Original Article

Autopsy-Related Work Experience: An Important Factor Affecting Knowledge and Attitudes of Health Personnel Toward Autopsy

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Abstract

Background: Despite benefits, autopsy rates continue to fall globally. The effects of education, religion, and culture on autopsy rates are well documented. **Aim:** This study examines the knowledge and attitudes of health personnel, aiming to identify other factors affecting autopsy rates in our environment. **Subjects and Methods:** This is a cross-sectional non-intervention study using semi-structured questionnaires and Statistical Package for Social Sciences Version 21, for data collection and analysis. **Results:** Seventeen percent, 50%, and 33% of participants had good, fair, and poor knowledge about autopsies, respectively. Poor understanding of the legal framework governing autopsies accounted for significant gaps in knowledge. Knowledge grade differed significantly amongst the different professional groups (χ^2 = 33.14; *P* value = 0.016). Eighty-two percent had good attitudes toward autopsy, though only 63% indicated approval. About 74% percent indicated willingness to consent to autopsies on relations, while 45.3% indicated willingness to consent to autopsy on self-remains. Autopsy-related work experience correlated strongly with both knowledge (χ^2 = 22.34; *P* value = 0.004) and attitude (χ^2 = 24.28; *P* value = 0.004) grades. Multinominal regression analysis showed autopsy-related work experience to be an independent determinant of willingness to consent to autopsy on self (*P* value = 0.023). **Conclusion:** Autopsy rates in Benin city and environs may reflect lack of knowledge or a misunderstanding of the laws guiding autopsy. Autopsy-related work experience is an important factor influencing knowledge and attitude of health personnel in this study. Its effect on autopsy request and acceptance rates should be further evaluated.

Keywords: *Attitudes, autopsy, experience, health, knowledge, personnel*

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Introduction

An autopsy is the systematic examination of the remains of a patient to determine the extent of disease, the effect of treatment, or the presence of an unrecognized ailment that could have contributed to the demise of the patient.[1] Autopsies are conducted for diagnostic, educational, research, and quality assurance purposes; for the benefit of the medical community, the family of deceased, or the society. Despite the benefits, however, autopsy rates have decreased globally.[2,3]

Autopsies are often classified into two broad categories: (a) medicolegal autopsies, mandated by law, and conducted for the determination of the cause and manner of death and other associated reasons; (b) hospital autopsies, which are not mandatory, but conducted for better understanding of a rare disease or disease process. They help to answer questions that the family or the physician might have, and help the family come to terms with the loss.[3,4] Anatomical or academic disections performed by students of anatomy strictly for learning constitute a third category.[5]

Autopsy techniques have in recent times evolved to include not just the traditional dissection methods but

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also other minimally invasive and non-invasive methods. These include virtual autopsy, using magnetic resonance imaging or computed tomography, first applied for forensic purposes in 1977. This is increasingly being used as an addendum to or a replacement for traditional autopsies in some countries.[4,6] In Nigerian literature, Nwafor *et al*.[7] recently reported the combined use of "traditional autopsy" and "virtual autopsy" techniques in the investigation of a case. Others include postmortem percutaneous needle biopsies of organs using the "minimally invasive tissue sampling" technique[8], and laparoscopic autopsy with tissue sampling (mini autopsies where extensive organ sampling or organ removal can be done through minimal incisions).[4] These modern techniques are aimed mainly at increasing the uptake of autopsy in light of falling autopsy rates.[4]

The decline in the rates of clinical autopsies is a global trend. Several studies expose declining rates of autopsy practice despite the well-documented benefits of autopsies.[2,9,10] Declines in hospital autopsies rates have been reported in the United States, England and Wales, Canada, France, China, and Zambia.[9,11] This is by no means indicative of a decline in the need for autopsies. Despite the availability of newer "high-tech" diagnostic techniques, with increased confidence in ante-mortem diagnoses, there are still significant errors in clinical diagnoses, and autopsy remains the "gold standard" for validating new and emerging technologies.[2,10] A meta-analytic study suggested that approximately one-third of death certificates were incorrect and that half of the autopsies performed produced findings that were unsuspected before death.[12] Considering the relative unavailability of high-tech diagnostics in our environment, it is safe to assume that our error rates may be even higher.[2]

In most health institutions in Nigeria, the hospital autopsy is "dead."[2] They cannot be conducted without family consent, and since most Nigerian religions, traditions, and cultures hold the dead in utmost sanctity, consent is hardly ever given.[13] What is surprising is that the state of affairs of medicolegal autopsy is only fractionally better. While these still constitute the majority of autopsies done in Nigeria, the numbers conducted are a fraction of the number of autopsies that perhaps ought to be carried out. This has serious implications for justice, the sanctity of human life, and the protection of human rights and points to a need for public orientation and education. The need for public enlightenment has been severally pointed out, if the trend is to be reversed.[2,9,13] Health professionals drive health initiatives and are at the forefront of public enlightenment on health issues; therefore, they must be knowledgeable and have the right attitude as a necessary first step to impacting the public. It is however important to employ a broad approach that is not limited to pathologists or even doctors alone, since the average Nigerian takes health advice from all categories of health professionals without discrimination.

This study assesses the extent of knowledge of health personnel in health institutions in Benin city and environs on the indications for autopsies and the laws guiding conduct of autopsies in Nigeria, as well as their attitudes toward autopsies. It throws light on existing challenges and hopefully gives direction to efforts channeled at improving autopsy request and acceptance rates.

Materials and Methods

A cross-sectional non-intervention study was conducted amongst health personnel in selected health institutions in and around Benin city. Health personnel were recruited from multiple hospitals in order to involve different categories of health personnel. Consenting health personnel working in the study centers who were present at the time of data collection were included in the study. Anatomic pathologists, Mortuary Unit staff, and non-consenting health personnel were excluded. Data was collected using self-administered, semi-structured questionnaires. Participants' sociodemographic data, the extent of knowledge about autopsy, its indications, the laws guiding its conduct, as well as their attitudes toward autopsy in general and their disposition toward granting consent for an autopsy on close relations and self-remains were assessed. Responses to questions assessing knowledge were awarded 1 mark for correct or 0 for wrong answers/no response. Knowledge levels were graded as good (≥70%), fair (50–69%), or poor (<50%). Responses to questions assessing attitudes were awarded 1 mark for favorable attitudes or 0 for unfavorable attitudes. Attitude scores were graded and categorized as positive or negative based on aggregate scores. Data was analysed using IBM Statistical Package for Social Sciences Version 21.0 for windows (2012) (IBM Corporation, Armonk, New York, the United States) and summarized using tables, charts, and descriptive statistics. Chi-square test of association was carried out to detect significant associations between sociodemographic factors and knowledge and attitudes. Binomial and multinomial logistic regressions were used to identify predictors and determinants of willingness to give consent for an autopsy on close relations or on self. For all tests of association, binomial, and multinomial analysis, the level of statistical significance was set at 5%.

Results

A total of 172 participants—81 males and 91 females—were recruited. Ages ranged from 19 to 60 years. The distribution of participants amongst the study centers [Figure 1] and across professional groups [Table 1] is as shown. All study participants had at least secondary school education, 93.6% (161) of participants had a tertiary level of education, and 24.8% (40) had at least one postgraduate academic or professional qualification. The years of work experience in health institutions ranged from 1 to 25 years.

The knowledge scores showed that 16.9% (29), 50% (86), and 33.1% (57) of health personnel had good, fair, and poor knowledge about autopsies, respectively. The mean percentage knowledge score for all health personnel was 51.15 ± 19.18%, but the mean knowledge score varied greatly amongst professional subsets (χ^2 = 33.14; *P* value = 0.016) [Table 2]. Majority of study participants had little or no knowledge of the legal framework within which autopsies are conducted. Seventy percent of respondents (120) could define/explain the term "autopsy," but only 9.3% (16) could—in concept—distinguish between a coroner/medico-legal autopsy and a hospital/"consented" autopsy. Only 64.5% (111) could independently cite one example of an instance when an autopsy was compulsory. However, when presented with case scenarios to determine whether an autopsy was indicated or not, 50.6% (87) of respondents correctly recognize when an autopsy was indicated in at least 50% of instances.

Pearson's Chi-square analysis showed no statistically significant correlation between knowledge grade and age, sex, marital status, level of education, or years of work experience.

Attitude scores show that 82% (141) of respondents had a positive attitude toward autopsy. Sixty-three percent (108) of respondents approved of autopsy as a procedure for determining the cause of death, 73.8% (127) indicated willingness to consent to an autopsy on close relations, 45.3% (78) expressed willingness to consent to an autopsy on self after death, 5.2% (9) had given consent for autopsy on the remains of close relations before, and 4.7% (8) had rejected or evaded autopsy on remains of close relations before.

There was no statistically significant correlation between willingness to consent to an autopsy on close relations and knowledge grade, profession, educational status, sex, age, or marital status. Chi-square analysis also did not show a statistically significant association between previous autopsy consent for close relations and willingness to give future consent, even though six

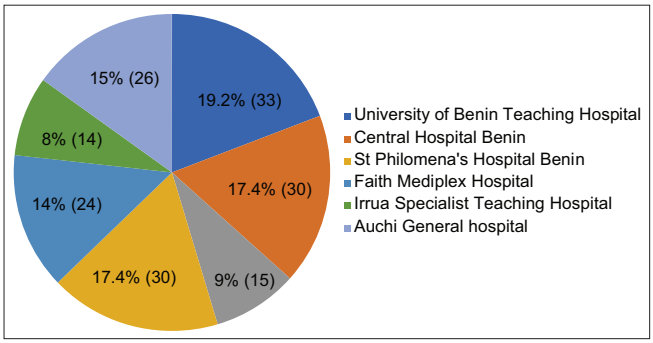

Figure 1: Distribution of participants amongst study centers

Table 1: Professional categories of health personnel participating in the study

Categories of health personnel	Frequency	Percentage (%)
Medical doctors/Dentists	33	19.2
Nurses/Midwives	42	24.4
Pharmacists	11	6.4
Laboratory scientists	17	9.9
Physiotherapists	8	4.7
Medical records/Information officers	7	4.1
Medical social workers	4	2.3
Optometrists	3	1.7
Senior administrative officers	17	9.9
Others	30	17.4
Technicians (pharmacy, imaging, laboratory)	11	
General/Multipurpose hospital workers; junior administrative staff	5	
Accounts/Audit staff	2	
National Health Insurance Scheme NHIS/Health management organization staff	3	
Unspecified	5	
	4	
Total	172	100

Table 2: Mean knowledge score amongst professional groups of health personnel

Professional groups	Mean knowledge score	*n*	Standard deviation
Doctors/Dentists	61.54	33	16.576
Nurses	49.34	42	22.096
Pharmacist	58.65	11	16.921
Laboratory scientists	54.75	17	16.739
Physiotherapists	49.04	8	14.207
Optometrists	48.72	3	22.205
Medical records officers	34.07	7	12.450
Other health professionals	48.72	15	19.259
Senior administrative officers	38.46	17	17.966
Junior administrative/Support staff	46.15	19	16.401
Total	51.15	172	19.176

Table 3: Relevant PM experience amongst health personnel

Professional groups	Participants with autopsy-related work experience (%)	Participants with a previous history of employment at hospitals performing autopsy (%)	Participants with a history of past attendance at autopsy (%)	Participants who had counseled families for autopsy (%)
Doctors	33 (31.4)	25 (33.8)	24 (44.4)	29 (51.8)
Nurses	16 (15.2)	11 (14.9)	9 (16.7)	4 (7.1)
Pharmacists	7 (6.6)	5 (6.8)	3 (5.5)	1 (1.8)
Laboratory scientists	16 (15.2)	7 (9.5)	1 (1.9)	9 (16.1)
Physiotherapists	8 (7.6)	4 (5.4)	5 (9.3)	3 (5.3)
Optometrists	1 (1.1)	1 (1.3)	0 (0.0)	0 (0.0)
Medical records officers	3 (2.9)	1 (1.3)	3 (5.5)	1 (1.8)
Other trained health personnel	4 (3.8)	4 (5.4)	3 (5.5)	3 (5.3)
Senior administrative staff	10 (9.5)	9 (12.2)	3 (5.5)	3 (5.3)
Other administrative and support staff	7 (6.6)	7 (9.5)	3 (5.5)	3 (5.3)
Total	105 (100)	74 (100)	54 (100)	56 (100)

out of nine persons (67%) who had previously given consent for autopsies on relations indicated a willingness to consent to autopsies on relations in future, and four out of nine (44%) indicated willingness to consent to an autopsy on self. There was significant relationship between approval for autopsy and willingness to consent to an autopsy on close relations (χ^2 = 37.892; *P* value < 0.001) and willingness to consent to autopsy on self (χ^2 = 14.42; *P* value = 0.002). Approval for autopsy was further found, using binominal regression analysis, to be a predictor of willingness to consent to autopsy on a first degree relations. Persons who approved of autopsies were 7.6 times more likely to consent to autopsy on close relations. Senior administrative staff (irrespective of professional background) were found to be more likely consent to autopsy on self (*P* value = 0.041), while nurses were more likely to refuse autopsy on self (*P* value = 0.026).

Fifty-nine percent (102) of health personnel had relevant autopsy-related work experience which was defined as self-recognized past/present employment in a health facility where autopsies were/are performed, past attendance at autopsy, or past history of recommending an autopsy or counseling bereaved families on the need for autopsy.

Even though data suggest that many participants had worked in hospitals where autopsies were conducted at some time or the other, only 43% (74) recognized/reported that autopsies were performed in their institution (33.8% (25) doctors and 14.9% (11) nurses). Thirty-one percent (54) of participants had witnessed an autopsy before (24 doctors, 9 nurses, and 21 others). Thirty-two percent (56) had been involved in counseling bereaved families for an autopsy (29 doctors, 9 laboratory scientists, 4 nurses, and 14 others). The frequency of autopsy-related work experience varied significantly amongst the different professional groups as displayed [Table 3] (χ^2 = 90.25; *P* value < 0.001). Autopsy-related work experience showed a strong correlation with knowledge grade (χ^2 = 22.34; *P* value = 0.004) and attitude grade (χ^2 = 24.28; *P* value = 0.004) on Chi-square analysis. Multi-nominal regression analysis also showed relevant autopsy experience to be an independent determinant of willingness to consent to a PM on self (*P* value = 0.023).

Discussion

Majority of study participants had little knowledge of the legal framework guiding the conduct of autopsy. Many participants could not distinguish between a medico-legal autopsy and a hospital autopsy. Moorthy and Thenmoli made a similar observation in their study of medico-legal autopsy amongst Malaysian Hindus. They found that the awareness about medico-legal autopsy was still questionable even amongst well-educated people. In their study, 34.5% of respondents knew what a clinical autopsy was, but only 15% knew what a medico-legal autopsy was.[14] In this study, less than 10% of participants could define/explain what a medico-legal autopsy is. Analysis of the responses given suggests that even though ignorant of the law, many people in principle agreed with the law. Family stance appeared to differ from legal stance mostly when it was not immediately obvious that an autopsy was necessary to rule out an unnatural death or when cause of death is known but autopsy is requested for reasons different from determination of course of death. As Opperwal and Mayboom de Jong documented, "families are often surprised at the request for an autopsy if they thought it was only required when death was suspicious or due to unnatural causes such as violent deaths." They recommended, reminding relatives that

"in cases of sudden death," regardless of the presence of suspicious circumstances or lack of it, "an autopsy is the first professional assessment which takes place, as usually no diagnostic work has been done."[15]

Not much is said in literature about the effect of autopsy-related work experience on the attitudes of health personnel toward autopsies or on autopsy request and acceptance rates. Oluwasola *et al*.[9] surveyed the extent of autopsy-related experience amongst relatives of the deceased patients but did not show if there was any influence of this on willingness to consent to autopsy. Literature suggests that the attitudes of health personnel toward autopsy can be improved by directed training and increased exposure to autopsy practices.[16-19] Many clinicians appear skeptical about the need for autopsy or do not think the autopsy is important in clinical practice, a reflection perhaps, of limited undergraduate exposure to autopsy.[20] Clinicians are also uncomfortable obtaining consent for autopsy, often delegating this responsibility to juniors,[21] many of whom have little experience and little or no how to obtain consent for autopsy, or how to address the concerns of the bereaved about autopsy.[22,23] Adequate exposure to autopsy as students teaches soft skills such as professionalism and attitude of respect for the dead and the bereaved. The desensitization process that occurs when observing autopsies helps to prepare students and young professionals toward dealing with "death and dying" in the future.[16,19]

In the study by Oluwasola *et al*.,[9] knowledge of autopsy was significantly correlated with number of years of formal education. Only 34.7% of study participants possessed more than 12 years of learning, but 94.6% of those who showed a satisfactory level of knowledge had more than 12 years of education. In this study, there was no statistically significant difference in knowledge attributable to difference in level of education. Health personnel are relatively homogeneous, in terms of level of education compared to the lay public; so the observed effects due to differences in level of formal education are easily lost. Several studies have however documented the effect of formal education on knowledge and attitudes of both health personnel and relative toward autopsy.[9,17,24,25] All participants in this study had more than 12 years of formal education, and 93% had tertiary education. The higher percentage of persons with more years of formal education however probably contributed to the higher percentage of study participants (66.9%) who had at least a fair knowledge of autopsies in this study, compared to 42% in Oluwasola's study, though not as high as the rates in some other studies.[17,25]

Knowledge grades and attitudes varied significantly amongst professional groups. Neither profession nor knowledge grade was however found to be a predictor of willingness to consent to an autopsy on close relations or self, an indication that knowledge doesn't always translate to action. Kaoje *et al*.[25] also found the profession to be an influencer of both knowledge and attitude, yet noted a gap between knowledge, professed attitude, and intent. Many in their study who indicated support for autopsy and the need to improve public awareness of its benefits did not indicate willingness to consent to autopsy of the corpse of relatives.

Autopsy-related work experience was found to be an independent determinant of willingness to consent to self-autopsy; and the most important factor affecting knowledge and attitude of health personnel, showing a strong correlation with knowledge and attitude grades. Results suggest that experience has a greater effect on attitudes of persons and translated to more effectual knowledge, than classroom teaching or degrees. Practical experience is capable of ridding people of unfounded beliefs and misconceptions. Others have suggested that factors other than knowledge or profession influence attitude to autopsy-related practices like organ donation, and health professionals were not much different from lay public in their unwillingness to donate organs.[25,26] These observations suggest that encouraging more health personnel to witness more autopsies in the course of their professional training and "on the job" may increase autopsy request and acceptance. Likewise, increasing public awareness and discussing autopsy procedures and findings openly and honestly with families may demystify autopsy and unseat unfounded beliefs, since much of the distress experienced/dissatisfaction expressed by relations about autopsy are related to sociocultural and religious objections, misconceptions, delays in burial plans, bureaucratic problems, real or seeming "lack of transparency" on what to expect and what will be done, and lack of report or feedback on the autopsy findings rather than the autopsy procedure itself.[16,24] Sixty-seven percent of persons who had given consent for autopsies on relations in the past indicated a willingness to still consent to autopsies on relations in future and 44% indicated willingness to consent to autopsy on self-remains. It seems relations might not necessarily be less likely to give consent for autopsy having had a previous experience, though Chi-square analysis did not show a statistically significant association between previous autopsy consent for close relations and willingness to give future consent. Approval for autopsy was however a predictor of willingness to consent to PMs on close relations. Sixty-three percent approved of autopsies as a procedure for determining the cause of death. Although Oluwasola *et al*.[9] observed a higher rate of approval (73.3%) amongst relatives of

the deceased patients, they recorded a much lower rate of consent for autopsy on close relatives, and autopsy on self remains compared to this study.

Conclusion

Attitudes to autopsy in Benin city and environs reflect lack of knowledge/understanding of the laws guiding autopsy. Autopsy-related work experience is an important factor influencing knowledge and attitude of health personnel. Its effect on autopsy rates should be further evaluated.

Aggressive education of health personnel and the general public about autopsy and related laws is needed. Health personnel should be more exposed to autopsies in the course of their professional training and "on the job." Clinicians need to be trained to adopt an honest and humane approach in informing relations, answering their questions, and addressing their concerns about autopsies. Also, more feedbacks from pathologists to relatives and colleagues on autopsy finding are needed.

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Conflicts of interest

There are no conflicts of interest.

References

1. Olasode, BJ, Odesanmi WO. The hospital autopsy -halting the decline. Nig Postgraduate Med J 1998;5:28-39.
2. Suleiman DE. Reviving hospital autopsy in Nigeria: An urgent call for action. Ann Niger Med 2015;9:39-40.
3. Malami SA, Mohammed A. Opinion: Autopsy practice in Northern Nigeria. Niger J Surg Res 2002;4:119-21.
4. Royal College of Pathologists. Guidelines on autopsy practice: The Report of a Working Group of the Royal College of Pathologists. RCPath 2002;314:1-68.
5. Strasser RS. Autopsies. In: Ayn Embar-seddon, Allan D. Pass. Forensic Science. Salem Press; 2008. p. 95. ISBN 978-1-58765-423-7.
6. Roberts IS, Benamore RE, Benbow EW, Lee SH, Harris JN, Jackson A, *et al*. Post-mortem imaging as an alternative to autopsy in the diagnosis of adult deaths: A validation study. Lancet 2012;379:136–42.
7. Nwafor NN, Nwafor CC, Obafunwa JO, Ekpo MD. Autopsy Imaging: An essential tool in contentious cases. West Afr J Radiol 2018;25:1-8.
8. Paganelli CR, Goco NJ, McClure EM, Banke KK, Blau DM, Breiman RF, *et al*. The evolution of minimally invasive tissue sampling in postmortem examination: A narrative review. Glob Health Action 2020;13:1792682.
9. Oluwasola AO, Fawole OI, Otegbayo JA, Ogun OG, Ukah CO, Bamigboye AE. Trends in clinical autopsy rate in a Nigerian tertiary hospital. Afr J Med Med Sci 2007;36:267–72.
10. Costache M, Lazaroiu AM, Contolenco A, Costache D, George S, Sajin M, *et al*. Clinical or post mortem? The importance of autopsy: A retrospective study. Maedica (Buchar) 2014;9:261-5.
11. Turnbull A, Osborn M, Nicholas N. Hospital autopsy: Endangered or extinct? J Clin Pathol 2015;68:601-4.
12. Roulson J, Benbow EW, Hasleton PS. Discrepancies between clinical and autopsy diagnosis and the value of autopsy histology; a meta-analysis and review. Histopathology 2005;47:551-9.
13. Atanda AT, Umar AB, Yusuf I, Imam MI, Sule AA. Autopsy and religion: A review of the literature. Sahel Med J 2016;19:119-24.
14. Moorthy TN, Thenmoli R. Study of the knowledge, attitudes and perceptions regarding medicolegal autopsy among Malaysian Hindus: A focus on hinduism. J Bio Innov 2006;5:890-9.
15. Oppewal F, Meyboom-de Jong B. Family members experiences of Autopsy. Fam Pract 2001;18:304-8.
16. Ekanem VJ, Vhriterhire CO. Relevance of clinical autopsy in medical practice in Sub-Saharan Africa. Sahel Med J 2015;18:49-56.
17. Olowookere SA, Komolafe AO, Abiodun AA, Omole JG, Babalola A, Sanni O, *et al*. Physicians' knowledge, attitude and practices towards autopsy in a Nigerian tertiary hospital. Asian Arch Pathol 2020;2:3-13.
18. Kakkeri SR, Ahmed KM, Ahmad SR, Khan R. Knowledge and attitude of medical students toward medico- Legal autopsy. Int J Forensic Med Toxicol Sci 2018;3:8-11.
19. Burton JL, Underwood J. Clinical, educational, and epidemiological value of autopsy. Lancet 2007;369:1471-80.
20. Start RD, Cotton DWK. The meta-autopsy. Changing techniques and attitudes towards the autopsy. Qual Assur Health Care 1993;5:326–32.
21. Ekanem VJ, Gerry IE. Attitude of Nigerian resident doctors towards clinical autopsy. Niger Postgrad Med J 2007;14:8-11.
22. Burns J, Rosenbaum G, Truog R. A national study of autopsy consent practices. Survey of chief residents on autopsy knowledge and education. Crit Care Med 1998;26:71A.
23. Loughrey MB, McCluggage WG, Toner PG. The declining autopsy rate and clinicians′ attitudes. Ulster Med J 2000;69:83-9.
24. Olowookere SA, Abiodun AA, Omole JG, Komolafe AO, Olowookere AJ, Akande E, *et al*. Willingness of family caregivers to consent to relative's postmortem examination that die suddenly in a Nigerian tertiary hospital. Ethiop J Health Sci 2020;30:377-86.
25. Kaoje AU, Mohammed U, Abdulkarim A, Raji MO, Ango UM, Magaji BA. Knowledge, attitude, and perception of postmortem examination among doctors and nurses in a tertiary hospital of Sokoto, Nigeria. J Forensic Sci Med 2016;2:78-84.
26. Loch A, Hilmi IN, Mazam Z, Pillay Y, Choon DS. Differences in attitudes towards cadaveric organ donation: Observations in a multiracial Malaysian society. Hong Kong J Emerg Med 2010;17:236-43.