

## Problems and prospects of acquisition of human cadaver for medical education in Nigeria

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### Abstract

**Objectives:** To determine the factors affecting cadaver acquisition in Nigeria, and to find a solution to the problem.

**Methods:** The research was conducted from May 2009 to November 2010 in the Anatomy and Histopathology Departments of selected medical schools and government hospitals in Nigeria. It was a retrospective study done on the basis of simple random sampling technique. A total of 38 questionnaires were distributed of which 34 were received and analysed statistically by percentage method.

**Result:** Problems identified in cadaver acquisition included: religion, culture, ignorance and love even after death. Steps which may change the scenario were identified as education, provision of ambulance and donation centres, improved acquisitions procedures and formalities, and government legislation. Alternatives to cadaver dissection include the use of audio-visual aids, models of body parts and animal bodies, but the scarcity of cadavers in most colleges will affect the quality of anatomical knowledge and subsequent clinical practice.

**Conclusion:** The supply of cadavers will remain scarce and affected by religious and moral factors. There is a need to promote the concept of voluntary donation of one's body for the good of the others which is essentially a humanitarian approach and rewarding in terms of promoting the cause of medical education in Nigeria.

**Keywords:** Acquisition of cadaver, Nigeria. (JPMA 62: 1134; 2012)

### Introduction

Cadaver, a dead human body, can be used for medical purposes such as anatomical dissection, organ transplant and studies.<sup>1</sup> The sources of cadaver for use in medical schools prior to the 1832 Second Anatomy Act in Great Britain, were through the use of murderer's bodies and grave-robbing (body-snatching).<sup>2</sup> However, in the United State of America, body for dissection was acquired through similar practices, but the early legislation dealing with the matter was less decisive. Now all medical schools in the US rely on the generosity of 'Anatomical donors' for the teaching of anatomy.<sup>2</sup> The revised Anatomy Acts in Nigeria,<sup>3</sup> did not make provision for cadaver acquisition for medical education. Over the years, the demand for cadaver in medical institutions has been increasing.<sup>4</sup> There is scarcity of literature in Nigeria on this issue. Hence, this study was conducted in order to educate the public and the government on the relevance of cadaver acquisition for medical purposes, and to provide solutions to the problem.

### Subjects and Methods

The study was conducted from May 2009 to November 2010 in mortuaries as well as anatomy and/or histopathology departments of six selected centers. The sample size, based on simple random sampling method, was worked out to be 38 and as many questionnaires were distributed among the six centres which were divided into two categories: (a) universities with attached teaching hospital (University of Maiduguri, 7; University of Port Harcourt, 7; University of Nigeria, Nsukka, 6; and University of Ilorin, 6); and (b) state specialist hospitals (Maiduguri, 6; and the General Hospital, Bori, 6). It was a retrospective study using both close-ended and open-ended questions. The data was analysed using the percentage method.

### Results

Of the 38 questionnaires distributed, 34 were duly returned; the response rate being 89.4%. These 34 responses were used for all analysis. All the respondents used cadaver for dissection in Nigerian medical schools (Table-1). All

cadavers were procured through government hospitals, with the police department not contributing to the process. Besides, cadavers were mostly acquired whenever they were available than any fixed frequency (Table-2). Male cadavers were acquired more than those of females. All the respondents agreed that there was no financial commitment except the payment made for logistics, which mostly related to the obtaining of an ambulance for shifting the cadaver. Amongst the factor affecting the acquisition of cadavers, religious considerations was the commonest. The other factors included culture/tradition, the sacrosanct status of the cadaver, ignorance and love even after death (Table-3). Most of the respondents suggested that there was no alternative to cadavers for anatomical dissection. All the respondents were of the opinion that a burial ceremony of the remains of the dissected cadaver was practical. As for solving the problems affecting cadaver-acquisition, 12 (35%) of the respondents said education of society should receive greater attention. Other ways of alleviating the problem suggested included: donation of dead bodies/organs, 3 (9%); improved legislation, 7 (21%); and improved procedures and formalities, 6 (18%). The respondents feared about the fate of dissection in medical school if the problems related to the acquisition of cadavers

were not resolved. This, they said, would hinder the teaching and understanding of human anatomy. Medical schools, they said, will be forced to use models, audiovisual aids resulting in a wide gap of anatomy knowledge and its practice in medical and allied professions.

## Discussion

As the study showed, all medical schools used cadavers for dissection, adding to the increased demand for cadavers in medical institutions.<sup>1</sup> The only source of cadaver was through government hospitals.<sup>1</sup> This negates the speculation that bodies left in private hands could be diverted for dubious purposes. It was also noted that no cadaver had ever been acquired through donation, and this may be responsible for its scarcity.<sup>1</sup> Unclaimed bodies were mostly available in the northern parts of the country where most of the inhabitants belonged to the very poor segment of society. This leads to their dead being left in the hospital without any claim from the relatives or friends. Furthermore, most cadavers procured were males with very few females. It seems female cadavers are often protected from being used for dissection, but the teaching of anatomy has no gender discrimination. The study also showed that cadavers were not purchased with money except for the payment made for the logistics.<sup>1,4</sup> Many of the respondents suggested it was an acceptable payment, but a few respondents disagreed with this idea. The difference in the opinion related to the fact that many hospitals may use ambulance for patients and the transportation of dead bodies as against medical colleges which were paying for cadaver transportation.<sup>1</sup> The element of religion can be linked basically to the Christian faith which values the dead body as much as a living being.<sup>4</sup> This explains why human bodies are considered by many Muslims as sacred and also buried as soon as possible after death.<sup>3</sup> Culture can be linked to the Ogoni ethnic group of Rivers state, where dead bodies are regarded as sacred beings and must be buried. Failure to comply may result in deadly consequences for the family members. Ignorance of people on the matter of voluntary donation of body was a difficult problem possibly because of poor communication.<sup>1</sup> The love of the dead reported in our study is similar to an earlier study.<sup>4</sup> This explains why

**Table-1: Major findings.**

Responses	Yes (n %)
Use of cadaver for dissection	34 (100 %)
Financial commitment for cadaver other than payment for logistics	34 (100%)
Acquiring ambulance for cadaver transport	34 (100%)
Demand for cremation/burial of cadaver	34 (100%)
Demand for burial/cremation of cadaver	34 (100%)

**Table-2: Sources of regularity of cadaver acquisition.**

Sources of cadaver (n %)	Regularity of procuring cadaver (n %)
Unclaimed bodies in government hospitals 34 (100%)	When available 23 (70%)
Unclaimed bodies from Nigerian police Nil	Yearly 11(30%)

**Table-3: Factors affecting cadaver acquisition, solutions to the problem and the fate of medical education.**

Factors affecting cadaver Acquisition (n %)	Solutions to problems of procuring cadaver (n %)	Fate of dissection of cadaver scarcity (n %)
Religious 12 (35)	Educate the society 12(35)	Teaching and understanding anatomy will be difficult 15 (44)
Culture/tradition 9 (26)	Legislation on Anatomy Act of Nigeria 7 (21)	Medical schools will be forced to use models / and or audiovisual aids 11(32)
Sacrosanct 7 (21)	Improve procedures and formalities 6 (18)	A reduced quality of anatomy knowledge 8 (24)
Ignorance 4(12)	Provision of ambulance 4 (11)	-
Love even after death 2(6)	Creation of Anatomy donation center 3(9)	-
-	Burial/cremation ceremony 2 (6)	-

many people reject cadaver dissection.

The use of models by some medical colleges due to the scarcity of bodies may not give the real picture of a human body.<sup>1</sup> No relations/friends of a deceased had ever demanded a burial ceremony. The reason could be that most bodies were unclaimed ones in which the relative knew little or nothing about the dead.<sup>5</sup> Organising burial/cremation ceremony in the presence of relatives and friends for all the remains of the dissected cadaver will show respect to the donor and earn respect for the college.<sup>4,6</sup> Cremation is mandatory for almost all Hindus, they may forbid cadaver dissection.

Education of the society is one of the most significant factors for the procurement of bodies. More awareness through media, public forums, and personal efforts are essential.<sup>1</sup> People, if enlightened properly, can be ready to make voluntary donation in spite of opposition by others. The Anatomy Act of Nigeria does not provide ethical principles for cadaver-acquisition and may contribute to its scarcity. Thus, the Act needs to be revised and procedures for the acquisition of cadaver should be included. The procedures and formalities to procure bodies are bureaucratic in Nigeria.<sup>1</sup> The procedure differs from centre to centre. In most hospitals, the doctors issue death certificate after clearance from some relevant police officer. The prosecutor/anatomist completes the remaining formalities and the medical officer incharge signs the final clearance before the body is released. However, in hospitals under the Federal Capital Territory, the above procedures are the same except that the Chief Justice of the Federation, instead of the police, does the clearance. These lengthy chains of procedures need improvement. The creation of anatomy donation centres, as suggested by the study, will serve as a cadaver storage that can assist in procuring,

storing, clearing and releasing of bodies to the deserving medical schools. The study showed that the teaching and understanding of anatomy will be difficult due to cadaver shortage. This will force medical schools to use models and/or audiovisual aids which cannot replace the true nature of the human body. The scarcity of bodies in most colleges will bring down the quality of anatomical knowledge and its use in clinical practice to save human life.

## Conclusion

The supply of human cadavers will continue to be limited and will always be influenced by moral/religious constraints. The only way out is to promote the concept of voluntary donation of one's body after death for the benefit of humanity which can only be ensured through professional medical education.

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