

Beyond the veil: Unveiling the unconventional - exploring the profiling, attitudes, and influential factors of body donors



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Submission: 31-05-2023

Revision: 29-07-2023

Publication: 01-09-2023

ABSTRACT

Background: Cadavers are essential for anatomical education, yet their scarcity plagues medical colleges in Kerala and India. However, the Government Medical College in Thrissur has experienced a rise in annual body donations. **Aims and Objectives:** This study aims to explore the motivating factors behind this increase among the population of Thrissur. **Materials and Methods:** This study employed a cross-sectional survey design conducted at the Department of Anatomy, Government Medical College in Thrissur, Kerala. The study utilized data from the Body Donation Register, which covered a period from May 1st, 2011 to April 30th, 2012, encompassing a total of 223 individuals. During this specific period, which was selected due to the notable surge in body donation trends, there was a significant increase observed. The sample size was set at 110 participants. Data collection was conducted through face-to-face interviews with the voluntary body donors and was analyzed using the statistical package for the social sciences, version 16.0. **Results:** Gender distribution: Among 120 donors, 56.7% were male and 26.7% were female. Age groups 61–70 had the highest percentage (36%) of body donors. Socioeconomic status: the majority were above the poverty line (78.2%). Religious affiliation: Hindus had the largest representation (40 individuals). Marital status: Most donors were married (92 out of 110). Number of children: Most donors had two children (64 individuals). Sources of information: Family and relatives were the primary sources. Awareness of dissection: An equal number of donors were aware and unaware. Motivations for donation varied, including social service and avoiding burden after death. **Conclusion:** A good proportion of donors had a socioeconomic status above the poverty line, and most of them were graduates or postgraduates. The majority of body donors did not have a religious affiliation. However, they had a strong family background and received support from their families. Interestingly, most of the donors were unaware of how their bodies would be used after donation.

Key words: Body donors; Religious affiliation; Body donation; Socio-economic status; Funeral services

INTRODUCTION

Anatomical education serves as the cornerstone of medical training, providing aspiring healthcare professionals with a fundamental understanding of the intricate human body. Traditional methods of instruction, such as lectures and textbooks, undoubtedly play a crucial role in disseminating anatomical knowledge.^{1,2} However, it is widely acknowledged that these approaches alone are incomplete, as they often

fall short in conveying the intricacies and complexities of human anatomy. The need for hands-on training in a cadaveric setting has long been recognized as an invaluable component of anatomical education.

Over the past few decades, medical education has witnessed a shift toward more interactive and experiential learning methodologies. This change has been driven by the realization that a deeper understanding of anatomical structures and

Access this article online

Website:

<http://nepjol.info/index.php/AJMS>

DOI: 10.3126/ajms.v14i9.55270

E-ISSN: 2091-0576

P-ISSN: 2467-9100

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their spatial relationships is best achieved through direct interaction with real human cadavers. Cadaveric dissection offers an unparalleled opportunity for learners to explore the three-dimensional nature of the human body, appreciate anatomical variations, and develop essential clinical skills.

However, despite the undisputed benefits of cadaveric training, there persists a significant challenge: the scarcity of available cadavers. The ethical and legal complexities surrounding cadaver donation, cultural beliefs, religious considerations, and logistical issues have contributed to the limited availability of cadavers for educational purposes. A prime concern in establishing a body bequest program was determining the optimal timing and effective implementation strategies.^{3,4} It was also observed that the participants' willingness to donate their own bodies decreased, with those who practiced a religion least likely to support body donation.⁵ The question of the true ownership of the body also arises among individuals who wish to donate.^{6,7} Consequently, anatomical educators are confronted with the daunting task of providing comprehensive training within the constraints of this scarcity.

Aims and objectives

The objective of this study is to investigate the demographic profile of voluntary body donors at the Government Medical College in Thrissur, Kerala.

MATERIALS AND METHODS

This study employed a cross-sectional survey design conducted at the Department of Anatomy, Government Medical College in Thrissur, Kerala. The study utilized data from the Body Donation Register, which covered a period from May 1st, 2011 to April 30th, 2012, encompassing a total of 223 individuals. During this specific period, which was selected due to the notable surge in body donation trends, there was a significant increase observed. However, it is important to mention that in subsequent years, such as during the 2018 Kerala floods and the COVID-19 pandemic, there was a sudden decline in body donations.

The sample size for this study was set at 110 participants. Data collection was conducted through face-to-face interviews with the voluntary body donors.

The collected data were analyzed using the statistical package for the social sciences, version 16.0.

RESULTS

Gender Distribution: Out of the total 120 donors, 68 were male and 32 were female. This indicates a higher

representation of male individuals among body donors, accounting for approximately 56.7% of the total sample, while female donors constituted approximately 26.7% of the sample. The reasons behind this gender disparity in body donation could be influenced by cultural, social, and personal factors.

Age groups

The age range of 61–70 comprises the largest percentage of body donors at 36%. This suggests a higher likelihood of body donation among individuals in their 60s and 70s. The age range of 51–60 follows closely, with 29% of body donors falling within this category. The age group above 70 represents the next highest percentage at 21%. On the other hand, the age range of 41–50 accounts for 8% of total body donors, and the lowest percentage, at 6%, is observed in the age range of 31–40 (Figure 1).

Socioeconomic status

The majority of individuals (78.2%) belong to the above-poverty-line category, while 21.8% fall under the below-poverty-line category. The highest percentage of body donors (37%) have attained a graduate or post-graduate degree, suggesting that individuals with higher levels of education are more likely to engage in body donation. The next highest percentage is observed in the Higher Secondary Education category, with 33% of body donors falling within this group, while the lowest percentage is found in the Primary Education category.

Religious affiliation

The dataset indicates that the smallest number of body donors identified as Christians (2 individuals), while the largest number identified as Hindus (40 individuals). Atheists make up 38 of the body donors, and 30 body donors identified themselves as spiritual but not religious (Figure 2).

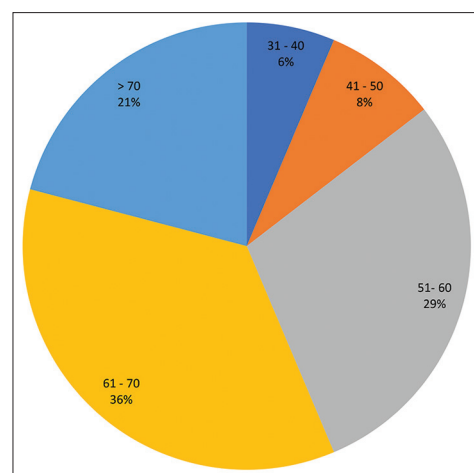


Figure 1: Age group of donors

Marital Status and Living Arrangements: The majority of body donors (92 out of 110) were married, suggesting a higher likelihood of body donation among married individuals. A small number (4 out of 110) were unmarried, and 14 body donors were identified as widows or widowers. Among the living status of body donors, 8 individuals were living alone, while 57 individuals were living with their families. Additionally, 45 body donors were couples living alone.

Number of children

Among the body donors, 19 had no children, 14 had one child, 64 had two children (the largest group), and 13 had three or more children. This suggests a higher likelihood of body donation among individuals with two children.

Sources of information

The primary source of information about body donation for individuals in this dataset was their family and relatives, followed by the media (television, radio, newspapers, and online platforms). Dedicated campaigns or awareness programs specifically designed for body donation were the least common sources.

Awareness of dissection

Nearly an equal number of body donors were aware (46 individuals) and unaware (47 individuals) that their bodies would be dissected for study purposes. This indicates a lack of information provided to a significant portion of the body donor population.

Motivations for body donation

The motivations expressed by body donors varied. The largest number of body donors considered their donation a purely social service, intending to contribute to society through medical education or research. Another significant reason mentioned was the desire not to be a burden after

death, indicating a consideration for their loved ones' well-being. Some individuals expressed their intention to aid in teaching and research, highlighting the value they placed on the educational benefits derived from body donation. Others mentioned their dislike for funeral services or the lack of a suitable burial place as reasons for choosing body donation (Figure 3).

DISCUSSION

In the study conducted by Zealley et al., it is surprising to note that 20 out of the total number of forms (18%) analyzed did not mention what would happen with the cremated remains.⁸ The present study reveals that there was an almost equal number of body donors who were aware (46 individuals) and unaware (47 individuals) that their bodies would be dissected for study purposes. This indicates a significant portion were the body donor population lacked information about the specific procedures their bodies would undergo after donation. The lack of awareness suggests a failure in effectively communicating the details of the donation process to the donors, potentially leading to misconceptions or discomfort among donors and their families. It highlights the need for improved education and communication strategies to ensure that potential body donors are well-informed about the intended use of their donated bodies and the procedures involved.

In the study conducted by Park et al., the impact of age and religion on body donation trends is discussed. It is found that males have a higher percentage of body donation compared to females, indicating a gender disparity in body donation. Additionally, the mean age of donation has increased over time, with a greater increase observed among males. This suggests that older individuals, particularly males, are more likely to donate their bodies for medical education and research. The study also highlights the influence of religious affiliation on body donation. The

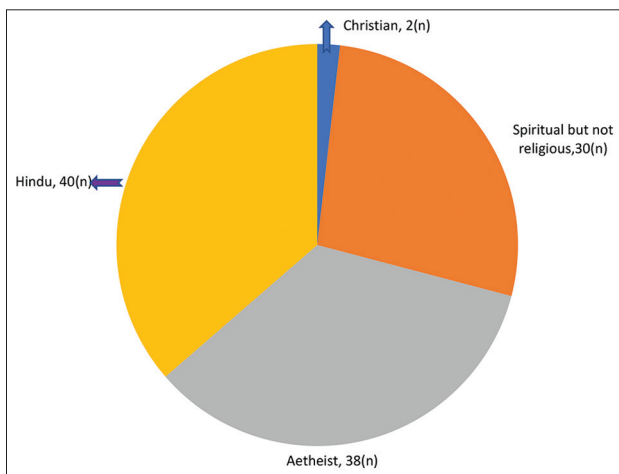


Figure 2: Religious beliefs of body donors

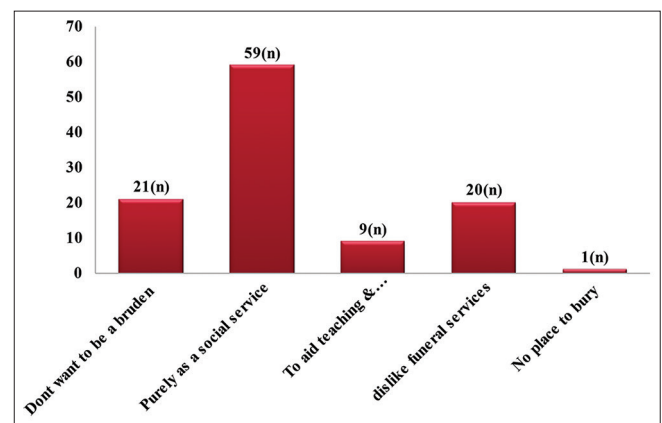


Figure 3: Prime reasons expressed by body donors

majority of body donors in this particular study were Christians. The specific beliefs and practices associated with Christianity may contribute to a higher proportion of Christian individuals opting for body donation. However, it is important to note that this study's findings are specific to the sample population and may not be generalizable to other regions or populations with different religious compositions.⁹⁻¹¹

In the present study, the impact of age and gender on body donation is examined. It is observed that individuals in their 60s and 70s have the highest likelihood of donating their bodies, followed by those in the age range of 51–60. This suggests that older individuals, particularly those in their 60s and 70s, are more inclined to donate their bodies for anatomical study and research purposes. Conversely, individuals in their 30s and 40s show a lower percentage of body donation, indicating a lower likelihood among younger age groups.

Regarding gender distribution, the study indicates a higher representation of male individuals among body donors. The reasons behind this gender disparity in body donation can be influenced by cultural, social, and personal factors that shape individuals' attitudes and beliefs toward body donation.

Furthermore, the study explores the religious affiliation of body donors. It reveals that Hindus constituted the largest group of body donors, followed by atheists and individuals who identified as spiritual but not religious. Christians represented the smallest number of body donors in the sample. Understanding these influences is important for developing targeted strategies to promote body donation and address any disparities or barriers that may exist within specific demographic groups.

In comparison, while the study conducted by Chen focuses on the altruistic nature of body donors and their strong predictive value, the second study explores a broader spectrum of motivations behind body donation. Both studies shed light on the complex factors influencing individuals' decisions to donate their bodies, highlighting the significance of altruism, societal contributions, educational purposes, and personal considerations in this context.^{12,13}

In a study conducted by Jiang et al., it was found that older individuals, those with a college education or higher, laborers, teachers, government officials, and farmers were the primary groups who donated their bodies. While people's motivations for body donation were found to be multifaceted, the most prevalent motivation among donors was their desire to contribute to medical education. These

findings align to a certain extent with the findings of our current study.¹⁴

Limitations of the study

One of the limitations of this study is that it focused on a specific period and a limited number of body donors. To gain a more comprehensive understanding of the body donor profile, it would have been beneficial to extend the study to include a larger sample size and additional institutes.

In light of these limitations, we are committed to continuing this research to further explore the attitudes of the medical community towards body donation. By expanding our scope and involving a broader range of participants, we aim to enhance our understanding of this important subject.

CONCLUSION

The majority of body donors were males, and a significant number of them belonged to the 61–70 age group. A good proportion of donors had a socioeconomic status above the poverty line, and most of them were graduates/postgraduates. The majority of body donors did not have a religious affiliation. However, they had a strong family background and received support from their families. Their reasons for body donation included a desire to be useful after death, a dislike of funeral services, and a wish not to be a burden. Many individuals learned about body donation through friends, relatives, and the media. Interestingly, most of the donors were unaware of how their bodies would be used after donation.

ACKNOWLEDGMENT

We would like to express our heartfelt appreciation and gratitude to all the body donors who graciously participated in the interview. Your willingness to share your experiences and insights has been invaluable to our research. Your selfless contribution to the advancement of medical knowledge and education is deeply appreciated. Thank you for your generosity and for making a significant difference in the field of healthcare.

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Authors' Contributions:

RX- Definition of intellectual content, literature survey, prepared first draft of manuscript, implementation of study protocol, data collection, data analysis, manuscript preparation and submission of article; concept, design, clinical protocol, editing, and manuscript revision; design of study, statistical analysis and interpretation; review manuscript, literature survey and preparation of figures; coordination and manuscript revision.

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Source of Support: Nil, **Conflicts of Interest:** None declared.