

Awareness of Medical Students Regarding Organ Donation and TransplantationMs Ayushi A Keoliya¹, Dr. Arti Ajay Kasulkar^{2*}¹II MBBS Student, NKPSIMS&RC&LMH, Nagpur, India²Assistant Professor, Department of Forensic Medicine, NKPSIMS&RC&LMH, Nagpur, India**Original Research Article*****Corresponding author**

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Abstract: Every year India records several deaths due to organ failure. Despite the amendments to the Transplantation of Human Organs Act and the medical advancements in donor and organ care, the rate of organ donation remains low. A major cause of the low rate of organ donations is the lack of awareness among the people. The medical students can greatly help to increase the level of awareness among the people as they are in closer proximity to them. Hence the present study was carried out in medical students to assess the awareness regarding organ donation and transplantation. A questionnaire based, cross-sectional study was carried out in 186 medical students. The data was analyzed using EpiInfo for number and percentage. Out of 200, 186 students responded (112 females and 74 males). All the students were aware about the term organ donation, 51.2% answered that medical professionals were their source of knowledge followed by of electronic media (30.1%), 90.3% correctly responded that organ donation is legalized and 57.5% felt it should be mandated by law. 91.1% medical students were well versed that blood group and HLA Compatibility is essential for organ transplantation. Overall majority of medical students were aware about organ donation and transplantation, yet a certain degree of gap existed in the current knowledge levels which can be bridged by inclusion of these topics in curriculum which will act as a source of motivation to the students.

Keywords: Organ donation, Organ transplantation, Medical students, Awareness, Questionnaire based study.

INTRODUCTION

The World Health Organisation (WHO) defines organ donation as the gift of an individual's body parts after demise for transplantation. 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 [1]. Organ transplantation is arguably one of the greatest scientific advancement and continues to be one of the most challenging and complicated medical procedures [2]. Organ donation and transplantation have been legalised by several countries across the globe. The Parliament of India in the year 1994 passed the Human Organ Transplantation Act. The act recognises brain stem death as a medical condition that entitles a person to be categorised as a donor, regulates retrieval, storage and transplantation of organs for therapeutic purposes and prevents commercialisation of organ dealings [3]. Provisions for a donor card too have been made by the act. Individuals who feel for the cause can pledge their organs while alive by opting for a card [1, 4, 5]. There are certain speculations which organs which can be donated and which cannot be donated are specified. As certified by several key medical institutions worldwide, the following organs can be donated as per the state and

stage of the donor viz. Live Donor, Brain Dead donor, and Natural death donor. A live donor can donate one kidney, a part of lung, part of liver, blood and bone marrow. A brain dead donor can donate kidneys, heart, lungs, liver, cornea, pancreas, intestine, skin, bones, etc. From a donor who has suffered a natural death, donor tissues can be retrieved [4, 6].

Rate of organ donation is measured by in the unit parts per million. As per survey reports, the rate of organ donation and transplantation for some countries for 2016 are thus, Croatia 41, Spain 39.3, Britain 27, USA 26, Australia 15.1, Germany 14.7, Brazil 10.7, Hongkong 7.2, India 0.50 [4]. As can be noted the rate of organ donation in India remains lower than the most of the other countries. Every year India records several deaths due to renal failure, Hepatitis B and C infections [7]. The cause of these deaths can be attributed to the paucity of organ donations in the country. Despite the amendments to the Transplantation of Human Organs Act and the medical advancements in donor and organ care, the rate of organ donation remains low. The low rates of organ donation in India can be due to low number of compatible donors in cases of live donor transplants, adherence to tradition and beliefs, logistical

drawbacks like retrieval and storage resources, limited availability of advanced medical care, and lack of awareness amongst the people. Medical students can be regarded as the corner stone of the future advancements in the realm of medical sciences. They possess the right blend of aptitude and attitude that can positively influence people about organ donation and transplantation. They can greatly help increase the level of awareness among the people as they are in closer proximity to them. With this in mind, the present study was planned to analyse and ascertain the awareness and attitude regarding organ donation and transplantation among medical students.

MATERIALS AND METHODS

After obtaining approval from institutional ethics committee, a prospective, cross-sectional, questionnaire-based study was carried out on 200 MBBS students of NKP Salve Institute of Medical Sciences & Research Centre & Lata Mangeshkar Hospital, Nagpur, selected by simple random sampling from July 2017 to August 2017, out of which 186 students (74 males and 112 females) responded. A structured and validated questionnaire was used for the

study to collect information regarding age, gender, awareness of organ donation, preservation methods, and organ transplantation. Prior to administering the questionnaire, the students were addressed regarding the purpose and process of data collection. Questionnaires were distributed among the participants after taking informed consent. Students present during the data collection period were included and those who did not give consent were excluded. Data was analyzed using EpiInfo for number and percentage.

RESULTS

The present study was carried out on 200 medical students (74 (39.8%) males and 112 (60.2%) females), out of which 186 (93%) students responded. The mean age of students was 19.99 years (SD= ±0.86 years) ranging from 18 years to 22 years. We observed that all participants have heard about organ donation and organ transplantation. The commonest source of knowledge being medical professionals in both (36(48.6%) males and 60(53.6%) females) followed by electronic media (23(31.1%) males and 33(29.5%) females) as depicted in Figure 1.

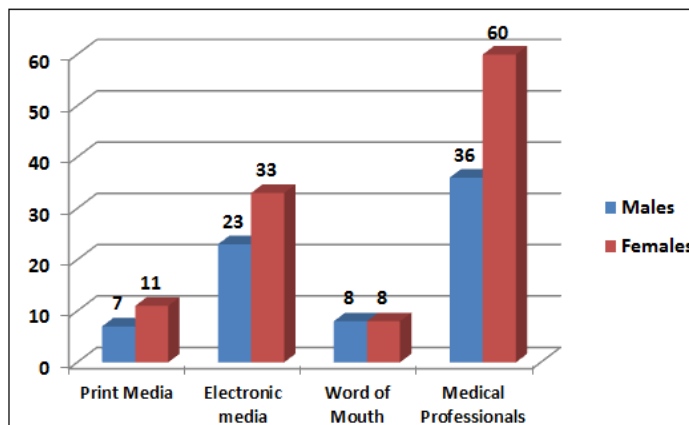


Fig-1: Source of knowledge for organ donation and transplantation

We found that 169(90.8%) mentioned that organ donation is legalised in India. When inquired about ideal recipient for organ transplantation

maximum participants 116(62.4%) responded as “Anyone who is in need” (Fig. 2).

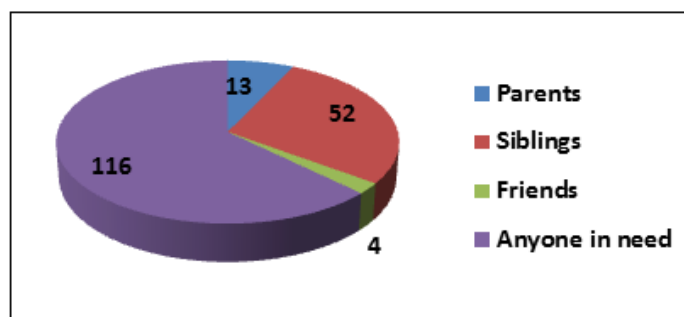


Fig-2: Ideal recipient for organ transplant

The response was equal (50%) in both when inquired about body donation is part of organ donation

or not. 114(61.3%) participants were aware that there is no age limit for organ donation. 146(78.5%) students

mentioned that comatose patient and brain dead patient are not synonymous and 166(89.2%) mentioned that cardiac death and brain death are different conditions and 135(72.6%) regarded brain dead person as a living donor. 130(69.9%) were of the opinion that treating physician has the authority to declare brain dead.

The correct response for organ that cannot be transplanted (brain), most common tissue (cornea) and most common organ to be transplanted (kidney) is depicted in Figure 3.

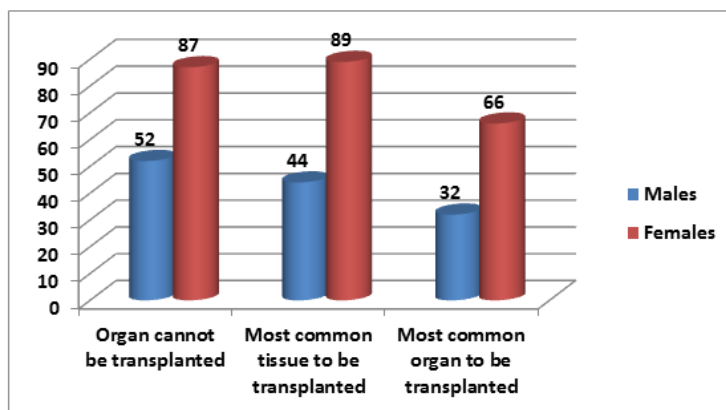


Fig-3: Awareness of Organ Transplantation

In the present study, we observed that students were aware that the organ harvestation should be done within prescribed period 148(79.6%) and the compatibility tests like blood grouping and HLA compatibility are must before transplantation 171(91.9%), 152(81.7%) preferred the live organ donation over cadaver donation, 122(65.6%) knew that chances of the post-transplant survival are very low. 153(82.3%) were sure that public is having a misconception that organ or body donation results in disfigurement and hence hinders from the noble act. They also mentioned that advertisement will definitely influence or motivate the public for organ donation. Out of 186 participants, 21(11.3%) males and 33 (17.7%) females were willing to donate one's or relatives' organ or body in future. 107(57.5%) responded that organ donation should be made mandatory by law for betterment of society.

DISCUSSION

Organ donation and transplantation is a mode of treatment for end organ diseases. But, there exists a wide gap between the demand and supply of organs. Facilities pertaining to the preservation of the donated organs and tissues are limited. Besides factors like compatibility of organ, storage, time management play an important role. Moreover professional approach and knowledge of future medical graduates is of equal importance that will aid to rise above the myths and beliefs about the noble act. The focus of this study was to assess the awareness of medical students regarding organ donation and transplantation.

The present study was carried out on 200 medical students, out of which 186 (93%) students responded. The mean age of students was 19.99 years (SD= ±0.86 years) ranging from 18 years to 22 years, which is in accordance with prior studies of Bilgel H *et*

al. [3], Chung CK *et al.* [5], and Agarwal S [8]. All the students had heard about organ donation and transplantation which is in concordance with previous studies conducted in medical colleges in India [6, 8, 9]. However, Bilgel H *et al.* [3] found that only 44.8% of the total respondents had sufficient knowledge about organ donation, and 40.1% reported knowledge about organ transplantation. 51.2% participants answered that medical professionals were the source of knowledge for them followed by electronic media (30.1%), although other studies observed the media as a major source of knowledge [3, 6, 8, 10, 11, 12]. We had a maximum response from participants as 'anyone who is in need' for ideal recipient of the organ to donate. The medical students were aware about the conditions like brain death and cardiac death, but the legalities revolving around declaration of brain and cardiac death and difference in nature of these two deaths remained unclear. 53.7% preferred live organ donation over cadaver donation. Around 50% were unclear whether body donation is a part of organ donation. The medical students had a good knowledge regarding organ that is most commonly transplanted being kidney and most commonly transplanted tissue being cornea respectively. Maximum students answered correctly that brain is the organ that cannot be transplanted. In the study it can be seen that, maximum participants knew blood grouping and HLA compatibility test is necessary before transplantation process commences. It is found to be higher than the result seen in study conducted at a Western Medical College Maharashtra where it was around 86% [10]. The students had the idea regarding the success of transplantation and chances of survival post-transplant being good.

The present study revealed that 57.5% students feel organ donation should be mandated by law. We found that majority of participants were aware that

organ donation is legalized in India, which is in agreement with Payghan BS *et al.* [11]. In a similar study conducted in Tamil Nadu only 7.33% students aware of legal status of the act [13] and in Egypt 83% were unaware that organ donation is legalized [14].

CONCLUSION

In the current study, the majority of medical students were aware about organ donation and transplantation, major source of knowledge being medical professionals and electronic media which suggests that the knowledge possessed by the medical professionals is being sent out to the students effectively. While the high percentage of electronic media suggests that there is a general curiosity among students in regards to the topic prompting self-explanation by them. There are certain areas like knowledge about brain and cardiac death, the difference of nature in them, legal aspects and apprehensions of disfigurement needs to be tackled. General awareness about organ transplantation was good. The knowledge about legalization of organ donation and transplantation and response for making organ donation mandatory was effective as well. The awareness can be increased by making the curriculum more competent by introducing a special section for information about these two major topics. Besides, active participation in CMEs, extensive research and comparative studies can ensure the same.

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