

## Original Research Article

# Organ donation perception and beliefs: a cross sectional study amongst degree college students and teachers in Mumbai, Maharashtra, India

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## ABSTRACT

**Background:** Studies have shown that there is a lack of understanding about deceased organ donation. An adequate knowledge and the right attitude towards organ donation helps create a positive influence on people which may increase the organ donation rate. Since young students are less prejudiced and easily accept new ideas, it is necessary to educate the youth about organ donation through their teachers. At the same time, it is imperative to train teachers who will be responsible for spreading awareness so that they can include this topic in their lessons.

**Methods:** A cross-sectional study was conducted among the degree college teachers and students in Mumbai city from November 2017- January 2018, after obtaining the institutional ethical approval and written informed consent. Using purposive sampling, teachers and students of degree colleges in Mumbai were approached, out of which 40 students and 40 teachers consented to participate in the study. A self-administered questionnaire was used to assess the pre-existing understanding, beliefs, perception and attitude about deceased organ donation.

**Results:** Limited number of degree college teachers and students were aware of the various terminologies related to organ donation. Organ donation definition was correctly answered by 23 teachers (57.5%) and 17 students (42.5%). The correct meaning of brainstem death was known to 19 teachers (47.5%) and 2 students (5%). There are certain misconceptions and perceptions about deceased organ donation among both the teachers and the students. 13 teachers (32.5%) and 16 students (40%) believed that donor family will be revealed about the recipient's details. 7 teachers (17.5%) and 18 students (45%) were of the opinion that government provides monetary support to donor families. decision of organ donation after death rests on relatives was known to 33 teachers (82.5%) and 21 students (52.5%). About 6 teachers (15%) and 18 students (45%) wrongly believed that if conflicts arise between relatives' organs can still be donated. There's no possibility of buying /selling of organs in India was known 27 teachers (67.5%) and 31 students (77.5%). About 34 teachers (85%) and 31 students (77.5%) wanted to pledge for organ donation after death. 90% teachers and 80% students said they think deceased organ donation awareness should be incorporated in the education curriculum.

**Conclusions:** 85% of the study subjects (both teachers and students) felt the need of intensifying organ donation awareness programmes. Thus, organ donation awareness should be effectively incorporated in the educational curriculum.

**Keywords:** Organ donation, Awareness, Perception

## INTRODUCTION

Organ donation is the act of giving one or more organs for transplantation into someone else. Organ transplantation

has proven to be one of the most notable advancements in healthcare as it gives the gift of life to patients suffering from end-stage organ disease and organ failure. It improves the quality of life and has long term survival

benefits. However, the decision of organ donation is a personal and complex one, as it involves multiple factors like medical, legal, religious, cultural, and ethical issues. According to statistics, India has 80,000 potential brain dead organ donors annually but organs are retrieved from only 120 of them. This brings down organ donation for cadaver in India to only 0.08 per million while that of Spain is 35 per million. This shows that India is lagging behind by a huge margin in spite of increasing needs for its rising population.<sup>1</sup>

The major hurdle in deceased donor organ transplantation is the extreme shortage of donor organs. Organ shortage has been a pressing issue for the medical community for quite some time and the gap between demand and supply remains widened. The responsibility for this gap rests on the shoulders of both the healthcare professionals and the people.<sup>2</sup> Lack of knowledge about the administrative and legal procedures of organ donation, poor logistics, failure to identify potential donors, ineffective communication with families about organ donation and lack of trained transplant coordinators/counselors are some of the problems faced by the healthcare system. The knowledge and attitude towards organ donation among people is the main reason for organ shortage. Lack of awareness, persisting myths and misconceptions, their socio-cultural beliefs and superstitions lead to low consent rate in the general public.<sup>3-6</sup>

An adequate knowledge and the right attitude towards organ donation helps create a positive influence on people which may increase the organ donation rate. Hence, there is a need to create awareness about the same. Since young students are less prejudiced and easily accept new ideas, it is necessary to educate the youth about organ donation through their teachers. At the same time, it is imperative to train teachers who will be responsible for spreading

awareness so that they can include this topic in their lessons. This study aims to assess the pre-existing understanding, attitude and beliefs about organ donation amongst students and teachers of degree colleges in Mumbai. There's also need to assess their perspective about incorporation of organ donation awareness in education system so that it can be modelled as per requirement.

This will help us understand the need for sensitization programs which will help to bring about a change in the perception of people about organ donation.

## METHODS

A Cross- Sectional study was conducted among the degree college teachers and students in Mumbai city from November 2017- January 2018. Purposive Sampling was done. 40 Teachers and 40 students consented to participate in the study. Ethical clearance was obtained from the Institutional Ethics Committee. A structured questionnaire was prepared in accordance with the standard guidelines of regional organ and tissue transplant organization (ROTTO), KEM Hospital, Mumbai and was validated from ROTTO official. The data collected was entered in Microsoft Excel and was analyzed using SPSS software (Version 22). Descriptive statistics and Chi square test were used. The level of significance was at 5%, all p-values<0.05 were treated as significant.

## RESULTS

Total 40 teachers and 40 students of degree colleges in Mumbai consented to participate in the study. All the participants completed the questionnaire. The first part of the questionnaire consisted of questions related to general knowledge about organ donation as shown in Table 1.

**Table 1: General awareness amongst the teachers and students about organ donation.**

Questions on General Awareness	Teachers number (%)	Students number (%)
<b>Organ Donation Definition (Correct)</b>	23(57.5)	17(42.5)
<b>Cardiac death definition (Correct)</b>	21(52.5)	13(32.5)
<b>Brainstem Death Definition (Correct)</b>	19(47.5)	2(5)
<b>All religions have accepted Organ Donation? (Yes)</b>	24(60)	15(37.5)
<b>Know whom to contact for Organ Donation? (Yes)</b>	20(50)	5(12.5)

Organ donation definition was correctly answered by 23 teachers (57.5%) and 17 students (42.5%). The correct meaning of brainstem death was known to 19 teachers (47.5%) and 2 students (5%). Cardiac death definition was correctly answered by 21 teachers (52.5%) and 13 students (32.5%). 24 teachers (60%) and 15 students (37.5%) were aware that all religions have accepted deceased Organ donation. 20 teachers (50%) and 5 students (12.5%) knew whom to contact for deceased organ donation. The second part of the questionnaire consisted of questions related to certain misconceptions and perceptions about deceased

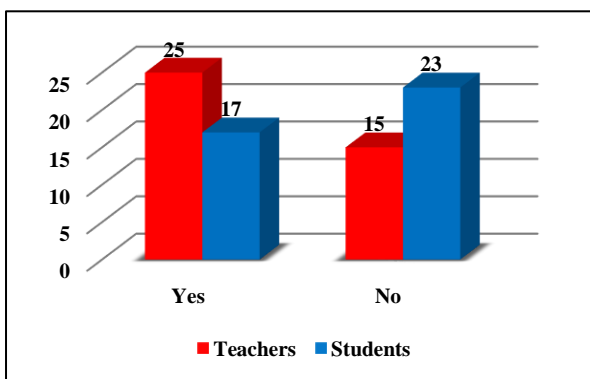
organ donation as shown in Table 2. About 6 teachers (15%) and 4 students (10%) agreed that they worry about body disfigurement. 13 teachers (32.5%) and 16 students (40%) believed that donor family will be revealed about the recipient's details. 7 teachers (17.5%) and 18 students (45%) were of the opinion that government provides monetary support to donor families. Decision of organ donation after death rests on relatives was known to 33 teachers (82.5%) and 21 students (52.5%). About 6 teachers (15%) and 18 students (45%) wrongly believed that if conflicts arise between relatives' organs can still be donated. 29 teachers (72.5%) and 13 students (32.5%)

were aware that even if the deceased person has not pledged still family can donate organs. If the family doesn't agree, a person can pledge for deceased organ donation was known to 19 teachers (47.5%) and 18 students (45%). Around 24 teachers (60%) and 18 students (45%) were aware that even after pledging a deceased person's relatives can decide not to donate organs. There's

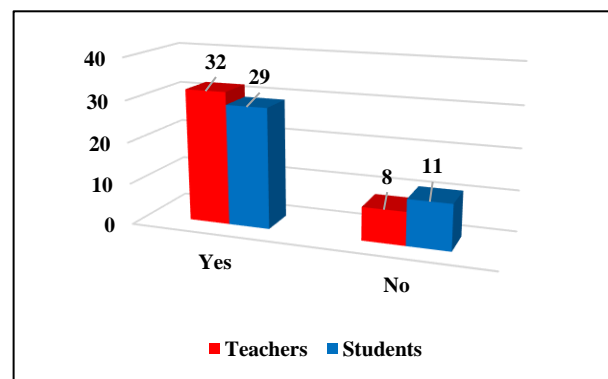
no possibility of buying /selling of organs in India was known 27 teachers (67.5%) and 31 students (77.5%). Around 36 teachers (90%) and 26 students (64%) felt that there's a need of more effective laws on organ donation in the country. 25 teachers (62.5%) and 17 students (42.5%) wished to donate organs of their relatives after death (Figure 1).

**Table 2: Misconceptions amongst the teachers and students regarding organ donation.**

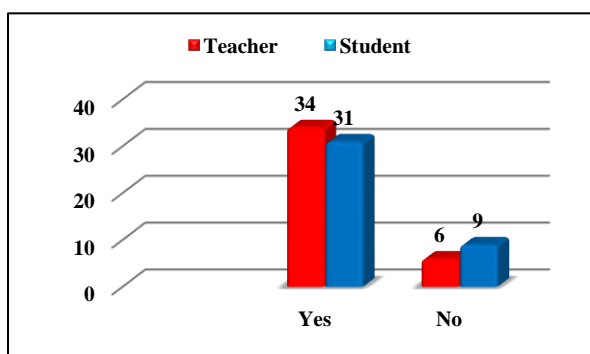
Questions related to perceptions and misconceptions	Teachers number (%)	Students number (%)
Worry about body disfigurement? (Yes)	5 (12.5)	4 (10)
Donor family will be revealed about the recipient's details? (Yes)	13 (32.5)	16 (40)
Govt. provide monetary support to donor families? (Yes)	7 (17.5)	18 (45)
Decision of Organ Donation after death rests on relatives.	33 (82.5)	21 (52.5)
If conflicts between relatives' organs can be donated	6 (15)	18 (45)
Person not pledged can family donate organs	29 (72.5)	13 (32.5)
Family doesn't agree, Can a person pledge	19 (47.5)	18 (45)
After pledging can a deceased's relatives decide not to donate	24 (60)	18 (45%)
Possibility of buying /selling of organs	13 (32.5)	9 (22.5)
Donor relatives need to pay extra charges	3 (7.5)	1 (2.5)
Need of effectiveness of laws in the country	36 (90)	26 (64)



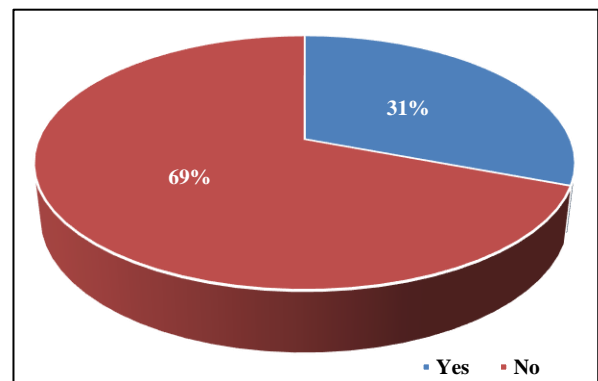
**Figure 1: Number of participants who wished to donate organs of a relative after brainstem death or cardiac death.**



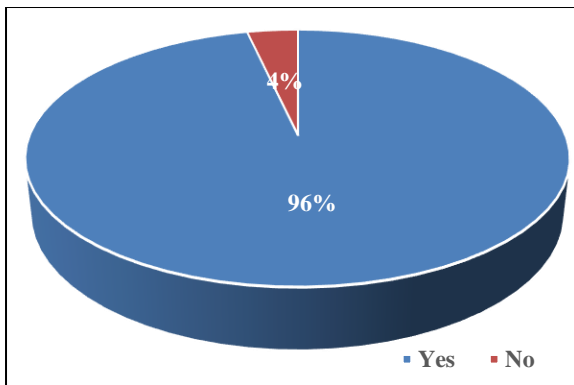
**Figure 3: Number of teachers and students who want to use educational material on the topic.**



**Figure 2: Number of teachers and students who pledged to donate their organs after brainstem death or cardiac death.**



**Figure 4: Teachers who said they have already taught about organ donation in their teaching sessions.**



**Figure 5: Teachers who would want to give lessons on organ donation in future.**

About 34 teachers (85%) and 31 students (77.5%) wanted to pledge for organ donation after death (Figure 2). Around 80% teachers and 72.5% students wanted to use educational material on organ donation (Figure 3). 69% teachers said they have already taught about organ donation in their teaching sessions and 96% teachers said they would want to give lessons on organ donation in future (Figure 4). About 90% teachers and 80% students said they think deceased organ donation awareness should be incorporated in the education curriculum (Figure 5).

## DISCUSSION

According to the present study, 23 (57.5%) teachers and 17 (42.5%) students knew the definition of Organ Donation while 19 teachers (47.5%) and 2 students (5%) knew the meaning of brainstem death. Since brainstem death is a complex concept and hence a lot of the study participants may be unaware about it. A study by Bapat et al among medical postgraduates showed that 97% were aware of organ donation and 23% knew the meaning of brain death.<sup>7</sup> The increased awareness about organ donation in this study is mostly because the study participants belong to the medical field. Another study by Febrero et al showed that about 99% of secondary school teachers in Southeast Spain had received information about organ donation and transplantation and 40% indicated that the information was good.<sup>8</sup>

A large proportion of teachers (50%) and students (87.5%) were unable to answer about whom to contact for deceased organ donation. This is most likely due to the lacunae in the updated information on the topic and advocacy of the same.

Around 24 teachers (60%) and 15 students (37.5%) knew that deceased organ donation was accepted by all religions. In a study, Devi et al found that 68.5% of young adults in Puducherry had the opinion that religion was not a hindrance for organ donation and 70.5% said that organs can be donated to people belonging to other religions.<sup>9</sup> According to Bapat et al, 95% of medical postgraduates did not believe that organ donation is against any religion.<sup>7</sup>

The present study revealed that 6 teachers (15%) and 4 students (10%) were concerned about body disfigurement after deceased organ donation. A study by Devi et al found that 26% of the adults were scared about mutilation.<sup>9</sup> Another study by Samata Srinivasula et al revealed that 83% of students in Hyderabad had a fear of body disfigurement.<sup>10</sup> Further a study conducted by Sugumar et al also reported that it was one of the main reasons for organ donation not being popular in India.<sup>11</sup> This misconception of body disfigurement after organ retrieval is a big hurdle which stops people from donating organs.

About 13 teachers (32.5%) and 16 students (40%) in the current study believed that the donor family will be revealed about the recipient's details. significant. In a study conducted by Sugumar et al among medical students in Tamil Nadu, it was observed that awareness about the donor family of not being disclosed regarding the recipient was 50.52% before an educational session and this awareness increased after the session.<sup>11</sup> This shows that educational intervention can erase myths and raise awareness among people and make them more familiar with facts regarding organ donation.

The present study shows that around 36 teachers (90%) and 26 students (64%) were aware that organ donation is regulated by law in India and there's a need to make these laws more effective. Similar finding was found in another study conducted by Bharambe et al in Konkan region of Maharashtra, among the rural community, which showed that 67.2% of respondents were aware that there is legislation related to organ donation.<sup>12</sup> A large majority of the present study participants were also aware that there is no possibility of buying/ selling of organs. In a study conducted by Poreddi Vijayalakshmi et al in Karnataka, among the general population, it was observed 87% subjects were aware that selling organs is illegal in India.<sup>13</sup> This increased knowledge among people may be due to recent efforts by the regulatory authorities to create awareness about organ donation.

According to the present study, most of the study participants that is, 90% of teachers and 80% of students are of the view that organ donation should be made a part of the curriculum. Such a large number indicates that they understand the importance of organ donation and realize that educational intervention is necessary to increase their knowledge about the same.

## Limitations

The findings of the study were based on the perception of the participants and not the actual knowledge. Self-reporting measures were used to obtain responses and there's a possibility of participants being drawn by social desirability leading to inflating their willingness or their consent to pledge for organ donation. The results can't be generalised for the entire youth population. This study couldn't reach out to initiate family discussions about one's wishes for organ donation.

## CONCLUSION

Nevertheless 85% of the study subjects (both teachers and students) felt the need of intensifying organ donation awareness programmes. Thus, organ donation awareness should be effectively incorporated in the educational curriculum. It's imperative to create a cadre of trained professionals amongst degree college teachers and students specifically trained in promotion of organ donation for mainstreaming this cause. This could be done by actively involving the teachers and students in the awareness programs as well as encouraging college personnel to make the topic of organ donation part of the study curriculum. This will lead to dissemination of information regarding organ donation in an educational setting.

Since this is a pilot, in the further study a structured training session was conducted on organ donation and the post training change in the knowledge & implementation of organ donation related activities using relevant pre-determined indicators was assessed.

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