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CLINICAL INVESTIGATION

Attitudes of Nigerian Medical Students Towards Autopsy

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Abstract: The use of autopsy in medical education has been declining although autopsy as an educational experience helps students to correlate clinical findings with basic medical sciences. Students' views in relation to its relevance in medical education are necessary in order to justify its continuous inclusion in medical school curriculum. Two hundred and forty 5th and 6th year medical students who had completed their postings in Anatomical and forensic pathology from two institutions were randomly selected for the study. The students were asked to respond anonymously to a 21 item questionnaire which dealt with their views on the importance of autopsy to medical education, reactions to the first autopsy they watched, attitude towards having autopsy performed on oneself or relative and influence of autopsy on specialization in pathology. Most of the students 232 (97%) agreed on the importance of autopsy in medical education and would even encourage medical students to observe and participate in more autopsies. The majority of the students (93%) felt that autopsy should not be scrapped from the medical school curriculum. Thirty-four percent would not mind autopsy being performed on themselves and 47% would allow it on their relatives. Only a few students agreed to specialise in Pathology (Morbid Anatomy) of whom 8 (4%) were females and 26 (11%) were males. Thirty-six percent of the students would not want to specialise in pathology because it deals with death, while 26% of them would rather specialise in some other field. Five percent of the students felt that pathology is not lucrative. Sixty-three percent of the students were uncomfortable on the first day in the autopsy room compared to the 10% who were comfortable and 14% who were indifferent. The exposure of students to autopsy is important to their medical education since those who are not exposed will not be able to order one in their subsequent years of clinical practice. This is also against the background that in our environment the sophistication in medical diagnosis is lacking.

Key Words: Medical students; Autopsy

Introduction

The autopsy can be divided into medico-legal and academic autopsies. The medico-legal autopsy plays an important role in the administration of justice. The use of autopsy in medical education has been declining just as autopsy rate has been falling worldwide (1-3). This is further worsened by the prevention of medical students from attending autopsy sections in some areas (4). It is when students attend an autopsy section that they can appreciate the large number of conditions in different patients (5). The value of autopsy has been proven in its elucidation of the cause of death, clinical quality control, medical auditing and in medical education (5, 6). Various reasons given for the decline in autopsy based teaching include insufficient hospital

autopsies, competing departmental duties and limited curriculum time (7).

Pathology, which is the study of diseases, is one of the compulsory courses that the students must take during the six years of training. The University of Benin is one of the schools in Nigeria and graduates over 1500 students annually, including medical students.

The curriculum in the Medical schools surveyed includes a four-month period of posting in the Pathology Department besides the routine lectures that span over one year. During this period, students are exposed to Autopsy Practice, the aim of which is to acquaint the students with the morphological changes of organs and tissues in diseases, to expose the students to forensic pathology and to equip the students with the

knowledge of the importance of autopsy in research and auditing.

The need to expose the students to autopsy cannot be over emphasised because eventually these students will become clinicians and, as clinicians, are not likely to advocate autopsies if they have not been properly exposed. Sherwood found that one of the reasons for the decline in autopsy rate is that many clinicians do not have the skills necessary for sensitively requesting postmortem examination (8). It is obvious that knowledge of autopsy will broaden the students' mind and enhance a more accurate diagnosis during the subsequent years of their clinical practice as doctors. Proper exposure will further narrow the discrepancy between clinical and autopsy diagnosis in Nigeria (6, 9, 10).

We therefore decided to carry out this study to determine the attitudes of medical students toward autopsy practice in Nigeria.

Materials and Methods

This study was conducted among medical students of the University of Benin, Benin City and Ambrose Alli University (AAU), Ekpoma, both in Edo state, Nigeria. The students, selected by random sampling, were those who had completed their course work in Pathology including autopsy observation and participation. These were 5th year medical students of Ambrose Alli University, Ekpoma, and 5th and 6th year medical students of the University of Benin. These levels were chosen because Pathology is taught at the 4th year in the two schools.

A questionnaire was designed that requested demographic information as well as the students' attitudes to autopsy on a Likert scale. The survey instrument dealt with an evaluation of autopsy activities, the importance of autopsy in medicine, attitudes toward having an autopsy performed on oneself, emotional reactions to the autopsy, and willingness to have autopsy performed on a near relative.

The questionnaires were distributed to the aforementioned students and participation in the study was voluntary.

Results

Of the 300 questionnaires distributed, 240 were returned (80%). The age and sex distribution is as shown in Table 1. The age range was from 20 to 40 years with a mean age of 26 years (Mn = 26). The majority of the students 136 (56.7%) belong to the age range of 21 – 25 years. The age range falls between 21 and 25 years probably because the commonest age of admission into the university is between 18 and 19 years. One hundred and thirty-four (55.8%) of them were males while 106 (44.2%) were females.

Almost all the students, 237 (98.7%) who responded were Christians while the remaining 3 (1.3%) were Muslims.

In Table 2, the majority of students, 116 (69.2%) watched 6 to 15 autopsies while only 32 (13.3%) watched more than 16 autopsies during the period of their posting. Although the student workbook requires that they should watch up to ten autopsies, 42 (17.5%) of them watched fewer than 5 autopsies. The majority of those who watched less than 5 autopsies were from the Ambrose Alli University where the autopsy rate is lower than that of the University of Benin, the latter being an older university and situated in a much larger town.

In the evaluation of responses shown in Table 3, 135 (57%) of the students stated that the number of autopsies they watched was enough, while 102 (43%) said that the number was not enough. However, a total of 176 (74%) students would recommend medical students to watch more autopsies. Most of the students, 232 (97%) and 227 (96%) agreed that autopsy is necessary and that they learned something from the autopsies they watched. The majority, 180 (76%),

Table 1. Age and sex distributions of respondents

Age (years)	Males	Females	Total
16 – 20		1(0.4%)	1(0.4%)
21 – 25	57(23.8%)	79(32.9%)	136(56.7%)
26 – 30	59(24.6%)	23(9.6%)	82(34.2%)
31 -35	15(6.3%)	2(0.8%)	17(7.1%)
36 and Above	2(0.8%)	1(0.4%)	3(1.3%)
Not stated	1(0.4%)		1(0.4%)
Total	134(55.8%)	106(44.2%)	240(100%)

Table 2. Numbers of autopsies watched by students in relation to sex.

Sex	0 – 5	6 – 10	11 – 15	> 15	Total
Male	24 (10%)	39 (16.3%)	51 (21.3%)	20 (8.3%)	134 (55.9%)
Female	18 (7.5%)	29 (12.1%)	47 (19.6%)	12 (5%)	106 (44.2%)
Total	42 (17.5%)	68 (28.3%)	98 (40.8%)	32 (13.3%)	240 (100%)

Table 3. Responses to some questions in relation to gender.

QUESTIONS	Male		Female		Total		No. of students
	Yes	No	Yes	No	Yes	No	
Do you think the number of autopsies you watched were enough?	68 (29%)	65 (27%)	67 (28%)	37 (16%)	135 (57%)	102 (43%)	237 (100%)
Would you recommend that medical students should watch more autopsies?	104 (44%)	30 (13%)	72 (30%)	31 (13%)	176 (74%)	61 (26%)	237 (100%)
Should medical students actively participate in performing autopsies?	104 (44%)	28 (12%)	76 (32%)	29 (12%)	180 (76%)	57 (24%)	237 (100%)
Did you learn anything from the autopsies you watched?	125 (53%)	8 (3%)	102 (43%)	2 (1%)	227 (96%)	10 (4%)	237 (100%)
Is autopsy necessary at all?	129 (54%)	5 (2%)	103 (43%)	3 (1%)	232 (97%)	8 (3%)	240 (100%)
Given a chance would you have chosen not to watch autopsy at all?	15 (7%)	108 (50%)	20 (9%)	73 (34%)	35 (16%)	181 (84%)	216 (100%)
Should autopsy be scrapped from the curriculum in medical school?	9 (4%)	125 (52%)	7 (3%)	98 (41%)	16 (7%)	223 (93%)	239 (100%)
Does autopsy have a role in the health care delivery system of Nigeria?	118 (50%)	16 (7%)	89 (37%)	14 (6%)	207 (87%)	30 (13%)	237 (100%)
At death would you like autopsy to be performed on you?	57 (25%)	72 (32%)	21 (9%)	77 (34%)	78 (34%)	149 (66%)	227 (100%)
Would you like autopsy to be performed on any of your relatives?	71 (33%)	54 (25%)	32 (14%)	60 (28%)	103 (47%)	114 (53%)	217 (100%)
Do you believe in reincarnation?	14 (6%)	118 (51%)	8 (4%)	90 (39%)	22 (10%)	208 (90%)	230 (100%)
Will organs and tissues alter when the person comes back to life?	6 (5%)	52 (45%)	2 (2%)	55 (48%)	8 (7%)	107 (93%)	115 (100%)
Is autopsy a disrespect to the dead body?	21 (9%)	110 (49%)	11 (5%)	83 (37%)	32 (14%)	193 (86%)	225 (100%)
Would you like to specialise in morbid anatomy?	26 (11%)	106 (45%)	8 (4%)	94 (40%)	34 (15%)	200 (85%)	234 (100%)

suggested that medical students should actively participate in performing autopsies. In spite of the fact that they view autopsy as being necessary, 66% of them would not want autopsies to be performed on them at death, although 103 (47%) of them would allow an autopsy on their relatives. Most of the students 223 (93%) felt that autopsy should not be scrapped from the medical school curriculum and 207 (87%) said that it has a role in the health care delivery system of Nigeria.

The majority of students (85%) would, however, not specialise in Pathology (Morbid Anatomy). Only a few students agreed to specialise in Pathology (Morbid Anatomy) out of which 8 (4%) were females and 26 (11%) were males. This shows that very few females would want to specialise in pathology. Various reasons were given by 182 students why they would not like to specialise in pathology. This is illustrated in Table 4. The majority, 66 (36%) would not wish to specialize in Pathology because it deals with death, while 48 (26%) of them said they had made up their mind to specialize in some other fields. Forty-three (24%) had no interest in it, whereas 10 (5.5%) of them felt that pathology as a profession is not lucrative. Only one female said that it is not feminine.

Two hundred and thirty two students responded to the questions on how they felt about the first autopsy that they watched as shown in Table 5. Of these, 131 (56%) were males and 101 (44%) females. Eighty-six (37%) students were slightly uncomfortable while 60 (26%) students, made up of 35 (15%) females and 25

(11%) males were very uncomfortable on their first day in the autopsy room. Thirty one students (13%) were moderately comfortable while 22 (10%) felt comfortable with the procedure. However, 33 (14%) students were indifferent.

Discussion

The steady decline in autopsy rate has posed a great deal of concern to pathologists and medical educators. Various reasons have been given for this decline and these include improvement in modern diagnostic technique, inadequate training of doctors as to the importance of autopsy, and failure to obtain consent from relatives (11). It is not uncommon for a doctor to undergo training without observing autopsy. Autopsy was once a very important tool in medical education because it provided the students with knowledge of fundamental anatomy and the ravages of disease. It was reported that in 1950, 50% of all deaths in North America were usually followed by autopsies whereas in 1995 autopsy was performed in only 7% of all deaths (1).

For many years the University of Benin has been training medical students, all of whom had observed autopsies and a few have actually participated in the actual performing of autopsy. Very few of the graduates have gone on to specialise in pathology.

Many of the students were in the age range of 21 to 25years. This is because the common age of admission

Table 4. Reasons for not specialising in Pathology (Morbid Anatomy).

Reasons	Male	Female	Total
1 I don't have interest in it and the course is not interesting.	23(13%)	20(11%)	43(24%)
2 Because it deals with dead bodies and not the living and autopsy is a dirty procedure	33(18%)	33(18%)	66(36%)
3 Because it is not lucrative	8(4.4%)	2(1.1%)	10(5.5%)
4 I have made up my mind to specialise in another field	29(16%)	19(10%)	48(26%)
5 It is very stressful	2(1%)	7(4%)	9(5%)
6 It is not feminine		1(0.5%)	1(0.5%)
7 Not relevant	2(1%)	3(2%)	5(3%)
8 Total	97(53.4%)	85(46.6%)	182(100%)

Table 5. Reactions to the first autopsy watched by the students.

Reactions	Male	Female	Total
1 Comfortable	15(7%)	7(3%)	22(10%)
2 Slightly uncomfortable	54(23%)	32(14%)	86(37%)
3 Moderately uncomfortable	17(7%)	14(6%)	31(13%)
4 Very uncomfortable	25(11%)	35(15%)	60(26%)
5 Indifferent	20(8%)	13(6%)	33(14%)
Total	131(56%)	101(44%)	232(100%)

into the Universities falls between 17 and 19 years. This compares favourably with the findings from Ibadan (12).

Since most of the students were Christians, their opinion based on religious influence could not be evaluated. The opinions of the few non Christian students were nevertheless very similar to those who were Christians. This is comparable to what Geller and Rispler-chaim reported that there is no religion that prohibits autopsy while objections to an autopsy by the bereaved follows lack of knowledge (13, 14).

In the present study, 40.8% of the students watched between 11 – 15 autopsies while 28% watched between 6 – 10 autopsies. Although 57% said that the number of autopsies they watched were enough, 176 (74%) recommended that medical students should watch more autopsies. The higher percentage recorded in this study can readily be explained by the fact that observation of autopsies by students is compulsory in the two institutions as part of the medical school curriculum. This differs from studies in other centres where autopsies are performed in few medical schools and are elective because of religious and cultural reasons (15, 16). Based on this, some students may complete their training in these centers without observing one autopsy.

Almost all the students (97%) agreed that autopsy is necessary and that they (96%) learned something from watching and participating in autopsy. This compares favourably with the study of Botega et al in Brazil in which students agreed to the importance of autopsy and a study by Conran et al in Ohio, USA, where 85% of the students also said that autopsy should be mandatory for all medical students (17, 18).

In a study by Sanner in Sweden, 90% of the students would not mind autopsy to be performed on themselves though most of them felt uncomfortable at the thought of it (19). This differs from our own study where only 34% agreed to autopsy being performed on themselves, with female students making up only 9%. The reason for this difference may be because most of our students (76%) felt uncomfortable watching autopsies, especially the female students. This also tallies with the findings of Iniani et al (16).

Autopsies make it possible to confirm or correct clinical diagnoses, including those obtained through highly complex technological procedures; they contribute to the discovery of new diseases and other abnormalities; they promote research; they provide reliable statistics on morbidity and mortality; they produce useful genetic information; they facilitate interdisciplinary discussion and knowledge exchange; and they can serve as an indicator of the quality of medical care (20). The exposure of students to autopsy is important to their medical education since those who are not exposed will not be able to order one in their subsequent years of clinical practice. This is also against the background that in our environment sophistication in medical diagnosis is lacking. The authors therefore recommend that the attitude of medical teachers should be such as will encourage the students to become more interested in observing autopsies. The use of innovative technology in teaching autopsies to medical students, for example, the still video camera system (21), should be considered especially as Nigerian medical schools now grapple with dwindling facilities.

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