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The Body Bequest Program: Perception of Anatomy Teachers in Medical Schools in South-western Nigeria

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ABSTRACT

The body bequest program is fast becoming a significant source of cadavers for anatomical study. Due to the shortage of cadavers for dissections in institutions across Nigerians, there is a need to investigate untapped sources of cadavers. The objective of this study was to ascertain and determine the awareness and attitude toward body donation programs among anatomy teachers in Western Nigeria hence a cross-sectional study was conducted. Data was received from consenting teachers in all Departments of Anatomy in tertiary institutions in the South-western part of Nigeria by using convenient sampling method. Results showed that 34.9% had the foreknowledge of the body bequest program while 72.1% were aware of the scarcity of cadavers in their institution. When it came to voluntary body donation, only 51.2% were willing to donate their bodies, while 32.6% saw their religious belief as a hindrance to being a part of the program. These results suggest the need for a re-orientation of the teachers of anatomy about body donation which in turn will help the public to be more disposed to donate their bodies.

Keywords: cadavers, body donation, Anatomy, Teachers

INTRODUCTION

Body donation is the voluntary act of giving one's body after death for medical research and education. Cadavers are important teaching aids for gross anatomy teachers¹. Anatomy learning without hands-on dissection of human bodies is never considered perfect².

To keep the tradition of body dissection alive, a regular supply of cadavers suitable for educational dissection is a prerequisite. The major source of cadavers in most African countries, including Nigeria is unclaimed bodies from hospital mortuaries which usually have bodies unclaimed

by the deceased individual's relatives³. Cadavers are also sourced from felons and victims of mass casualties; however, some organs or tissues may have been compromised. This affects the integrity of the dissection³.

A study by Anyawu *et al.*⁴ on the acquisition and management of cadavers in Nigeria showed that 94.4% of medical schools utilizing cadavers for the teaching of gross anatomy lack enough cadavers for both anatomy education and research. In Nigeria and many African countries, body donation has not been mainstreamed in medical schools. They are at best a concept still at its nascent stage Anyawu *et al.*⁴. A major reason

for the unwillingness towards body donation leading to this shortage is customary beliefs and practices. In agreement with this, Prasanna *et al.*⁵ reported that 30.9% of their study population cited religion as the reason for unwillingness to donate cadavers for anatomical education. In addition, most ethnic groups in Nigeria and most parts of Africa believe that life does not end with death⁶.

A successful body donation program depends on a positive perception of body donation and a broad-minded social attitude towards it, keeping aside religious stigma. It is worthy of note that anatomy teachers subserve the rightful purpose of bridging the wide lacunae present in society concerning body donation programs. Hence, their awareness and acceptance of the body donation program are important for the propagation of this knowledge at the community level⁷.

The shortage of body donors is attributable to the perception of the public and their lack of awareness and understanding of body donation^{2,8}. Religious and cultural beliefs as well as psychological, personal, and socio-economic factors have limited the willingness to donate^{2,9}.

In light of the need for a body bequest program in sourcing cadavers for anatomical study and education, this study determined the awareness and attitude to body donation programs among anatomy teachers in South-western Nigeria. This study will reveal the true position of anatomy teachers, who are the major stakeholders, in the body bequest program.

MATERIALS AND METHODS

Ethical approval

The ethical approval for this study was obtained from the Office of Research and Development Ethics Committee, Ekiti State University, Ado-Ekiti (ORD/AD/EAC/22/111).

Study Design

A descriptive questionnaire-based study was carried out among teachers in the departments of human anatomy in medical schools in Southwestern Nigeria and the study population was 43 participants. The questionnaire was sent to participants via email and preferred social media platforms. Diversity in age, gender, and socioeconomic background was ensured to capture a comprehensive representation. Open-ended questions were utilized in the survey, allowing participants to provide detailed personalized responses. Participation was voluntary and informed consent was obtained from each participant.

Study sampling

The study was carried out using convenient sampling and respondents spread across 17 institutions in Southwest Nigeria.

Study instrument

A semi-structured questionnaire which was pre-tested by collecting data and seeking feedback from a few participants in 2 institutions in Southwest, Nigeria was used for this study. The questionnaire included 3 sections for data collection. The first section covered participants' consent before they took part in the study as it is important to ensure that everyone is fully aware and voluntarily agrees to be a part of the research. The next section captured their demographic information to understand the characteristics of the participants in our study. The last section examined their attitude and perception about the body bequest program.

Method of data collection

Faculty members in 17 institutions were contacted via phone calls and emails. The questionnaires were shared through official emails and preferred social media platforms such as WhatsApp.

Statistical analysis

Only completed questionnaires were analyzed. Data entry was done using Microsoft Excel 2010 and then exported to IBM Statistical Package of the Social Sciences version 19.0 (IBM Corp, Armonk, NY,) for management and analysis. The continuous variables such as age were described as mean \pm standard deviation. The descriptive measurement was represented as proportions, percentages, frequency distribution, and measures of central tendency. Chi Square and independent t-tests were used as appropriate. Statistical significance was set at $p < 0.05$.

RESULTS

Demographic characteristics

The result of the study included data from the 43 completed questionnaires. Table 1 gives the demographic characteristics of the participants in this study. The mean age of respondents is 45.7 ± 0.8 years with an age range 25 – 65 years. 79.1% were males while 20.9% were females. Most of the participants were PhD holders (74.4%).

The respondents were from different ethnic groups, with the Yorubas accounting for the largest ethnic group (81.3%).

Table 1: Demographic Characteristics of Respondents

Demographic Characteristics	Frequency (%)
Age	4 (9.3)
25-34	26 (60.5)
35-44	10 (23.3)
45-54	2 (4.7)
55-64	1 (2.3)
65 and above	
Sex	
Male	34 (79.1)
Female	9 (20.9)
Marital status	
Single	5 (11.6)
Married	38 (88.4)
Ethnic Groups	
Bini	1 (2.3)
Ibiobio	1 (2.3)
Igala	3 (7.0)
Marghi	1 (2.3)
Nupe	1 (2.3)
Uhrobo	1 (2.3)
Yoruba	35 (81.3)
Religion	
Christian	41 (95.3)
Islam	1 (2.3)
Traditional	1 (2.3)
Highest Qualification	
First degree	1 (2.3)
Masters	10 (23.3)
Ph.D.	23 (74.4)

Attitude

The attitude of anatomy teachers regarding body donation is summarized in Figure 1. This study observed that 34.9% of the study participants were aware of the procedure for body donation. Among the study participants, 4.7% confirmed their

involvement in the body donation campaign while 86% agreed that they would align with a policy that encourages body donation. Also, 30.2% of the study participants agreed to be dissected by a colleague. However, 67.4% of the respondents indicated that their religious beliefs will not serve as a hindrance to being a part of the program.

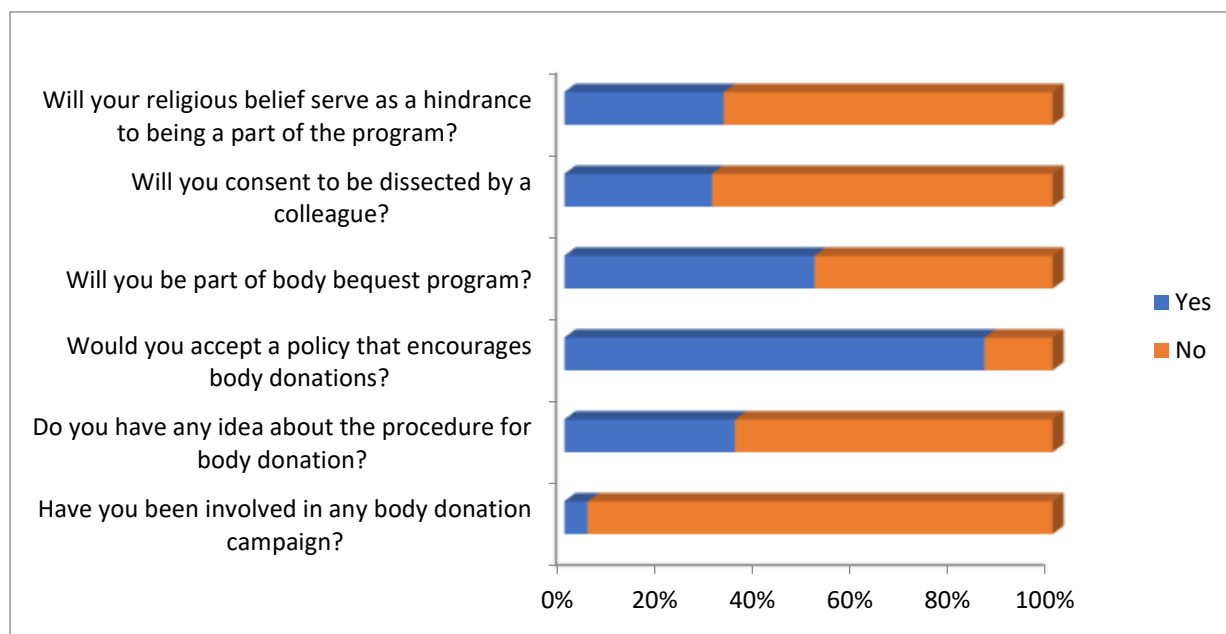


Figure 1: Attitude of Anatomy teachers to body bequest program

Perception

As seen in Figure 2, 72.1% of the participants agreed that there is an insufficiency of cadavers in their institution. A greater percentage of participants agreed that cadavers are essential for a better understanding of Gross Anatomy, while

16.3% of the respondents indicated body donation as the only means of sourcing cadavers in Nigeria is achievable. Also, 58.1% agreed that the body donation campaign will be effective in Nigeria. However, 39.5% indicated that their participation in the program would gain them more respect among their colleagues.

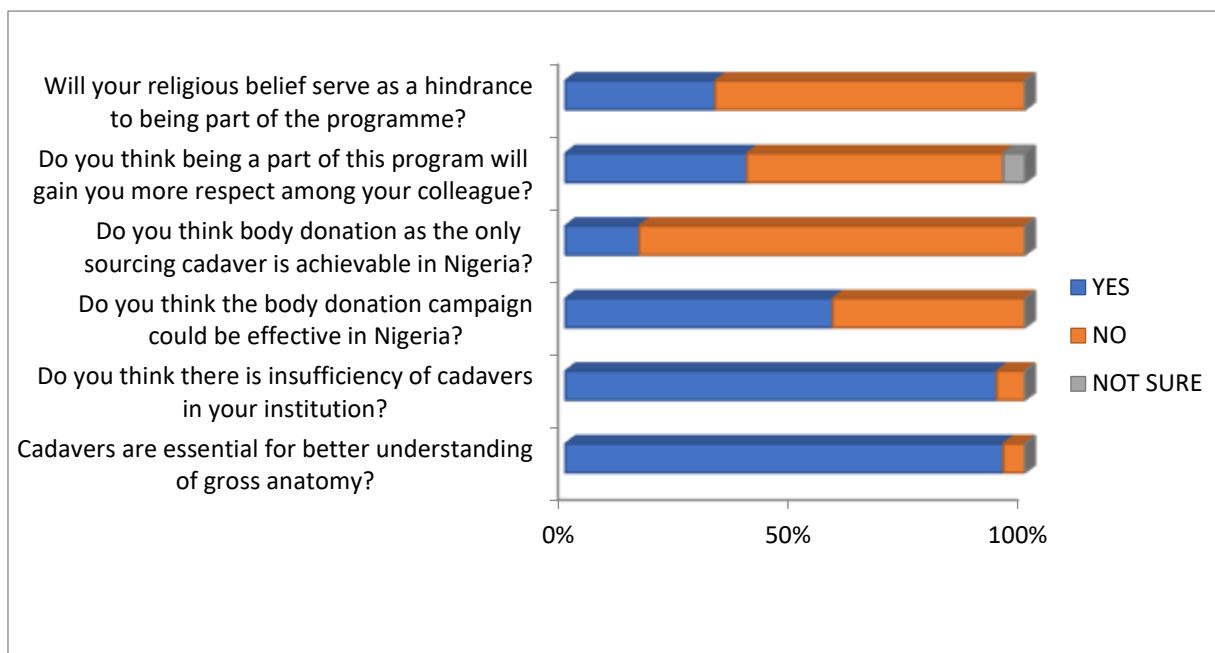


Figure 2: Perception of teachers of Anatomy to body bequest program

Table 2: Influence of sociodemographic characteristics on involvement in body donation campaigns

Socio-demographic variable	Correlation	p-value
Gender	1.079	0.035
Age	-0.934	0.506
Marital status	-1.68	0.001
Religion	-1.103	0.025

The level of significance is $p < 0.05$

There was a significant association ($p = 0.035$) between gender and involvement in body donation as 67% of the female study population were not ready to donate their bodies while 53% of the male population agreed to donate their bodies. Also, marital status is significantly associated with involvement in the body donation program ($p = 0.001$) as 44.2% of the study population who are married supported the idea of donating their bodies while 11.6% of the singles among the study population were not willing to donate their bodies.

In addition, religion influenced involvement in body donation given that the highest number of the study population (48.8%) who were identified as Christians agreed to be a part of the program as there was a significant association between the variables ($p = 0.025$). However, there was no significant association between age and body donor involvement by teachers of anatomy in this study ($p = 0.506$) as the age of the respondents didn't determine their responses to involvement in the body donation.

DISCUSSION

Dissection of the human body is important for better appreciation of structures and understanding of Anatomy². The increase in medical schools in Nigeria has made it quite difficult to balance the cadaver-to-student ratio, as the major source of supply for cadavers is from condemned criminals and unclaimed bodies which are no longer able to satisfy the ever-growing need for cadavers for educational purposes in medical institutions in Nigeria¹⁰. The fact that the majority of anatomy teachers assessed in this study had no idea of the procedure for body donation is a concern that needs to be addressed since they are teachers of anatomy who were trained using the human body for dissection and are involved in the training of others. This study sought to evaluate how teachers of anatomy view body donation as the best alternative for anatomical teachings.

As observed in this study, the majority of the sampled teachers of anatomy willing to be whole-body donors are Ph.D. holders. Attaining this height of education comes with better knowledge and exposure which could account for their awareness about the importance of the body bequest program and cadaveric dissection is, in a medical school. Previous studies have examined the attitude of anatomists, doctors, and other health professionals toward whole body donation^{11,12,13}, revealing their willingness to body donation. A similar study by Shrikant and Anjana¹³ in 11 medical colleges in the state of Maharashtra, India gave the percentage of doctors and medical professionals willing to be whole body donors as 47.2% and 44.9%, respectively. This contrasts with what was reported by Ballala *et al.*¹⁴ who showed that only 22% of the physicians were willing to donate their bodies in a study on the knowledge, attitude, and practices regarding whole body donation among medical professionals in a hospital in India. In Spain, 11% of Spanish anatomists showed willingness to donate their bodies¹¹ while in the Netherlands, 25.9% of Dutch anatomists¹⁵ indicated such a choice.

According to Akinola³, the practice of voluntary body donation is considered foreign in Nigerian society. This present study not only confirms this but reveals that this is not limited to the general society but the anatomy teachers as well. In our study, about 65.1% of anatomy teachers did not know the procedure for body donation. Although 16% were convinced that body donation as the only means of obtaining cadavers in Nigeria is achievable. Only 4.7% have been involved in a body donation campaign while 58.1% of them believed that such campaigns could be effective. This is where the place of awareness campaigns come in for all anatomy teachers who are expected to have a town-and-gown relationship with their immediate communities. Surprisingly, 86% of the participants were willing to align with a policy that encourages body donation and 51.2% were ready to be a part of the program. Golchet *et al.*¹⁶ in their study reported that many factors such as age, religion, culture, personality characteristics, views on death and mortality, body image, and humanitarian concerns influence peoples' opinions towards body donation. In this study, religious restriction, gender, and marital status greatly influenced the respondent's opinion towards body donation. In our study, 67.4% were unwilling to donate their body due to their religious belief. This agrees with Prasanna *et al.*⁵ who reported that 30.9% of the respondents in their study cited religious reasons as the reason for not being willing to donate. Religious belief has been a defining way of life, establishing how people should live even after death. Muslims believe that after death, the body should be buried as soon as possible and allowed to decompose naturally in the ground, leaving no opportunity for embalming or body donation. Sehirli *et al.*¹² reported that only 15.7% of Turkish anatomists were willing to donate their bodies. Religious belief is the leading factor for the poor disposition of Muslims towards body donation as this present study also reported that Christians were more receptive to body donation.

Body donation will be an advancement for medical science in Nigeria if teachers of anatomy can educate the community. Hence, we conclude

that there is a need for orientation and education for anatomy teachers concerning the body bequest program as this can encourage the public to also be a part of it. Also, a continuous body donation campaign will ensure the sustainability of the tradition of dissection in medical schools.

Declaration of interest

There is no conflict of interest in this study.

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Authors' contribution

EA carried out the experiment, analyzed the data and wrote the manuscript. OB contributed to the interpretation of results and drafting of the manuscript. OSA contributed to the final version of the manuscript. AO assisted with the statistical analysis. OMA conceived the study and was in charge of overall direction and planning.

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