

# Perceptions, Attitudes, Awareness, Beliefs and Islamic Religiosity Toward Organ Donation Among Moros in Davao city, Philippines

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**Abstract- Background:** To determine the factors relevant in understanding the behavior, perceptions and practices as well as religious attitude regarding organ donation of Moros residing in Davao City, Philippines. **Material/Methods:** A self-administered questionnaire was conducted between August to September 2017. A total of 469 questionnaires were distributed to different public communities and private institutions. 369 surveys were collected successfully and used for analysis. **Results:** Two most important independent variables as independent indicators of organ donation approval included high level of Islamic ethical principles and lesser score on Punishment of Allah appraisal. This study further validates that belief in divine entity entails intention to donate an organ. Contributing factors of affirmation to the act of donation include female gender, belonging to same religion, higher educational level and the role of Imam. However, majority of the respondents believe donating an organ is not compatible with Islam. It is of great emphasis that Faith leaders such as the Imams and mosques have important roles in promulgating public awareness as well as authority in clarifying the context of Islam with regards to organ donation. Many of the respondents have faith on Imam teachings. Adequacy of public campaigns is vital to educate the Muslim communities especially in relation to medical reservations. **Conclusion:** Islamic Religious sect and leaders should be encouraged to actively participate in policy making to arrive in enhanced knowledge that may ultimately lead to better understanding of organ donation socially, ethically and religiously. Trust in health system and medical professionals are important in delivering transparency of the process in donating an organ. Information drive thru ad campaigns, forums and lectures to educate Filipino Muslims may aid in solving shortage of organ donors.

**Index Terms-** Attitudes, Culture, Islam, Moros, Organ donation

## I. INTRODUCTION

In the present millennial age, Organ donation and transplantation is still immensely a controversy in the world of Muslims, globally. Nonetheless, some of the ASEAN region, Middle east countries and Western countries with minority population practicing Islam have adopted and publicly produced Fatwa or guidelines used at present in signifying the relevance of organ donation and transplantation in end-of-life death among

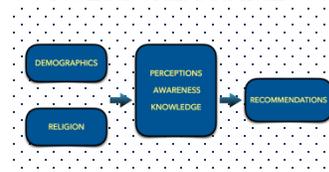
Muslims respectively. As read in Saheeh hadith, Prophet Muhammad (s.a.w) said that “For every disease there is a medicine, and if that medicine is applied to the disease, he will recover by Allah’s Leave.” He even further said: “Allah has not sent down any disease but He has also sent down the cure; the one who knows it, knows it and the one who does not know it, does not know it”<sup>1</sup> Indeed, at present local setting; the disparity on moral ethics, religious views, political issues on perceptions and misconceptions on this phenomenon is astounding and has a substantial bearing among Muslims in pledging as organ donors. Raising awareness and expanding the judgment among Filipino Muslim people is a critical step in promoting acceptance and essentially invigorate the practice of such deed in saving life. Possession of willingness to donate an organ can be either convenient or ponderous to a Muslim family even to a large extent among Muslim communities functioning in entirety.

## II. IDENTIFY, RESEARCH AND COLLECT IDEA

The research question that this study tried to go through was “What were the factors relevant in understanding the behaviour, perceptions and practices as well as religious attitude of Moros (Filipino Muslims) residing in Davao City, Philippines in terms of organ donation?”

The study goals were as follows: 1. To describe the socio demographic profile of Muslim participants in the study. 2. To determine the level of perceptions, attitudes, awareness, beliefs and Islamic religiosity toward Organ Donation. 3. To determine the significant factors of Organ Donation in terms of perceptions, attitudes, awareness, beliefs and Islamic religiosity.

## CONCEPTUAL FRAMEWORK



This study explored the different elements that may influence decision-making of Moros; observations and assessments arising from the data gathered have given better understanding on nature of organ donation among respondents.

The strength of this study relies on being a pilot study in assessing variables that may predict willingness of a Moro to donate an organ.

### ***Study Design and Study Setting***

This study was a descriptive correlational research approach conducted within August to September of year 2017. Using purposive technique, voluntarily selected respondents were surveyed using a written questionnaire. The entire procedure was compensation-free. This study was limited to only one urban area, it does not claim to be comprehensive since other urban and rural areas with Muslim residents were excluded.

### ***Participants***

The study provided complete confidentiality to all respondents. Selected respondents were eligible males and females. They were structured according to the following specifications:

#### **Inclusion Criteria**

The participant is a native Moro.

He/She is a Filipino by citizenship.

The participant is of Islam by religion at birth and at present.

A resident of Davao city, Philippines.

He /She must be or more than 18 years old of age.

An individual who has intact psychosocial support/sound mind.

He is a recognized Imam of mosque within Davao City (male only).

#### **Exclusion criteria**

Those individuals who are balik-Islam..

Individuals ageing less than 18 years old.

The person is not of residence of Davao City.

He/she has unstable psychosocial support/capacity.

### ***Sample Size and Sampling Method***

The sample size was calculated based on the 2010 household population released from Philippine Statistics Authority; the totality of Muslim residents was sum up comprising 45,788 residents. This numerical value then generated a calculation of an appropriate sample size of 369 using Cochran's formula with 50% probability that a respondent will act or not act in donating an organ. An important note is the fact that 2015 household population has not yet been dissected according to religion.

### ***Method of data Collection***

Actual visitation of the said areas was conveyed. Subsequently, rationale of this research was clearly expounded prior to obtaining both oral and written consent. These respondents were informed about the shortage of local data. All participants completed the survey on their own pace of time. As to participants who were illiterate, a legal representative requested per participants' discretion of choice assisted them in answering the survey.

### ***Questionnaire***

The self-administered questionnaire originally written in English was translated in Filipino by a certified linguist. They were lifted from two separate published studies whom the authors gave full permission to use them. It is divided in two parts. The first part was extracted from the study entitled "A Quantitative Survey of

western Muslim Attitudes to Solid Organ Donation" published last November 2011 through Clinical and Translational Research journal. It consists of 41 questions divided into four sections: demographic details, religious and cultural beliefs, opinion on organ donation and awareness of organ donation issues. It was pretested and approved by the institutional review board at Queen Elizabeth Hospital Birmingham, United Kingdom.

The second part pertains to impartial measurement of Islamic Religiosity from a validated Psychological Measure of Islamic Religiousness (PMIR). This is a scientific tool validated in 2005 for two times and lastly in 2008 (Research Gate publication) by Hisham Abu Raiya of Graduate College of Bowling Green State University, Ohio of USA.

### ***Statistical Analysis***

The sociodemographic profile of respondents were analyzed in descriptive statistics such as mean and standard deviation of quantitative analysis while the qualitative data were interpreted by frequency and percent. The level of perceptions, attitudes, awareness, beliefs and Islamic religiosity toward Organ Donation had been calculated by median while the factors associated to the likelihood of organ donation were identified by use of logistic regression analysis.

### ***Related research***

As of this writing, there have been no documented studies or articles that incite active participation of Filipino Muslims ever produced, in contrast to other ASEAN countries such as Malaysia, Singapore and Kingdom of Saudi Arabia (KSA) having "fatwa" or decree endorsed as law enforced to Guide and encourage its enactment in accordance to Islamic faith thru holy Koran. Sadly, such called fatwa is absent in the Philippines.

As of 2015, the Philippine population is said to be almost 100 million(100,000,00)<sup>2</sup>, with multi-ethnicity in different archipelago and about 5.57% of the total population practices Islam ( 5,127,084 population) <sup>2</sup>; even so, a published headline in 2014 on a campaign embarking sign up donor program only generated 3,548 individuals in metro manila <sup>3</sup>, which is a disproportionate to those in need of transplant as recently raised by National Kidney Transplant Institute (NKTI) that as of September 2016, around more than seven thousand (7,000) end-stage renal disease patients are presently on the waiting list<sup>4</sup>. This scarcity of donors cannot be neglected in the forefront of treating a person with in dire need of new organ, nationwide.

To extrapolate scarcity of organ donation in this archipelago, summaries of worldwide registry on organ donation have showed that as of 2015, the Philippines had only successfully performed 444 (4.41) per million of inhabitants (pmp) of transplants exclusively from kidney. This figure is very low compare to west pacific and global figures of 18,585 (10.4) pmp and 126,670 (20.64) pmp, respectively. No available Philippine data retrieved in relation to other solid organ transplantation<sup>5</sup>. The International Registry in organ Donation and Transplantation or IRODaT had released September 2016 report on preliminary reports of fifty (50) countries worldwide involved in donation/transplantation activity 2015. Important to note on these reports are the few numbers of Muslim countries with active programs such as the Iran, Turkey, Saudi Arabia,

Kuwait, Lebanon and Malaysia only <sup>6</sup>. In regard to 2010 population in Davao region, it has about four million and four hundred seventy thousand (4.47) of people with 2.3% population growth rate. While Muslim population within the urban area is about forty-five thousand and seven hundred eighty-eight (45,788) only as documented by Philippine Statistics Authority (PSA). Nonetheless, if growth of population by global scale is to be considered in relation to Islam as religion, The Asia-pacific which includes Philippine archipelago had about 986,420,000 Muslim population (61.7%) by 2010 <sup>7</sup>. These figures are expected to increase as predicted in one study published in Pew Research Centre with astounding surge of Muslims rising fastest by 2050 of 2.76 billion (29.7%) making up almost in equal shares with Christians (31.4%) in global projections and that Asia will continue to host majority of World's Muslim populations <sup>8</sup>. Summarized populations of people needing solid organ are also stupendously growing but the donors are disappointingly low. In year 2016, Prasad et al (A study to assess the knowledge, attitude, and misconceptions regarding organ donation after brain death among common people in rural areas) cited that 2,000,000 people are on waiting lists for kidneys worldwide and that Asia lags far behind the rest of the world. Indeed, organ shortage is a global problem that needs hasty resolutions <sup>9</sup>.

For the past decades, there have been several studies on Muslims perceptions on this act of donating an organ but neither a global perspective nor Southeast Asian projections have documented as far a large scale studies on Muslims are concerned. Shahid Athar, MD <sup>10</sup> stated on his review article that Muslims by generality are reluctant in to sign up as donor while they are willing to be recipient when need arise. This is one of the ethical-cultural issues that need to be addressed. And yet, since the beginning of Islamic history making, AD 570-632- Prophet Muhammad (PBUH) have been doing re-plantation during battle era. More than a thousand years have gone since Muslim surgeons did bone and teeth transplants either from a corpse or another person<sup>11</sup>. Furthermore, since 1972 Arab world<sup>12</sup> have successfully commenced the transplantation program up to this day. It is unfortunate that it's revolution on knowledge and practice among Filipino Muslims have not moved onward. Active participation of Imams in convincing Filipino Muslims on the appropriateness of such life-saving treatment medium as reflected suitably in the holy Koran is an obstacle that needs to be recognized. This problem was studied by Makmor Tumin <sup>13</sup> (2015) concluding that Mosques play an important role in conveying knowledge on such organ donation. Joshua D. Newton made a meta-synthesis of 27 qualitative articles from 24 studies worldwide concluding that religious leaders are indeed trustworthy source for elucidating religious concepts on becoming a donor (Biomed Central; 2011) <sup>14</sup>. In Turkey, attitudes of Muslim clergy revealed that Islam allows organ donation as it is also asserted in one study on 40 religious officials conducted in Istanbul asserting positive viewpoint of Islam on organ donation and transplant. (Brain Death and Transplant in Islamic Countries; 2016) <sup>15</sup>. However, an important publication released last 2009 by Rady et al <sup>16</sup>(Islam and End-of-Life practices in organ Donation for Transplantation: New questions and Serious Sociocultural Consequences) emphasizes antagonistic views between sanctity of human life and organ donation. It reverberates what Sarhiil et al (2001) statement that dying

Muslims should be allowed peacefully and comfortably without attempts of sustaining life artificially as one's death is inevitable. According to this study, donating an organ interrupts Islamic end-of-life rituals by several means such that it intrudes temporal course of dying; resuscitative procedures by medications are used even after death has been declared; palliative care to a dying patient is disturbed by either medical and/or surgical interventions, and lastly; preservative fluids may have replaced the blood of the dying patient. Furthermore, traumatic memories among family members as well as moral distress in health-care providers may arise when practices of end-of-life rituals are sacrificed for organ donation. It also pointed out that some families may sense surgical interventions on a deceased person as violations and desecrations of the body at the same time prolonging patient's suffering and destroying the deceased actual appearance. It further explained then that these will complicate family's bereavement which might include depression, post-traumatic stress, poor physical health, and inability to cope with daily activities. Hence, organ donation conflicts Islamic principles of care for the dying and their families.

On the contrary, three recent studies have shown that Islam as religion has no significant influence <sup>17</sup>(Jabri et al; Awareness, beliefs, and Barriers of Organ Donation among Saudis in Madinah City, Saudi Arabia; 2016) and not a deterring to organ donation <sup>18</sup>(Tumin et al, Organ donation in Muslim countries: The case of Malaysia; 2013). They did found out that campaigns needs to maximize positive beliefs and in pledging their organs for donation. The third study was by Soubhanneyaz et al <sup>19</sup>(Survey of Public attitude, awareness and beliefs of Organ donation in Western region of Saudi Arabia; January 2016) revealed more than 70% of their population study were willing to donate, emphasis on religion, money, and age having no role in determining willingness of Saudis; it also acknowledged that legislation and regulations entail efforts to spread awareness. It is also important to note, that it found out government incentives by monetary and health treatment of those who will donate can be effective in its propagation.

Altruism, an act of selflessness, is an important principle of Islam. Chapter 5:32 of Qur'an states "Whosoever saves the life of one person it would be as if he saved the life of all mankind". This principle was the rationale behind approval of porcine bone grafts and pork insulin usage for medical treatment up to this present. As Michael Oliver et al<sup>20</sup> concluded, it is vital in educating targeted individuals who are most influential in the community and that Ramadan with its forcibleness on altruism is a good opportunity to strengthen organ donation campaign within the community (organ donation, transplantation and religion; 2010). Several studies have gained enlightenment on Muslims attitudes toward donation of an organ. In 2008, Alashek et al <sup>21</sup> surveyed Libyans in four Libyan cities with findings that willingness was significantly associated with being male, having younger age and college or graduate degree as well as for being single. They have discovered that lack of knowledge and religious concern emanating from inadequacy of a fatwa permitting cadaveric donation within the community (Reasons for unwillingness of Libyans to donate organs after death). Around 2010, Wong LP <sup>22</sup> of University of Malaya, gauged that Muslim Malaysians have general concerns on mistreatment of the deceased's' body in procurement of organs. Therefore, Cultural

sensitivity on public educational messages are necessary to address sociocultural barriers (Singapore Med J; Information needs, preferred educational messages and Channel of delivery, and opinion on strategies to promote organ donation: a multicultural perspective). The Qataris were also studied by Verjee et al<sup>23</sup> (Organ donation and transplantation: A gender perspective and awareness survey in Qatar; 2014) showing females have greater tendency to believe that Islam supports organ donation. It is of critical issue that religious beliefs have determined value in their attitudes towards donating an organ. Although, in late 2005, another study done among Qataris by El-Shoubaki et al<sup>24</sup> resulted to knowing majority of the 1305 samples preferred donating organ(s) to their close relatives or close friends only although those respondents did believe that health education was the best method to increase donors (Public knowledge and attitudes toward organ donation and transplantation: A cross cultural study, 2005). This behavior of wanting to donate to relatives only was also perceived among Kuwaiti as manifested by Bosakhar et al<sup>25</sup> in a recent 2016 study entitled "Predictors of knowledge and attitude regarding organ donation in Kuwait". In Pakistan, 440 adults were interviewed by Salem et al<sup>26</sup> (Knowledge, attitudes and practices survey on organ donation among selected adult population of Pakistan; 2009) who identified that allowance for incentive in religion was associated with significant motivation to donate an organ; higher education and socioeconomic status are of positive predictor of organ donation. It also showed that persons believing their religion have forbid organ donations are without motivation to donate in future life. A concluded 2015 study by Al-Harthi et al<sup>27</sup> highlighted that fear of complications and lack of post-donation care which includes incentives are the main reasons why people of Taif, Saudi Arabia are unwilling to donate (Perceptions and attitudes of Saudi adult population board organ donation, Taif, Saudi Arabia; 2015).

Among arabs of UAE, Dr. Eveline Kayasseh<sup>28</sup> have cited importance of extended family in obtaining consent for organs to be donated may it be from a living or deceased person. These several studies have indeed contributed in clearing some apprehensions and strongly seized understanding Muslim views despite its limits on geography. The Islamic Jurisprudence's Assembly Council of Saudi Arabia had long been affirmed since 1988 the fatwa in organ donation and permit proxy consent if necessary (Ethical and Legal aspects of organ transplantation in Iran; 2004)<sup>29</sup>.

Certainly, educating Muslims as part of functioning society in general may arise to several measurements that will gauge need of full attention on multi-aspects of every Muslim in its wholeness as a human being.

### III. WRITE DOWN YOUR STUDIES AND FINDINGS

469 individuals were approached for survey participation, 369 respondents successfully answered the questionnaire while the remaining 100 were not returned.

This study showed higher prevalence of participants (n=160) not agreeing to donate an organ in relation to Islam. It cannot be paralleled to any local figures since there has been no earlier local study that can be compared with, 125 (34%) agreed in donating an organ while the remaining participants were unsure

whether to agree with it (n=74) and and had no answer (n=10) [figure 1]. Many of these respondents belong to Maranao (54%) tribe followed by the Kaagan people (23.3%) [figure 2]. By descriptive analysis, majority of the respondents were females, citizens by birth, unemployed, having no kidney problems and have shown no significant difference among those who agreed and did not agree on donating. Age and marital status don't seem to be predictive variables as well with majority of them aged 18-28 years old having mean deviation at age 30 for those who do not agree in donating and age 33 to those saying yes.

As to educational attainment, higher degree of educational attainment of college degree seemed to sway affirmatively toward organ donation of 51.2% versus 46.9% of respondents disagreeing to it who had high school learning. This slight higher prevalence on educational level is supported by Saleem et al<sup>26</sup> findings among selected adult population of Pakistan in 2009 wherein higher educational level was seen as an independent predictor of knowledge on process of donating an organ. Although it should be noted that among respondents who answered no, level of education is not statistically different having high school level of 46.9% versus college level of 36.9%.

As previously mentioned in the literature, several studies<sup>17, 18, 19</sup> in Muslim countries have found out that Islam has no bearing on willingness to donate an organ. But sadly, this finding does not hold true to this study as reflected only about 21% out of all respondents believed organ donation is allowed in Islam. Majority of those who said no (n=107) believed that it is not compatible in Islam faith [table 2]. Diminishing this ambiguousness relies heavily on initiation of educating them by sermons/forums with community Imam and other religious sect.

Cited reasons by some respondents in disagreeing organ donation included the following: a donor may get sick in turn even years after the procedure or die during the operation; violation of one's body with mutilation should be avoided for once dead their body should return in its wholeness even in the after life. These judgments were resonated in the 2009 study by Rady et al<sup>16</sup>. Such hesitations should be tackled by best methods available in the health system and community to arrive with effective measures of addressing this wariness. Interestingly, majority of all the respondents do believe that it is still an individual's choice to make when asked on who should have the over-all authority in deciding on it on both No (n=59) and yes (65) to donating groups; respectively [table 2]. When the No respondents were given situational events of the possibility of intending to donate, 31.1% said they preferred doing it while alive and for a loved one as receiving endpoint; this is also parallel to findings among Qataris and Kuwaiti mentioned the related studies<sup>24, 25</sup>.

However, 108 (67.5%) of them will not do it if it is against Imam and 118 (73.8%) of them wont disobey their family if it was against their view. It is also agreeably noted that among them about 73(45.6%) would only give their organ to fellow Muslims in comparison to those respondents willing to donate an organ to non-Muslim person (n=40 or 25%). Even further differed from the Yes group (n=71 or 56.8%) who expressed willingness towards potential recipient of different religion. Indeed, religion seem to have a solid impact on process of donation as 73(45.6%) respondents from this group conveyed even acceptance of an organ from a person of same religion is preferred.

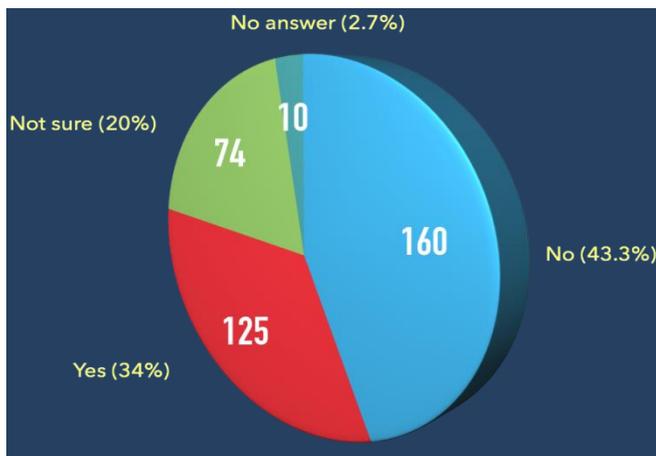


Figure 1 Distribution of response among study population



Figure 2 Distribution of respondents according to Ethnic tribe

Answer	N	Mean	Std deviation
Yes	119	33.19	13.84
No	130	30.10	12.80

This is largely in contrast to 90.4% rate among Malaysians who are willing to accept from those people belonging to another kind of religion as emphasized by S. Sugathan et al<sup>33</sup> although their survey was on national level rather than singular urban area as what this study accomplished. If given a comparison to non-Muslim religious view, a 2012 study of 213 Malaysians of different religion (Knowledge, Religious Beliefs and Perception towards Organ Donation from Death Row Prisoners from the Perspective of Patients and Non-

Table 1. Socio demographic characteristics of study population

Variables	No to donating (n=160)	Yes to donating (n=125)	Not sure (n=74)
Gender			
Male	59(36.9%)	44(35.2%)	23(31.1%)
Female	101(63.1%)	81(64.8%)	51(68.9%)
Age bracket			
18-28	71(44.4%)	66(52.8%)	39(52.7%)
29-38	28(17.5%)	16(12.8%)	9(12.2%)
39-48	19(11.9%)	11(8.8%)	7(9.5%)
49-58	14(8.8%)	11(8.8%)	2(2.7%)
>58	6(3.8%)	9(7.2%)	2(2.7%)
Marital status			
Single	72(45%)	60(48%)	37(50%)
Married	78(48.8%)	60(48%)	28(37.8%)
Divorced	4(2.5%)	3(2.4%)	1(1.4%)
Widowed	5(3.1%)	2(1.6%)	6(8.1%)
Residential status			
Citizen by birth	87(54.4%)	77(61.6%)	37(50%)
Resident	66(41.3%)	45(36%)	36(48.6%)
Educational Attainment			
Elementary	9(5.6%)	9(7.2%)	5(6.8%)
High school	75(46.9%)	37(29.6%)	24(32.4%)
College	59(36.9%)	64(51.2%)	29(39.2%)
Post graduate	4(2.5%)	11(8.8%)	8(10.8%)
Islamic theology	6(3.8%)	2(1.6%)	0
No formal education	4(2.5%)	1(0.8%)	7(9.5%)
Occupation			
Not employed	87(54.4%)	65(52%)	40(54.1%)
white collar	12(7.1%)	22(17.6%)	12(16.2%)
Blue collar	56(35%)	32(25.6%)	21(28.4%)
Category you fall in			
I'm on dialysis	1(0.6%)	1(0.8%)	0
I have a kidney transplant	0	2(1.6%)	1(1.35%)
I have a chronic disease	4(2.5%)	3(2.4%)	2(2.7%)
I have no kidney problems	137(85.6%)	113(90.4%)	65(52%)

**Table 2. Attitudes/belief variables toward organ donation**

Variables	No to donating (n=160)	Yes to donating (n=125)	Not sure (n=74)
Organ donation is compatible with Islam			
Yes	15(9.4%)	57(45.6%)	6(8.1%)
No	107(66.9%)	17(13.6%)	11(14.8%)
Not sure	34(21.3%)	51(40.8%)	57(70.2%)
Intent to donate			
Against imam/mosque			
Yes	15(9.4%)	51(40.8%)	7(9.4%)
No	108(67.5%)	37(29.6%)	26(29.6%)
I don't know	24(15%)	33(26.4%)	34(45.9%)
Against Family			
Yes	13(8.1%)	40(32%)	7(9.4%)
No	118(73.8%)	51(40.8%)	21(28.3%)
I don't know	20(12.5%)	30(24%)	40(54%)
Intent to receive an organ			
Yes	46(28.8%)	73(58.4%)	17(22.9%)
No	52(32.5%)	10(8%)	6(8.1%)
Maybe	46(28.8%)	38(51.3%)	26(35.1%)
I don't know	8(5%)	3(2.4%)	24(32.4%)

**Table 2. Attitudes/belief variables toward organ donation**

Variables	No to donating (n=160)	Yes to donating (n=125)	Not sure (n=74)
Acceptance of organ from Muslim			
Yes- Muslim only	73(45.6%)	45(36%)	43(58.1%)
No-anyone	40(25%)	60(48%)	10(13.5%)
I don't know	24(15%)	17(13.6%)	20(27%)
Donation of organ to Muslim			
Yes- Muslim only	73(45.6%)	40(32%)	37(50%)
No-anyone	40(25%)	71(56.8%)	18(24.3%)
I don't know	24(15%)	9(7.2%)	13(17.5%)
Principle of presumed consent (after death)			
Yes	16(10%)	49(39.2%)	10(13.5%)
No	97(61%)	34(27.2%)	12(16.2%)
I don't know	36(23%)	37(29.6%)	46(62.1%)
Overall authority to decide on organ donation in the context of Islam			
Family			
Individual	19(11.9%)	22(17.6%)	9(12.1%)
Imam/mosque	59(36.9%)	65(52%)	29(39.1%)
Islamic scholar/seat of learn	28(17.5%)	11(8.8%)	7(9.45%)
Muslim organisations	22(13.8%)	15(12%)	16(21.6%)
Health authorities	11(6.9%)	5(4%)	4(5.4%)
	4(2.5%)	1(0.8%)	1(1.3%)
Situation when organ donation is allowed			
A.Donation after death to save a life (loved one)	37(23.1%)	35(28%)	22(29.7%)
B.Donation after death to save life (stranger)	8(5%)	3(2.4%)	1(1.35%)
C.Donation after death to improve somebody's life (loved one)	4(2.5%)	9(7.2%)	2(2.7%)
D.Donation after death to Improve somebody's life (stranger)		1(0.8%)	
E.Donation while alive to save a life (loved one)	50(31.3%)	56(44.8%)	25(33.7%)
F.Donation while alive to save life(stranger)	1(0.6%)	5(4%)	
G.Donation while alive to improve somebody's life (loved one)	8(5%)	4(3.2%)	4(5.4%)
H.Donation while alive to improve somebody's life (stranger)	1(0.6%)	3(2.4)	1(1.35%)
I.No answer	51(31.9%)	9(7.2%)	19(25.6%)

Patients in Malaysia: A Preliminary Study) by N. Badrolhisam and Z. Zakaria<sup>31</sup> found out that majority of their Christian participants believed that donating an organ is a good deed and around 73.3% of them will still do it even if it is against their religion. Seemingly, those respondents who are not agreeing in donating an organ are said to be extremely (n=47) to moderately (n= 41) religious by self-rate but it is of important note that the influence of Islam in making personal decisions in life were substantially weighty on both No (120) and Yes (100) group which further reflects and supported by related studies emphasizing Islam as religion is not a hindrance on it<sup>15, 17, 18, 19</sup>. Parents (20%) do seem have authority in swaying authority over any religious opinion to those respondents who do not agree to donating [table 3]. This finding can be supported thru recent 2017 study done by A. Ralph and A. Alyami et al<sup>30</sup> which projected family cohesiveness describing importance of parental authority in guiding and persuading the act of donating among younger generations.

Imams have an important role in promoting organ donation as their valuable contribution is proven by this study since they are of source personnel chosen by majority of No (55%) and Yes (68%) group respondents in correlating Islamic view on organ donation to morally being acceptable means of saving an ill person [ table 3,4,5].

**Table 3. Religious beliefs and practices**

Variables	No to donating (n=160)	Yes to donating (n=125)	Not sure (n=74)
Self rate of Religiousness			
Extremely religious	47(29.4%)	41(32.8%)	18(24.3%)
Moderately religious	41(25.6%)	35(28%)	14(18.9%)
slightly religious	17(10.6%)	16(12.8%)	4 (5.4%)
Religious	43(26.9%)	31(24.8%)	33(44.5%)
Not religious/liberal	3(1.9%)	1(0.8%)	
Non-believer	1(0.6%)		
Islamic Faith influence on personal decision			
Always	120(75%)	100(80%)	58(78.3%)
Sometimes	24(15%)	22(17.6%)	12(16.2%)
Rarely	1(0.6%)	1(0.8%)	1(1.3%)
Never	3(1.9%)		
Sources of religious query			
friends	3(2%)	1(0.8%)	3(4%)
Imam/mosque	88(55%)	85(68%)	35(47%)
Other family member	4(3%)	2(1.6%)	2(2.7%)
Parents	32(20%)	18(14.4%)	14(18.9%)
Scholar	15(9%)	15(12%)	11(14.8%)
Self-directed research	5(3%)	2(1.6%)	6(8.1%)
Website/internet	2(1%)		1(1.36%)

As faith leaders, they have direct contact among people of interest thru daily encounters and in mosque and should play a role in enlightening them on its context in Islam. This is supported by Tumin et al<sup>13</sup> 2015 study of Malaysian Muslims affirming that Mosques have imparting value in campaigning process as well educational dialogues.

As to the role of doctors and health system, both No and Yes group have expressed opinion that they have an important reputation in educating them on the value of organ donation as well as its process. Distrust in health system as well is a factor in driving away potential donors [table 4,5]. In response to awareness thru public campaign, majority of the respondents have poor personal knowledge and unaware of shortage in solid organ supply as manifested among 74.4% of those who disagree and 68% to those who otherwise agree in donating an organ. This could be attributed to poor advertisement (46.9%) and (44.8%) among No and Yes group, respectively [table 6].

**Table 4. Sources of information regarding organ donation**

Variables	No to donating (n=160)	Yes to donating (n=125)	Not Sure (n=74)
A. Quran	Very important	Very important	Very important
B. Hadith	Very important	Very important	Very important
C. Imam/Mosque	Very important	Very important	Very important
D. Muslim council/parliament /other group	Moderately important	Moderately important	Moderately important
E. Family	Very Important	Very important	Very important
F. Friends	Very important	Moderately important	Moderately important
G. Doctors	Very important	Very important	Very important
H. HealthHealth organizations/groups /leaflets	Moderately important	Moderately important	Moderately important

**Table 5. Rate of variables on reasons Muslims may not be keen to donate an organ**

Variables	No to donating (n=160)	Yes to donating (n=125)	Not Sure (n=74)
a. Interpretation of Quran/Hadith	Very important	Very important	Very important
b. Advice from Imam/mosque	Very important	Moderately important	Very important
c. Cultural reasons	Moderately important	Somewhat important	Moderately important
d. Family pressure	Very important	Very important	Moderately important
e. Distrust on health system	Moderately important	Moderately important	Moderately important
f. Poor publicity	Moderately important	Moderately important	Somewhat important

**Table 6. Donation characteristics and registration Status**

	No to donating (n=160)	Yes to donating (n=125)	Not sure (n=74)
Registration Status			
Yes	2(1.3%)	5(4%)	
No	154(96.3%)	117(93.6%)	62(83.7)
Can't remember	3(1.9%)	3(2.4%)	10(13.5%)
Family member as organ donor			
Yes	8(5%)	1(0.8%)	2(2.7%)
No	133(83.1%)	101(80.8)	46(62.1%)
I don't know	11(6.9%)	21(16.8)	3(4%)
Awareness on shortage of organs for transplantation			
Yes	35(21.9%)	39(31.2%)	24(32.4%)
No	119(74.4%)	85(68%)	48(64.8%)
Advertisement rate of organ donation issues			
Excellent	22(13.8%)	5(6.8%)	7(9.45%)
Good	30(18.8%)	32(25.6%)	14(18.9%)
Average	25(15.6%)	32(25.6%)	20(27%)
Poor	75(46.9%)	56(44.8%)	29(39.1%)

Indeed, poor publicity has a high regard of importance on those who are keen not to donate an organ as seen on table 5. This finding is also reflected in a national online survey among Malaysians (81%) with secondary and higher level of education performed last December to January 2015 by S. Sugathan et al<sup>33</sup> revealing that lack of awareness was the reason for a remarkably low rate among these subjects. Inventive ad campaign should be proposed in order to intensify its publicity as further concluded by Hye-Jin Sun<sup>32</sup> on her 2014 study on public campaign emotional ad campaign producing higher intention to donate thru emotionally driven ad campaigns and boosting positive attitudes towards organ donation by positive ad campaigns. This poor advertisement and educational campaign can also be supported by the findings of having very high percentage of respondents not registered as a donor, 96.3% and 93.6% on No and Yes group respectively.

**Regression analysis**

Using the PMIR for objective determination of religiosity, the summative interpretation by regression analysis identified the two most independent significant factor for predicting approval of donating an organ. These are the subscale on Islamic Ethical Principles (IEPS) and Punishing Allah Reappraisal Subscale (PARS). The former revealed that the stronger the concept of believing to a divine entity and better Islamic ethical principles, the higher the chances of intending to donate. The latter subscale entails that those respondents who feel willing and agreeing on donating an organ have lesser tendency to feel punished by Allah (S.W.T).Furthermore, as you can see in[table7], the coefficient (B) for IEPS is positive denoting that the higher the religiousness the higher the chance of donation and the PARS revealed a negative Coefficient denoting that the lesser the feeling of being punished by Allah, the more likely he will donate. The model further explains that these coefficients have p-values less than 0.05 suggesting that the two factors do exist in the model and that it is able to explain r<sup>2</sup>=0.056 or 5.6% of the likelihood of donation can be attributed by these two factors.

**Table 7. regression analysis result**

Model	Unstandardized coefficients		Standardized Coefficients	t	P-value
	B	Std Error	Beta		
Constant	0.056	0.147		0.3379	0.705
IEPS	0.01	0.003	0.186	3.424	<b>0.001</b>
PARS	-0.019	0.008	-0.13	-2.382	<b>0.018</b>

**Strength and Limitations**

This is the first known qualitative study to elicit Moros' perspective on organ donation as well first to correlate Islamic religiosity and willingness to donate an organ voluntarily.

At This point of heightened global practice towards act of solid organ donation, the Philippines still lag far behind worldwide setting. Henceforth, this research is timely relevant in hopes of increasing numbers of potential volunteers to donate for either a loved one or a stranger. Certain limitations did occur in this study. The results do not however reflect the entire country where Filipino Muslim are an ethnic minority. Two major tribes became major respondents, possibly not giving full recognition and representation of possible distinct and different perspectives among several tribes. The reason for this is that communities' population have linear and higher tribal territorial associations.

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#### V. CONCLUSION

The variables seen as important predictors of approval to donate an organ are the following: higher religiousness based on PMIR – IEPS and lesser appraisal of punishment by Allah thru PMIR-PARS. Contributing factors in making an affirmative stand on donating an organ were as follows: higher educational attainment, female gender, belonging to same religion and the role of Imam. The investigators have found out that Religion is a powerful medium in defining moral and social perspective among Moros. However, it did not prevent majority of the participants to conclude that it should be every individuals' personal choice of selflessness. Imams are important vehicle to expound on organ donation in relation to Islamic faith. Unsure and guilt feeling can cease to occur only if a consolidative affirmation among Islamic scholars/Imams is conceded.

Doctors along with adequate publicity are seen as efficient means of promulgating community awareness among Moros on organ donation as well as making them knowledgeable in order to understand the essence of it as well as realize possible apprehensions and undesired consequences that people wish to comprehend. Government should include religious sect in making policies to attain promising outcome that are beneficial to entire community.

#### RECOMMENDATIONS

The investigators recommend constructing further study on this matter through a multi-site correlation study using the only two independent factors determined by this research: IEPS-PMIR. Also, active participation of Muslim religious sect in policy making should be encouraged and be expand to Mosques. Imams should be part of enlightening the value of organ donation in relation to Islam thru Quran and Hadith readings as they are means of promulgating the values in Islam. And of course, Health system should examine present ad campaign ways around Muslim communities to better empowerment.

#### APPENDIX

See attached separate appendix

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