Awareness of Brain Death and Organ Transplantation Among Select Indian Population

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Abstract

Background : With the improvement in transplant technology major organ transplantation is gradually becoming the treatment of choice in many conditions. The present study assesses the awareness of the concepts of brain death and organ transplantation among public.

Methods : Six hundred thirty six select populations, which included office-goers of Delhi, class 12th school children of a reputed public school and villagers, were interviewed to assess their knowledge in various aspects of brain death and organ transplantation.

Results : There was widespread acceptance of organ transplantation among this population. The most alarming feature was that the awareness of the concept of brain death and its importance for organ donation was extremely low. Only small number of individuals were aware that brain death is legal in India.

Conclusions : Education about various aspects of brain deaths, its immense importance for organ donation and legality of brain death in India needs to be highlighted.

INTRODUCTION

Transplant technology continues to improve and will soon reach a point where major organ transplantation becomes the treatment of choice in many conditions. The fact remains that the demand of organs will always be more than the actual potential organ donors. Since the latter is almost always ‘brain dead patients’ maintained on the ventilators, the notion of ‘brain death’ is central to the success of transplantation enterprise. With the passage of legislation by the Indian Parliament in 1994, ‘brainstem death’ is now legal in India. This legal recognition applies only when organ transplantation is intended. Discussing organ donation with relatives of brain dead is never easy. At present there is no information available on awareness of brain death and organ transplantation among Indian population. The present study assesses the awareness of the concepts of brain death and organ transplantation among select population of office-goers of Delhi, school children and villagers.

METHODS

A total of six hundred and thirty six persons were interviewed which included 266 office-goers of Delhi, 188 class 12th school children of a reputed public school and 182 villagers. The purpose of the study was made clear to them and they were assured of confidentiality. No personal data except for age, sex and education were recorded in the structured questionnaire (appendix 1) which was used as a tool to assess their knowledge in various aspects of brain death and organ transplantation. These data were coded and then analyzed.

RESULTS

The study dealt with 636 persons which included 266 office-goers (159 males and 107 females), 188 school children of class 12th (90 males and 98 females) and 182 villagers (104 males and 78 females). Mean age was 36.7 ± 13.74 years in officer goers, 16 ± 0.51 years in school children and 38.4 ± 16.6 years in villagers. The level of education was significantly different (Fig. 1). In office-goers 87% were graduates or postgraduates, while only 12.7% were undergraduates. School children were of class 12th from a reputed public school. Education standard among villagers was quite poor, 37% being totally illiterate, 37% with education below 10th class and only 12% were graduates.

An overwhelming majority of the respondents had heard about organ transplantation and were aware that organ transplantation is legal in India. Most of them agreed that concept of organ donation is justified and considered that organ donation is good for society.
awareness about organ transplantation, awareness about brain death was relatively poor being 81%, 60% and 11% in office-goers, school children and villagers respectively. In three different populations only 29%, 55% and 8% knew that brain death is legal in India and only 56%, 50% and 8% respectively considered that brain death is equivalent to death (Fig. 2). Thus, most alarming feature was the lack of awareness and the legality of brain death in this select population especially
Among office-goers, a large number of them (81%) were willing to donate their organs and 61% agreed to carry a donor card with them. Willingness to donate organs and to carry a donor card among villagers was 46%. An encouraging finding was that 79% of office-goers and 81% of villagers did not consider that their religious background is a hindering factor to the concept of brain death and organ transplantation.

About the awareness of choice of an ideal candidate for
organ donation in three different groups i.e. office-goers, school children and villagers, 41%, 66% & 8% of them choose brain dead individual as an ideal candidate, while 31%, 62% & 42% and 28%, 56% and 40% considered live and cadaver respectively, as an ideal candidate for possible donation (Fig. 3). A few candidates had multiple answers and some did not know the answer.

Most of respondents were aware of kidneys, eyes, and to some extent heart transplantation. They had less awareness about liver, lungs and pancreas transplantation (Fig. 4).

**DISCUSSION**

Brain death is widely accepted as a criterion of death in medical, legal and public opinion today in many parts of the world. Brain death is irreversible cessation of all brain functions. Brainstem death is the ‘physiological core’ of and issue brain death. Concept of brainstem death has become operational in India after passage of legislation by Indian Parliament in 1994 and issue of notification in Gazette of India in 1995. It recognizes the brainstem death based on U.K. criteria, which have the advantage of being simple, clinical, unequivocal and capable of confirmation.

The clinical interest lies not in the state of preservation of isolated cells, but in the fate of a person. The medical profession must develop a code of practice that is medically, ethically and legally acceptable. Given the scarcity of donor organs, it is important that once brain death has been diagnosed and a consent for organ donation obtained, organs are maintained at their best possible level of function, and organ procurement from a heart-beating cadaver performed as soon as possible. The better the function of the organs before retrieval the better they are likely to function after transplantation.

Discussing organ donation with the relatives of brain dead is never easy. As affected families are exposed to an extraordinary stress, effective communication with family members is very vital. A great deal of information is to be passed in a short period of time, to people largely unfamiliar with the concept of organ transplantation. Intuitively at least the manner in which organ donation is discussed will depend on relatives awareness of the entire process.

Our study suggests that there is widespread acceptance of organ transplantation among villagers, school children and office-goers. However, education of various aspects of brain death, its immense importance for organ donation and that brain death is legal in India needs to be highlighted. Among villagers especially, the awareness of brain death and its various accepts is extremely poor. This step becomes very important since already there is widespread acceptance of organ transplantation. Our findings cannot be a reflection of the extent of knowledge of entire country. However, it highlights the need for increasing awareness of the various aspects of brain death.

Intensivists have a prime responsibility to the patient but also a subordinate responsibility to the community and potential transplant recipients, as organ transplantation is widely accepted by the community and offers personal and economic benefit. Anger and resentment in response to request for organ donation leave vivid and hurtful memories. Without effective public information, education and enlightenment, the transplant enterprise may not fulfill its potential to benefit the living. Hence, it is suggested that those, whose interest lie in transplantation must bear the responsibility for public awareness.

**REFERENCES**

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**Erratum**

Pictorial CME “Pseudoaneurysm” published in J Assoc Physicians India 2003;51:287 authored by SP Singh*, Achala Singh*, *Associate Professor of Medicine (Cardiology Division), Himalayan Institute of Medical Sciences, Jolly Grant, Dehradun. The name of Achala Singh should be read as Achala Singhal instead of Achala Singh

Sd/-
Hon. Editor