**ABSTRACT**

**Background.** Healthcare professionals have a crucial role in organ donation and transplantation processes. Their attitude toward organ donation can affect public opinion and the donation decision made by deceased donors’ relatives. The objectives of the study were to analyze the attitude of medical and nursing personnel toward deceased organ donation in two hospitals in Rio de Janeiro, Brazil, and the factors that can affect this attitude.

**Methods.** A random sample \( n = 162 \) was selected from the population of nurses and physicians in the hospitals analyzed. The sample was stratified by age, sex, marital status, religion, professional category, and educational level. A validated questionnaire addressing psychosocial aspects of organ donation was used to evaluate attitudes. The \( \chi^2 \) and Mann-Whitney \( U \) tests were applied for statistical analysis.

**Results.** Of personnel surveyed, 86.4\% \( (n = 140) \) were in favor of deceased organ donation, whereas 11.1\% \( (n = 18) \) were not sure and 2.5\% \( (n = 4) \) were against. The favorable attitude was related to the following aspects: (1) educational level, (2) having spoken with family members about organ donation, (3) having a chronic disease, (4) favorable attitude of one’s family, (5) belief that organ donation can save lives, (6) concerns about body manipulation, illegal trade of organs, and organ donation being against God’s will, (7) feeling proud of working with organ donation/transplantation, (8) self-assessment of experience and knowledge in organ donation/transplantation activities \( (P < .05) \).

**Conclusions.** Deceased organ donation is well accepted among the healthcare professionals surveyed, and the attitude is affected by socio-personal variables.

**Introduction**

Organ donation and transplantation (ODT) are activities of great social relevance, saving lives and ensuring quality of life for many people [1]. However, the shortage of organs is a persistent obstacle worldwide and may be affected by human inefficiencies in the process [2–5].

Professionals involved in ODT activities—such as physicians and nurses—are in direct contact with potential donors and their families and are responsible for the identification and notification of brain death and for the medical support to potential donors. Thus, they can prevent the loss of potential donors and affect the rates of family refusal to donate organs [6–11]. The attitude of physicians and nursing personnel about the ODT process is regarded in many studies as a positive effect on the mindset of the population toward organ donation [12–15].

Despite the influence of healthcare professionals on patients, patients’ families, and public opinion [16–18], few studies have been developed in Brazil about the attitude of these professionals toward organ donation [19,20]. No articles were found that addressed professionals who work in hospitals of Rio de Janeiro [21]. Therefore, the objective of this study was to analyze the attitude toward deceased donation and transplantation among physicians and nursing personnel in two hospitals in Rio de Janeiro and to evaluate factors that affect this attitude.

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METHODS

Study Population

The study was conducted in two Brazilian public hospitals located in Rio de Janeiro with active programs of deceased organ donation and transplantation. The two hospitals (Getúlio Vargas and Adão Pereira Nunes) have neurosurgery service and a large number of deaths from neurological causes. From the total notifications of brain death registered in Brazil in 2014 (n = 809), almost 20% (n = 169) occurred in these two hospitals. A representative sample of physicians and nurses (n = 162) was randomly obtained. The study’s objectives were explained to the respondents, who signed a term of free informed consent, allowing the use of data obtained in the questionnaire.

The population considered is of 1484 healthcare professionals (663 nurses and 506 physicians), and the respondents were restricted to professionals who work in emergency/urgent sectors and in intensive care units. Considering that these professionals are in high demand in these sectors, the time available to participate in the research is a limiting factor to the sample size. In turn, the greater difficulty to access physicians contributed to the lower proportion of this professional category among respondents. However, it is worth noting that the $\chi^2$ test does not require large samples to provide accurate results [22].

Opinion Survey and Study Variables

Professionals’ attitudes toward ODT were evaluated through the use of a validated questionnaire addressing psycho-social aspects of organ donation [23–29]. The distribution and collection of the questionnaires was carried out in randomly selected work shifts by nursing supervisors at each hospital. These professionals served as representatives in each hospital, and they received detailed explanations about the research. The survey was self-administered and completed anonymously from August to October 2014.

The dependent variable is the respondents’ opinion about deceased organ donation. The following factors are the independent variables: (1) socio-cultural variables such as marital status, sex, age, religion, level of education; (2) work variables such as professional category and pride in working with organ donation; (3) personal beliefs, such as seeing organ donation as an act of solidarity and considering the shortage of organs a serious problem in Brazil; (4) concerns about donation being against the will of God, about the donor’s body integrity and its manipulation after death, and about existence of illegal trade of organs in Brazil; (5) having a chronic disease; (6) having spoken about organ donation within the family and the attitude of family toward organ donation; and (7) self-assessment of experience and knowledge in ODT activities.

Statistical Analysis

The $\chi^2$ and Mann-Whitney U tests were applied for bivariate analysis, with the use of SPSS statistical package version 17.0. The Fisher test was used when contingency tables had cells with an expected frequency <5. Descriptive analysis was carried out for each independent variable at a 5% level of significance.

RESULTS

Most respondents (n = 140 [86.4%]) had favorable attitudes toward donation of their own organs after death. The others were against (n = 4 [2.5%]) or were not sure (n = 18 [11.1%]). As shown in Table 1, respondent sex, marital status, age (mean [SD]), religion, and professional category did not significantly affect the attitude toward deceased organ donation. Similarly, there were no differences related to the belief that organ donation is an act of solidarity or that shortage of organs is a serious problem in Brazil ($P > .005$).

In contrast, there were differences according to professionals’ level of education. The attitude toward ODT was more favorable among post-graduation respondents in comparison to those with no graduation (97% vs 83%; $P = .005$). Other variables that affected attitude were having a chronic disease (87% vs 76%; $P = .037$) and having spoken about organ donation with family members (95% vs 63%; $P < .001$). Also, the family attitude toward organ donation appeared to affect professionals’ attitudes (89% vs 76%; $P < .001$).

The attitude was more favorable among respondents who believed that organ donation can save lives (87% vs 67%; $P = .016$), that organ donation is not against God’s will (89% vs 37%; $P < .001$), and were proud of working in cases of organ donation (90% vs 65%; $P = .014$). Attitude was also more favorable among professionals who were not concerned about organ donation defacing the donors’ body (91% vs 70%; $P < .001$), about body manipulation after death (93% vs 45%; $P < .001$), and about illegal trade of organs (91% vs 18%). Also, respondents who self-assessed their level of experience (91% vs 79%; $P = .022$) and knowledge (94% vs 72%; $P = .031$) in ODT activities as extensive had a more favorable attitudes toward organ donation than those who self-assessed their experience and knowledge as limited.

DISCUSSION

In activities of ODT, it is crucial recognizing, measuring, and dealing with healthcare professionals’ attitudes. These professionals are involved in the identification, notification, and maintenance of potential donors in approaching the family as well as others fundamental tasks relative to an efficient donation process [4,6]. The scarcity of Brazilian studies regarding variables associated with positive attitudes of healthcare professionals toward organ donation is worth noting. For this reason, the study can enrich the academic literature and encourage new investigations on the issue, in the context of Brazilian hospitals.

Nursing and medical staffs are dominant categories in studies of healthcare professionals’ attitude toward ODT [6–11]. The larger contact (and therefore greater influence) of these professionals with potential donors and their families may suggest a reason for this preference. Although many studies show a more favorable attitude of physicians, when compared with other healthcare professions (including nursing personnel) [14–17,30], this result is not a consensus in the literature because there are studies that do not demonstrate significant differences in attitudes between physicians and nurses [31,32]. Likewise, in this study, the professional category did not significantly affect the attitudes toward deceased organ donation.

Also, the results indicate an opportunity for improvements in the consciousness of physicians and nurses because 13.6% of the professionals analyzed had an indecisive or
negative attitude toward deceased organ donation. In the present study, the results showed that most professionals with favorable attitudes presented higher levels of education, greater presence of chronic disease, and had the perception that organ donation can save lives and it is not against God’s will. They also had spoken with their family about organ donation, and they acknowledged a positive attitude of their family toward organ donation. Additionally, the favorable group felt proud of working with organ donation, felt more capable to perform related activities (in their professional category), and eliminated concerns based on lack of information, providing proper training and motivation. By clarifying doubts and eliminating concerns based on lack of information, professionals are empowered with technical and social capabilities that enhance the confidence to work with ODT activities.

Another key point is the awareness about the benefits of organ donation (for the family, as an opportunity to transform a great loss in an act of solidarity; for the receptors, in terms of survival and improvement of quality of life; and for the national health system, that transplantation may represent the most cost-efficient treatment and may provide to patients an economically active life). Last, the propagation of competence and trust among healthcare professionals who work with ODT may positively affect families’ decisions on organ donation.

CONCLUSIONS

In short, the results indicate the importance of training and developing healthcare professionals on the ODT process.
and the need for public awareness campaigns regarding the importance of donation and process reliability. The results converge with a large body of literature which, based on theories and on empirical studies, indicates a positive influence of attitude on the performance of a voluntary behavior such as organ donation [4, 7, 17, 18, 20, 22].

This study may be useful for academic purposes (enriching the scarce literature of Brazilian studies regarding attitudes of healthcare professionals toward organ donation) and for hospital managers (providing awareness of possible factors associated with attitude of physicians and nurses toward deceased organ donation).

REFERENCES