Awareness and Knowledge Regarding Eye Donation in Students of Medical Colleges in Aurangabad [MS].

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Subject: Applied Sciences Research Article

Abstract:

Corneal diseases are a significant cause of blindness and visual impairment in young and old age group. The number of corneal transplants done is so far less than actual requirement in India. This largely due to inadequate number of corneas collected. Medical students, the future doctors constitute a major potential and underutilized force to influence eye donation and can be involved in motivating parents. In this study we are assessing the awareness and knowledge of first year MBBS medical students towards eye donation in Mahatma Gandhi Missions Medical College & Government Medical College, Aurangabad (MS).

Only 30% students knew that ideal time of donation was within 6 hours of death. Most of students (85%) were willing to donate their eyes. Only 30% knew about organ donation act, Majority (97%) knows that HIV patient cannot donate their eyes. Most of students (82 %) knew that eyes were removed by eye specialist. Most participants (77%) were don't know eye can be stored few days before transplantation. Eye donation can gave vision to person was motivational force for eye donation according to (60%), perceived reason for not pledging eye by students were (40%) lack of awareness.

This study revealed that medical students were aware of eye donation and most of them were inclined to sign-up for eye donation. The perceived reason for not donating eyes need to be considered while creating awareness about eye donation in community.

Keywords: Awareness, Knowledge, Eye donation, Corneal Transplantation etc.

Introduction:

Corneal diseases (corneal ulcer, trauma, bullous keratopathy, keratokonus) constitute significant causes of visual impairment & blindness worldwide, especially in developing countries [1,2]. Corneal transplantation offers the potential for sight restoration to those who are blind from corneal diseases [4,5] Number of corneal transplantation done in India is less than the actual requirement [3]. This is largely due to inadequate number of corneas has been collected. Approximately 18.7 million people are blind in India and 190,000 are blind from bilateral corneal disease.

Every year 20,000 join the list. According to eye bank association of India, the current cornea procurement rate in India is 22,000 per year this is approximately 20 fold less than that what we need. Organ donation is a sensitive issue all over the world. Corneal transplantation is the most successful among all forms of organ transplant procedure. Corneal transplants are the most common human transplant which enjoys a 95% success rate. In the developed countries like United States about 40,000 people receives corneal transplants every year [11]. Corneal transplant is only possible through cornea.
There is currently no substitute for human corneal tissue. Advanced medical technology has improved the success rate to approximately 95% [12]. Since the cornea has no blood supply, it is seldom subject to the rejections. Any person of any age, Cataract operated person, Diabetes, Hypertension, Mentally ill can donate eyes. Corneas are not commercially available. Hence only an eye donation made by a deceased can help restore sight for a corneal blind person. Donated corneas are transplanted only after the donor’s medical and social history has been obtained. Eye Bank is an organization which deals with the collection, storage and distribution of cornea for the purpose of corneal grafting, research and supply of the eye tissue for other ophthalmic purposes. Structurally, it has administrative and medical components. The entire operation is supervised by a Medical Director, who is usually a well qualified corneal surgeon assisted by an Administrator and other staff on the administrative aspects and trained technique.

Functionally, the administrative section is responsible for public awareness programs, liaison with government, local voluntary and other health care agencies and fund raising. The medical section deals with the entire technical operation of the Eye Bank. Tissue harvesting, tissue evaluation, tissue preservation and tissue distribution represent these activities. Each of these should be carried out following medical standards of highest quality. Any deviation from accepted medical standards can result in devastating complications. By definition, only organizations with the above structure and functions are “Eye Banks” and all other are mere “Cornea Collection Centers”[13].

As future doctors, medical students will take up the role of promoting organ donation. However, many lack relevant basic knowledge and are influenced by personal attitudes and biases held by the general public,[14-19] which impinge on health care professionalism. Insufficient knowledge and failure to identify possible donors are considered important contributing factors responsible for the shortage of available organs.[20-22] There is also a discrepancy between attitudes and actions.

While the majority of health care professionals support organ donation, only a small proportion had an actual commitment through signing an organ donation card or registering to become an organ donor.[23-25] Attitudes, knowledge, and actions are interrelated and previous studies showed that culture and religion were important external influences affecting the decision process.[26] The undergraduate medical curriculum should provide students with basic information on procedures and ethical issues concerning organ transplantation and donation, so that future doctors can become informed advocates.

To increase procurement of corneas, Raising the level of understanding about eye donation among public through health education is an important step to achieve more local eye donation[4,5]. Medical students, future doctors constitute major potential and the underutilized force to influence eye donation and can be involved in motivating parents and the relatives to pledge the eyes and to do the grief counseling for eye donation[6]. To assess knowledge & Awareness regarding eye donation in first year students of medical college in Aurangabad [Maharashtra] INDIA.

**Aims & Objective:**

1. To assess knowledge & Awareness of first year Medical students regarding eye donation.
2. To know sources of information & perception regarding eye donation.
3. To know knowledge regarding organ donation act.
4. To assess knowledge regarding eye bank.
5. To assess knowledge regarding which part of eye removed.
6. To know reasons for donating and not donating eyes.

**Material and Methods:**

A pretested, semi-structured questionnaire was self-administrated for collecting necessary information. The questionnaire contained questions on demographic details, awareness regarding eye donation, reason for donating eyes and not donating eyes, intention to donate eyes and sources of information. All the students present in first year MBBS class were enrolled after explaining purpose of study.

**Type of Study:** Descriptive Observational study design.

**Period of study:** August 2012 to October 2012.

**Study Setting:** Mahatma Gandhi Missions Medical College &Government Medical college Aurangabad [M.S.] INDIA.

**Sample Size:** 20
Observation & Results:-

Table 1: Information regarding eye donation:

<table>
<thead>
<tr>
<th>Source of Information</th>
<th>Number of Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td>154</td>
<td>77%</td>
</tr>
<tr>
<td>Friends</td>
<td>26</td>
<td>13%</td>
</tr>
<tr>
<td>Radio</td>
<td>50</td>
<td>25%</td>
</tr>
<tr>
<td>News papers</td>
<td>84</td>
<td>42%</td>
</tr>
<tr>
<td>Doctors</td>
<td>14</td>
<td>07%</td>
</tr>
<tr>
<td>Relative</td>
<td>18</td>
<td>09%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Willing to donate close relatives eyes</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Responses</td>
<td>146</td>
<td>54</td>
</tr>
<tr>
<td>Percentage</td>
<td>73%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Information by mass media like TV [77%] was main source of information where as Doctors [07%] was least informative source of eye donation. Only 30% students knew ideal time for eye donation is within 6 hours. Majority of students are males [55%]. Most of students [73%] willing to donate close relatives eyes.

Table 2: Responses to questionnaire- awareness about eye donation:

<table>
<thead>
<tr>
<th>awareness about eye donation</th>
<th>Number of Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knows Number Of Eye Bank In Aurangabad</td>
<td>Yes</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>144</td>
</tr>
<tr>
<td>Awareness Of Organ Donation Act</td>
<td>Yes</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>140</td>
</tr>
<tr>
<td>Knows That Diseased Person Donate Eyes</td>
<td>Yes</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>158</td>
</tr>
<tr>
<td>Knows About Safe For HIV Patient To Donate</td>
<td>Yes</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>194</td>
</tr>
<tr>
<td>It Is Necessary To Transport Donor To Hospital</td>
<td>Yes</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>168</td>
</tr>
</tbody>
</table>

Majority of students (72%) knew about eye bank in Aurangabad. Only (30%) students aware about organ donation act. According to (21%) students diseased person donate the eyes. Knowledge about HIV higher in students (97%) that not safe for HIV patient to donate eyes. (16%) students feel that, it was necessary to transport donor to hospital.

Table 3: Responses to questionnaire- knowledge about eye donation:

<table>
<thead>
<tr>
<th>Knows Who Can Remove Eyes From Donor.</th>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>164</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>36</td>
<td>18</td>
</tr>
<tr>
<td>Knows what is removed from donor eye.</td>
<td>Yes</td>
<td>166</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>34</td>
<td>17</td>
</tr>
<tr>
<td>Knows donated eye can be used for corneal grafting.</td>
<td>Yes</td>
<td>168</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>32</td>
<td>16</td>
</tr>
<tr>
<td>Knows ideal time for eye storage before transplantation</td>
<td>Yes</td>
<td>66</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>154</td>
<td>77</td>
</tr>
</tbody>
</table>
Majority of students (82%) knew about eye can be removed by eye specialist, 83% knew about whole eye can be removed from donor while 5% cornea only. 84% were knew that donated eye can be used for corneal grafting. Majority (77%) were don't know eye can be stored few days transplantation.

Discussion:
A large proportion of corneal blindness is avoidable. [28] Though strategies to prevent corneal blindness are more cost effective, corneal transplantation remains the major treatment option. The statistics on eye donation in India shows that there is a considerable and constantly growing backlog of corneal transplantation. [27]. In the present scenario it is essential to enhance the awareness regarding eye donation among the potential donors in an effort to increase the procurement of corneas.

A study conducted by M K Bharti [7] in shows major source of information was mass media like TV (71%) as compared to (77%) in our study. According to Kishor. S [8] in study (7.7%) ideal time of donation was within 6 hours after death as compared to (30%) in our study.

The knowledge about cornea used for transplantation according to M K Bharti7 in (31%) higher than medical students (5%) in our Study. According to M K Bharti [7] in only 27% were willing for eye donation as compared to 85% in our study. The knowledge about that whole eye removed from donor higher among medical students (83%) in our study than study by M K Bharti [7] was (40%).

The knowledge about eye storage before transplantation among study by M K Bharti [7] in (43%) as compared to medical student (23%) in our study.

Using mass media to increase the awareness regarding corneal blindness and eye health care to avoid it and at the same time eye donation to treat corneal blindness is not enough. There is a great need to educate students, as they are an important part of our society. If they are educated about the preventive and curative aspects of corneal blindness, they can spread the message among their friends and family members, thus acting as important motivators.

It is also essential to dispel their misconception regarding eye donation. Although grief counseling of relatives by hospital medical staff has been successful in procuring organs in case of death in hospitals, the consent of family members is important in procuring corneas [29,30]. If the students are educated they can raise the awareness among their family members thus ultimately enhancing eye donation rates.

Conclusion:
The present study revealed that first year medical students were aware of eye donation and most of them were willing for eye donation. The lack of local eye donation taken seriously and measures must be taken by all the concerned governmental and non-governmental organizations to improve this situation.

Recommendations:
To increase the level of awareness and knowledge of people on eye donation, more health education about eye diseases, eye donation and corneal transplantation is needed. This can be achieved by educating practicing doctors as well as the students who are the future health care providers on the importance of eye donation and benefits of corneal transplantation coupled with their training to counsel and motivate the relatives of patients for eye donation.

In addition to this, enhanced utilization of the mass media to increase the coverage of education on eye care and eye donation along with eye donation campaigns will a help to increase the frequency of eye donation. Education pertaining to eye donation should also be given to the students during their secondary school education.

Acknowledgement:
The authors express their sincere thanks to all the students for sparing their time to participate in this study.

References:
7] M K Bharti, S C Reddy,I Tajunisah, N A M Ali, Department of Antony, Faculty of Medicine, University of Malaya, 50603 Kuala Lumpur, Malaysia.