



**SAINT PAUL'S HOSPITAL MILLENNIUM MEDICAL COLLEGE  
DEPARTMENT OF PUBLIC HEALTH**

**ASSESSMENT OF KNOWLEDGE AND ATTITUDE ABOUT ORGAN  
DONATION AMONG MEDICAL STUDENTS OF SPHMMC**

**BY DR. MAHLET BERHANU (INTERM)**

**A STUDENT RESEARCH PROPOSAL TO BE SUBMITTED TO THE DEPARTMENT OF  
PUBLIC HEALTH, SPHMMC, IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF DOCTOR OF MEDICINE**

**FEBRUARY, 2018  
ADDIS ABABA, ETHIOPIA**



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DONATION AMONG MEDICAL STUDENTS OF SPHMMC

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## Summary

Organ transplantation is the most effective and desirable method of treatment for patients suffering from end stage organ failure secondary to any cause. This scientific method grants a second lease of life for many in need. Since the first successful transplants were made in the 1950s this area of medicine has shown tremendous advancements because of improvement in surgical techniques and safer and more effective immune-suppressive therapies, the risk of rejection and graft loss has substantially decreased. In fact the main problem currently to transplantation medicine lies in the discrepancy between global need for donor organs and the demand, which by many is believed to be because of lack of adequate Knowledge and poor attitude towards organ donation among the public. Since medical students are the future physicians it is very important to improve their knowledge and attitude towards organ donation so they can in turn promote the public.

**Objective:** - to assess the knowledge and attitude about organ donation among medical students of SPHMMC.

**Methodology:** A descriptive cross-sectional study will be conducted among medical students of SPHMMC from **March 12, 2018 to May 07, 2018.with a budget of 2,715 ETB.** Data will be collected through structured self-administered questionnaire consisting of 26 questions on knowledge and attitude towards organ donation. The study will be conducted on a sample size of **240** medical students. **Stratified random sampling technique** will be used to stratify medical students according to the year they are currently enrolled in. Simple descriptive statistics such as frequency and percentage will be used to summarize the results, and chi-square and binary logistic regression will be used to describe the association between variables. P-value < 0.05 will be considered as statistically significant association.

Study time: this research will be conducted from March 12,2018 to May 7,2018.

Budget: this research will be done with a budget of 2,715 ETB.

## Acronyms and abbreviations

|        |                                                |
|--------|------------------------------------------------|
| SPHMMC | St. Paul's Hospital Millennium Medical College |
| WHO    | World Health Organization                      |
| CDC    | Center for Disease Control and Prevention      |
| SPSS   | Statistical Package for Social Science         |
| FMOH   | Federal Ministry of Health                     |
| OD     | Organ Donation                                 |
| CKD    | chronic kidney disease                         |
| ESRD   | End Stage Renal Disease                        |

## Contents

|                                                         |    |
|---------------------------------------------------------|----|
| 1. Summary.....                                         | 3  |
| Acronyms and abbreviations .....                        | 4  |
| 1. Introduction .....                                   | 7  |
| 1.1Background.....                                      | 7  |
| 1.2Statement of the problem.....                        | 10 |
| 1.3Significance of the study .....                      | 11 |
| 2. Literature review.....                               | 12 |
| 3. Objectives .....                                     | 15 |
| 3.1General objective .....                              | 15 |
| 3.2Specific objectives .....                            | 15 |
| 4. Methods and materials.....                           | 16 |
| 4.1 Study area .....                                    | 16 |
| 4.2Study Design.....                                    | 16 |
| 4.3 Source Population and study population .....        | 16 |
| 4.5Study variables .....                                | 16 |
| 5. Eligibility: Inclusion and Exclusion Criteria .....  | 17 |
| 6. Sampling.....                                        | 17 |
| 6.1 Sample size determination.....                      | 17 |
| 6.2Sampling Technique.....                              | 18 |
| 7. Operational definition.....                          | 19 |
| 7. Data collection.....                                 | 19 |
| 8. Data quality assurance Processing and analysis ..... | 19 |
| 9. Ethical Consideration .....                          | 20 |
| 10. Dissemination of Findings.....                      | 20 |
| 12. Budget breakdown .....                              | 21 |
| 11. Work plan .....                                     | 22 |
| 12. References .....                                    | 23 |
| Assurance of investigator .....                         | 25 |
| Annex I .....                                           | 26 |
| Annex II.....                                           | 27 |

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# 1. Introduction

## 1.1 Background

Organ transplantation is arguably one of the greatest scientific advances and remains one of the most challenging and complex field of modern medicine. [1] Organ donation can be defined as the removal and transfer of biological tissue or an organ of the human body legally from a living person through consent or from a dead person via ascent from next of kin to a living recipient in need of transplantation. [2]. Transplantation is a surgical procedure which involves the replacement of a recipient's diseased and defective organs or tissues with healthy ones from a donor. The commonly transplanted organs are kidneys, heart, liver, lungs, pancreas and intestine while the transplantable tissues include eyes, bones, skin and heart valves. [1-2].

References to transplantation have existed in the scientific literature for centuries, yet the field of modern transplantation did not come into being until the latter half of the twentieth century. The earliest attempts at organ transplantation in humans were made during the first decade of the 20th century. Since animal donors were used for these grafts; they functioned either briefly or not at all. The first successful human kidney transplant was performed in 1954. [3-5] Thus, given its short history, it is truly remarkable how far this area of medicine has advanced. From an experimental procedure just 50 years ago, transplantation has evolved to become the treatment of choice for end-stage organ failure resulting from almost any of a wide variety of causes.

Organ donation can be achieved through live donors where healthy individuals donate their organs, parts of their organ or tissues to a patient in need as treatment. It can also be from cadaveric or deceased donors where viable organs are harvested from a brain dead donor kept on life support who was a registered willing donor or upon death with ascent from next of kin. Experts say that the organs from one deceased donor can help up to 50 people. Transplantation of the kidney, liver, pancreas, intestine, heart, and lungs has now become commonplace in all parts of the world. In fact, transplantation is now so widely accepted and successful that the main problem facing the field today is not surgical technique, rejection primarily because of the development of safer and more effective immunosuppressive agents, or management of complications, but rather supply of organs. [2- 4]

A live person can donate one kidney, a part of the lung, a part of the liver, blood or bone-marrow which can easily be transplanted. In deceased organ donation (after brain death), more organs such as the heart, pancreas and cornea can be transplanted if the patient is on the ventilator till the organs are extracted. Only healthy individuals can donate organs and the donor must be free of diseases including HIV [6].

Live organ donation offers a valuable opportunity for transplantation, but cadaveric organ donation extends the possibility for reducing the gap between patients' needs and the organ supply (United Network for Organ Sharing, 2008). Living organ donation is often described as related "to be connected by blood or marriage" or non-related "genetically related donors and recipients", that is, between family members. In the early days of transplantation, all donors were genetically related. [7].

An enormous difference has been created between organ supply and demand for donor organs because of increase in the incidences of organ failures and lack of supply of organs. The waiting list of patients requiring organs is increasing day by day. Shortage of cadaveric organs for transplantation is a global problem. Some studies have suggested that knowledge, attitudes and determinants concerning this issue are influenced by many factors, including gender, educational level, occupation, socio-demographic status, income level, culture and religion. Although people generally express favorable views toward organ donation, very few actually agree to donate before they die or agree to have family members' organs donated upon their deaths. [6, 8]

Efforts to increase donation rates have included public awareness and professional education programs, and law that require physicians to request that families donate the organs of deceased or dying relatives. Yet, public health attitudes to cadaveric organ donation and transplantation are a major public health problem and of importance, since prior consent of the donor or of a close relative at the time of death forms the basis for cadaveric organ donation in most developed and developing countries.

A total of 114, 690 solid organs were reported to be transplanted in the year 2012 globally. Despite being a 1.8% increase in transplant rate as compared to year 2011, this still only amount to less than 10% of the global organ need. According to the WHO's Global Observatory on Donation and Transplantation (GODT) 2012, Malaysia has one of the lowest deceased organ donation rates in the world at 1.3 organ donor per million population. This is in comparison to the numbers of donors in other countries are much higher with Australia, United States of America and Spain at 11, 26 and 35.1[1]. Although no data is available in regards to the statistics in Africa and particularly in Ethiopia.

According to the center for disease control and prevention (CDC) on any given day there are around 75000 people on the active transplantation waiting list but only around 8000 deceased donors each year with each providing around 3.5 organs. Living organ donors provide around 6000 organs per year. [9]. While organ transplantation remains a life-saving medical venture, it carries with it its own risks for graft loss, serious infection like HIV, Hepatitis B and Hepatitis C, syphilis, Cytomegalo virus (CMV) and Ebsten-barr virus (EBV) have been known to be transmissible. Thus laboratory testing is required on donor organs before transplantation.

In Ethiopia, live organ donation first began in September 2015 at St. Paul's hospital millennium medical college (SPHMMC) at the request of federal democratic republic of Ethiopia ministry of health (FDRE, MOH). Preparations for recovery of organs from deceased donors began in November of 2015. For the past three years, SPHMMC has been the sole health institution providing the care of organ transplantation for patients with end stage kidney disease throughout the country.

## 1.2 Statement of the problem

There is a worldwide shortage of donor organs in comparison to the need for transplantation. There is a significant relation between public attitude towards OD and availability of such organs. Thus the main concern of most transplant surgeons is to increase the donor pool and spread the willingness of donation among healthy individuals. [17]

The burden of chronic diseases, such as chronic kidney disease (CKD), leading to organ failure is high and keeps increasing. The loss to organ failure worldwide is alarming. The incidence of end-stage renal disease (ESRD) worldwide is consistently rising, currently at the rate of 6% per year, which is much higher than the rate of population growth in the world, estimated at 1.2% yearly. [19]. Prevalence of CKD from community studies in Nigeria ranges between 16% and 26%, the available and effective treatment of end-stage organ failure such as CKD is transplantation. [18]. According to the US department of health and human services out of 120,000 people waiting for an organ around 96,000 are waiting for a kidney.

In comparison to other renal replacement therapies like hemodialysis transplantation is not only cost-effective but also saves and improves the quality of life of patients. However, the gap between supply and demand for organ donation widens daily and needs continuous activities and program to fill. [18]

One of the main obstacles to this problem is believed by many to be lack of adequate knowledge and good attitude towards voluntary organ donation either from live donors or deceased donors. Thus encouraging and provide the necessary information to the public and potential donors is of great importance.

### 1.3Significance of the study

Although much literature is available which assess the knowledge, attitude and willingness of both medical and non-medical personnel towards organ donation in the western and other developed parts of the world, little to no data is available in regards to the African and particularly Ethiopian situation. And since health care workers especially physicians and nurses are the ones who approach individuals and families about both live and deceased donation it's pertinent they harbor adequate knowledge and positive attitude towards organ donation. So they would be able to comfort and encourage potential donors in addition to becoming registered donors themselves

Today's medical students are doctors of tomorrow and their awareness and attitude towards OD is equally as important. SPHMMC is a pioneer institution when it comes to transplant medicine in our country. Thus this study aims to assess the knowledge and attitude of its undergraduate medical students towards OD. The findings of this research will shed light on the level of understanding of medical students about such an important aspect of modern medicine. Therefore, it can serve as background information for future studies. The results will be presented and if possible published on scientific journals. Outlining what can be done in relation to improving the service.

## 1. Literature review

In a study done on Knowledge, Awareness and Attitudes on Organ Donation among Undergraduate Medical Students in Malaysia in 2016 Out of the 372 participants, 77.7% were aware of the organ donation registry. 71.2% were willing to register for organ donation but only 14.5% of participants were registered donors. Out of the 265 (71.2%) students who were willing to donate, it can be seen that the highest number of participants willing to donate had good knowledge 149(40%) followed by moderate knowledge with 119 (32%). Among the participants unwilling to donate only 33(8.8%) had good knowledge and 70(19%) had moderate knowledge. [1]

In a study conducted on change in knowledge and attitude among medical students towards organ donation in Karnataka, India in 2016. About 95% first year students and 98% final year students were aware of the term organ donation and transplantation. Majority heard about organ donation via print and electronic media. Only 13.9% knew that there was a law for organ donation. Majority of the students (91% in first and 89% in their final years) were ready to donate their organs after their death. The female students had a more positive attitude towards organ donation than male students in both the first and the fourth year evaluation. About 59% first year students and 64% were ready to donate their organs to their family members. Around 98% were in favor of promoting organ donation in the future. [6]

In a similar study done in Pune, India in 2016 it was found that from a total of 394 medical students' awareness regarding organ donation was found to be 98.7-100%, 69.4% claimed television as their source of information regarding organ donation and 46.7% stated that it is possible for patient to recover from brain death. The awareness regarding eye, liver, heart and kidney donations was found to be 92.4%, 87%, 87% and 97.8%, respectively. 87% of medical students were aware of need for legal supervision, and awareness regarding the existing laws was found to be 57.6%. Medical students had a high level of awareness and a positive attitude towards organ donation. However, knowledge regarding "brain-death", organs and tissues donated, legislation and ethical issues was poor. [10]

Another study done on undergraduate medical students in India stated that out of 399 students interviewed all the students knew the term organ donation. Majority (55.2%) answered media as their major source of information on this topic. 300 students (76.3%) answered that brain dead persons can be considered for organ donation. 302 (76.8%) students regarded infections as a contraindication to organ donation. Heart and kidney

was majorly answered as the organs that can be donated. 355 students (90.4%) agreed that organ donation is a gift of life to another individual, though only 225 (57.3%) were willing to donate their organs. 56 (14.2%) respondents believed their religion doesn't allow them to donate organs, while 29 (7.4%) believed that organ donation may disfigure their body after death. [11]

A study done in university of Queens, Kingston, Canada revealed that from 260 (81%) of 322 medical students. The mean knowledge score was 6.7 out of a possible score of 14. The third-year students had the highest mean score (7.56) followed by fourth-year (7.35), second-year (6.55) and first-year (5.73) students. [12]

In a research titled awareness and attitude among medical students of king Abdul-Aziz university, Jeddah, Saudi Arabia done in 2017 out of the 481 participants, 437(90.9%) students knew what organ donation means, 433(90%) supported organ donation, and 90(18.7%) knew someone who had donated an organ. Moreover, 245(50.9%) participants were willing to donate their organ to their family alone, 198(41.2%) were willing to donate to any deserving patient while 439 (91.3%) rejected that religion precluded organ donation, and 354(73.6%) did not know about the grafting of organs from a man to a woman and vice versa. [13]

In another research done on knowledge and attitude on organ donation among health science students in Greece in 2014 A total of 371 out of 510 students returned a completed questionnaire (response rate: 72.7%). Although over 78% in all groups knew that it was possible to leave kidneys for transplant after death and over 60% had thought about it only a small proportion, ranging from 10% to 39%, considered themselves well-informed to actually register as a kidney donor. Half of medical students would be willing to register as a donor if it was not necessary to carry a donor card. At least one third of students among all groups had discussed the issue of donating kidneys with family or friends. Nursing students were more likely to mind who received their kidneys after death differing statistically significant from the other two groups. Almost three out of ten respondents were concerned that carrying a donor card was like tempting death. The majority of students from all groups agreed that they would become a live donor if a young child or adult required a kidney. [14]

Another European study from Germany Some 409 of 508 first- and second-year medical students answered an anonymous, multiple choice questionnaire about demographic variables, knowledge about transplant issues, and willingness to donate organs. 44.8% of the total respondents reported that they had sufficient knowledge about organ donation, and 40.1% reported knowledge about organ transplantation. The primary source of their

knowledge was reported as the media (72.1%). Willingness to donate their own organs was 58.4% and willingness as to their relatives' organs was 39.9%. The acceptance of live organ donation was higher (74.6%) than cadaver donation. Only 1.2% had organ donation card. [15]

In another study done in china among HCW on knowledge, attitude and willingness towards OD 400 health professionals were approached, 373 valid responses were returned. Over 90% of the participants knew about organ donation, 64.9% knew the shortage status of organ, and doctors knew more than nurses and nonclinical staffs. Health professionals (97.3%) knew brain death; and 68.9% professionals thought brain death was the reasonable criteria to judge death. Doctors showed a higher knowledge level about brain death than nurses and nonclinical staffs. Altogether, 60.1% approved deceased donation; however, only 48.5% approved living donation. Doctors' attitudes were more positive than nurses and nonclinical staff both in deceased donation and in living donation. In all, 49.3% were willing to donate their own organs postmortem, and doctors had higher willingness to donation postmortem compared with nurses and nonclinical staffs [16]

In African literature a study done on knowledge and attitude about organ donation in Egypt in 2016 a total of 359 students completed the questionnaire. 36% of the students had good knowledge about OD; however, 11.7% of them had good knowledge about brainstem death. 66.3% of students found their information resources insufficient. 77.7% of participants didn't know about the law regulating OD in Egypt. 37% of the students had positive attitude towards organ donation. The most frequent cause for organ donation refusal was lack of confidence in the health care system (31%). There is a significant relation between student knowledge and positive attitude towards OD. Students' knowledge was significantly associated with seniority and Christian religion. [17]

In a study on knowledge and willingness to donate among health care workers in south west Nigeria, out of 850 participants, 766 (90.1%) returned their completed questionnaires. Majority (93.3%) of participants had heard of organ donation; 82.5% had desirable knowledge. Only 29.5% and 39.4% would be willing to donate and counsel potential organ donors, respectively; 36.5% would consider signing organ donation cards. Only 19.4% believed that organ transplantation is often effective and 63.4% believed they were permitted by their religion to donate. [18]

### 3. Objectives

#### 3.1 General objective

- To assess the knowledge and attitude about organ donation among medical students of SPHMMC

#### 3.2 Specific objectives

- To assess knowledge of medical student of SPHMMC about organ donation.
- To assess attitude of medical students of SPHMMC about organ donation

## 4. Methods and materials

### 4.1 Study area

This study will be conducted starting from March, till May 07, 2018 at St Paul's Hospital Millennium Medical College, Addis Ababa. Ethiopia is located in eastern part of Africa. The land is estimated to be about 1.1 million square kilometers. The country is among the three most populated countries in Africa with total population of 106 million (2017 estimates). Addis Ababa the capital city of Ethiopia has a total population of 3.6 million.

St. Paul's Hospital Millennium Medical College is the second largest public hospital in Ethiopia with the mission to provide preventive, promotional, curative and rehabilitative health care service in the country. The hospital was built in 1969 and since then it has been a source of medical care for underserved population. The hospital currently has 20 departments, about 389 beds with 6 beds in the ICU and 5 in pediatric ICU. The hospital has about 2508 clinical and non-clinical staff members, 800 medical students and 753 nursing students. Currently the hospital is advancing its medical training in undergraduate, post graduate and fellowship programs in addition to expanding medical services with the first center for kidney transplantation and future hematology, cardiology as well as oncology center already under construction. The study will be conducted from March 12, 2018 to May 07, 2018.

### 4.2 Study Design

An institution based cross sectional descriptive study will be conducted on knowledge and attitude about organ donation among medical students in St. Paul's hospital millennium medical college Addis Ababa, Ethiopia

### 4.3 Source Population and study population

Source population

The source population will be all undergraduate medical students currently enrolled in SPHMMC.

Study Population

The study population will be all undergraduate medical students of SPHMMC that full fill inclusion and exclusion criteria.

### 4.5 Study variables

The study variables include Knowledge, attitude about organ donation Age, Sex, Marital status, Religion, Educational level,

## 5. Eligibility: Inclusion and Exclusion Criteria

### Inclusion criteria

In this study all undergraduate medical students who are learning at the school during time of the study, who are above age of 18 years and are willing to participate in the study will be included.

### Exclusion criteria

Undergraduate medical students who are not available during the period of sample collection; under the age of 18 years and who are not voluntary to participate will be excluded from the study.

## 6. Sampling

### 6.1 Sample size determination

The sample size for the study is determined using single population proportion formula

$$n = \frac{(Z_{\alpha/2})^2 P (1-p)}{d^2}$$

Where:  $n$  = required sample size

$Z_{\alpha/2}$  = Critical value = 1.96 (Standard normal deviation usually set at 1.96 which corresponds to 95% confidence interval)

$d$  = precision (marginal error) = 0.05

Hence when calculating the sample size from the medical student using prevalence of good knowledge of 40%,  
[1] Hence,  $P=0.4$

Therefore: 
$$n = \frac{(1.96)^2 (0.5*0.4)}{(0.05)^2} = 307$$

Because our study population number is less than 10,000 the final sample size determined as follows:

$$N = 800$$

$$n = \frac{n_0}{[1 + n/N]}$$

=219.

When we add, 10% non-respondent percentage, final sample size will be 240.

## 6.2 Sampling Technique

Stratified random sampling technique will be used to stratify medical students according to the year they are currently enrolled in. This will be done by classifying the medical students by the year of study as follows.

By using the formula, Sample size of the strata = Sample size/ Total population \* Number of students in each strata

A random sampling technique will be used within each strata using a selection frame and selecting samples randomly from the frame.

| Batch(strata) | No of students | Sample size of strata |
|---------------|----------------|-----------------------|
| PC1           | 144            | 44                    |
| PC2           | 162            | 47                    |
| C1            | 116            | 35                    |
| C2(minor)     | 112            | 34                    |
| C2(major)     | 159            | 48                    |
| Intern        | 107            | 32                    |

## 7. Operational definition

**Knowledge:** All the facts that an individual knows about the subject.

**Attitude:** A way of thinking about something or behavior towards something.

**Good Knowledge:** Those respondents who were able to answer greater than or equal to 50% of the total knowledge questions appropriately.

**Poor Knowledge:** Those respondents who answered less than 50% of the total knowledge questions appropriately

**Positive attitude:** Those respondents who were able to answer greater than or equal to 50% of the total attitude questions appropriately.

**Negative Attitude:** Those respondents who answered less than 50% of the total attitude questions appropriately

## 7. Data collection

After thoroughly reviewing the relevant literatures, Standard self- administered questionnaire will be used for data collection. The questionnaires will consist of a total of 26 questions on knowledge and attitude of respondents about organ donation. The questionnaire will be handed over to the respondents in person.

## 8. Data quality assurance Processing and analysis

Participants of the study will be briefed about voluntary nature of the study and confidentiality issues. Informed written consent will be obtained and questionnaires will be distributed and collected by the principal investigator. Then the data will be checked for completeness and internal consistency. Then it will be entered into SPSS version 20 software package (IBM Corporation, Armonk, NY, USA). Random checking will be done to verify the validity of the entered data.

Simple descriptive statistics such as frequency and percentage will be used to summarize the results, and chi-square and binary logistic regression will be used to describe the association between variables. P-value < 0.05 will be considered as statistically significant association.

## 9. Ethical Consideration

Ethical clearance will be obtained from the institutional review board (IRB) of SPHMMC. The aim of the study will be clearly explained to the study participants. Information will be collected after obtaining informed written consent from each participant. The personal information of study participants will be kept entirely anonymous, and confidentiality will be assured throughout the study period. The data will be used only for the intended purpose of the study.

## 10. Dissemination of Findings

After being completed, the research paper will be submitted to SPHMMC's department of public health and department of surgery. The findings of this study will be distributed to different organizations that have helped the project to be carried out; if possible the findings will be presented in different seminars, meetings and workshops and may be published in scientific journals.

## 12. Budget breakdown

| Description       | Unit price | Quantity   | Amount in Birr    |
|-------------------|------------|------------|-------------------|
| Print             | 2          | 760        | 1520              |
| Internet          | 0.25       | 500 minute | 125               |
| Photocopy         | 0.50       | 740        | 370               |
| Binding           | 10         | 5          | 50                |
| Miscellaneous     | -          | 500        | 500               |
| Flash drive       | 150        | 1          | 150               |
| <b>Total cost</b> |            |            | <b>2,715 birr</b> |

## 11. Work plan

| No. | Activities                                    | 2018 |      |       |     |      |      |
|-----|-----------------------------------------------|------|------|-------|-----|------|------|
|     |                                               | Feb. | Mar. | April | May | June | July |
| 1   | Approval of proposal ethical clearance        |      |      |       |     |      |      |
| 2   | Data collection analysis and report write up  |      |      |       |     |      |      |
| 3   | First draft report submission                 |      |      |       |     |      |      |
| 4   | Review and research report finalization       |      |      |       |     |      |      |
| 5   | Final research report submission              |      |      |       |     |      |      |
| 6   | Research report evaluation by the examiners   |      |      |       |     |      |      |
| 7   | Defense                                       |      |      |       |     |      |      |
| 8   | Final report/ thesis submission after defense |      |      |       |     |      |      |

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## Assurance of investigator

The undersigned agrees to accept responsibility for the scientific, ethical and technical conduct of the research Project and for provision of required progress reports as per terms and conditions of the Research and Publication Directorate or /and Department of Public Health of St Paul's Hospital Millennium Medical College.

Name of Student =====

Date ===== Signature =====

Approval of Advisor(s)

| Advisors       | Signature | Date  |
|----------------|-----------|-------|
| Name: 1. ===== | =====     | ===== |
| 2. =====       | =====     | ===== |

## Annex I

### English version of written consent form

#### Dear respondent:

How are you? My name is \_\_\_\_\_. I'm here to execute a study titled- *knowledge and attitude about organ donation among medical students of SPHMMC*. I am asking you for a few minutes of your time to participate in this study. The following questions are developed for the sake of gathering information in relation to the study. The information you give us will be very useful in the realization of this study, and it will be kept confidential. Your name and address will not be recorded. You have the rights to not answer for the questions which might be inconvenient for you. However, your information is very important for the study. Again we would like to confirm to you that all your answers are confidential and used for research purpose only.

Are you willing to participate in this study?

Sign-----

Thank you for your cooperation, spend your precious and valuable time to complete this questionnaire.

## Annex II

### I. Socio-demographic and occupational characteristics of the respondent ( please circle your answers)

| No | Question                        | Response option                                                                                                                                                                                 |
|----|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | What age group do you belong to | 1.18–24<br>2. 25–30<br>3.31–35<br>4.Greater than 35                                                                                                                                             |
| 2. | Sex                             | 1. Male<br>2. Female                                                                                                                                                                            |
| 3. | You current marital status      | 1. Unmarried<br>2. Married<br>3. Divorced<br>4. Widowed                                                                                                                                         |
| 4. | What is your religion?          | 1. Orthodox<br>2. Muslim<br>3. Protestant<br>4. Catholic<br>5. Others/specify.....                                                                                                              |
| 6. | Your educational level          | 1.pre clinical year 1<br>2.pre clinical year 2<br>3.3 <sup>rd</sup> year medical student<br>4.4 <sup>th</sup> year medical student<br>5.5 <sup>th</sup> year medical student<br>6.Intern doctor |

**Questions related to knowledge regarding organ donation.**

|            |                                                                                                               |                                                                                                                                |
|------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>7.</b>  | <b>Have you heard of the term " Organ donation"?</b>                                                          | <b>1.YES</b><br><b>2.NO</b>                                                                                                    |
| <b>8.</b>  | <b>Have you heard of the term " Organ Transplantation"?</b>                                                   | <b>1.YES</b><br><b>2.NO</b>                                                                                                    |
| <b>9.</b>  | <b>Are you aware of "transplantation of human organs act"?</b>                                                | <b>1.YES</b><br><b>2.NO</b>                                                                                                    |
| <b>11.</b> | <b>Can a brain-dead patient's organs be donated</b>                                                           | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b>                                                                           |
| <b>12.</b> | <b>Which one of the following organs can be donated?</b>                                                      | <b>1.Heart</b><br><b>2.Kidney</b><br><b>3.Liver</b><br><b>4.Lung</b><br><b>5.Intestine</b><br><b>6.Skin</b><br><b>7.Cornea</b> |
| <b>13.</b> | <b>Will certified brain-dead registered organ donor be immediately disconnected from ventilation support?</b> | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b>                                                                           |

|     |                                                                                                                       |                                                      |
|-----|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
|     |                                                                                                                       |                                                      |
| 14. | <b>Can parents/guardians make substitute decision making for mentally disable person in regard of organ donation?</b> | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b> |
| 15. | <b>Donor's and recipient's blood group MUST be matched</b>                                                            | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b> |
| 16. | <b>Donor's human leukocytes antigen MUST be identical to that of the recipient for any organ transplantation?</b>     | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b> |
| 17. | <b>People of all ages can be potential donors</b>                                                                     | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b> |
| 18. | <b>Hepatitis B and C carriers can donate all of their solid organs except the liver organ?</b>                        | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b> |
| 19. | <b>Malignancy is always a contradiction to cadaveric organ donation?</b>                                              | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b> |
| 20. | <b>Increased risk of opportunistic infections is a common complication to all transplantations?</b>                   | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b> |

|     |                                                                                                |                                                                                                               |
|-----|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 21. | <b>Organs transplant recipients are more prone to developing cancer after transplantation?</b> | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b>                                                          |
| 22. | <b>What is your source of information about organ donation?</b>                                | <b>1.Television/Radio</b><br><b>2.Internate</b><br><b>3.Doctors</b><br><b>4.Freinds</b><br><b>5. Teachers</b> |

#### **Questions related to attitude regarding organ donation**

|     |                                                                       |                                                      |
|-----|-----------------------------------------------------------------------|------------------------------------------------------|
| 23. | <b>Do you support Organ donation?</b>                                 | <b>1.YES</b><br><b>2.NO</b>                          |
| 24. | <b>Do you feel comfortable to think or talk about Organ donation?</b> | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b> |
| 25. | <b>Do you agree to donate your organs when you die?</b>               | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b> |
| 26. | <b>Does your family agree with organ donation?</b>                    | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b> |
| 27. | <b>Do you think donating one's organ adds meaning to one's life?</b>  | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b> |

|     |                                                                                                           |                                                                                                                               |
|-----|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 28. | <b>Do you have belief that your body should be kept intact after death?</b>                               | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b>                                                                          |
| 29. | <b>Do you believe your religion agrees with organ donation or transplantation?</b>                        | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b>                                                                          |
| 30. | <b>Do you have fear that your body will be disfigured, if you donate?</b>                                 | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b>                                                                          |
| 31. | <b>Do you think there will be premature termination of medical treatment for registered organ donors?</b> | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b>                                                                          |
| 32. | <b>Do you think live organ donation is better than cadaveric organ donation in solving shortage?</b>      | <b>1.YES</b><br><b>2.NO</b><br><b>3.I DON'T KNOW</b>                                                                          |
| 33. | <b>How would you feel about asking a family to donate organs of their deceased relatives?</b>             | <b>1.Uncomfortable</b><br><b>2.Responsible</b><br><b>3.Proud</b><br><b>4.Normal</b><br><b>5.Unsure</b><br><b>5.Other-----</b> |

**Thank you for your cooperation!!**