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Family first: Asian Americans' attitudes and behaviors towards deceased organ donation

Laura A. Siminoff^{a,*}, Susan Bolt^a, Heather M. Gardiner^a, Gerard P. Alolod^a

^aCollege of Public Health, Temple University, Philadelphia, USA

Abstract

Asian Americans have substantial transplantation needs but the lowest rates of organ donation in the United States. As the shortage of transplantable organs persists, the rate of deceased donation by Asian Americans has not kept pace with that of the general population. This report is a qualitative study of organ donation-related attitudes and beliefs of three Asian ethnic groups located in the greater Philadelphia metropolitan area: Chinese, Filipino, and Vietnamese Americans. Guided by a Community Advisory Board representing these groups, we conducted 9 focus groups with a total of 64 participants and subsequent thematic analyses. Six major themes emerged: (1) positive views about organ donation, (2) previous exposure to organ donation, (3) primacy of the family in decision making, (4) mistrust of the healthcare and donation systems, (5) religious and cultural beliefs concerning the body, and (6) isolation from mainstream American society. Although participants expressed commonalities and beliefs in line with other American racial and ethnic groups, we also identified unique beliefs, such as familial influence, religious and cultural concerns regarding body wholeness and the dead, and underlying reasons for medical mistrust, such as a belief in a black market. The study's findings challenge the dominant educational and awareness campaigns about organ donation decision making that focus on individual autonomy and overlook the need for incorporating the specific content and message delivery needs of Asian Americans. This study is the first to explore attitudes and knowledge about posthumous organ donation among US Asian American populations in at least a decade.

Keywords

organ donation; Asian American; Chinese; Filipino; Vietnamese; decision-making

* **Corresponding author:** Laura A. Siminoff, PhD, lasiminoff@temple.edu, Phone: (215) 204-8624, Fax: (215) 204-5140.

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Conflict of Interest

The authors declare that they have no conflicts of interest.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

Introduction

Despite the success of public campaigns to increase organ donation in the United States,¹ a shortage of transplantable organs persists, with approximately 20 Americans dying each day while waiting for a transplant.² Asian Americans are disproportionately overrepresented on the national waitlist for solid organs and underrepresented as organ donors. Composing 5.4% of the total US population,³ people of Asian American descent make up 8.1% of the 114,595 individuals on the waitlist.⁴ Nonetheless, in 2018, Asian Americans donated only 2.3% of the deceased organs made available for transplant, proportionately the lowest of any US racial group. The rate of living donation was slightly higher, with Asian Americans at 4.5%.⁵ These disparities indicate the time is ripe to more closely examine barriers to organ donation among Asian Americans, now the single fastest growing racial group in the United States.⁶ Understanding their reluctance to donate will allow the transplant community to design culturally relevant messaging and processes to enable greater volumes of transplants and help save lives in the future.

Asian American need for transplantation

Asian Americans have specific and critical needs for transplantable organs. Today, Asian Americans make up 5.4% of the waitlist for liver transplants and 8.8% for kidney transplants; yet, they receive only 4.8% and 7.0% of liver and kidney transplants, respectively. One retrospective study of over 19,000 liver transplant recipients found that Asian Americans are significantly more likely to be hospitalized at time of wait-listing,⁷ indicating a greater likelihood of delayed diagnosis, more advanced disease progression, and decreased chances for transplantation.⁸ The need for liver transplants is especially critical for Asian Americans due to an extremely high incidence of hepatitis and resultant hepatic failure.⁹ In 2016, nearly 20% of all newly reported cases of chronic hepatitis B in the US occurred in Asian Americans, and the death rate among Asian Americans from hepatitis B was more than triple that of non-Hispanic Black Americans.¹⁰ Asian Americans with hepatitis C progress to liver cancer at nearly twice the rate of White Americans¹¹ and are less likely to undergo liver transplantation.¹² Vietnamese American men, in particular, have the highest incidence of and death rates from liver cancer, more than double that of other Asian Americans and five to eight times that of White Americans.¹³ Among patients with the most severe disease, Asian Americans have the lowest rates of liver transplantation of any racial group in the US¹⁴ and wait longer for the transplants they do receive, i.e. an upper limit of 1,187 days compared to 1,138 days for White Americans and 431 days for Black Americans.¹⁵ These facts underscore the need to address the barriers to donation among Asian Americans.

Asian American organ donation attitudes and behaviors

While significant attention has been paid to the reluctance of Black and Hispanic Americans to donate transplantable organs,^{16–21} considerably less research has focused on Asian Americans. A review of the literature over the past 25 years indicates a paucity of studies examining the attitudes, knowledge, and behaviors regarding Asian Americans and deceased organ donation. A National Library of Medicine review found only 16 published peer reviewed articles published between 1994 and 2018. Common among them are lower levels

of awareness about organ donation and less favorable views of organ donation among Asian Americans compared to the general population.^{22–24} Concerns about posthumous organ donation included fears about organs being bought and sold, need for bodily integrity in death, and uncertainty about whether their religions accepted organ donation.²⁵ Additionally, preferences for deceased organ donation are frequently not discussed between family members. Park et al.²⁶ posited that Asian Americans have a weaker sense of social responsibility regarding organ donation due to a lack of identification outside of their local community. This, together with a lack of awareness of the need for organ transplantation among Asian Americans, may contribute to lower rates of individual donor registrations and family authorization to posthumous organ donation.²⁷

Objective

This mixed-method study of the beliefs, attitudes, and behaviors of Asian Americans toward organ donation adds to the small body of literature already published, much of which is decades old. Like most research with “Asian Americans,” this research was conducted with a sample of that population – Chinese, Filipino, and Vietnamese Americans – referred to collectively as “Asian Americans” in this report. Mixed methods were chosen to meet the study’s objectives to explore this population’s attitudes, knowledge, and behaviors concerning deceased organ donation in as much depth as possible. Structured scales of attitudes toward organ donation provided a ‘first cut’ of these using a tool that has been widely administered to the general public and families asked to make organ donation decision. For greater depth and to capture unique characteristics unlikely to be revealed quantitatively, focus groups were chosen as the study’s main tool of investigation. These allowed us to explore the meaning of these attitudes, their possible origins and how they might affect decisions made by individuals about organ donation. A community-engaged approach was employed to obtain the sample and collect the data. Through partnerships with local community organizations, we formed a 12-member Community Advisory Board (CAB) to assist with the development of the focus group guide and recruitment of focus group participants from the Chinese, Filipino, and Vietnamese communities, three of the largest Asian American communities in the Philadelphia metropolitan area.

Materials and methods

Sample and recruitment

We conducted 9 focus groups (a total of 64 focus group participants) to build a knowledge base about Asian Americans’ donation-related attitudes, knowledge, and behaviors. Focus group methodology was chosen to gain insight into these factors through hearing the voices of the communities of interest.²⁸ The decision to focus on Chinese, Filipino, and Vietnamese Americans was a function of their representativeness in the greater Philadelphia area and nationally. Members of the CAB helped identify individuals from each of the three targeted Asian ethnic groups. Focus groups had representation from a range of demographics within the target populations including education, age, gender, and level of acculturation, based on nativity and length of residency in the US.

We employed a variety of recruitment approaches to maximize enrollment. Flyers in English, Vietnamese, and Chinese were distributed and posted in business, religious, educational, and other locations frequented by the target populations. CAB members also circulated the flyers and informed their existing community networks by word of mouth, phone calls, in-person meetings, and e-mails. Potential participants were screened by study team members to ensure they met eligibility criteria. Participants had to identify as a member of one of the three target ethnic groups, be 18 years of age or older, and have no cognitive or decisional impairment to be deemed eligible to participate. The focus groups were constructed to obtain a mix of genders and age ranges and were held in English, Vietnamese, and Mandarin.

Data collection

Participants completed a brief, self-administered questionnaire prior to the start of each focus group that gathered sociodemographic information and baseline attitudinal and knowledge information related to organ donation. Specifically, the questionnaire contained 7 true/false knowledge questions, 26 5-point Likert scale attitudinal items ($\alpha = 0.68$), and 2 questions asking about willingness to donate and whether respondents were registered donors. Higher scores of the attitudinal items indicated more comfort with and support of organ donation dispositions. These items have been used and validated in past studies ($\alpha = 0.60$) with the general public and individuals asked to donate a family member's organs.²⁹⁻³⁴ Additional attitudinal items were added based on findings from other studies^{22,23,25-27} focused on Asian Americans and organ donation. CAB members also suggested items to capture culturally relevant beliefs about death and the body. The survey is available as Online Resource 1.

Focus groups were held in person and at locations familiar and accessible to participants. Sessions were organized by ethnic group, as well as preferred spoken language. All focus groups conducted in English were administered by a primary focus group moderator (GPA), who is Filipino American and has extensive qualitative training and experience. Focus groups were also conducted in Mandarin and Vietnamese, facilitated by moderators with native-level fluency, of the same ethnicity as the focus group participants, and trained in focus group methodology over a 2-month period by the primary moderator. Focus groups with Filipino American participants were conducted in English. (See Online Resource 2 for the focus group guide). Each focus group was audio-recorded for accuracy and transcribed for analysis. Mandarin- and Vietnamese-speaking research team members translated and transcribed the relevant recordings. Transcripts were reviewed for errors and all identifiers redacted by graduate-level research assistants, trained in qualitative research methods and analysis. Focus groups ranged in duration from 63 to 110 minutes. All focus group materials, including consent documents, were professionally translated into Vietnamese and Chinese and reviewed by the CAB to ensure acceptability and comprehension by the target audiences. The study was approved by the Temple University Institutional Review Board.

Analyses

Descriptive, univariate, and bivariate statistics were generated using SAS 9.4.³⁵ These data report participants' sociodemographic characteristics, attitudinal preferences, and knowledge

about organ donation. Given the modest sample size, nonparametric tests were used to examine comparisons between ethnic groups. For continuous data, the Kruskal-Wallis test was employed, and for nominal data, the Chi-square test statistic was calculated except when expected cell counts were below 5. In these instances, the Fisher's Exact test was used. We also explored differences in responses by age, ethnicity, and level of acculturation. These analyses provided a structured exploratory approach and a general description of the sample.

The information generated by the focus groups forms the major basis of this article and its understanding of Asian Americans and attitudes and behaviors toward organ donation. An initial coding schema was developed using the topics from the moderator's guide. We used the constant comparison method³⁶ to inductively identify additional topic domains and attendant codes. Specifically, transcripts were reviewed by the research staff several times. Recurring mention of specific topics (e.g. the existence of a black market for organs) became representative thematic categories that, upon consensus of the research team, were incorporated in the codebook. The final codebook comprised rules and examples, and the coding structure was entered into MAXQDA as a template for coding and analysis.³⁷ A team of two graduate-level research assistants were trained to code over a two-month period. Inter-coder reliability was achieved with 83.0 percent agreement before independent coding commenced, and disagreements were resolved by discussion.

Results

Participant characteristics and baseline donation attitudes and knowledge

Sixty-four Asian American adults participated in 9 focus groups (3 per ethnic group) for a total of 20 Chinese, 22 Filipino, and 22 Vietnamese participants. The mean number of participants in each group was 7 (range 6–10). Six groups were conducted in English (N=44 participants), one in Mandarin (N=6), and two in Vietnamese (N=18). Participants' mean age was 34.8 years (SD 17.6), 67.2% (N=43) were female, and 46.9% (N=30) identified as college students. The majority (N=36; 56.3%) reported their religion as Christian, although 28.1% (N=18) stated no religion. Thirty-six (56.3%) indicated they were mostly raised outside the US. (See Table 1).

Ethnic groups varied on several characteristics. The majority of Vietnamese participants were raised mostly outside the United States (81.8%), compared to 50.0% of Chinese and 36.4% of Filipino participants ($p < 0.01$). Vietnamese participants also reported lower average income and educational attainment. Although Christian religious affiliation was reported by the majority of participants, Filipinos identified overwhelmingly as Catholic (77.3%), and half of Chinese respondents reported no religion.

Participants were asked whether they would be willing to donate their own organs upon death. Overall, 50.0% indicated a willingness to donate their own organs although only 29.7% reported having registered as donors. Filipinos indicated the most willingness to donate (68.2%), followed by 45% of Chinese and 36.4% of Vietnamese. Likewise, Filipinos reported the highest rate of donor registration (45.5%), with registration of Chinese and Vietnamese about half that (20.0% and 22.7% respectively).

Survey results indicated a range of knowledge regarding organ donation. (See Table 2). Most respondents knew that donor families are not responsible for costs related to deceased donation (91.5%), but 32.2% believed that there is an illegal black market for organs in the US. On a 5-point Likert-type scale, with a higher score indicating a higher level of agreement, participants expressed largely positive attitudes toward organ donation. They expressed a willingness to donate a kidney to a family member (mean 4.42, SD 0.77) and the belief that organ donation could make something positive come out of death (mean 4.25, SD 0.91). There were also differences between the three ethnic groups. Filipino participants agreed most strongly that people who receive organ transplants are able to live full, productive lives ($p < 0.001$). Chinese participants most strongly endorsed the statement that rich or famous people are more likely to receive a transplant ($p < 0.01$), and Vietnamese participants agreed most strongly with the idea that families should be able to direct donated organs to a particular person ($p < 0.05$). Vietnamese participants also were more likely to express the belief that most religions prohibit posthumous organ donation ($p < 0.05$) and that families who donate are not able to choose what they want to donate ($p < 0.05$).

Focus group results

Six major themes emerged about attitudes, beliefs, and knowledge of deceased/posthumous organ donation: (1) positive views about organ donation, (2) previous exposure to organ donation, (3) primacy of the family in decision making, (4) mistrust of the healthcare and donation systems, (5) religious and cultural beliefs concerning the body, and (6) isolation from mainstream American society.

Theme 1: Positive Views on Organ Donation—In administered surveys, approximately half of the participants expressed positive attitudes and a willingness to donate posthumously, which was consistent with positions expressed in the focus groups. Views centered on the idea that organ donation is an altruistic act that can assist those in need and that one does not need their organs after death. A Filipina participant in her 40s stated, “If I die, I will donate my organs. No doubt about it. Because somebody, you could help somebody, right?” A Vietnamese respondent in his 50s asserted,

I would want to [donate]. I think if my organs are still functioning well, I should donate them to people in need. I even want to donate my whole body as a cadaver so it can be used for students to study.

One female Chinese participant in her late teens explained, “I just feel like I would be dead, so I don’t need to worry about my body. Like, I’d rather it would be helping somebody than not.” When surveyed, most participants (83.9%) endorsed the idea that organ donation makes something positive come out of death.

Theme 2: Exposure to Organ Donation—Despite widespread awareness of organ donation in the United States,²⁴ statements of focus group participants elucidated survey findings, and revealed varied levels of familiarity with and understanding about donor registration, deceased donation, and transplantation. One Filipino in his mid-40s correctly noted, “People can live with just one kidney.” Participants seemed to have personal experience with transplantation and donation. A Vietnamese participant in her early 50s

shared her personal connection to the topic, saying, “I know one friend that donated one of her kidneys to her brother, and they are both still alive.” A male Chinese student in his early 20s spoke about the national waitlist for organs, noting accurately, “The waitlist is very long. It can take years for someone to get an organ.” Younger people were generally knowledgeable about how to register as a donor with one Filipino student describing the process of registering as an organ donor by saying, “You just go to the DMV and check off the box that you want to be a donor.” Finally, a Chinese student in her late teens highlighted the need for organs among Asian Americans stating, “I’ve heard that Asians are more prone to getting liver problems... I know people who have passed away and their families did donate and then it helps other families.”

Many older participants indicated that they had never spoken or thought about deceased organ donation. One Chinese respondent in her early 60s stated, “We should have more discussions about organ donation because there is very little information about this - almost unheard of. This is my first time at a discussion about organ donation.” Another Chinese participant in his late 40s agreed, saying, “I think this discussion is excellent because this is also my first time talking about organ donation.” A Filipina participant in her early 70s noted, “I have no idea about this thing – organ donation. This is the first time I’ve attended anything like this.”

When asked about how members of their respective communities learn about organ donation, many explained that exposure to the topic was a function of both generation and tradition. A Filipina college student in her late teens said,

For the younger generations, we are more exposed to it. We see it on television and social media stories... for the older generations, their traditions are very centralized, whereas for us, we are more exposed to various beliefs which makes that difference.

When describing different views held by older Vietnamese, a respondent in her late teens remarked, “Usually it’s the older people who have more of a strict view of what you’re supposed to do, especially when it comes to [organ donation].” One Chinese participant in his early 60s said, “People are still very close-minded in the Asian community. The next generation or in the next fifty years, maybe things will be different.” A Filipina woman in her early 70s stated, “I think [older Filipinos] look at [organ donation] differently because my children signed up to be organ donors. Me, I said, ‘Why did you do that?’”

Theme 3: Primacy of the Family—Another theme that emerged was the overwhelming importance of the family on the willingness to be an organ donor. For both older and younger focus group participants, influential family members were identified as parents and grandparents rather than spouses. Even when an individual disagreed with the beliefs and attitudes of older family members, there was a reluctance to oppose their wishes. Two subthemes emerged that clarified this theme.

When asked how decisions would be made about topics like deceased organ donation, most participants referenced a hierarchy of decision makers within the family in which deferential respect is ascribed to older family members. As one Chinese respondent in his late teens

asserted concerning how important decisions are made, “[It is] the eldest member, like the parents or grandparents. What they say has the most authority.” Similarly, a Vietnamese participant in her early 20s stated, “My dad is the oldest child in the family. All the other uncles and aunts come to my dad first.”

Although deferential respect for older relatives, especially parents, was a recurring theme, many participants noted that they personally disagreed with the positions held by their older relatives. One Chinese participant in her late teens stated,

So when I got my driver’s license, I had the option to be an organ donor. So I asked my mom if I could do it because she’s an organ donor herself, but she wouldn’t let me do it. And I was very surprised because I actually don’t mind doing it.

A male Filipino participant in his late teens said, “When I was getting my license, [my mother] told me that I was absolutely not being an organ donor. She did not give me a choice.” Similarly, another 20-year old male Vietnamese participant reported, “Our parents would not allow us to donate organs because they love us.”

The primacy of the family is also reflected in the motivation to donate specifically to family. Participants across all 9 focus groups indicated that they would be more inclined to donate if it were to a family member. A Chinese participant in her early 60s stated, “While I’m alive, if my relatives, family member need it, I will donate without hesitation. But outside of family, I probably wouldn’t.” A Filipina respondent in her late 60s similarly asserted, “I have no intention of giving any part of me, unless my family needs it. My priority is my family or my relatives.”

Participants were asked to share why they would be more amenable to donating to family members exclusively. As a Vietnamese woman in her 40s responded, “I think Asian people like us have some kind of selfishness. We want to keep only for our family first.” A Chinese participant in her early 20s said,

In the case of the older generations, how do I put it in a nice way? They’re a little more selfish. As like a family unit, they want to keep everything together in a way so like they don’t really care about other people. They only care about themselves.

Interestingly, few participants expressed that the decision to be a donor is a personal choice. A Vietnamese respondent in his early 20s commented, “I’ve never discussed organ donation with my family, but I feel like I don’t need their permission. So I’ve never brought it up.” A Chinese participant in her late 20s voiced a similar viewpoint, saying “I feel like in [the United States], you’re responsible for yourself. You’re an independent person. So I can decide whether I want to be a donor or not, not my family or my husband.” Additionally, a Vietnamese man in his mid-50s commented, “I think organ donation is really based on our own decision.”

Theme 4: Fear and Mistrust—Mistrust of the healthcare system, and the donation system specifically, was another major theme that emerged. A Vietnamese participant in his late teens repeated a common myth about health care professionals’ efforts to save registered donors: “My mom said if we haven’t died yet, but are in critical condition, then the doctor

would not save us in order to get the organ.” Similarly, a Chinese participant in his early 20s stated, “Me and many others share this concern that when they see that you’re registered as a donor, they won’t try to save you.” A Filipino student in his late teens said,

I spoke to my parents about organ donation when I got my ID card, and I wanted to be an organ donor, but my mom said that I shouldn’t be one because they may want me to die to get my organs.

Another Filipino made an almost identical statement and noted that his mother is a critical care nurse.

Participants also were concerned about the existence of an illegal black market, which was also noted by 32.2% of the sample in the pre-focus group survey. A significant portion of each focus group session expounded on this fear. A Vietnamese woman in her early 60s stated, “I haven’t heard about the black market in the US, but I have heard a lot about it in the Vietnam. Some people kidnap the kids to sell their organs.” Recalling warnings from family, a Filipina participant in her late teens said, “My parents used to tell me ‘Don’t fall asleep in public because you may wake up without a kidney.’” Chinese respondents expressed similar fears, with one Chinese participant in her early 20s remarking, “I definitely do think there is a black market for it because – I mean – there is a black market for everything. And if you have the money and the power, I do think that things like this do happen.” Surveys revealed that 67.8% of participants indicated a belief in the existence of a black market for organs in the US.

Theme 5: Religious and Cultural Beliefs about Death and the Body—

Willingness to donate was also intertwined with beliefs related to death, the willingness to discuss death, and the disposition of the body at death. Some beliefs were culturally specific and others reflected perceptions of religious teachings. Survey results showed that more than one-third of participants (35.6%) endorsed the belief that most religions prohibit organ donation.

Many Catholic respondents either seemed to believe that deceased organ donation ran contrary to Catholic teaching or were unsure about the Church’s position about donation. One Filipino participant in his 40s stated,

Since the majority [of Filipinos] are Catholic, we subscribe to the notion that when we die, we go to heaven, and we’ll be judged for our sins... I think a lot of Filipinos believe in the idea that their bodies have to be complete, and organ donation would interfere with that.

Another Filipina in her early 20s asserted,

I’m Catholic, but I’m an organ donor. I’m shaky about it because I wonder: Will I be accepted into heaven if I’ve given away all my organs? What will God think? What will my family think? I know it’s a good thing, but it may go against my religion.

Some Catholics, however, had more mainstream viewpoints on the Church’s position. A Chinese participant in his late 40s noted, “My family is Catholic. The Catholic religion

doesn't say you can't donate your organs. They don't really have any religious rules against donation.”

Some individuals expressed less concern about what happened to their bodies after death. For example, one Chinese individual in her late teens stated, “When I'm dead, I just feel like I would be dead. So I don't need to worry about my body.” Similarly, another Chinese respondent in her 50s commented, “I think the physical body is not of much importance after I die. So I'd rather contribute to help people...” Referencing cremation, a Filipina woman in her late 60s stated, “If your organs are going to be burned anyway, you might as well give them to somebody.”

However, many respondents were uncomfortable about the body being changed in any way after death. One Vietnamese participant in her late 50s stated, “If we die with the whole body, we can be reborn with the body.” Another explained that the body must be intact to show respect for one's parents: “the parents believe they give birth to us with our whole body, so they do not want our body to be altered such as cut or having organs removed.” A Chinese participant in her early 60s expressed a similar view: “There is a Chinese tradition, where people want to maintain the ‘complete corpse’ after death. So whether I will donate after die, I am still uncertain.”

There was also a reluctance to discuss any matters pertaining to death. This inhibited family members from sharing their preferences about organ donation with each other. For instance, one Chinese respondent in her late 50s claimed that “in China, people often say, I am not dead yet and you talk about death. You are cursing me! You want to curse me to my early death!” Another Chinese participant in his early 30s said, “I grew up in Hong Kong...let's say my mom heard me say something bad like talk about death or other things. She would be like, ‘Spit it out and don't say it again. Bad luck.’” Similarly, a Vietnamese participant in her late teens stated, “When we, the younger generation, discuss death with the older generation, we would get yelled at.” A Filipino respondent in his early 20s shared, “I would say things that render death are more taboo than death itself. For example, my grandma does not want any photos of bodies of water around her house because she thinks she will drown in her sleep.”

Theme 6: Exclusion from Mainstream American Society—Regardless of whether or not participants were raised in the US, a large majority expressed detachment from larger American society as a barrier to deceased donation. “I think we're just overlooked a lot as a group in general,” said a Filipina participant in her early 30s, “especially in America we've always just kind of been passed over.” A Chinese respondent in her early 20s expressed a similar sentiment, “I mean Asians are pretty underrepresented in like media and just the face of the U.S. So I feel like if you have a lack of feeling of community then you don't really want to help the outside community.” Another younger male Chinese participant commented,

I definitely don't feel like we are a part of this group of Americans. This country is not made for us... We have to do everything. From our standpoint, we're not going to ask for anything... I had somebody today that told me like I'm not considered

American just because I wasn't born here. If I knew my organs were going to a Chinese person, then I would be more inclined to help this person. I would definitely be more willing to help another Asian American than someone White.

Potential Interventions—Participants were asked to share ideas for educating their respective communities about organ donation. Many spoke about the entertainment media as a potentially useful tool because of the popularity of television programming from China, Vietnam, and the Philippines. In addition to television, posting videos to social media platforms like Facebook, Twitter, and YouTube was also discussed, with an emphasis on the use of personal narratives or stories. Many spoke of face-to-face communication through events such as lectures, workshops, and church events as the best way to start the conversation about organ donation in their communities. Additionally, the particular need for organ donors of Asian descent is important to include in the discussion, as is a relatable speaker. As one female Chinese student respondent in her late teens explained,

So, if I was having this conversation with another Asian, I mean I'm more inclined to speak out more like I am now. I'm way more comfortable talking to you because we have the same - I would believe we would have the same morals and thought processes and same struggles; we went through the same past. So I would be more open, comfortable saying things whether we agree or not. But if we were not the same culture like I would be scared to offend you or say the wrong thing.

Discussion

The latest nationwide poll, conducted in 2012, saw overall public support for organ donation hold steady at almost 95% since 1993, when the first such poll reported public support at 93.5%.²⁴ However, there are substantial differences among the US public concerning support and willingness to donate. In general, studies have demonstrated that minorities and individuals who have less educational attainment are less favorable toward donation.^{38,39} In addition, women and younger people are more favorable and are more inclined to register as posthumous organ donors.⁴⁰ Understanding the reluctance of individual groups is required if more people are to register and donate and if the burdens and benefits of transplantation are to be shared equitably amongst the US population.

Several attitudinal and belief strictures have been found among minority communities that pose a challenge to organ donation. For example, Black Americans have been consistently reported to be mistrustful of the healthcare system. This has taken the form of believing that doctors will not do as much to save a designated donor's life and a concern that the allocation system itself is unfair.⁴¹ It also has been reported that Black Americans are frequently unaware of the need for donation in their community.⁴² Although religion has been referenced as a barrier, in our past research involving families of donor-eligible patients who have been given the option to donate, religious beliefs have not been a prominent reason mentioned or predictor of Black American donation decisions.^{29,31,43,44}

The importance of this study is highlighted by the similarities and differences seen in Black Americans noted above and what we found in our sample of Asian Americans. Although both groups express similar overall concerns, the underlying causes are different. For

example, although both groups express a mistrust of the healthcare system, for Asians, mistrust is rooted in the belief in a black market for organs, stemming from stories found in popular and news media originating from Vietnam, China, and the Philippines. For Black Americans, medical mistrust stems from historical disempowerment and abuse throughout US history in general and with unethical incidents like the Tuskegee Syphilis Study more specifically. Indeed, Asian Americans, particularly first generation Americans, reported that they rely mainly on Asian-language media, usually from their countries of birth.⁴⁵ Many focus group participants were convinced that black markets existed in Asia and extrapolated those beliefs to the US. Younger participants, who were either born or primarily raised in the US, also pointed to Asian-language media as a contributing factor to this belief. Additionally, the concern about equity in the system is based in different historical antecedents. Thus, to ensure the messages developed in response to this and other issues impeding deceased donation are salient to target audiences, we need to understand not just that the barrier exists (e.g., medical mistrust), but we must also have knowledge of its underlying social/historical derivation for messages to be effective.

We also found other barriers specific to Asian American populations. Although Asian Americans expressed reasons to donate that are similar to all Americans, such as a desire to help others, fewer people than would be expected in a general sample of Americans expressed typically “pro-donation” attitudes or willingness to donate. This sample expressed some very culturally specific reservations about donation that made the act of organ donation less likely in Asian American communities, even when individuals might personally support the idea of organ donation. One striking finding was the strong deference paid to the beliefs and preferences of older members of the family, especially parents, even if individuals personally disagreed. Younger participants noted that the decision to not designate themselves as posthumous organ donors was in response to direct or indirect presumptions that parents would disapprove of deceased donation even though the same participants had higher levels of knowledge about the transplant needs of Asian Americans and were personally pro-donation. This deferential respect was exhibited by all individuals in our sample.

Another notable finding is the specific cultural and religious concerns expressed in relation to deceased donation, including an interpretation of Catholicism that forbids organ donation and a very strong belief in the need to bury the body intact, even when these interpretations may not reflect formal religious teachings. Some participants stated body wholeness was necessary for the afterlife. These beliefs were ascribed to religion and to cultural ideas that bodies were bestowed from parents to individuals and to “mutilate” them would dishonor the parents’ gift of life. This is noteworthy since in western cultures, organ donation has been framed as the “gift of life” to others. Additionally, this belief conflicts with the traditional western principle of autonomy that locates the individual as the main decision maker for the body. Indeed, some have called for a family authorization system for deceased organ donation in China as it is thought that one’s organs belong not to the individual but to the family with the implication being that the individual has no right to give them away.⁴⁶

Donor registration and the campaign to, “share your life, share your decision,” is particularly problematic within this cultural framework.⁴⁷ First, participants noted that within Asian

cultures there is a prevailing aversion to discussing or planning for one's death. Second, decisional autonomy is not clearly individualized. Finally, a substantial barrier to donor registration may be the perceived and real feeling of exclusion from mainstream American society. Many respondents in this study expressed a preference to donate only to individuals in their immediate families or ethnic groups. This is consistent with Park et al.²⁶ who posited comparatively lower levels of social responsibility among Asian Americans compared to other groups. The connection between exclusion from American society and a lack of willingness to donate is perhaps more evident against the backdrop of research where Asians are not minority populations. For example, studies in China and India,^{11,48-50} which have relatively young national organ donation systems, indicate participants' willingness to donate organs at higher rates than in US-based studies reporting Asian Americans' willingness, as well as in our sample. This indicates the need for future research to further explicate Asian Americans' reluctance to register as organ donors or donate a family member's organs and the need to be more inclusive of Asian Americans in national healthcare policy discussions.

Despite the similarities demonstrated by the identified themes, differences in attitudes and beliefs did exist across ethnic groups in our sample. For example, participants were candid about the importance of body wholeness and how it may negatively impact views on organ donation. However, the rationale behind the concept of body wholeness appeared to be specific to their respective cultures. Filipino American respondents attributed the significance of body wholeness to their understandings of Catholic doctrine and beliefs in heaven. In contrast, Vietnamese American participants referred to the concept of being reborn, and Chinese American participants described the concept of a "good death," which necessitates the body to be whole. Recognizing such differences are critical for future work in developing culturally targeted interventions, as motivations for shared beliefs may differ across groups.

While this study is the first to explore attitudes and knowledge about posthumous organ donation among three distinct Asian American populations (i.e., Vietnamese, Chinese, Filipino) in at least a decade, it is not without limitation. First, this is a qualitative study of Asians sampled from one large metropolitan area in the Northeast US (N=64), with smaller samples representing each of the three ethnic groups. Thus, these findings may not reflect organ donation attitudes and knowledge of the other Asian Americans from other regions of the US or those from other sizable ethnic groups, such as Americans with roots in Korea, Japan, or the Indian subcontinent. Additionally, this study focused primarily on deceased organ donation. Attitudes and knowledge about living donation may differ significantly from those reported herein, particularly for living-related donation wherein the recipient is a known family member.

Conclusion

The combination of qualitative and quantitative data presented here offers a more nuanced examination of the attitudes of Asian Americans toward deceased organ donation than any questionnaire alone could capture. For example, although only a third of participants endorsed the statement in the questionnaire about the existence of a black market in the US,

this concern was consistently raised and discussed during every focus group. Participants shared different stories about a black market of transplantable organs, which circulated by word of mouth, concerning messages from family members, and Asian media. This indicates it is a greater source of concern than indicated by the structured surveys.

This study provides considerable insight for public health practitioners and clinicians concerned with how to make organ donation more salient to Asian Americans, who are not only a rapidly growing section of the American population, but also have notable transplantation needs. Despite changes in organ allocation intended to decrease transplantation disparities in ethnic minorities, the need for more Asian American donors persists.⁵¹ We note that despite the rapid increase in the number of Asian Americans within the US population, this racial group has been largely absent from the national discussion about organ donation, including consideration of Asian Americans' needs and behaviors. We believe that one obstacle has been the portrayal of Asian Americans as a "model minority" despite evidence that there are many Asian Americans who have significant social, economic, and health needs.^{52,53} Moreover, regardless of socioeconomic status, their perspectives appear to differ significantly from other populations. As such, messages and appeals for donation may need to be micro-targeted, as demonstrated by other interventional research using a culturally competent, family approach of encouraging organ donation among Hispanics.⁵⁴ Given the primacy of the family expressed by Asian American participants in this study, a message focused on individual autonomy may not be the best route for increasing awareness about organ donation and encouraging donor registration. Instead, targeting older individuals to "permit" the act of donor designation could be a more fruitful approach for increasing the number of Asian Americans who register as posthumous organ donors. Additionally, statistical messaging may be less effective than more relatable narrative messages for this population.

The integration of culture and health communication has proven successful among Hispanic populations in the use of telenovelas to affect health behaviors⁵⁵ and organ donation attitudes and knowledge.⁵⁶ Making donation more relevant to Asian communities and addressing unique beliefs, such as concerns about a black market in donation, are likely to meet similar success. However, we continue to need to learn more about Asian Americans beliefs and attitudes in order to develop these communication strategies. This study, which focused on a slice of the Asian American community, is a contribution toward that effort.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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REFERENCES

1. Shanmugarajah K, Villani V, Madariaga MLL, Shalhoub J, Michel SG. Current progress in public health models addressing the critical organ shortage. *Int J Surg*. 2014;12(12):1363–1368. doi: 10.1016/J.IJSU.2014.11.011 [PubMed: 25463765]
2. HHS (U.S. Department of Health and Human Services). Organ Donation Statistics.
3. U.S. Census Bureau. ACS Demographic and Housing Estimates. 2013–2017 American Community Survey 5-Year Estimates.; 2017 https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_17_5YR_DP05&prodType=table. Accessed December 14, 2018.
4. UNOS (United Network for Organ Sharing). Data. <https://unos.org/data/>. Published 2018 Accessed November 12, 2018.
5. OPTN (Organ Procurement and Transplantation Network). National Data - OPTN. <https://optn.transplant.hrsa.gov/data/view-data-reports/national-data/#>. Published 2019 Accessed January 22, 2019.
6. Colby SL, Ortma JM. Projections of the Size and Composition of the U.S. Population: 2014 to 2060, Current Population Reports. United States Census Bur. 2015;25–1143. doi:P25–1143
7. Guidinger MK, Zhang H, Schaubel DE, Merion RM, Mathur AK. Disparities in Liver Transplantation. *Transplantation*. 2013;97(8):862–869. doi:10.1097/01.tp.0000438634.44461.67
8. Newman KL, Fedewa SA, Jacobson MH, et al. Racial/Ethnic Differences in the Association Between Hospitalization and Kidney Transplantation Among Waitlisted End-Stage Renal Disease Patients. *Transplantation*. 2016;100(12):2735–2745. doi:10.1097/TP.0000000000001072 [PubMed: 26845307]
9. Kin KC, Lin B, Chung KT, et al. Less-Established Risk Factors Are Common in Asian Americans with Hepatitis C Virus: A Case–Controlled Study. *Dig Dis Sci*. 2013;58(11):3342–3347. doi: 10.1007/s10620-013-2884-6 [PubMed: 24081641]
10. CDC NNDSS (Centers for Disease Control and Prevention National Notifiable Diseases Surveillance System). Viral Hepatitis Surveillance - United States, 2016.; 2016 <https://www.cdc.gov/hepatitis/statistics/2016surveillance/index.htm>. Accessed March 26, 2019.
11. Le AK, Zhao C, Hoang JK, et al. Ethnic disparities in progression to advanced liver disease and overall survival in patients with chronic hepatitis C: impact of a sustained virological response. *Aliment Pharmacol Ther*. 2017;46(6):605–616. doi:10.1111/apt.14241 [PubMed: 28766727]
12. Yip B, Wantuck JM, Kim LH, et al. Clinical Presentation and Survival of Asian and Non-Asian Patients with HCV-Related Hepatocellular Carcinoma. *Dig Dis Sci*. 2014;59(1):192–200. doi: 10.1007/s10620-013-2948-7 [PubMed: 24282055]
13. McCracken M, Olsen M, Chen MS, et al. Cancer Incidence, Mortality, and Associated Risk Factors Among Asian Americans of Chinese, Filipino, Vietnamese, Korean, and Japanese Ethnicities. *CA Cancer J Clin*. 2007;57(4):190–205. doi:10.3322/canjclin.57.4.190 [PubMed: 17626117]
14. Mathur AK, Schaubel DE, Gong Q, Guidinger MK, Merion RM. Racial and ethnic disparities in access to liver transplantation. *Liver Transplant*. 2010;16(9):1033–1040. doi:10.1002/lt.22108
15. OPTN (Organ Procurement and Transplantation Network). Kaplan and Meier Median Waiting Times, 2003–2014. <https://optn.transplant.hrsa.gov/data/view-data-reports/national-data/#>. Published 2018 Accessed November 12, 2018.
16. Siminoff LA, Burant CJ, Ibrahim SA. Racial disparities in preferences and perceptions regarding organ donation. *J Gen Intern Med*. 2006;21(9):995–1000. doi:10.1007/BF02743151 [PubMed: 16918748]
17. Wachterman MW, McCarthy EP, Marcantonio ER, Ersek M. Mistrust, Misperceptions, and Miscommunication: A Qualitative Study of Preferences About Kidney Transplantation Among African Americans. *Transplant Proc*. 2015;47(2):240–246. doi:10.1016/J.TRANSProceed.2015.01.016 [PubMed: 25769556]

18. Williamson LD, Reynolds-Tylus T, Quick BL, Shuck M. African-Americans' perceptions of organ donation: 'simply boils down to mistrust!' J Appl Commun Res. 2017;45(2):199–217. doi: 10.1080/00909882.2017.1288293
19. Siegel JT, O'Brien EK, Alvaro EM, Poulsen JA. Barriers to living donation among low-resource Hispanics. Qual Heal Res. 2014;24(10):1360–1367. doi:10.1177/1049732314546869
20. Salim A, Schulman D, Ley EJ, Berry C, Navarro S, Chan LS. Contributing factors for the willingness to donate organs in the Hispanic American population. Arch Surg. 2010;145(7):684–689. doi:10.1001/archsurg.2010.110 [PubMed: 20644132]
21. Salim A, Ley EJ, Berry C, et al. Effect of community educational interventions on rate of organ donation among Hispanic Americans. JAMA Surg. 2014;149(9):899–902. doi:10.1001/jamasurg.2014.1014 [PubMed: 25103273]
22. Trompeta JA, Cooper BA, Ascher NA, Kools SM, Kennedy CM, Chen JL. Asian American adolescents' willingness to donate organs and engage in family discussion about organ donation and transplantation. Prog Transplant. 2012. doi:10.7182/pit2012328
23. Wong KA, Cárdenas V, Shiu-Thornton S, Spigner C, Allen MD. How do communities want their information? Designing educational outreach on organ donation for Asian Americans. Prog Transplant. 2009;19(1):44–52. doi:10.7182/prtr.19.1.a224927075875286 [PubMed: 19341062]
24. HHS (U.S. Department of Health and Human Services), HRSA (Health Resources and Services Administration), HSB (Healthcare Systems Bureau). 2012 National Survey of Organ Donation Attitudes and Behaviors. Rockville, MD; 2013 <https://www.organdonor.gov/sites/default/files/about-dot/files/nationalsurveyorgandonation.pdf>. Accessed January 31, 2019.
25. Pham H, Spigner C. Knowledge and opinions about organ donation and transplantation among Vietnamese Americans in Seattle, Washington: A pilot study. Clin Transplant. 2004;18(6):707–715. doi:10.1111/j.1399-0012.2004.00284.x [PubMed: 15516248]
26. Park HS, Smith SW, Yun D. Ethnic Differences in Intention to Enroll in a State Organ Donor Registry and Intention to Talk With Family About Organ Donation. Health Commun. 2009;24(7):647–659. doi:10.1080/10410230903242259 [PubMed: 20183372]
27. Albright C, Glanz K, Wong L, Dela Cruz MR, Abe L, Sagayadoro TL. Knowledge and Attitudes About Deceased Donor Organ Donation in Filipinos: A Qualitative Assessment. Transplant Proc. 2005;37(10):4153–4158. doi:10.1016/j.transproceed.2005.10.016 [PubMed: 16387067]
28. Berg BL. Qualitative Research Methods for the Social Sciences. Pearson/Allyn & Bacon; 2007 <https://books.google.com/books?id=aqXrAAAAMAAJ>.
29. Siminoff LA, Traino HM, Genderson MW. Communicating Effectively about Organ Donation: A Randomized Trial of a Behavioral Communication Intervention to Improve Discussions about Donation. Transpl Direct. 2015;1(2). doi:10.1097/TXD.0000000000000513
30. Siminoff L, Mercer MB, Graham G, Burant C. The Reasons Families Donate Organs for Transplantation: Implications for Policy and Practice. J Trauma Inj Infect Crit Care. 2007;62(4):969–978. doi:10.1097/01.ta.0000205220.24003.51
31. Siminoff LA, Burant C, Youngner SJ. Death and organ procurement: public beliefs and attitudes. Soc Sci Med. 2004;59(11):2325–2334. doi:10.1016/j.socscimed.2004.03.029S0277953604001601 [pii] [PubMed: 15450707]
32. Siminoff LA. Factors Influencing Families' Consent for Donation of Solid Organs for Transplantation. JAMA. 2001;286(1):71. doi:10.1001/jama.286.1.71 [PubMed: 11434829]
33. Siminoff LA, Saunders Sturm CM. African-American reluctance to donate: beliefs and attitudes about organ donation and implications for policy. Kennedy Inst Ethics J. 2000;10(1):59–74. <http://www.ncbi.nlm.nih.gov/pubmed/11658155>. [PubMed: 11658155]
34. Siminoff LA, Burant CJ, Ibrahim SA. Racial disparities in preferences and perceptions regarding organ donation. J Gen Intern Med. 2006;21(9):995–1000. doi:JGI516 [pii]10.1111/j.1525-1497.2006.00516.x [PubMed: 16918748]
35. SAS. SAS 9.4. 2017.
36. Glaser BG. Basics of Grounded Theory Analysis: Emergence vs Forcing.; 1992.
37. VERBI. MAXQDA Analytics Pro. 2018.

38. Goldberg DS, Halpern SD, Reese PP. Deceased organ donation consent rates among racial and ethnic minorities and older potential donors. *Crit Care Med*. 2013;41(2):496–505. doi:10.1097/CCM.0b013e318271198c [PubMed: 23263585]
39. Siminoff L, Lawrence R, Medicine RA. Comparison of black and white families' experiences and perceptions regarding organ donation requests. *Crit Care*. 2003;31(1).
40. Sehgal NKR, Scallan C, Sullivan C, et al. The Relationship Between Verified Organ Donor Designation and Patient Demographic and Medical Characteristics. *Am J Transplant*. 2016;16(4):1294–1297. doi:10.1111/ajt.13608 [PubMed: 26603147]
41. Nobel YR, Forde KA, Wood L, et al. Racial and ethnic disparities in access to and utilization of living donor liver transplants. *Liver Transplant*. 2015;21(7):904–913. doi:10.1002/lt.24147
42. Jacob Arriola KR, Robinson DHZ, Perryman JP, Thompson N. Understanding the relationship between knowledge and African Americans' donation decision-making. *Patient Educ Couns*. 2008;70(2):242–250. doi:10.1016/j.pec.2007.09.017 [PubMed: 17988820]
43. Siminoff LA, Saunders Sturm CM. African-American reluctance to donate: beliefs and attitudes about organ donation and implications for policy. *Kennedy Inst Ethics J*. 2000;10(1):59–74. <http://www.ncbi.nlm.nih.gov/pubmed/11658155>. [PubMed: 11658155]
44. Siminoff LA, Gordon N, Hewlett J, et al. Factors influencing families' consent for donation of solid organs for transplantation. *JAMA*. 2001;286(1):71–77. doi:joc01883 [pii] [PubMed: 11434829]
45. Masuoka N, Han H, Leung V, Zheng BQ. Understanding the Asian American Vote in the 2016 Election. *J Race, Ethn Polit*. 2018. doi:10.1017/rep.2017.34
46. Cai Y. On Family Informed Consent in the Legislation of Organ Donation in China. In: Springer, Cham; 2015:187–199. doi:10.1007/978-3-319-12120-8_12
47. Molinari A. Share Your Life. Share Your Decision: How the Campaign to Increase Organ Donations Provides a Model for Public Health Awareness Efforts. Washington, D.C; 2015 www.CCTAwareness.org. Accessed March 29, 2019.
48. Almeida N, Almeida A. Community Attitudes Toward Kidney Donation in India. *Transplant Proc*. 2013;45(4):1307–1309. doi:10.1016/j.transproceed.2013.01.038 [PubMed: 23726558]
49. Balajee K, Ramachandran N, Subitha L. Awareness and attitudes toward organ donation in rural Puducherry, India. *Ann Med Health Sci Res*. 2016;6(5):286. doi:10.4103/amhsr.amhsr_63_15 [PubMed: 28503345]
50. Vijayalakshmi P, Sunitha TS, Gandhi S, Thimmaiah R, Math SB. Knowledge, attitude and behaviour of the general population towards organ donation: An Indian perspective. *Natl Med J India*. 2016;29(5):257–261. <http://www.ncbi.nlm.nih.gov/pubmed/28098078>. Accessed March 26, 2019. [PubMed: 28098078]
51. Martins PN, Mustian MN, MacLennan PA, et al. Impact of the new kidney allocation system A2/A2B → B policy on access to transplantation among minority candidates. *Am J Transplant*. 2018;18(8):1947–1953. doi:10.1111/ajt.14719 [PubMed: 29509285]
52. Suzuki BH. Revisiting the Model Minority Stereotype: Implications for Student Affairs Practice and Higher Education. *New Dir Student Serv*. 2002;2002(97):21–32. doi:10.1111/j.1553-2712.2011.01245.x
53. Weller CE, Thompson JP. Wealth Inequality More Pronounced Among Asian Americans Than Among Whites. *Challenge*. 2018;61(2):183–202. doi:10.1080/05775132.2018.1443998
54. Gordon EJ, Lee J, Kang R, et al. Hispanic/Latino Disparities in Living Donor Kidney Transplantation: Role of a Culturally Competent Transplant Program. *Transplant direct*. 2015;1(8):e29. doi:10.1097/TXD.0000000000000540 [PubMed: 27500229]
55. Stroke Vaughn S. and Heart Disease Prevention Education via Telenovela: A Focus Group's Evaluation. *Rehabil Nurs*. 2012;37(5):215–219. doi:10.1002/rnj.53 [PubMed: 22949274]
56. Gordon EJ, Feinglass J, Carney P, et al. An interactive, bilingual, culturally targeted website about living kidney donation and transplantation for hispanics: development and formative evaluation. *JMIR Res Protoc*. 2015;4(2):e42. doi:10.2196/resprot.3838 [PubMed: 25896143]

Table 1.

Participant Characteristics and Donation Disposition

	Chinese (<i>n</i> =20)	Filipino (<i>n</i> =22)	Vietnamese (<i>n</i> =22)	Total (<i>n</i> =64)
Age (range: 18–72), mean (<i>SD</i>)	34.1 (15.8)	40.2 (21.5)	30.2 (14.1)	34.8 (17.6)
Female, <i>n</i> (%)	13 (65.0)	16 (72.7)	14 (63.6)	43 (67.2)
Raised outside US, <i>n</i> (%)**	10 (50.0)	8 (36.4)	18 (81.8)	36 (56.3)
Highest level of education, <i>n</i> (%)**^a				
At least some high school	3 (15.0)	0 (0.0)	9 (40.9)	12 (18.8)
Some college	8 (40.0)	10 (45.5)	10 (45.5)	28 (43.8)
Bachelor's degree and above	9 (45.0)	12 (54.5)	2 (9.1)	23 (35.9)
Household income, <i>n</i> (%)**^a				
Less than \$40,000	6 (30.0)	4 (18.2)	14 (63.6)	24 (37.5)
\$40,000–99,999	8 (40.0)	10 (45.4)	5 (22.7)	23 (36.0)
\$100,000 or more	6 (30.0)	8 (36.4)	1 (4.6)	15 (23.4)
Religious Affiliation, <i>n</i> (%)**				
Christian	7 (35.0)	19 (86.3)	10 (45.5)	36 (56.3)
Buddhist	2 (10.0)	0 (0.0)	8 (36.4)	10 (15.6)
None	11 (55.0)	3 (13.7)	4 (18.2)	18 (28.1)
Organ donation preferences, <i>n</i> (%)				
Registered donors	4 (20.0)	10 (45.5)	5 (22.7)	19 (29.7)
Willing to donate own organs	9 (45.0)	15 (68.2)	8 (36.4)	32 (50.0)

Note:

*
 $p < 0.01$ **
 $p < 0.05$;^a
not reported by all participants

Table 2.

Participant knowledge and attitudes about organ donation.

Knowledge (correct responses), n (%)	Chinese (n=20)	Filipino (n=22)	Vietnamese (n=22)	Total (n=64)
Donor families are responsible for costs related to donation.	16 (88.9)	20 (95.2)	18 (90.0)	54 (91.5)
People who are organ donors are able to have open casket funerals.	14 (77.8)	14 (66.7)	16 (80.0)	44 (74.6)
Families who donate are not able to choose what they want to donate. ^{**}	10 (55.6)	14 (66.7)	17 (85.0)	41 (69.5)
Most religions prohibit organ donation. ^{**}	10 (55.6)	11 (52.4)	17 (85.0)	38 (64.4)
There is an illegal black market for organs in the United States.	5 (27.8)	7 (33.3)	7 (35.0)	19 (32.2)
Average number of correct statements (out of 7)	4.4	4.8	5.0	4.7
Attitudes				
(statements most commonly dis/agreed with overall), <i>M (SD)</i> ^a				
Rich or famous people who need a transplant are more likely to get a transplant than others. [*]	3.7 (1.3)	2.5 (1.3)	2.3 (1.5)	2.8 (1.5)
I think that when families donate they should be able to ask that the organs go to a particular person. ^{**}	3.6 (0.9)	3.1 (1.3)	3.9 (1.3)	3.5 (1.3)

*
 $p < 0.01$,^{**}
 $p < 0.05$ ^a 5 point Likert-type scale, higher score indicates higher level of agreement