kurtosis	SE of Kurtosis
Patient	Male	50	56.60	12.41	.299	0.337	-0.274	0.662
	Female	50	51.14	12.49	0.159	0.337	-0.017	0.662
Non Patient	Male	50	59.54	10.66	0.464	0.337	0.275	0.662
	Female	50	53.40	11.50	0.232	0.337	-0.441	0.662

Table – 2.4: Mean, Standard Deviation, Skewness, SE of Skewness, Kurtosis, and SE of Kurtosis of ‘Patient’ and ‘Non Patient’; ‘Male’ and ‘Female’ on the measures of the dependent variable REL.

Samples	Gender	N	Mean	Std. Deviation	Skewness	SE of Skewness	Kurtosis	SE of Kurtosis
Patient	Male	50	22.12	4.05	-1.147	0.337	1.193	0.662
	Female	50	24.90	2.19	0.976	0.337	0.111	0.662
Non Patient	Male	50	23.64	2.51	-0.52	0.337	-0.727	0.662
	Female	50	24.34	2.74	-2.132	0.337	5.058	0.662

Descriptive statistics on Table 2.1 to 2.4 presents behavioral measures for the group under comparison. The mean score in Organ Donation and Transplantation Knowledge Survey (ODTK) Male Patient and Female Patient does not differ, also Non-Patient /Female Non- Patient scores revealed no difference either between Non Patient as well. However there is a slight difference between the two populations in which Patients scores higher than Non Patient in ODTK. In DONATT Attitude Survey, Male Patient and Female Patient does not differ. However a slight difference is seen between Non-Patients where Female Non-

Patient scores little higher than Male Non-Patient. The Self Report Altruism (AT) indicates that Male Patient and Male Non-Patient are higher than their female counterparts in altruism. Duke Religiosity Index (REL) revealed that Female Patient and Female Non-Patient are higher in religiosity than their Male counterparts. As presented in Table 1 and 2.1 to 2.4 Skewness and Kurtosis for the group under comparison on behavioral measures shows that samples are not normally distributed and therefore Non-Parametric statistics- Steel-Dwass test Kruskal Wallis for One-Way ANOVA was employed.

Table- 3: Correlations matrix of the dependent measures (Spearman Correlation) for the whole sample.

SCALES	Organ Donation and Transplantation Knowledge Survey (ODTK)	DONATT (DS)	The Self Report Altruism Scale (AT)	Duke religiosity Index (REL)
ODTK	1.000	.245**	.077	.093
DS		1.000	-.076	.078
AT			1.000	.083
REL				1.000

**Correlation is significant at 0.01 level(2 tailed)

Relationship of the Behavioural Measures

The result of Spearman Correlation analysis revealed that there is a low positive significant relation between ODTK and DS. Although the correlation tended to be low, they are consistent in suggesting a positive relationship between a measurable construct of knowledge with the corresponding construct of organ donation attitude survey. Adequate knowledge may change the attitude of people towards organ donation (Khan, N., et al.,

2011). A study among medical student in Karachi, Pakistan revealed that a very highly significant association ($P=0.000$) was found between willingness to donate and knowledge of allowance of organ donation in religion. In the present study there is no significant correlation in Altruism (AT) and Religiosity (REL).

The bivariate relationships between the scales of the behavioral measures were computed (Table – 3) and it indicated the relationships among the scales of the behavioral measures accounting for Patient who are admitted in hospitals (Male Patient/Female Patient) along with Non- Patients from hospital areas (Male Non-Patient/Female Non-Patient).

Table- 4.1: Mean Rank on behavioral measures on Patient and Non-Patient for the whole sample.

	Sample	N	Mean Rank	Sum of Ranks
ODTK_T T	Patient	100	110.64	11063.50
	Non-Patient	100	90.37	9036.50
	Total	200		
DS_TT	Patient	100	117.25	11724.50
	Non-Patient	100	83.76	8375.50
	Total	200		
AT_TT	Patient	100	93.93	9392.50
	Non-Patient	100	107.08	10707.50
	Total	200		
REL_TT	Patient	100	99.00	9900.00
	Non-Patient	100	102.00	10200.00
	Total	200		

Table- 4.2: Mann-Whitney U test on behavioral measures for two population sample (Patient/ Non-Patient) of the whole sample.

	ODTK_TT	DS_TT	AT_TT	REL_TT
Mann-Whitney U	3986.500	3325.500	4342.500	4850.000
Wilcoxon W	9036.500	8375.500	9392.500	9900.000
Z	-2.487	-4.116	-1.607	-.371
Asymp. Sig. (2-tailed)	.013	.000	.108	.711

Result shows Mean Rank for Population (Patient/Non-Patient) on behavioral measures for the whole sample. Mean Rank on ODTK indicates that Patient scores higher than Non-Patient. Mean Rank on DS reveals that Patient also scores higher than Non-Patient. Mean Rank suggest that Non-Patient is higher than Patient in AT. It is seen that Non-Patient is higher in REL than Patient (Table- 4.1).

Mann-Whitney U test on behavioral measures for Patient and Non-Patient indicate that there is a significant difference between Patient and Non-Patient in ODTK and DS (Table- 4.2).

Table- 5.1: Mean Rank test on behavioral measures for Gender (Male/Female)

	Gender	N	Mean Rank	Sum of Ranks
ODTK_TT	Male	100	96.82	9681.50
	Female	100	104.19	10418.50
	Total	200		
DS_TT	Male	100	97.49	9748.50
	Female	100	103.52	10351.50
	Total	200		
AT_TT	Male	100	113.71	11371.00
	Female	100	87.29	8729.00
	Total	200		
REL_TT	Male	100	83.82	8382.00
	Female	100	117.18	11718.00
	Total	200		

Table- 5.2: Mann-Whitney U test on behavioral measures for Gender (Male/Female) of the whole sample

	ODTK TT	DS TT	AT TT	REL TT
Mann-Whitney U	4631.500	4698.500	3679.000	3332.000
Wilcoxon W	9681.500	9748.500	8729.000	8382.000
Z	-.904	-.741	-3.229	-4.120
Asymp. Sig. (2-tailed)	.366	.459	.001	.000

Result presents Mean Rank for Gender (Male/Female) on behavioral measures. Mean Rank on ODTK indicates that female scores higher than Male in ODTK. Mean Rank on DS suggest that Female are higher than Male in Attitude assessment. Mean rank in AT shows that Male are higher than Female in altruistic behavior. Again it is seen that Female are higher than Male in REL (Table 5.1).

Finding shows Mann-Whitney U test on behavioral measures for Gender (Male/Female) for the whole sample. Results indicates that there is significant differences in AT and REL between male and Female (Table 5.2).

Table- 6: Mean Ranks for the groups under comparison on ODTK, DS, AT and REL

Groups	N	ODTK_TT	DS_TT	AT_TT	REL_TT
Male-Patient	50	106.88	119.03	105.58	75.22
Male-Non-Patient	50	86.75	75.94	121.84	92.42
Female-Patient	50	114.39	115.46	82.27	122.78
Female-Non-Patient	50	93.98	91.57	92.31	111.58

Results from Table- 6 indicates the mean rank for the groups under comparison, for male patient mean rank in ODTK is 106.88, DS is 119.03 which indicate highest in the groups. AT is 105.58 and REL is 75.22. For Male non-patient mean rank in ODTK is 86.75, DS is 75.94, AT is 121.84 which indicate highest in the groups and REL 92.42. For female patient mean rank in ODTK is 114.39 which indicate highest in the groups, DS is 115.46, AT is 82.27 and REL 122.78 which indicate highest in the groups. For female non-patient mean rank in ODTK is 93.98, DS is 91.57, AT is 92.31 and REL 111.58.

Table- 7: Kruskal Wallis One-Way ANOVA on behavioral measures

	ODTK_TT	DS_TT	AT_TT	REL_TT
Chi-Square	7.00	18.89	13.16	20.19
Df	3	3	3	3
Sig.	.07	.00	.00	.00

Results from Table- 7, Kruskal Wallis One-Way ANOVA for the groups under comparison on behavioral measures. Indicated that except on ODTK, it is seen that there is a significant difference in DS, AT and REL.

Table- 8.1: Steel-Dwass test for the significant Kruskal-Wallis one-way ANOVA on DS

	Male-Patient	Male-Non-Patient	Female-Patient	Female-Non-Patient
Male-Patient	X	3.82**	.25	2.36
Male-Non-Patient		X	-3.41**	-1.29
Female-Patient			X	2.02
Female-Non-Patient				X

** Significant at .05; ** Significant at .01*

Results on Table- 8.1 shows 2 x 2 Steel-Dwass Kruskal-Wallis one-way ANOVA {2 Population (Patient & Non- Patient) x 2 Gender (Male & Female)}. The table reveals a positive significant difference between male non-patient and male patient on DS. Also a negative significant difference is seen between female patient and male non-patient.

The line graph in Figure- 2.1 shows that male patient and female patient scores higher in DS than Male Non-Patient and Female Non-Patient.

Figure- 2.1: Plot of Mean Ranks for the significant Kruskal-Wallis one-way ANOVA on DS

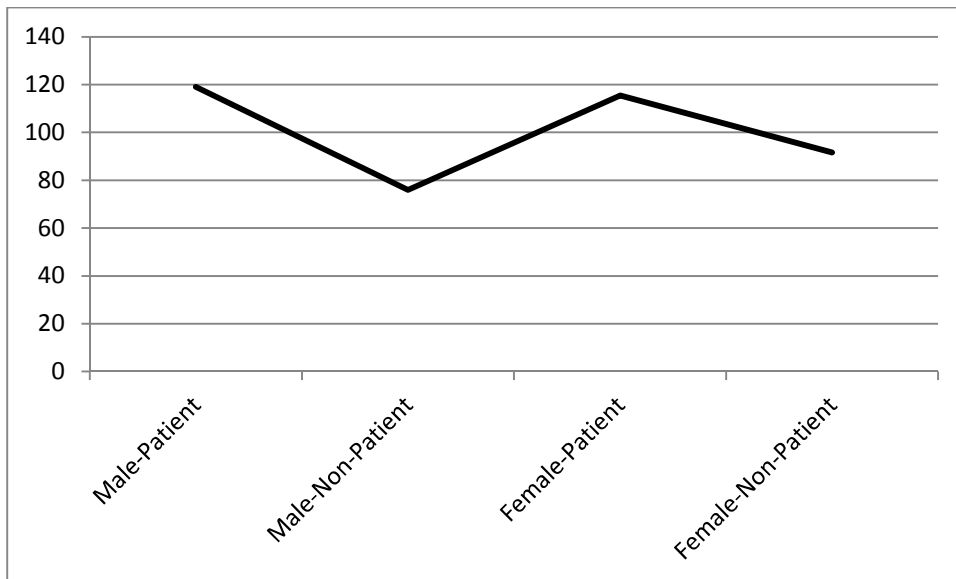


Table- 8.2: Steel-Dwass test for the significant Kruskal-Wallis one-way ANOVA on AT

	Male-Patient	Male-Non-Patient	Female-Patient	Female-Non-Patient
Male-Patient	X	-1.44	2.12	1.07
Male-Non-Patient		X	3.40**	2.52
Female-Patient			X	-0.77
Female-Non-Patient				X

** Significant at .05; ** Significant at .01*

Results on Table- 8.2 shows 2x2 Steel-Dwass Kruskal-Wallis one-way ANOVA {2 Population (Patient & Non- Patient) x 2 Gender (Male & Female)}. The table reveals a positive significant difference between male non-patient and female patient on AT.

The line graph in Figure- 2.2 shows that Male Non- Patient has more altruistic behavior than Female Patient.

Figure- 2.2: Plot of Mean Ranks for the significant Kruskal-Wallis one-way ANOVA on AT

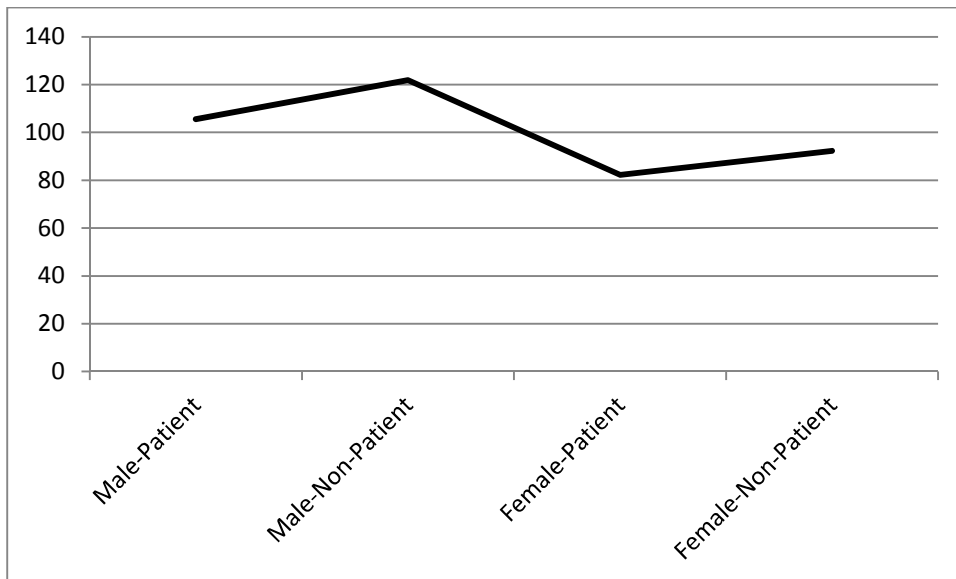


Table- 8.3: Steel-Dwass test for the significant Kruskal-Wallis one-way ANOVA on REL

	Male-Patient	Male-Non-Patient	Female-Patient	Female-Non-Patient
Male-Patient	X	-1.70	-3.90**	-3.20**
Male-Non-Patient		X	-2.70*	-1.83
Female-Patient			X	1.18
Female-Non-Patient				X

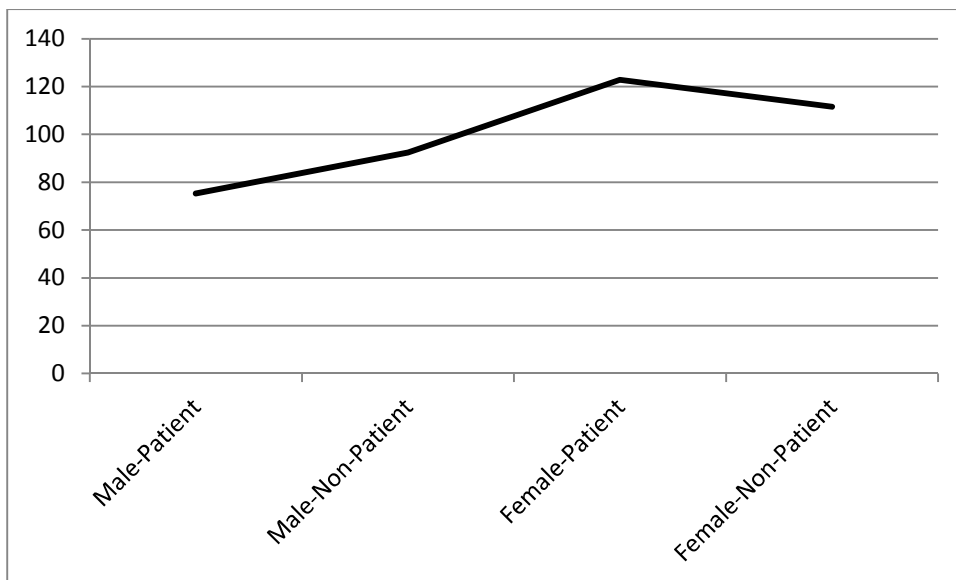
* Significant at .05; ** Significant at .01

Results on Table- 8.3 shows 2x2 Steel-Dwass Kruskal-Wallis one-way ANOVA {2 Population (Patient & Non- Patient) x 2 Gender (Male & Female)}. The table reveals a negative significant difference between Female Patient and Male Patient on REL. Also a

negative significant difference is seen between Female Non-Patient and Male Patient. Again it is a negative significance difference is seen between Female Patient and Male Non-Patient.

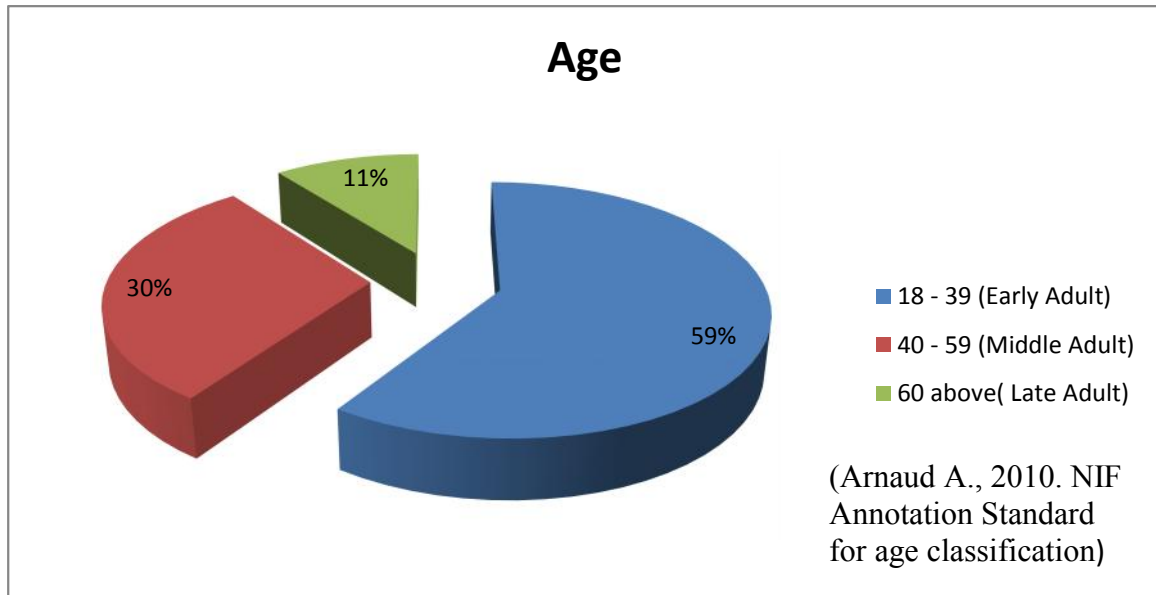
The line graph in Figure- 2.3 shows that female patient and female non-patient are more religious than Male Patient. Also the result revealed that female Patients are more religious than Male Non-Patient.

Figure- 2.3: Plot of Mean Ranks for the significant Kruskal-Wallis one-way ANOVA on REL



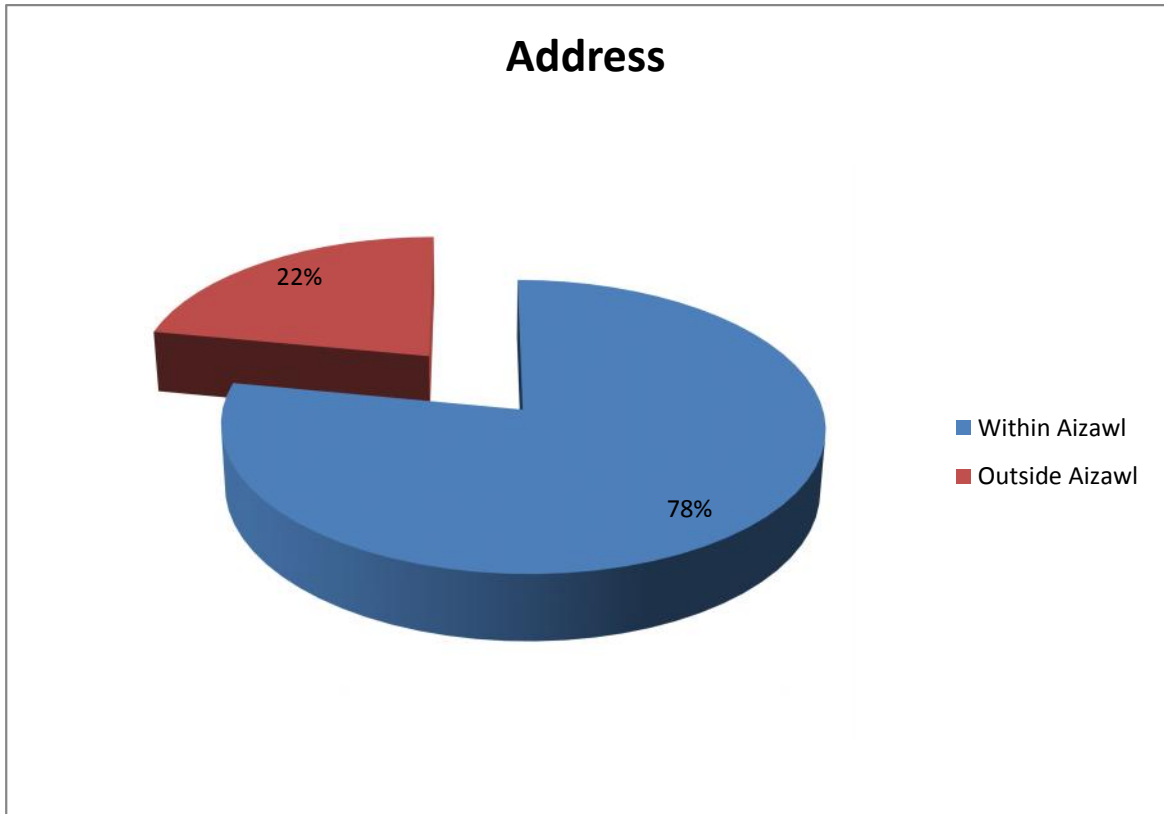
Socio- Demographic Representation of The Sample

Figure – 3.1: Pie chart showing demographic of the whole sample base on age groups.



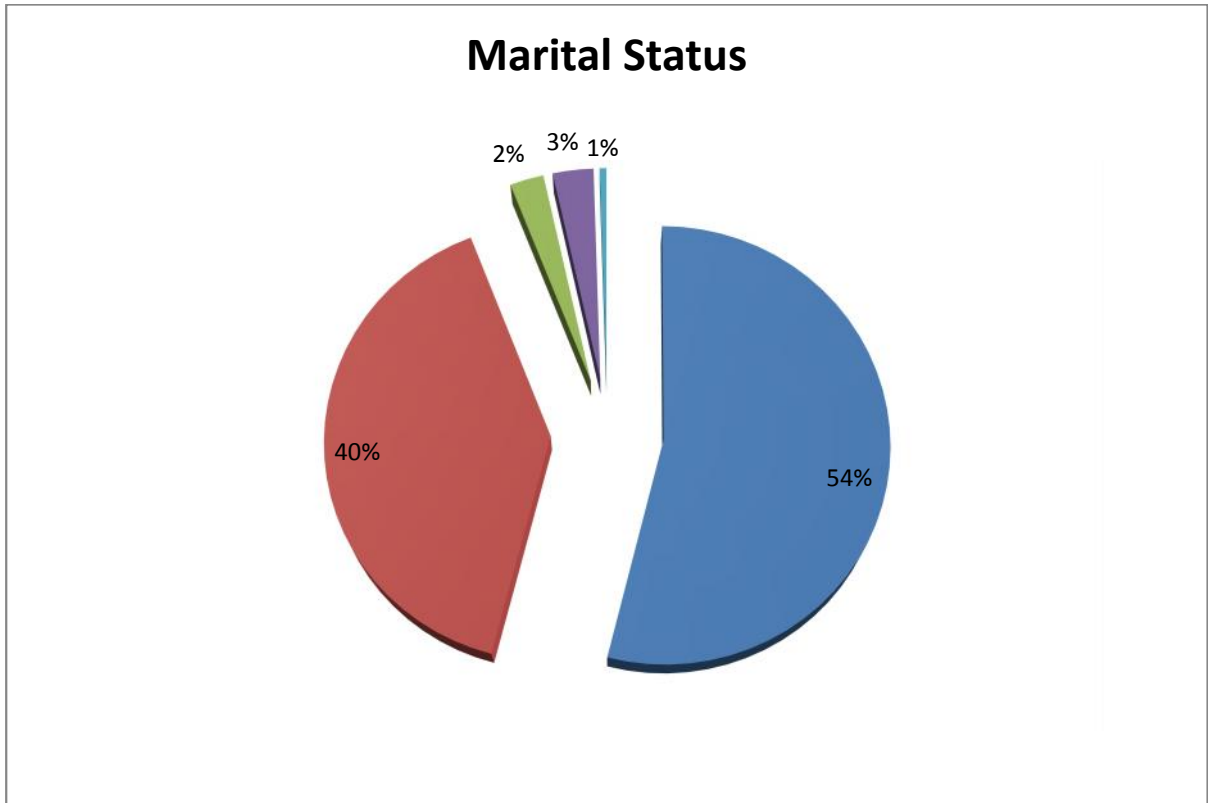
Pie chart shows demographic on marital status for the whole sample. It is revealed that majority of the sample are Early adult i.e. between the age of 18 to 39 years. Followed by Middle adult i.e. between the age of 40 to 59 years constitute 30%. Late adults i.e. above 60 years constitute only 11% of the whole sample (Figure 3.1).

FIGURE-3.2: Pie chart showing demographic of the whole sample base on Location.



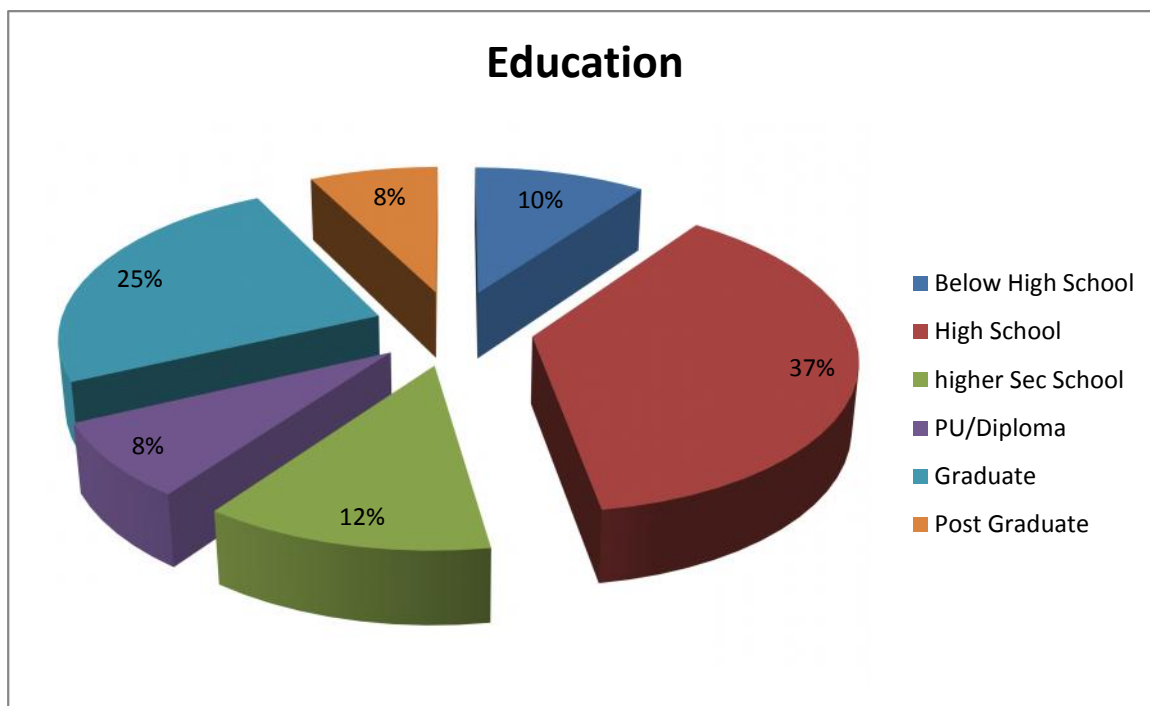
Pie chart shows demographic on location for the whole sample. It is seen that 78% of the sample were from within Aizawl city while the rest 22% were from outside the capital city Aizawl (Figure 3.2).

Figure – 3.3: Pie chart showing demographic of the whole sample base on Marital Status.



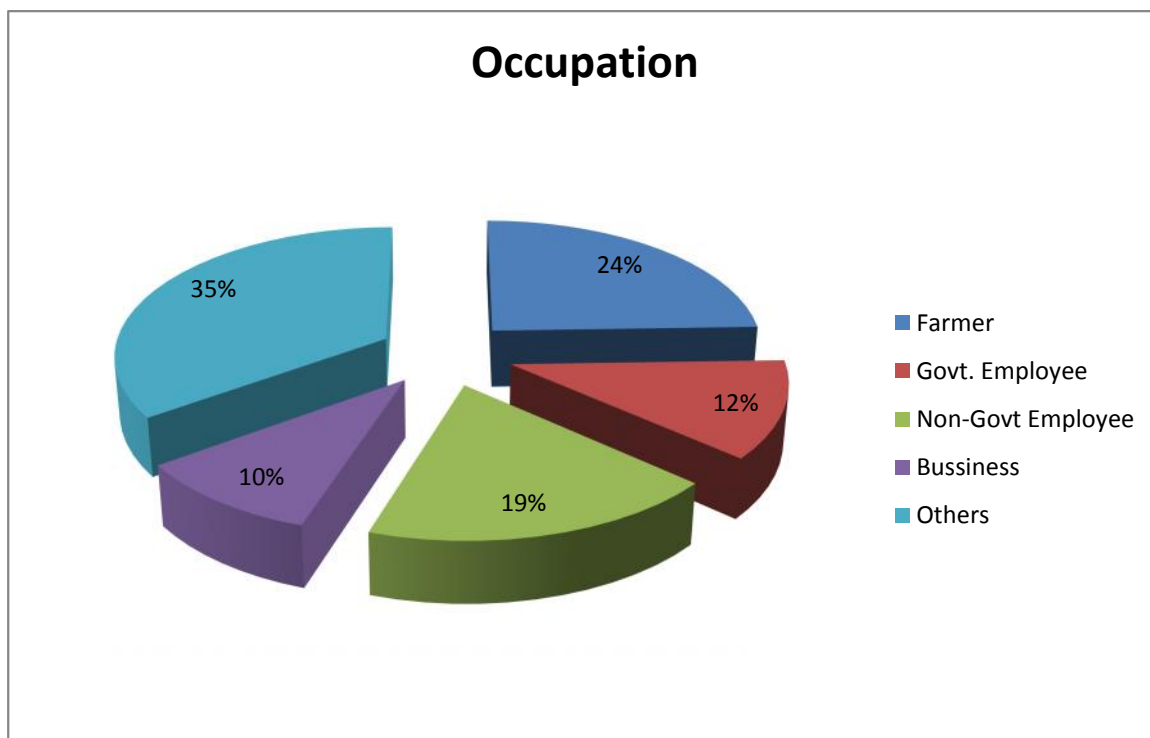
Pie chart indicated that majority of the sample are married i.e. 54 percent. 40% are Single, followed by widow 3%, divorced 2% and only 1 percent widower (Figure – 3.3).

Figure – 3.4: Pie chart showing demographic of the whole sample base on education.



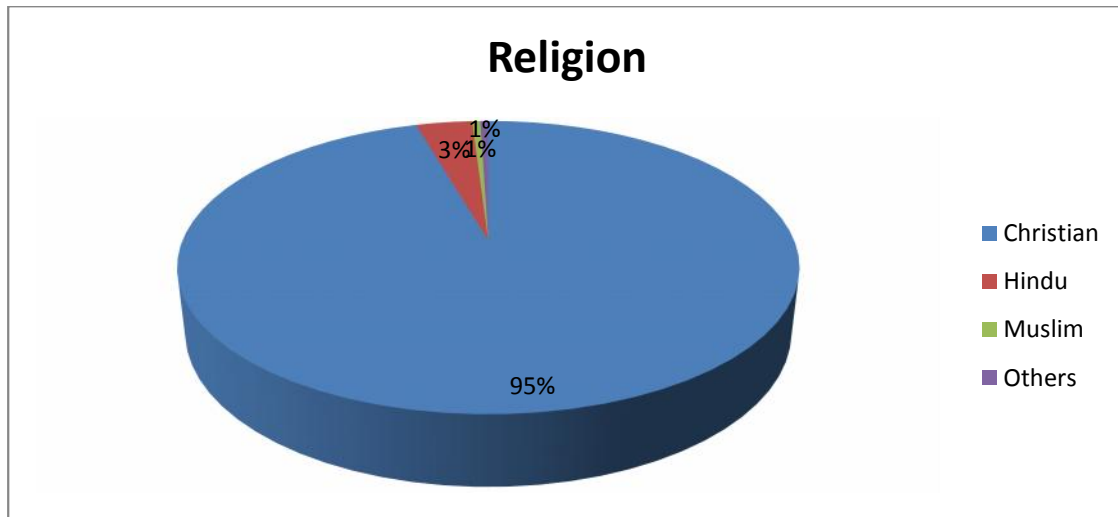
Pie chart reveals educational qualification of the participants that majority studied High School which consists of 37% followed by 25% Graduate. Next comes Higher Sec. School 12%, followed by Below High School 10%, Post Graduate and PU/Diploma consist of 8% each (Figure – 3.4).

Figure – 3.5: Pie chart showing demographic of the whole sample base on Occupation.



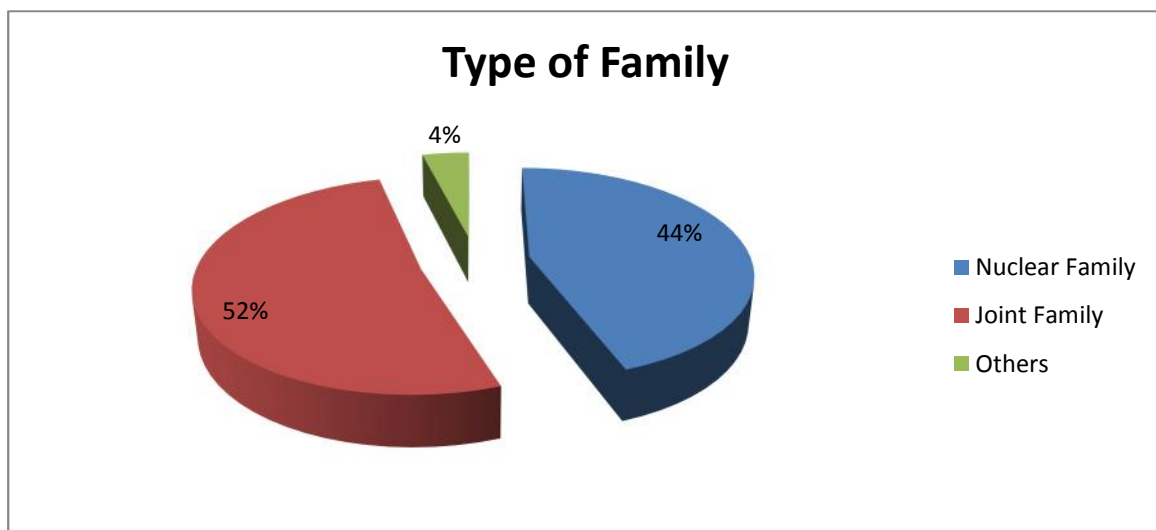
Pie chart indicated Occupation of samples where majority were Farmer consisting of 35%, followed by Others with 2%, third comes Non-Government Employee with 19% and Business consist of only 10% (Figure – 3.5).

Figure – 3.6: Pie chart showing demographic of the whole sample base on Religion.



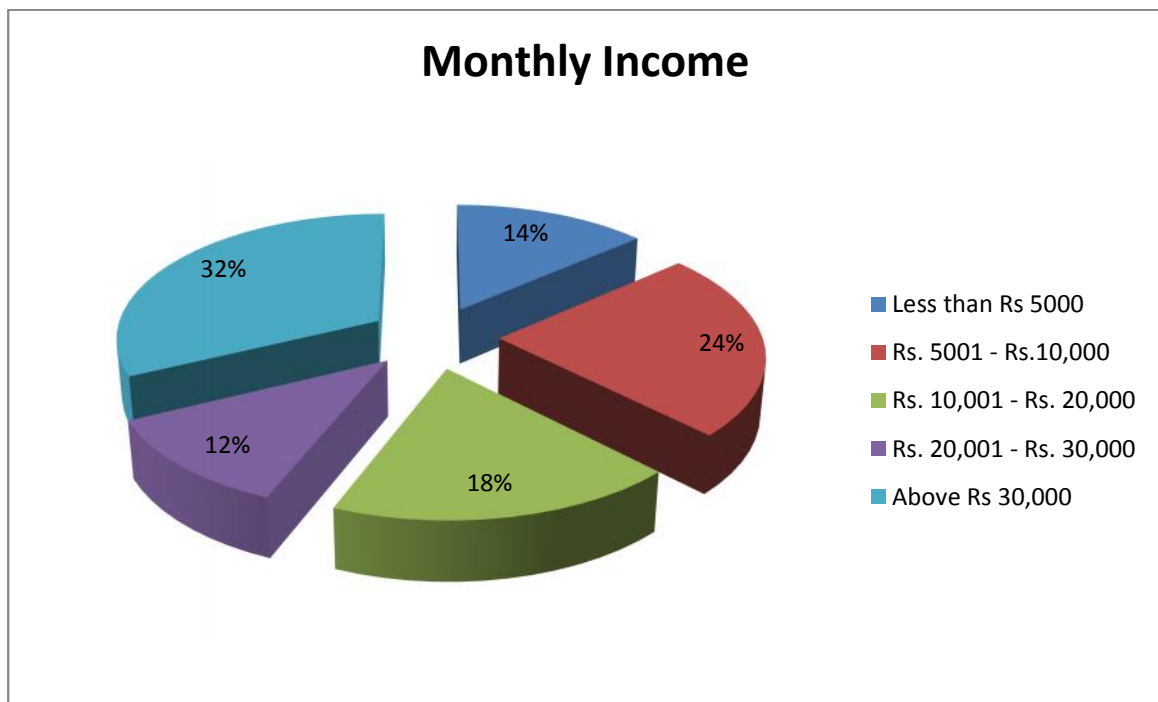
Pie chart reveals that almost all the samples were Christian consisting of 95%. 3% were Hindu and 1% each from Others and Muslim community (Figure – 3.6)

Figure - 3.7: Pie chart showing demographic of the whole sample base on Type of Family.



Pie chart shows Type of family of the sample that 52% came from Joint Family, followed by Nuclear family consisting of 44% and the rest 4% were others (Figure – 3.7).

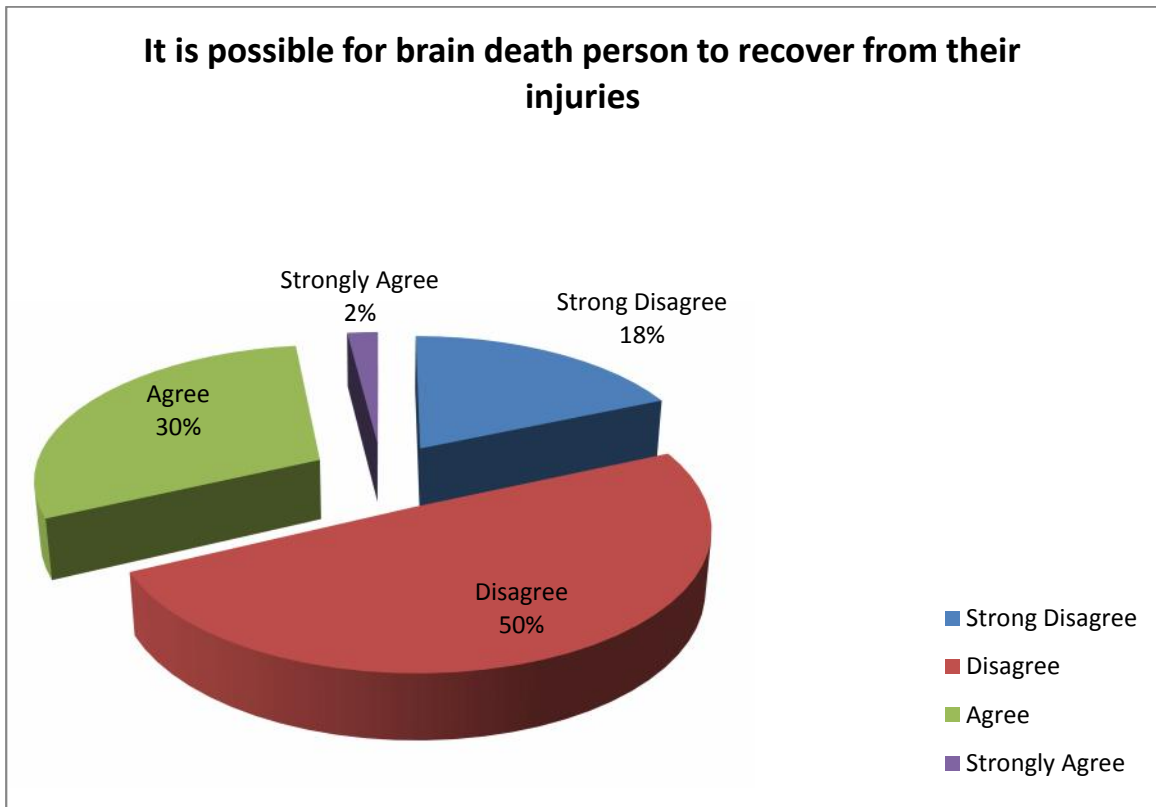
Figure – 3.8: Pie chart showing demographic of the whole sample base on Monthly Income of Family.



Pie chart shows Monthly income of family for the whole sample. It is seen that 32% earned above Rs. 30,000 in a month, 24% earned around Rs. 5,001 to Rs. 10,000, 18% earned Rs. 10,001 to 20,000, 14 % earned below Rs. 5,000 and the rest 12% earned Rs. 20,000 to 30,000 (Figure – 3.8).

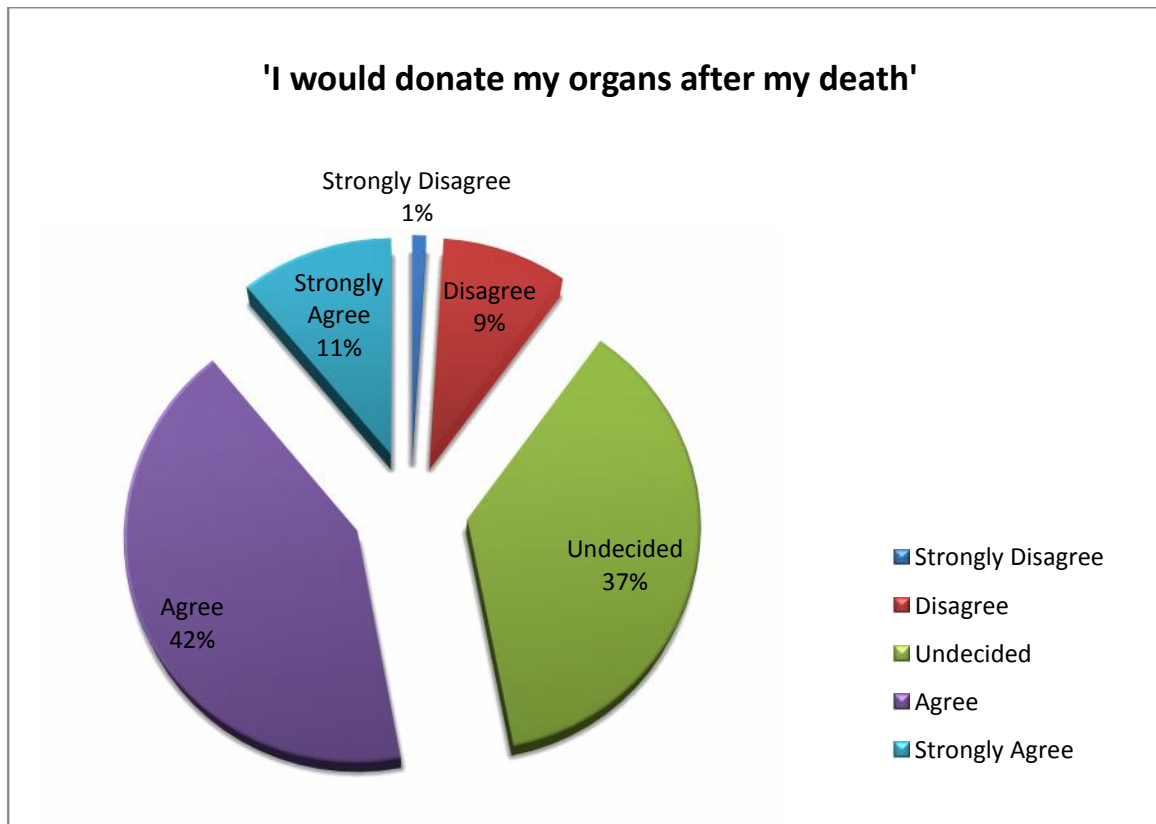
The results of selected items of the ODTK, DS and REL for more clarity of the scale

Figure – 4.1: Pie chart showing knowledge on the concept of brain death.



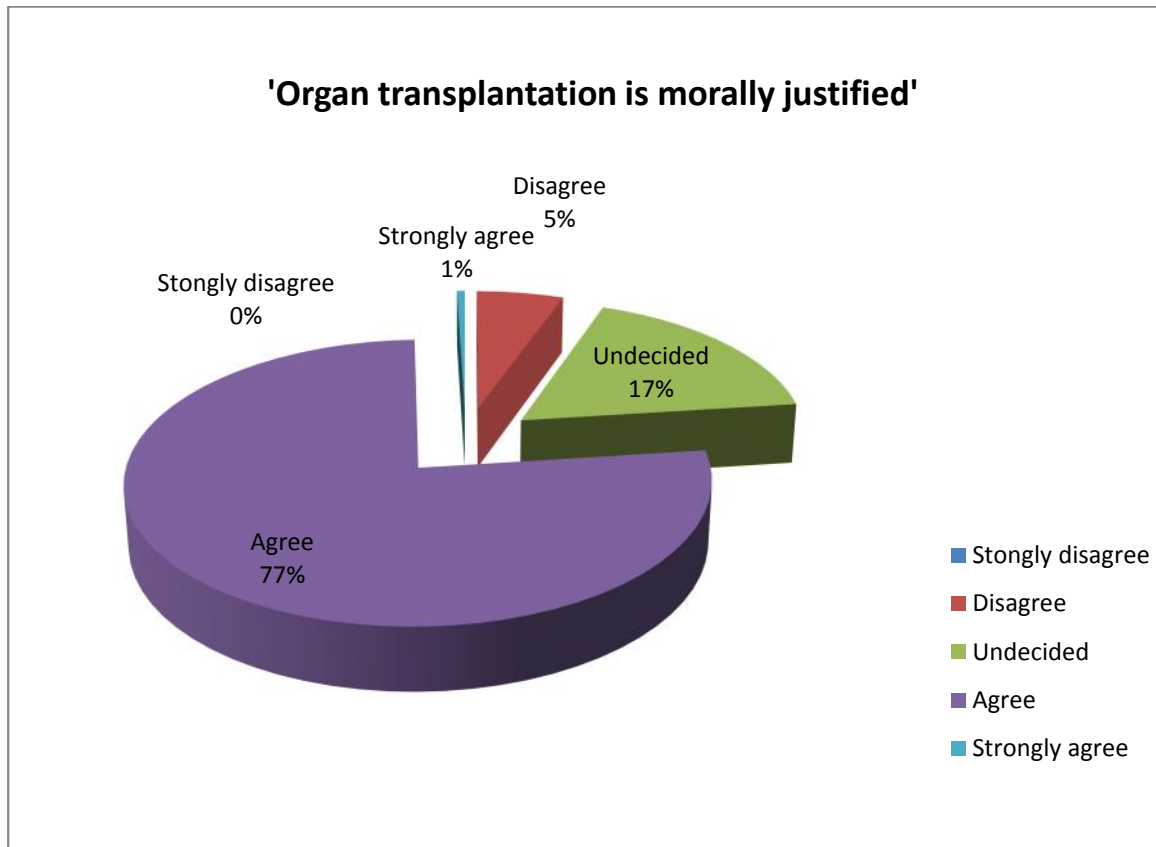
Assessment of knowledge on brain death concept - ‘It is possible for a brain death person to recover from his injuries’, revealed that 18% of the respondents strongly disagree to the statement, and 50% disagreed. While 30% stated that brain death patient could recover, and 2% strongly support for the same. (Figure – 4.1).

Figure – 4.2: Pie chart showing the Attitude (willingness) of the participants’ to cadaveric organ donation.



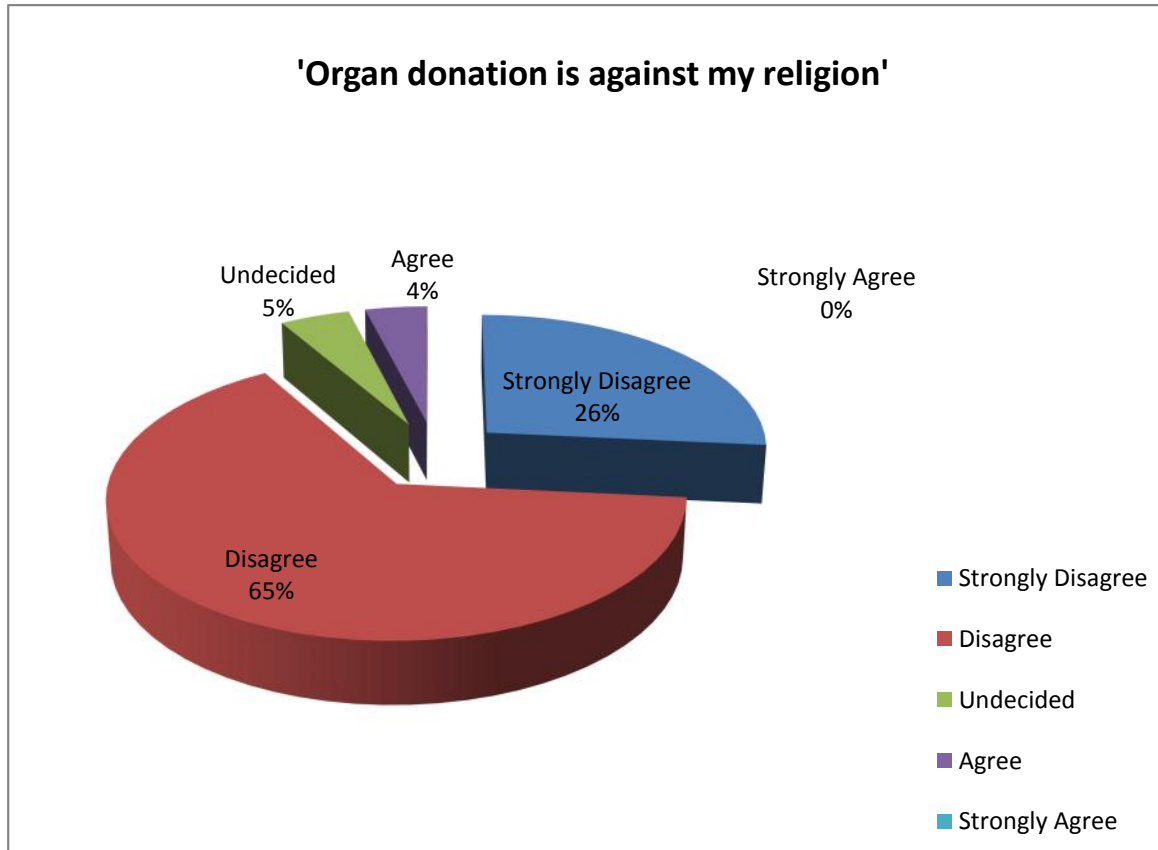
Pie chart highlights the participants willingness to donate organs after death. It is seen that majority 42 % agree to donate their organs at the time of their death, 11 % strongly agree to donate, 37 % of them are undecided, 9 % states that they disagree while 1 % strongly disagree to organ donation upon their death (Figure. 4.2)

Figure – 4.3: Pie chart showing attitude (moral) toward transplantation.



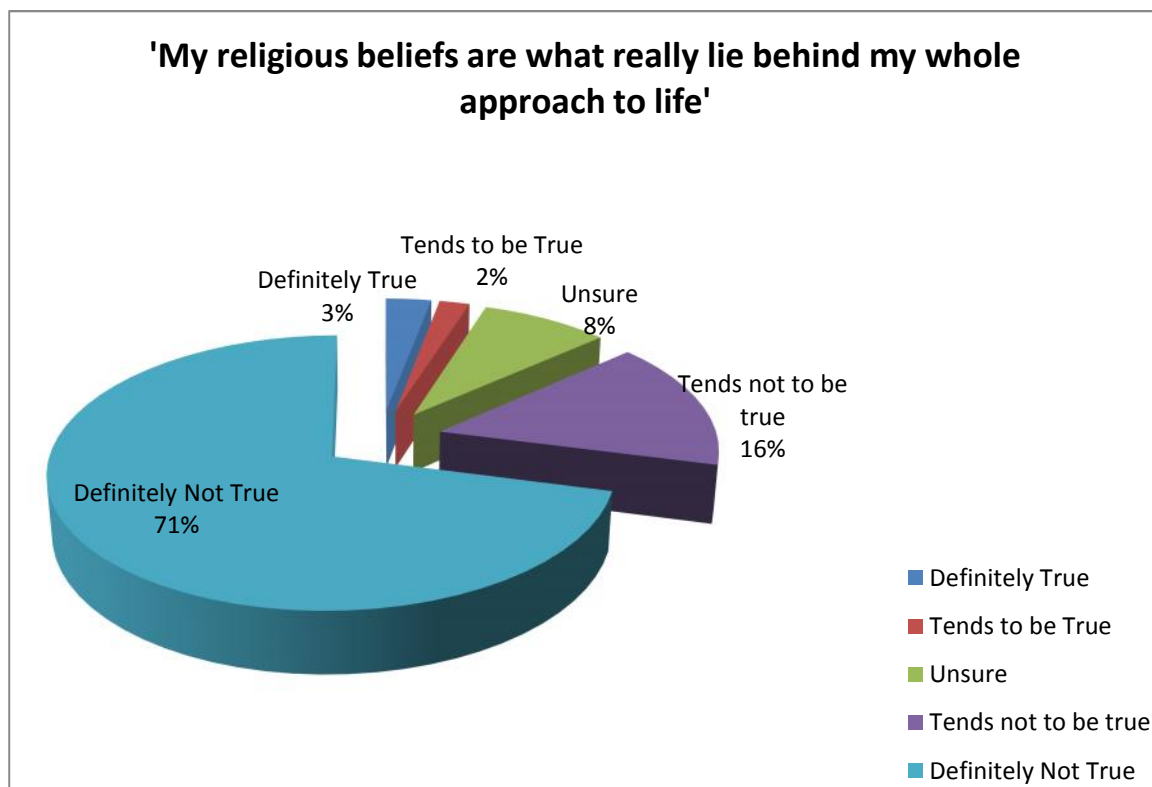
Pie chart reveals participants view regarding organ transplantation. Finding indicates that 77% of the participants felt organ donation as morally justified and 1% strongly agrees to the statement. 17% were undecided, 5% disagree but none of the participants strongly disagree on the statement in Figure 4.3.

Figure – 4.4: Pie chart showing participants Attitude (view on religion and organ donation).



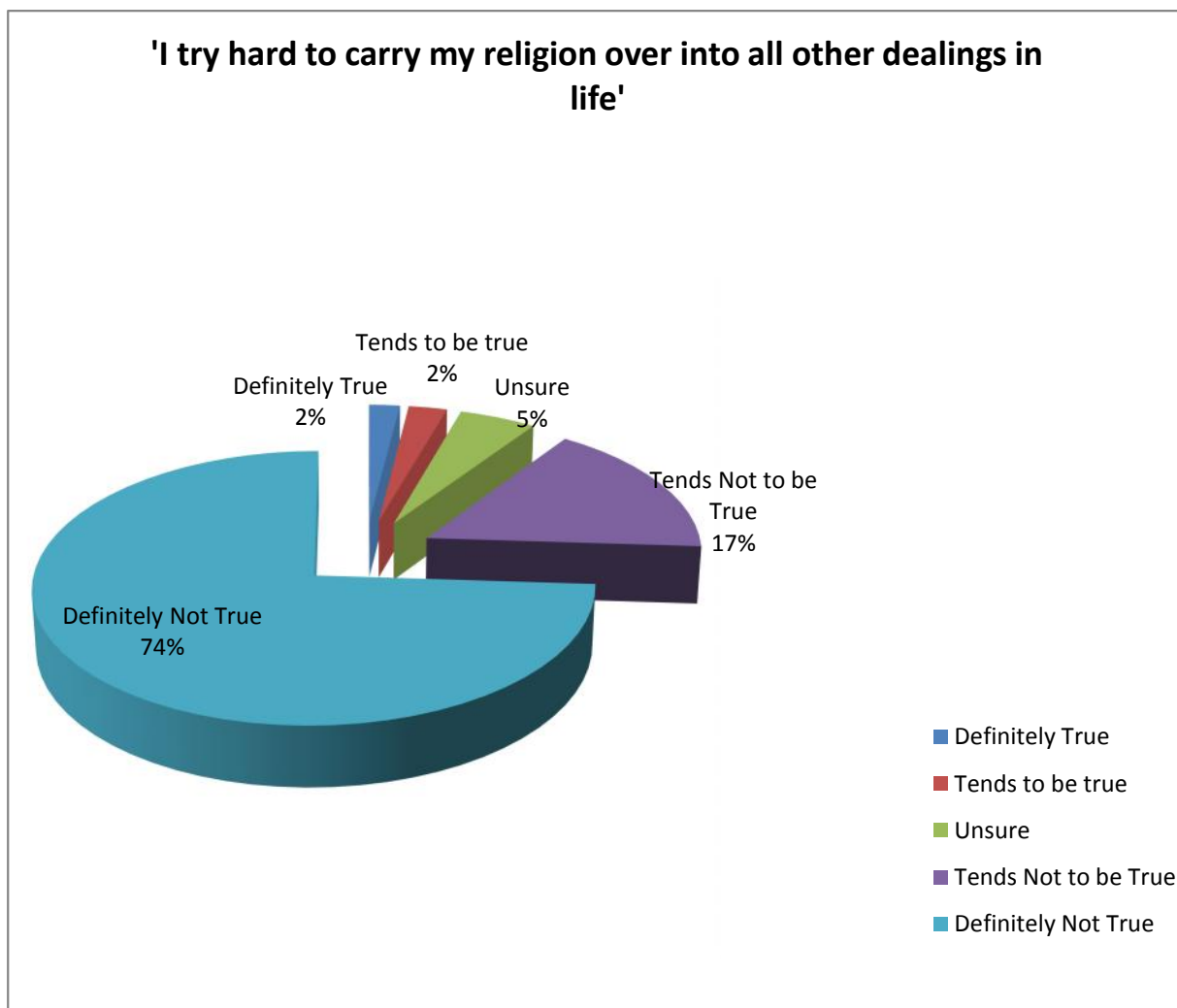
Pie chart indicates participants view on religion and organ donation. Findings reveal that majority 65% thinks organ donation is supported by their religion and 26% of them strongly states that organ donation is not against their religion. While 5% of them are undecided about the statement, 4% of them felt that organ donation is against their religion however, none of them states ‘strongly agree’ to the statement ‘Organ donation is against my Religion’ (Figure – 4.4).

Figure – 4.5: Pie chart showing religiosity of participants.



Pie chart indicates degree of participants' religiosity. Finding reveals that majority 71% states that their religious beliefs definitely does not really lie behind their whole approach to life and 16% of them mentioned the above statement tends not to be true. 8% of them are undecided while 3% definitely felt religious beliefs really lie behind their whole approach to life and 2% tends to feel the same (Figure 4.5).

Figure – 4.6: Pie chart showing religiosity of participants.



Pie chart reveals how much influence religion has in participants' life. Finding shows that 74% definitely did not carry religion into all other dealings in their life; also 17% felt they tend not to carry the same. 5% are not sure while 2% states definitely true and another 2% states tends to be true on the statement presented in Figure – 4.6.

CHAPTER- V

SUMMARY AND CONCLUSION

SUMMARY AND CONCLUSIONS

The present research “Knowledge, Attitudes, Altruism and Religiosity in Relation to Organ Donation: A study among The Mizo” , has been undertaken and designed to explore and examine the knowledge, attitude, altruism and religiosity towards organ donation among the Mizo. This study could benefit both the organ donation field, psychologists and other behavioral scientists interested in domains where their skills can be put to use with saving lives as the goal. The study also attempts to give suggestions for intervention and or form the basis for more in-depth studies.

In Mizoram, Organ donation center is not yet establish so far, though there is high demand as a result of disease and illness. Many people within the urban and most of the rural population are still ignorant about the medical, quality of life, psychological and economic benefits of solid organ transplantation. The Health and Family Welfare Department, Aizawl Mizoram, set up the Mizoram eye bank at the state's largest government hospital, Civil Hospital, Aizawl on 31st July 2008. The first ever organ(cornea) transplant in Mizoram was successfully carried out by Eye Department Civil Hospital, Aizawl in collaboration with Sri Sankadeva Netralaya, Guwahati, Assam on 25th September 2009. Since then, Cornea transplantation are being performed at the Civil Hospital, Aizawl, 56 patients have received cornea transplantation in Aizawl, and 109 corneas have been send and utilized outside the state for transplantation (till March, 2014). From the inception of Eye Bank till March 2014 there were 119 deceased cornea donor in Mizoram and the total number of cornea collection was 238, the utilization rate of donor cornea was 69.75% (till March 2014). Number of people who came to Mizoram Eye Bank Civil Hospital Aizawl to pledge their eyes (till March 2014) were 3027 persons. Recipient registration records during the above mentioned period were 214 person, reports indicated that there were many people having Corneal blindness but not attending hospitals for treatment both within the state capital Aizawl and

other district because of lack of awareness of the existing medical treatment and financial difficulty to come to the city to avail the treatment.

According to hospital records (Civil hospital,2014), in a month 500 patients (approx.) are in need of dialysis and only few can afford the (dialysis) treatment. Records also indicate that on an average 150 to 160 patients with kidney diseases come to Civil Hospital, Aizawl for dialysis in a month, and among them about 70% are in need of transplantation. Some Patients are referred to hospitals outside the state for transplantation, which is a financial burden to many. Also, even for those who can afford the transplantation treatment finding potential donor is a challenge.

This research is designed to elucidate the general perception and awareness of organ donation so that intervention strategies can be developed and implemented to create awareness about the life saving technology, to motivate people to make donation, motivate the government to create policies/ strategies for setting up an affordable medical intervention for end stage organ disease and failure, and promote the existing Eye Bank and encourage professionals to learn latest technology, that patients from neighboring states and neighboring countries may also enjoy the blessing from our state. The overview includes efforts to increase hospital referrals, increase family consent, and increase public commitment to organ donation.

To provide empirical and methodological foundations the study aimed to elucidate the psychometric adequacy of the behavioral measures of : (i) Organ Donation knowledge Survey (Trompeta et. al., 2010); (ii) DONATT/ Attitude(Churchill, 1979); (iii) The Self report Altruism (Rushton 1981); Duke Religiosity Index(DUREL; Koenig H.G., Meador K.G., Parkerson G., 1997) for the measurement purposes in the target population – the Mizo.

To achieve the objectives, 200 Mizo adults (100 Patients and 100 Non-Patients) above 18 years of age were randomly selected from four areas/hospitals to serve as subjects for the present study. Patients were selected from four well known hospitals (Aizawl Hospital, Civil Hospital Aizawl, New life Hospital and Presbyterian Hospital Durtlang), patients were also selected from Medicine ward (Male and Female) and General Surgery Ward (Male and Female) and Non Patients from the localities around the hospital area.

The findings of the study can be summarized as follows

(i) In general, the study revealed that Patient have more knowledge towards organ donation than Non Patient.

(ii) The study revealed that Patient have more positive attitude towards organ donation than Non Patient and that male patient and female patient scored higher than male Non Patient.

(iii) Results revealed significant difference on altruism in male and female. Male (Patient/Non-Patient) are more likely to have altruistic behavior as compared to Female (Patient/Non-Patient). Male Non-Patient are more likely to help those in need than Female patient.

(iv) The study also indicated that all the respondents' view religion as supporting organ donation. Findings reveal that female (Patient/Non-Patient) scored higher than their male counterparts in religiosity that is, female patient and female non-patient are more religious than Male Patient. Also that female Patient are more religious than Male Non-Patient.

(v) Spearman correlation revealed significant relationship between Attitude and Knowledge. However, there was no significant relationship between Knowledge and

Altruism, Knowledge and religion, Attitude and Altruism, Attitude and Religion, Altruism and Religion. Therefore hypothesis 3 & 4 is rejected.

(vi) Mann-Whitney U test result indicates that there is a significant difference between Patients and Non-Patient in Organ Donation and Transplantation Knowledge Survey (ODTK) and DONATT/Attitude (DS). This finding is in support of hypothesis (1) of the study. Mean rank shows that Non-Patient is higher than Patient in Altruism and religiosity.

(vii) Results on Mann-Whitney U test also revealed significant differences between Gender (Male/Female) in Altruism (AT) and Religiosity (REL). This finding is in support of hypothesis (2). Mean rank indicates that female score higher than male in Organ Donation and Transplantation Knowledge Survey (ODTK) and Attitude (DS).

(viii) Kruskal Wallis Test indicated a significant difference in DONATT/Attitude (DS), The Self Report Altruism (AT) and Duke Religiosity Index; however, there is no significant difference in Organ Donation and Transplantation Knowledge Survey.

For more in-depth understanding of some items of the ODTK, DS and REL further analysis making use of frequency statistics depicted the following:

Findings revealed that the concept of brain death is not familiar to the participant, although 68% of them were in support of the statement that “it is not possible for a brain death person to recover from their injuries’, we can see that there is a great need for awareness in the concept. Understanding the concept of brain death may help patients family to make right decision in the right time.

Findings revealed that 53% of the participants showed willingness to donate their organs after death, while 10% disagree to it. Of all the participant 37% cannot make decision for cadaveric organ donation.

Regarding organ transplantation 78% of the participants felt that organ donation is morally justified, on the other hand findings indicated that 6% disagree to it, while 17% remain undecided on whether organ transplantation was morally justified.

Participants views on religion and organ donation revealed that almost all the participants i.e. 91% are in support that organ donation was not against their religion. 5% of them remain undecided while 4% viewed that organ donation was against their religion, however, none of the participant say they strongly felt organ donation as against their religion. In one study 67.5% of respondent replied that religion allows organ donation and for that reason they will show motivation for organ donation in future comparing to those responded that religion do not allow Organ donation and this is why they were reluctant to donate their organs in future.

Almost all the respondents are Christian, and viewed Christianity as supporting organ donation. However 87% of them mentioned that their religious beliefs are not what really lie behind their whole approach to life. At the same time 5% of them are in support that religion lie behind their whole approach to life while 8% are unsure. Findings also revealed much difficulty in carrying one's religion expectation in all walks of life that 91% does not carry religion into all other dealings in life. Many factors may contribute for it, in the present study majority 89% of the respondent were from early to middle adult age groups (18-59years), although the study does not concentrate in the association between age and religiosity, there is a common consensus that older people with less productive life were more religious than younger age groups. As a result we have low percentage of respondent in support of carrying religion into all other dealings in life. Therefore, it is unlikely that majority of participants will turn intention to actual donating behavior. From the findings we could say that providing adequate knowledge and awareness would help in turning intentions and willingness to actual donating behavior.

Knowledge has an important role in an individual's willingness to donate his or her organ after death. General knowledge on transplantation process and personal knowledge of someone who has donated or received an organ has led to increased willingness to donate organs. Knowledge enables clarification of false beliefs, which can increase willingness to consent an organ donation (Trompeta J. A, et. al., 2010). Many organ procurement specialist offer anecdotal evidence that some grieving families find solace in donating loved one's organs because it offers hope that something positive can result from a tragic loss. Molzahn (1996) confirmed this is an important psychological factor that contributes to a willingness to donate. Medical mistrust, fear of body mutilation, myth and misconception regarding organ donation appears to be factors that affects willingness to become a potential organ donor.

The lack of awareness about the range of circumstances under which transplants are needed may inhibit some individuals from donating as they do not understand or know about the reasons why transplants are needed and, therefore, may unable to make an informed donation decision. While lack of knowledge about the process of organ donation is an issue that has been widely addressed in the literature (e.g., Horton & Horton, 1990), knowledge deficits about the reasons why transplant are needed, both in general and according to specific organ type, have not been addressed. Strategies to increase organ donor registration and donation rates should focus on this knowledge about reasons for organ transplantation on organ donation decisions.

Some research suggests that a potent barrier to increasing the number of organs available for transplantation is family refusal to consent, even when evidence of the willingness of the potential donor was apparent. Some factors that have been identified as associated with family refusal (e.g., young age of donor or a violent death) are difficult to change, but potentially modifiable variables such as knowledge and beliefs about organ donation are likely to influence consent to donation of the organs of a family members

(Wakefield C. E., et al., 2011). Not only did total scores within the battery of altruism tests and measures yield evidence of consistency, but so too did measures of self-control, persistence, honesty and moral knowledge. There is, indeed, evidence for a pervasive general factor of moral character (see, e.g., Hartshorne *et al.*, 1930, p. 230, Table 32). Some people are consistently more generous, helping and kind than others. Furthermore, such people are readily perceived as more altruistic, as is demonstrated by several studies. Indeed there are several studies that have shown that individual differences in paper-and-pencil measures of such constructs as empathy, moral reasoning, and social responsibility also predict situationally measured altruism (see Rushton, 1980, for a review).

In conclusion the findings of the present study indicate that knowledge is higher in Patients, that Patients also have more positive attitude towards organ donation than Non Patient. That there is significant difference on altruism in male and female. also that all the respondents view religion as supporting organ donation. These findings are consistent with research findings reported in literature that women, younger age are slightly more inclined to donate their organs. The topic of gender differences in organ donation has suggested that females donate organs more frequently than do men, which implies that women have a more positive attitude towards the idea of organ donation than men. From the study we can see that some participants are reluctant to show positive attitude toward organ donation. This may be due to the fact that religions, beliefs, lack of information and myths on organ donation are major factors that discouraged people in donating organs (Morgan et al., 2003).

There was significant relationship on knowledge and Attitude but no significant relationship between Knowledge and Altruism, Knowledge and religion, Attitude and Altruism, Attitude and Religion, Altruism and Religion.

In can be concluded that there is a wide gap in terms of organ donation on the basis of education and socio-economic status among the sample population. Adequate knowledge

may change the attitude of people towards organ donation Multi- sectoral approach (e.g. electronic and print media, religious scholars, doctors and teachers) should be used to promote awareness of organ donation. Further studies are needed to motivate the general population for organ donation. This study will help patient and researcher in creating health awareness and help people in donation decision making.

Limitation:

An important limitation of this study is that samples are not normally distributed, otherwise a more robust results could have been produced for the study. The attitude data presented here were also limited by the poor psychometric properties of the scale used. Finally very little is known about the knowledge, beliefs, myths and misconception of the Mizo about Living and cadaveric organ donation. Many samples are patients in the hospital, who are not in a position to answer the questions freely, questions are dictated, some of which may be difficult to answer in other's presence as a result may not give the right answer. Also time constraints has been one of the biggest challenge for this study.

Suggestions for further research:

Future studies would benefit from the use of a thoroughly validated Organ Donation Attitude scale with higher reliability. Important area for future research concerns possible cultural and ethnic difference in the Mizo towards organ donation. In addition more study on the association of socio demographic and organ donation will help in spreading awareness. Another significant area for future research includes assessment of myths and misconception on living and cadaveric organ donation for policy makers and intervention strategies.

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PARTICIPANT INFORMATION (MIZO AND ENGLISH)

Project description:

You are invited to participate and share your opinion about living and Cadeveric organ donation. This project is being undertaken as part of M.phill research and request your kind participation to answer several study questions. (Project sawifiahna: He project atan hian I hun hlu tak senga zawhna te mi chhan sak turin ka ngen a che. Project thil tum hi damlai leh thih hnua taksa peng donate chungchang a ni a. M.phill zirna atana thil tangkai tak a ni a, min telsak theih chuan zawhnate min chhansak turin ka ngen nawn leh a che).

Participation:

Your participation in this project is voluntary. If you do agree to participate, you can withdraw from participation at any time during the project. Try to answer the questions in order. Information provided by you will be kept confidential. (Hriattirna: He project atan hian mahni duh thu ngeia tel I ni a. I lo tel hnuaah pawh I remchang lehlo palh a nih pawhin engtiklai pawhin in in hnukdawh leh thei. Zawhna zawng zawng hi a indawtin chhang hram ang che. Chhana zawng zawng hi a tul lova puanzar a ni loving).

Expected outcome:

This study will help patient and researcher in creating health awareness and help people in donation decision making. (**Hmuhchhuah beiseite:**He zirnaa I lo tel avang hian taksa peng mamawhtu tam tak leh researcher ten mipui hriselna lama an zirtirnaahte, miin thutlukna/decision an siam theihna turin a pui dawn a ni).

PARTICIPANT CONSENT FORM (MIZO AND ENGLISH)

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.

(A chungah hriattur pawimmawhte hi ngun takin ka chhiar a, a tul a nih chuan zawhna pawh ka zawt thei a ni.)

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason, and without my medical care or legal rights being affected.

(Keima duh thu ngeiin he zirnaah hian ka tel a, ka duhthuinn ka inhnukdawh leh thei bawh a ni tih ka hria)

3. I understand that there are no risks involved in the participation of this study and that I will not directly benefit from participation.

(He zirnaa ka tel avang hian harsatna a awm phah dawnlo tih ka hria)

4. I agree to take part in the above study.

(He zirna hian tel ka rem ti e)

Name of Participant (**in block capitals**)

Date

Signature

Research scholar

Date

Signature

SOCIO-DEMOGRAPHIC STATUS (MIZO AND ENGLISH)

1. Name (Hming):

2. Age (Kum):

3. Address (Khua/Veng):

4. Sex (Hmeichhia/Mipa):
 - a. Male (Mipa) []
 - b. Female (Hmeichhia) []

5. Marital Status (Nupui pasal chungchang)
 - a. Married (Nupui/Pasal nei) []
 - b. Single (Nula/Tlangval) []
 - c. Divorced (Inthen) []
 - d. widow (Hmeithai) []
 - e. Widower (Nupui thi tawh) []

6. Education (Zirna lam)
 - a. Illiterate (Lehkha chhiar thiamlo) []
 - b. High School []
 - c. Secondary []
 - d. PU/Diploma []
 - e. Graduate []
 - f. Post Graduate []

7. Occupation (Hnathawh)
 - a. Government employee (Sorkar hnathawk) []
 - b. Non-Government employee(Sorkar hna nilo hnathawk) []
 - c. Bussiness (Sumdawng) []
 - d. Farmer (Lonei mi) []
 - e. Others (A dang)

8. Religion (Sakhua)

- a. Christian []
- b. Hindu []
- c. Muslim []
- d. Others (A dang) []

9. Type of family (Chhungkaw chen dan)

- a. Nuclear (In hrang chang) []
- b. Joint (Inpuia cheng) []
- c. Others (A dang) []

10. Number of family members (Chhungkaw zat):

11. Monthly income of family (Chhungkaw thlakhat lak luh zat)

- a. Less than 5,000.00 (5,000.00 aia tlem) []
- b. Rs. 5001.00 to Rs 10,000.00 []
- c. Rs. 10,001.00 to Rs. 20,000.00 []
- d. Rs. 20,001.00 to Rs. 30,000.00 []
- e. Above Rs. 30,000.00(30,000.00 aia tam) []

Appendix-IV

**ORGAN DONATION AND TRANSPLANTATION SCALE (ODTK) Trompeta et. al.,
2010) (MIZO AND ENGLISH)**

Instruction: Some statement on organ donation and transplantation knowledge is given below.

Please answer the following question by circling one of the four numbers: *A hnuaiah hian organ donation leh transplant chungchang pek a ni a. Zawhnate chhiarin, I chhanna number duh berah thai bial rawh*

	Strongly Disagree (Pawmlo hulhual)	Disagree (Pawm lo)	Agree (Pawm)	Strongly Agree (Pawm lutuk)
1. Racial discrimination prevents minority patients from receiving the transplant they need. (Hnam In thliarna avangin damlo ten taksa peng dawn tur, an mamawh an hmuh theih loh phah a ni.)	1	2	3	4
2. Asians wait longer for kidney transplants than whites. (Sap aiin Asia miten kal dawng turin an nghah rei a ngai zawk).	1	2	3	4
3. A rich person has a better chance of getting an organ transplant than an ordinary working person (Mihausain mi naran aiin taksa peng an mamawh dawn tur an hmu hma zawk).	1	2	3	4
4. Organ for transplant can be bought and sold on black market in Mizoram. (Mizoramah taksa peng diklo taka hralh leh lei tur a awm).	1	2	3	4
5. I could need an organ transplant at some time in my life. (Ka dam chhung hian mi taksa peng dawn ka mamawh ve thei).	1	2	3	4
6. The types of diseases that lead to the need for transplant are unusual and rare. (Taksa peng thlak ngai khop tur a natna hi natna vang leh dangdai tak a ni)	1	2	3	4
7. High blood pressure and diabetes are common causes for people to require a kidney transplant. (Thisen sang leh zunthlum natnate avang hian kal thlak a mamawh theih).	1	2	3	4
8. People can cause their own disease of needing an organ transplant from using intravenous drugs, drinking too much alcohol. (Mihringte hian thisen zam tichhe thei damdawi hmansual vang leh zuin tam lutuk avangin, an taksa peng eng eng emaw thlak ngaiin an awm phah thei).	1	2	3	4
9. High blood pressure and diabetes are common diseases in Asians. (Asia mite zingah thisen sang leh zunthlum natna a hluar).	1	2	3	4
10. It is possible for a brain death person to recover from their injuries. (Mi thluak thi tawh hi an hliam tawrhna atangin an tha chhuak leh thei).	1	2	3	4

	Strongly Disagree (Pawmlo hulhual)	Disagree (Pawmlo)	Agree (Pawm)	Strongly Agree (Pawm lutuk)
11. People who chose to donate their family member's organs end up paying extra medical bills. <i>(Chhungte taksa peng hrang eng emaw midang tana petu chuan, damdawi inenkawlna ah an in sengso thin).</i>	1	2	3	4
12. Organ donor's can't have regular funerals because the body is deformed by the removal of organs. <i>(Taksa peng hrang midangte hnena petu chuan a taksa peng a kim tawh loh avangin in vui dawnin ruang hmuh tlaka vui theih a nilo).</i>	1	2	3	4
13. After transplant, the person is never healthy enough to return to work or school. <i>(Taksa peng thlak tawh chu hnathawk leh tur emaw sikula kal leh turin a hriselna a tha tawh tawh lo).</i>	1	2	3	4
14. Transplant recipient can live more than 10 years after a transplant operation. <i>(Mi dang taksa peng dawngtu chu kum 10 aia rei a dam thei).</i>	1	2	3	4
15. You can donate certain organs while you are alive and healthy. <i>(I dam lai leh I hrisel that lain I taksa peng midang I pe thei).</i>	1	2	3	4
16. A patient can receive an organ transplant from a living donor. <i>(Damlo chuan mi dam lai taksa atangin taksa peng a dawng thei).</i>	1	2	3	4
17. A matched donor is based on blood type and certain health conditions. <i>(Taksa peng mil petur chuan thisen type leh hriselnain a zir a ngai).</i>	1	2	3	4
18. A matched donor is based on genetics. <i>(Taksa peng mil pe tur chuan thlah khat an nih a ngai).</i>	1	2	3	4

DONATT SCALE (DS; Churchill, 1979) (MIZO AND ENGLISH)

Instruction: Some statement on organ donation and transplantation knowledge is given below. Please answer the following question by circling one of the four numbers:

A hnuaiiah hian organ donation leh transplant chung chang pek a ni a. Zawhna te chhiarin, I chhana number duh berah thai bial rawh

1, Strongly Disagree (*Pawmlo hulhual*): 2, Disagree (*Pawmlo*):

3, Agree (*Pawm*): 4, Strongly Agree (*Pawm lutuk*):5, Strongly Disagree(*Pawmlo hulhual*)

	Strongly Disagree (<i>Pawm lo hul hual</i>)	Disagree (<i>Pawmlo</i>)	Undeci -ded	Agree (<i>Pawm</i>)	Strongly Agree (<i>Pawm lutuk</i>)
1. I would donate my organs after my death <i>Ka thih hnuah ka taksa peng hrang hrang midang tan ka pe ang</i>	1	2	3	4	5
2. I find the idea of organ donation repulsive <i>Taksa peng hrang hrang midang tana pek hi a dik lo ka ti</i>	1	2	3	4	5
3. I would not allow the organs of a loved one to be donated <i>Ka chungte an taksa peng hrang hrang midang pek ka phal lovang</i>	1	2	3	4	5
4. Organ transplantation is morally justified <i>Taksa peng hrang mi dang pek hi tih tur dik a ni</i>	1	2	3	4	5
5. Organ donation is against my religious belief <i>Taksa peng hrang midang pek hi ka sakhaw zirtirna kalh a ni</i>	1	2	3	4	5
6. If a family member signed a donor card, then I would approve the donation <i>Kan chung zingah taksa peng pe phal an awm chuan ka pawm pui ang</i>	1	2	3	4	5
7. I am worried that a loved one's body would be disfigured if their organs were donated <i>Taksa peng hrang pekin, ka hmangaih tak taksa chu a ti hmelhem ang tih ka hlau</i>	1	2	3	4	5
8. People who receive organ transplants cannot live normal lives <i>Mi taksa peng hrang dawngtu chu nunphung pang ngaiin a nung thei tawh lo ang</i>	1	2	3	4	5

The Self Report Altruism scale (AT; Rushton, 1981) (Mizo and English)

Instruction: Tick the category on the right that conforms to the frequency with which you have carried out the following acts. (*Midang tan eng thil nge I tih sak tawh han thai teh*)

	Teuh lo	Vawi khat	Vawi khat aia tam	Vawi eng emaw zat	Vawi tam tak
1. I have helped push a stanger's car out of the snow (<i>Mi, ka hriatloh motor vur zing atangin ka nawr chhuahpui</i>)	1	2	3	4	5
2. I have given directions to a stranger <i>Hmelhriatlohthilkakawhhmuh</i>	1	2	3	4	5
3. I have made change <i>Hmelhriat loh tan thil ka thlak danglam sak</i>	1	2	3	4	5
4. I have given money to charity <i>Mitanpui nan pawisakapetawh</i>	1	2	3	4	5
5. I have given money to stranger who needed it (or asked me for it) <i>Hmelhriat loh pawisa mamawh ka pe tawh (min diltu hnenah pawh)</i>	1	2	3	4	5
6. I have donated goods or cloths to a charity <i>Bungrua/thuamhnaw miharsa ka pe tawh</i>	1	2	3	4	5
7. I have done volunteer work for a charity. (<i>Mi tanpui hna volunteer-in ka thawk tawh</i>)	1	2	3	4	5
8. I have donated blood <i>Thisen ka pe tawh</i>	1	2	3	4	5
9. I have helped carry a stranger's belongings (books, parcels, etc) <i>Hmel hriat loh thuamhnaw/bungrua ka ken /thiarpui tawh (lehkhabu, parcel leh a dangte)</i>	1	2	3	4	5
10. I have delayed an elevator and held the door open for a stranger <i>Hmelhriat loh tan inchhawng kalna (elevator/lift) kawngkhar ka tih din sak tawh</i>	1	2	3	4	5
11. I have allowed someone to go ahead of me in a lineup (at Xerox machine, in the super market) <i>In tlarnaah midang ka kal hmasak tir tawh (Xerox machine hmannah, Supermarket-ah)</i>	1	2	3	4	5

	Teuhlo	Vawi khat	Vawi khat aia tam	Vawi eng emaw zat	Vawi tam tak
12. I have given a stranger a lift in my car <i>Hmel hriat loh ka motor-ah ka phur tawh</i>	1	2	3	4	5
13. I have pointed out a clerk's error (in a bank, at the supermarket) in undercharging me for an item <i>Bank, emaw supermarket emawah hna thawktu (clerk) thil tih dik loh/thil man chhut sual, ka hrilh hre tawh.</i>	1	2	3	4	5
14. I have let a neighbor whom I didn't know too well borrow an item of some value to me (e.g. a dish, tools etc) <i>Hmelhriat vak loh thenwm hnenah, ka thil ui tak ka puk tir tawh (entirna, bungbel, hmanraw dang leh a dangte)</i>	1	2	3	4	5
15. I have bought charity Christmas cards deliberately because I knew it was a good cause <i>Mi tan puina tur charity Christmas card ka lei tawh, thil tha a ni tih ka hriat avangin</i>	1	2	3	4	5
16. I have helped a classmate who I did not know that well with a homework assignment when my knowledge was greater than his or hers <i>Ka zirlai pui ka hmel hriat that em em loh, amah aia ka thiam zawk avangin a homework ka tih pui tawh</i>	1	2	3	4	5
17. I have before being asked, voluntarily looked after a neighbour's pet or children without being paid for it <i>Thenawmte ran khawi emaw an fate emaw min ngen vang pawh ni lovin ka lo en kawl sak tawh</i>	1	2	3	4	5
18. I have offered a handicapped or elderly stranger across a street <i>Pianphunga rualbanlo emaw tar emaw kawngpui kan turin ka pui tawh</i>	1	2	3	4	5
19. I have offered my seat on a bus or train to a stranger who was standing <i>Bus emaw rel emawah ka thutna hmel hriat loh ka kian tawh.</i>	1	2	3	4	5
20. I have helped an acquaintance to move households <i>Ka hmel hriat in sawn ka tanpui tawh</i>	1	2	3	4	5

Appendix-VII

Duke Religious Index (DUREL; Koenig H.G., Meador K.G., Parkerson G., 1997)
(MIZO AND ENGLISH)

Please answer the following questions by selecting the one answer that best describes how frequently you engage in the activities.

A hnuaia zawhna zingah hian i awmdan thin han sawiteh.

	More than once a week (Chawlhkar khatah vavikhat aia tam)	Once a week (Chawlhkar khatah vavikhat)	A few times a month (Thlakhatah hun tlemte)	A few times a year (Kumkhatah hun tlemte)	Once a year or less (Kumkhatah vavikhat emaw a aia tlem emaw)	Never (Englai mahin)
1. How often do you attend church or other religious or spiritual meetings. <i>Inkhawm emaw sakhaw thiltih dang emawah, eng anga tam nge I tel?</i>	6	5	4	3	2	1

	More than once a day (Nikhatah vavikhat aia tam)	Daily (Nitin)	One or more times a week (Chawlhkar khatah vavikhat emaw a aia tam)	Once a week (Chawlhkar khatah vavikhat)	A few times a month (thlakhatah hu ntemte)	Rarely or Never (Khattawkah/ Hmang)
2. How often do you spend time in private religious or spiritual activities such as prayer, meditation, or the study of religious texts (e.g., Bible, Koran, Torah, etc)? <i>Mahni a sakhaw lam emaw thlarau lam emaw a thiltih, entirnan tawngtai, urhsun taka inngaihtuah, Bible, Koran, Torah leh adangte chhiar nan I hun engzat a rei / tam nge I hman?</i>	6	5	4	3	2	1

	Definite True (<i>A dik chiah</i>)	Tends to be True (<i>Dik mait hei</i>)	Unsure (<i>Ka chianglo</i>)	Tends NOT to be True (<i>Diklo mai thei</i>)	Definitely NOT true (<i>A diklo tawp</i>)
4. My religious beliefs are what really lie behind my whole approach to life. <i>Ka sakhaw rin / pawm dan nun hman dan zawng zawng hi a khawih?</i>	5	4	3	2	1

	Definite True (<i>A dik chiah</i>)	Tends to be True (<i>Dik mai thei</i>)	Unsure (<i>Ka chianglo</i>)	Tends NOT to be True (<i>Diklo mai thei</i>)	Definitely NOT true (<i>A diklo tawp</i>)
3. In my life, I experience the presence of the Devine (i.e., God) <i>Ka nunah hian Pathian chenchilhna ka hria</i>	5	4	3	2	1

	Definite True (<i>A dik chiah</i>)	Tends to be True (<i>Dik mai thei</i>)	Unsure (<i>Ka chianglo</i>)	Tends NOT to be True (<i>Diklo mai thei</i>)	Definitely NOT true (<i>A diklo tawp</i>)
5. I try hard to carry my religion over into all other dealings in life. <i>Ka nunah hian, ka sakhua duh dana nung turin in ka bei nasa</i>	5	4	3	2	1

MAP OF INDIA

(Showing the location of Mizoram State)



MAP OF MIZORAM STATE





DEPARTMENT OF PSYCHOLOGY

MIZORAM UNIVERSITY

MIZORAM: AIZAWL

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PARTICULARS OF THE CANDIDATE

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Department	:	Psychology
Title of Dissertation	:	“Attitudes and Beliefs, Religiosity and Altruism in Relation to Organ Donation: A Study Among the Mizo”.
Date of Admission	:	05.08. 2013
Approval of Research Proposal		
1. Board of Studies	:	02.04.2014
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3. Academic Council	:	12 & 13.06.2014
Extension (If any)	:	Nil

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