Annals of Community Health (AoCH)

A Cross-sectional Study to Assess the Knowledge, Attitude and Practices about Organ Donation among the Medical Students of Punjab

Amanpreet Kaur, Priyanka Devgun, Kanwal Preet Gill

ABSTRACT

Introduction: In India, the Transplantation of Human Organs Act, which is the primary legislation related to organ donation and transplantation, was passed in 1994. Even so many years after its implementation, knowledge is poor at the medical school level which can be rectified by a prompt change in the medical curriculum. Material and Methods: A cross-sectional study was done among medical students of Punjab. First-year and 3rd-year medical students were included in the study. Google forms were shared among the medical students through the specific social groups. The sample size calculated was 332. A total of 380 responses were received, which were all included in the study. The pre-designed and pre-tested questionnaire consisting of the question regarding knowledge, attitude, and practices about organ donation was used in the study. The statistical analysis was performed using SPSS 23 version. Results: Responses were received from 380 students. About 32.6% of the participants were in the 1st year, and 33.9% were of 3rd-year medical students of Sri Guru Ram Das Institute of Medical Sciences and Research, while 16% and 17.4% were of 1st year and 3rd year, respectively, from other medical colleges of Punjab. Most (62.9%) of the study participants were girls. Knowledge score was found to be high among 3rd-year students than 1st year (P = 0.001). The practice of blood donation was significantly higher among males as compared to females (P = 0.001). About 86.1% of the participants were willing to donate any of their organ in the future, while 84.2% of the participants were willing to motivate family member or friends for organ donation. Conclusions: This study found that the current level of knowledge of medical students on organ donation and transplantation was inadequate. To overcome, this organ donation and transplantation lectures should be a part of the medical curriculum.

Key words: Attitude, knowledge, medical students, organ donation, practices

INTRODUCTION

In India, the Transplantation of Human Organs Act, which is the primary legislation related to organ donation and transplantation, was passed in 1994. It was aimed at the regulation of removal, storage, and transplantation of human organs for therapeutic purposes and for the prevention of commercial dealings in human organs. Consequently, this act was modified in 2011. In pursuance to the amendment act 2011, the transplantation of human organ and tissues rule 2014 have been notified in March 2014.[1]

As described by Nallusamy et al, Organ donation in India is slowly rising to take off. The main reason behind this slow take off is lack of awareness. According to them, awareness should increase in all levels, namely, Community-based awareness, Public/patient-based awareness, Hospital-based awareness, and Government-initiated awareness.[2]

While a lack of awareness and negative attitude toward organ donation could be possible reasons for the gap between the need and availability of organs. Lack of awareness of the concept of brain death, religious attitudes, superstition related...
to rebirth, fear of misuse of organs, health risks due to organ donation, and lack of consensus among family members has been identified as potential barriers to the successful implementation of organ donation program in India.[3] Another study also found that the knowledge and attitude of a society toward organ transplantation are far from satisfactory even among the educated sections of the society.[4]

In a study done in South India, it was found that lack of motivation, lack of faith in the health-care system, fear of disfigurement, lack of incentives, fear of procedural delays, and inappropriate counseling accounted for attrition in donated organs. They also concluded that knowledge was poor even at the medical school level which can be rectified by a prompt change in the medical curriculum.[5]

In a study done by Shreyan Agarwal, the reasons for knowledge gaps among medical students were described as no formal education on this issue and lower rate of transplantations done in India compared to the developed countries, leading to less exposure of the students to such scenarios. Introducing this topic as a part of the medical curriculum was also suggested which may have a significant impact on the improvement of medical students’ knowledge.[6]

Several studies report poor knowledge of both the common man and the health care professionals (HCPs) on deceased organ donation, and hence, long-term improvement in organ donation rates can only be achieved by educating and motivating the people and HCPs. Therefore, this study was undertaken to know the knowledge, attitude, and practices regarding organ donation among medical students of Punjab.

MATERIALS AND METHODS

Study type: Cross-sectional.

Settings: All medical colleges of Punjab.

Study population: First- and 3rd-year medical students.

Sample size: Assuming the response distribution to be 50%, confidence interval – 95%, margin of error 5%, and study population of 2400, the sample size came out to be 332. As there are eight functional medical colleges in Punjab, assuming average intake of 150/year, the total 1st- and 3rd-year medical students came out to be around 2400. A total of 380 responses were received, which were all included in the study.

Time period: The study period was between April and May.

Data collection process: The study was conducted online through Google forms which were shared in specific social groups. The pro forma used was pre-designed and pre-tested.

It consisted of questions related to knowledge, attitude, and practices about organ donation. After filling the consent, the student could assess and fill the pro forma.

Ethics: Ethical clearance was taken from the Institutional Ethical Committee.

RESULTS

The present study was conducted among the medical students of Punjab responses were collected from 380 students as seen in Table 1. Most (62.9%) of the study participants were girls. About 32.6% of the participants were of the 1st year and 33.9% were of 3rd-year medical students of Sri Guru Ram Das Institute of Medical Sciences and Research (SGRDIMSR), while 16% and 17.4% were of 1st year and 3rd year, respectively, from other medical colleges of Punjab.

On enquiring about the organ which cannot be donated among stomach, liver, pancreas, spleen, and small intestine, 47.6% of the participants could identify only one, 15.8% of them could name two, while rest of the students could not name even one.

According to 46.6% of the participants, the most common transplanted tissue was kidney. Cornea, liver, and skin were the most commonly transplanted tissue according to 24.7%, 17.6%, and 6.6% participants, respectively. According to the remaining (5%) participants, commonly transplanted organs were spleen, lungs, heart, and hair. It was found that the majority (88.9%) of the participants knew that more than one organ can be donated in case of cadaveric donation. The majority (89%) of the participants knew about the donor card. It was found that 83.2% knew that there is an act for organ donation, but out of those, only 45.5% could name the act. Only 38.2% of the participants knew that permission from the authorization committee in the case of a non-near relative.

About 83.9% said that consent from the family member is required in the absence of a donor card in case of cadaveric donation, while 5.3% said no, and 10.8% did not know. In the presence of donor card, 54.7% said that no consent

<table>
<thead>
<tr>
<th>Table 1: Profile of the study participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulars</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>Year of study</td>
</tr>
<tr>
<td>First-year students of SGRD</td>
</tr>
<tr>
<td>Third-year students of SGRD</td>
</tr>
<tr>
<td>First-year students of other medical colleges</td>
</tr>
<tr>
<td>Third-year students of other medical colleges</td>
</tr>
<tr>
<td>Sex</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>
is required, 31.6% replied that consent is required and rest (13.7%) of them did not know about the same. The majority (90.5%) were of the opinion that the family is willing to donate the family member’s organ need not pay extra bills, while 3.7% said that extra bills have to be paid. About 5.8% of them did not know about the same.

Regarding blood donation, little more than half (51.6%) knew that it can be donated in any government certified center. About 86.6% knew that donated blood can be used as whole blood or as components (fresh frozen plasma [FFP], platelets, and red blood cells [RBCs]). Minimum weight, minimum age, and minimum hemoglobin for blood donation were known to 44.5%, 76.6%, and 67.6%, respectively. According to 49.7% of the participants, maximum frequency of blood donation in a year is 4 times, while 35.3%, 12.4%, and 2.6% said that it is 3, 6, and 5 times. The amount of blood donated at a time was known to 60% of the participants. More than half (63.9%) knew that the person with O negative blood group is a universal donor. Regarding mandatory screening tests performed on the donated blood, it was found that 90.5% knew about HIV test, while Hep B, Hep C, and Syphilis were known to 74.2%, 63.4%, and 53.9%, respectively.

As shown in Tables 2 and 3, the overall knowledge score was found to be high among 3rd-year students than 1st year.

Regarding practices, 35.3% of the participants had donated blood in the past, and out of those, 61.9% had donated once, while 38.1% had donated more than 1 time. The practice of blood donation was significantly higher among males as compared to females ($P = 0.001$). About 16.8% of the participants had family member who had donated an organ or had been the recipient. About 3.9% of the participants had registered for organ donation, and out of those, only 60% were having donor card with them. About 21.3% of the participants had participated in campaign regarding organ donation.

Knowledge about organ donation should be part of a community awareness campaign according to 93.4% of the participants and same percentage of participants (93.2%) said that it should be a part of school education. About 861.6% of the participants were willing to donate any of their organ in the future, while 84.2% of the participants were willing to motivate family member or friends for organ donation. According to 30.5% of the participants perceived, disfigurement after organ donation is a deterrent to become a donor [Table 4].

**DISCUSSION**

Most (62.9%) of the study participants were girl. About 32.6% of the participants were of the 1st year, and 33.9% were of 3rd-year medical students of SG Rim, while 16% and 17.4% were of 1st year and 3rd year, respectively, from other medical colleges of Punjab. According to 46.6% of the participants, the most common transplanted tissue was the kidney. Similarly, in a study conducted by Ali et al. on the knowledge and ethical perception regarding organ donation among medical students, it was found that the kidney was the most commonly donated organ, followed by blood, cornea, and heart. In our study on asking about the organ which cannot be donated among stomach, liver, pancreas, spleen, and small intestine, 47.6% of the participants could identify only one, 15.8% of them could name two, while rest of the students could not name even one. In a study done in western Maharashtra, 90% of the participants knew about the organs which cannot be donated.

In our study, the majority (88.9%) of the participants knew that more than one organ can be donated in case of cadaveric donation. It is similar to the finding observed in a study conducted by Bharambe et al. The majority (89%) of the participants knew about the donor card. It was found that 83.2% knew that there is an act for organ donation, but out of those, only 45.5% could name the act.

About 83.9% knew that consent from the family member is required in the absence of a donor card in case of cadaveric donation. In the presence of donor card, 54.7% said that no consent is required, 31.6% replied that consent is required and rest (13.7%) of them did not know about the same. The majority (90.5%) were of the opinion that the family is willing to donate the family member’s organ need not pay extra bills. In a study done in Kerala, 68.6% knew that consent from the family member is not required in the absence of a donor card. About 63.4% knew that there is an act for organ donation, but out of those, only 45.5% could name the act.

Regarding blood donation little, more than half (51.6%) knew that it can be donated in any government certified center. About 86.6% knew that donated blood can be used as whole blood or as components (FFP, platelets, and RBCs).

#### Table 2: Comparison of the knowledge scores

<table>
<thead>
<tr>
<th>Knowledge scores</th>
<th>N</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Standard error of mean</th>
<th>P-value (between groups of same college)</th>
<th>P-value (among all groups)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-year SGRD</td>
<td>124</td>
<td>11.35</td>
<td>2.685</td>
<td>0.241</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Third-year SGRD</td>
<td>129</td>
<td>13.31</td>
<td>2.068</td>
<td>0.182</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-year other colleges</td>
<td>61</td>
<td>11.85</td>
<td>2.496</td>
<td>0.320</td>
<td></td>
<td>0.03</td>
</tr>
<tr>
<td>Third-year other colleges</td>
<td>66</td>
<td>12.82</td>
<td>2.468</td>
<td>0.304</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In our study, more number of 3rd year were willing to donate any of their organ in the future (P = 0.001) and motivate family member or friends for organ donation (P = 0.006) than 1st year. Similar findings were there in a study done in south India.[15]

CONCLUSIONS

This study found that the current level of knowledge of medical students on organ donation and transplantation was inadequate. To overcome, this organ donation and transplantation lectures should be a part of the medical curriculum. They should be motivated to create awareness and motivate the general population and promote organ donation in the community, which is the need of the day.

REFERENCES

