International Journal of Urology and Nephrology ISSN: 4592-6543 Vol. 2 (1), pp. 046-047, February, 2014.
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Full Length Research Paper

Pre-clinical medical students and brain death donation in Tehran-Iran, 10 years after legislation

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Accepted 20 December, 2013

As medical students should be prepared to face with Brain dead donors' families in the future, we tried to study their general information and attitude in their basic science stage.All students in the first two years of medical education were asked to fill a questionnaire for the knowledge and attitudes towards deceased organ donation in 2012 in Shahid Beheshti University of Medical Science in Tehran.Three hundred thirty five of 451 of attending students in the first two years of medical education filled the questionnaires (the response rate was 74.3%). The mean age was 20.18±0.97 years and 59.2% were female. 93.7% were familiar with brain dead donation(BDD) concept but 24.4% still believed in the chance of recovery after brain death. The main source of their information was media(37.2%).78% agreed withdonation in the case of brain death for themselves or their familieswith higher rate among females (85.2% versus 68.1%,p value<0.001).246 students (73.9%) considered that a team was required for brain death diagnosis to help the family to believe the fact easier (P value<0.001).

The positive attitude toward BDD increased enormously through 10 years of public education especially throughmedia.

Key words: Brain death, donation, knowledge, attitude, medical students.

INTRODUCTION

The gap between demand and supply of organs continues. No country found a concrete solution for solving this problem. One source of organ which has been neglected during years in many developing countries including members of MESOT(Arab countries, Iran, Turkey, Pakistan, and countries of central Asia) is brain or cardiac dead donors and lack of fully developed infrastructure,continued controversy about the concept of brain death and inadequate public sensitization on organ donation and transplantation have been stated as its main reasons.(Shaheen,2009;Mahdavi-Mazdeh,2012) the process is complicated from thevery beginning of case finding and approachto grieving families to donor management and harvesting. However, to overcome the barriers knowledgeable medical staff is necessary.

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Physicians are those who not only have great impact on public awareness and provision of decision makers' support for such aprogram but also may play a key role to help families to make decision for donation consent by answering their concerns.Accordingly medical students should be prepared to take the responsibility of dealing with brain dead donors' families in the future even those not interested in working in organ procurement teams. However, it seems that they usually do not receive so much education regarding this issue.(Najafizadehet al.,2009)Bapat et al in their study on 123 post graduate students, found that just 25% of post graduate medical students understood the brain death concept.(Bapat et al.,2010) Ghadipasha et al in an study on 400 general physicians and internists working in health care sector in Iran showed that just 49.6% had appropriate knowledge about the subject.(Ghadipasha et al.,2008) However, in Sobnach et al study in South Africa ,one third of 346 participants were given some transplantation teaching;

especially those in clinical period of formal education(52%) in comparison with those in preclinical years(22%). (Sobnach et al.,2012) Similarly, Anker et al who examined curriculum content of medical and nursing schools regarding deceased organ donation in USA found that curriculum in 74% of medical schools and 68% of nursing schools provided items on organ donation. (Ankar et al.,2009) Interestingly, all concluded some revision and more attention was mandatory.

We tried to study the general information and attitude of medical students in their primary basic science stage (first two years in school of medicine) while they did not receive special education regarding the subject to see how much change happened in public education since 2000 (Legislation of Act of Brain Death Organ Donation in Parliament) in Iran. As they were from different cities with different cultures and values we may be able to assess the educational needs of future doctors to help them enough competency for solving the concerns of the population at large.Furthermore, we may find how they can be strong advocateof the program.

METHODS

In this cross-sectional study, describing the aims, researchers distributed the questionnaires in classes of medical students who were in the first two years of their medical education in the first half of 2012 in Shahid Beheshti University of Medical Science in Tehran, Iran, the second largest medical school in Iran. They were asked to fill a form consisting of 23 questions about personal aspects of deceased organ donation and the factors which may affect their willingness to donate their own or their family's organs, their confidence in the diagnosis of brain death (11 questions),knowledge about the process of brain dead organ donation in the country, the criteria of diagnosis of brain death and multidisciplinary approach in the process. The study was approved by the Ethical Committee of the Urology and Nephrology Research Center of the university. The data were gathered and the quantitative variables were calculated as mean± SD and to assess knowledge about deceased organ donation, the percentage of correctly answered questions by each participant was calculated and the mean was derived. However, for some of critical questions the frequency of correct answer has been calculated. Association of gender, the city where they lived before entrance to university, educational level of their parents with their knowledge level and their attitude toward brain dead organ donation were tested by Chi-square. The statistical analysis was done by SPSS service pack 16.

RESULTS

Three hundred and thirty five of 451 attending medical students in the first two years of their formal education filled the questionnaires (the response rate was 74.3%). Most non-respondents were those, absent from the class when the questionnaires were handed out.

The mean age was 20.18±0.97 years and 59.2% were female. 51.8% of participants were from large cities (Tehran and Karaj, Mashhad, Shiraz, Isfahan, Tabriz) and 48.2% were living in other cities before entrance to the university. Although 297 persons (91%) have not seen a brain dead donor,93.7% were familiar with brain death concept and the main source of their information was media (37.2%).However, 24.4% still believed the possibility of recovery from brain death. Nearly half(53.5%) pointed to the cultural beliefs and not economical situation or religious beliefs as the main reasonsoffamilies' willingness to donate, not affected by gender or the city where they were grown up .Regarding the attitude for donation in the case of brain death ,260 participants (78.3%) were keen on doing so while the rate was higher among females versus males(85.2% vs. 68.1%,p value<0.001) However, the attitude for donation in the case of brain death for their families was a little different .Sixty four percent were still keen on doing so,26.5% could not anticipate their feeling to make a decision at that time and 23 students (9%) objectedto such a decision. The main reason for those in favor of donation was continuation of their beloved one's life in the body of others who need the organs(41.1%).Those who objected to donation, 6 persons (26%) thought of possibility of recovery and 4(17%) were concerned about disrespect to the dead body.

Interestingly, just 30 students(9%) agreed with presumed consent and 84.7% thought that this decision should be on the shoulders of the person and or grieving family (the autonomy).

Regarding the person in charge of brain death diagnosis,246 students (73.9%) believed that a team and not the responsible physician irrespective of the his/her affiliation to ministry of health or university is necessary for diagnosis and females were more in favor of this approach (82.2% vs. 61.5% ;P value<0.001). Furthermore, 247 respondents (74.2%) believed that the person in charge of asking for donation from the family is better to be a physician instead of nurse (0.9%) or social worker (13.2%). They also thought that the number of physician involved in diagnosis of brain death could have positive impact on the family decision (83.6%).56.6% responded that 3 physicians could be enough but 60 students (18%) knew that according to the national protocol signature of 5 physicians is required for brain death declaration.(Nozary Heshmati et al.,2010) Regarding their knowledge on deceased organ donation process in the country,322 respondents (96.7%) did not know who pays the expenses and 74% did not have any impression of the number of involved physicians in the process of deceased organ procurement but 12.3% and 11.4% anticipated that 5- 10 and more than 10 physicians should be involved respectively. Meanwhile 52% of students were aware of the multidisciplinaryteam-working in this critical process.

Regarding the role of medical students in advocacy of the program, 88.6% were acquainted with their key role in their own families and public and 90.7% found it necessary to have some primary training to be able to play their role as best as possible.

DISCUSSION

The majority of young generation have a positive attitude toward deceased organ donation .In Brazil it increases from 60% in medical students to 80% in practicing physicians and a positive relation between years of education with the positive attitude toward organ donation existed.[Lima et al.,2010] However, in Hong Kong the overall rate of 85% positive attitude among medical students, did not show correlation with the year of study.[Chung et al.,2008] Eighty seven percent of South African medical students were also pro donation.(Sobnach et al.,2012) In Turkey 50.6% of students were willing to donate their families' organs after death.[Sönmez et al.,2010]In Iran brain death donation program has competed with a fully developed program of living donation since 2000 shortly after legislation of 'Organ Transplantation and Brain Death Act'. Frequency of willingness of Iranian medical students toward brain death organ donation increased from 82.9% in 2006(Najafizadeh et al., 2009), 85% in 2008 [Sanavi et al.,2009] to 93.7% in the present study. However, the percentage of those who had registered for organ donation with card was so limited. [Sobnach et al.,2012;Chung et al.,2008]These data emphasizes on the fact that the public is ready to be trained more by medical students even before being educatedby formal scientific issues in organ donation curriculum. In this study the main source of getting information about deceased organ donation was media but it could not cover the raised questions by families which have been shown in doubt of students in their hypothetical decision making for organ donation of their families. It is our responsibility to answer their uncertainties about the possibility of recovery and their trust of brain death diagnosis. Medical students powered by detailed knowledge about the process can be ambassadors of life donation. Another interesting finding was higher rate of females compared with males who supported donation after brain death (85.2% vs. 68.1%) which may be due to the fact that they feel greater affection for sufferings. This study also showed that Iranian population is not ready enough for presumed consent and they even need more certainty for diagnosis of brain death. As the participants of the study were mainly presented what they had educated before entering medical school, it is logical to think that they can represent somehow, the feeling of general population. So, in our opinion our administrative processmay need tobe more flexible for some non-scientific revisions to respect to the public feelings .If the family can be assuredof brain death diagnosis of their patient by being informed through a physicianit would be worth to follow it nationally if other studies confirm it. Notably, it should be publicized that there is a team for the brain death diagnosis which would be helpful to reinforce public trust.

LIMITATION

The main limitation of the present study wasattributed to the response rate of 74.3% .However, the researchers did their best to distribute questionnaires in times when the classes had the highest present students.

ACKNOWLEDGEMENT

This study was supported by a grant from the Urology & Nephrology Research Center (UNRC), Shahid Beheshti University of Medical Sciences.

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