NEPHROLOGY

Nephrology **24** (2019) 1077–1080

Brief Communication

Attitude towards deceased donation in Ho Chi Minh City, Vietnam

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KEY WORDS:
attitudes, organ donation, transplantation.

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doi: 10.1111/nep.13581

ABSTRACT:

Describe the current state of deceased kidney donation in Southern Vietnam and to explore the knowledge, attitude and behaviour towards kidney donation after death. Factors associated with the decision to donate among selective populations in HoChi Minh city were explored. Self-administered questionnaire of 30 questions to people over 18 years in three different communities were studied, *n* = 1068; 77% and 63.8% agreed they would donate their own kidney and that of their relatives respectively after death. Factors associated with positive donation wishes were knowledge of the national shortage of organs and brain death as well as positive previous family conversations. Main reason for refusal was lack of agreement within families about donation. The desire for equitable distribution of organs was frequently expressed. The majority of people interviewed in this large study agreed with deceased organ donation. Despite this, few deceased donor kidney transplants are performed in adults and none in children in Southern Vietnam, therefore greater efforts in the donation process and coordination of deceased donor lists is required. Given the correlation between positive donation wishes and knowledge with desire to donate, widespread public education campaigns are critical to the promotion and development of a successful deceased organ donation programme in Southern Vietnam.

Worldwide, transplantation has become the therapy of choice for end-stage kidney disease (ESKD). However demand for organs has outstripped supply in most countries. In Vietnam in particular, the ability to transplant patients is limited by the lack of deceased donors and a coordinated national deceased donor programme necessitating a dependence on living donors as the major organ source.

Approximately 6.7% of Vietnam's population (6 million of 86 million in 2009) are affected by chronic kidney disease (CKD)[1] and the incident rate for adults reaching ESKD is of the order of 6400–1000 patients per year.[2] There are no accurate estimates of ESKD in the paediatric (or adult) population as there are no national registries; however, studies from Hanoi[3] and Ho Chi Minh[4] have estimated an incidence of 5.1 per million child population and 4.8 per million child population, respectively. This number is likely to be a significant underestimate as 37% of the population (92.7 million in 2016[5]) are less than 18 years which would provide an estimate of 170 children per year reaching ESKD in Vietnam who could potentially benefit from a kidney transplant.

Organ donation and procurement has been legal in Vietnam since 2006 and despite kidney transplantation occurring since 1992 there have been few deceased kidney transplants into adult recipients ($n = 177$[6]) with a rate of 0.4 pmp from deceased donors in 2017.[7] At the time of publication only one deceased kidney has been implanted into a child. Reasons include a lack of a national waiting list for deceased organs and the fact that until recently children were not placed on local deceased donor waiting lists. Meanwhile the potential source of deceased donation is significant. While the exact number of potential brain dead donors is unknown, what is known is that a large proportion of these patients have suffered a traumatic injury (traffic accidents). An estimate from one large Vietnamese hospital (Viet Duc) was of the order of 800–1000 per year[2] deaths from accidents at their centre alone. Fifty percent of those who died were brain dead. It is believed that one of the reasons the donation rates are low is because the consent rates are low. There are few studies looking at donation attitudes in South Asian countries. Therefore the major aim of this study was to analyse the knowledge, attitude and

behaviour about organ donation in pilot communities in Ho Chi Minh City in order to understand more fully the reasons for refusal or acceptance of deceased organ donation.

METHODS

Design

This was a cross-sectional study using a self-administered questionnaire. The questionnaire was composed of 30 questions (dichotomous and open-ended) which were finalised after an initial test group of 30 people. Questions consisted of:

- 11 questions on demographic data
- 7 questions testing knowledge on organ donation, brain death and kidney failure
- 6 questions of attitudes towards deceased donation
- 4 questions on potential actions regarding deceased donation
- 2 open-ended questions requesting suggestions for improving donation rates and causes of refusal

Subjects

Vietnamese citizens above 18 years living in Ho Chi Minh City were interviewed. We selected people in three communities with different religious and educational backgrounds: Catholics, Buddhists and university students. Subjects were recruited from the Thu duc church (Catholic), Thien Lam pagoda (Buddhist) and students from the Law and Medical School of Ho Chi Minh City University between April and June 2011.

Ethics

This study was approved by the Ethics committee of Medicine and Pharmacy, University of Ho Chi Minh City and patients were consented to complete the questionnaire.

Data analysis

Descriptive statistics were used to assess demographic information. Factors associated with consent to donation were analysed by χ^2 method. The Poisson regression and robust option were used to control the confounders variable as sample characteristics. In a simple analysis of renal donor behaviour and sample characteristics, if the *P*-value was less than 0.2, the variable would be included in the Poisson regression model. STATA 13.0 software (STATA corp LLC) analysis package was used.

RESULTS

Between April and June 2011 a total of 1068 people completed the questionnaire. The completion rate was 94.5%.

The mean age of participants was 28 (median 22) years (range 18–73) and the majority were female ($n = 615$ *vs* 413 males; Table 1). Seventy-four percent were university educated. The largest group identified as 'average' economic status. There was a fairly equal division of religions amongst the survey group.

Participants were asked about their source of information on deceased donation; some cited more than one source. The majority cited television ($n = 649$) followed by books ($n = 544$) and journals ($n = 539$). Of those 9.8% obtained their information from the radio and 14.8% from affected relatives. Only 38 (3.6%) had never heard any information on deceased donation. Participants were asked three questions to determine the accuracy of their knowledge. Specifically they were asked: (i) *Will patients with end-stage kidney failure die without dialysis or transplantation* (94.2% of people agreed); (ii) *Do end-stage kidney failure patients require kidney donation to be saved* (86.1% correctly knew this) and (iii) *whether brain death is a condition where the heart continues to work but the brain is completely and irreversibly damaged* (13.9% of participants did not correctly understand the definition of brain death).

Participants were asked if they would discuss donation with their relatives and the majority (91, 9%) said they

Table 1 Demographic data

Age mean (median) (range)	28 (22) (18–73)
Sex (%)	F: $n = 615$ (61); M: $n = 413$ (39)
Work status	
Students	707 (67)
Employees	135 (12.8)
Other	226 (21.2)
Education	
College	260 (24.6)
University	782 (74.1)
Post university	14 (1.3)
Ethnic population	
Kinh	986 (93.8)
Hoa	37 (3.5)
Khmer	16 (1.5)
Cham	12 (1.1)
Religion	
Buddhism	292 (25.6)
Catholicism	281 (24.6)
Confucianism	330 (28.9)
None	227 (19.9)
Other	10 (0.8)
Marital status	
Married	231 (21.7)
Single	832 (78.3)
Economic status	
Rich	37 (3.5)
High average	225 (21.4)
Average	681 (64.7)
Poor	110 (10.5)

would discuss and interestingly 85.4% thought they may require donation at some point themselves.

Participants were asked whether they would consent to donation of their own kidney or that of their relatives after death. Seventy-seven percent agreed with donating their own and slightly less (63.8%) would consent to donate their relatives' kidney after death (95.5% and 94.1% answered these two questions, respectively).

Factors that were associated with agreement in principle to donate after death (own or relatives) were analysed. Agreement to donate was significantly associated with Kinh ethnic background, ($P < 0.005$), previous knowledge about organ donation ($P = 0.014$), correctly answering the question on the definition of brain death (0.019), correctly answering a question on knowledge about shortage of organs ($P = 0.026$), agreement to discuss organ donation with relatives ($P < 0.005$) and belief that they may need donation themselves in the future ($P < 0.005$). Age was not significantly correlated with a willingness to donate ($P = 0.22$).

Participants were asked in an open-ended fashion to suggest reasons for refusal to donate. Only 37% completed this section. The majority cited a lack of family consensus ($n = 185$). Religion was only cited as a reason in 20. Other reasons nominated included a need for the body to remain intact after death, the possibility of delay in burial because of donation. They were also asked what they thought were necessary conditions for donation to occur and 152 answered this question stating adequate finances and the principle of equality in distribution of organs.

DISCUSSION

To our knowledge this is the first major study on attitudes towards organ donation in Vietnam. We selected three pilot communities in Ho Chi Minh City, the most highly populated city in the country with the expectation that wider spread studies could be done throughout the population.

The three major religious groups of Vietnam were surveyed in this study as religious reasons are sometimes cited for refusal to donate or transplant organs.[8] According to the General Statistics Office of Vietnam's report[9] for 1 April 2009, 6.8 million (or 7.9% of the total population) are practicing Buddhists, 5.7 million (6.6%) are Catholics while the vast majority of Vietnamese people practice ancestor worship in some form (a mixture of Vietnamese Confucianism and other beliefs). The Catholic community is known to be a religious group with a high percentage of agreement to donate. Support for donation is evidenced by former Pope John Paul II promoting organ donation is his letter 'Evangelium Vitae' as an example of Christian Love.[7] Buddhism has a strong influence on Vietnamese culture with approximately 85% of its population although not regular participants, identifying with the religion in some form. There are differing opinions on the position towards the death process and donation in Buddhism,[7] however, many leave it to the individual to decide. Modern Confucius principles differ from traditional in that they cite Confucius '*The man of Jen is one who, desiring to sustain himself, sustains others*' above the principle of maintaining integrity of the body.[10] Despite the possibility of diverse opinions regarding donation in Buddhism and Confucianism we did not see any difference in agreement to donate and religious backgrounds. Only 20 cited religion as a reason against donation. It is important to emphasize, however, that religious leaders should be encouraged to participate in public discussions on organ donation and its benefits as it may have a significant impact: 41.3% of Korean participants in a questionnaire on organ donation (12% Buddhist) stated they would accept organ donation if encouraged by their religion.[11] A systematic review of the literature on donation attitudes identified that respondents from the same religion often held different beliefs and interpretation of their faith.[12]

In addition to interviewing religious groups, this study carried out questionnaires on university students. It was interesting to note that we did not find a significant correlation between age and positive attitude to donation and this confirmed a previous smaller study carried out in households in Ho Chi Minh on DD attitudes.[13] However, it is possible that this effect was not seen as the entire cohort was relatively young with a mean age of 28 ± 12.86 years.

Knowledge about ESKD and previous discussions about DD were associated with positive donation wishes in our study. Lack of knowledge and process were often reported as barriers to donation in other studies in the literature[11] and emphasize the need for public education campaigns and promotion of having family discussions about donation. There has been an increase in education campaigns in Ho Chi Minh city over the last decade[12] and our donation agreement rate of 77%, which is much higher than previous (66% Ho Chi Minh households[12] may partly reflect that). Television was the most cited source both in this study and the previous cited from 1999.

In summary, agreement to donate after death was higher than we anticipated at 77% and 63.8% (own *vs* relatives). Given the high death rate from accidents this suggests there is enormous potential to improve DD rates in Vietnam. Investment in the donation process from donor identification through to organ retrieval surgery and formation of national coordinated deceased donor waiting lists are needed. Widespread public education campaigns (principally via television media) and internet are critical to promotion and development of a successful deceased organ donation programme in Vietnam.

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