

Knowledge And Attitude of Autopsy Practice Amongst Adults Residing in Bayelsa State

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ABSTRACT

Background: It is left to an autopsy to be performed on the body, whenever there is death to determine the cause(s) of death, particularly if the cause of death is suspicious. **Aim:** The main aim of the study is to assess the level of knowledge and attitude of autopsy practice in Bayelsa State. **Method:** The study adopted a mixed method using both quantitative and qualitative methods, adopting both a descriptive survey design and thematic analysis. The population of the study consists of all members of the communities of Bayelsa State. A total of 374 respondents were sampled. Also, six people were sampled, using open-ended questions. The instruments for data collection were validated, self-developed 21-item questionnaire and an interview guide containing open-ended questions. **Results:** data obtained from the study shows that the majority of participants (50.3%) were knowledgeable, which can provide valuable insights for the study. The results revealed that most deaths have medically justifiable causes, and autopsies can be performed on any dead person, regardless of age or time of death. The results show that participants have adequate knowledge and positive attitude towards autopsies. However, there is a need to enhance public awareness of the benefits of autopsies and understand the socio-economic environment to explain people's behavior. This is particularly important to clear up myths and cultural beliefs. **Conclusion:** The study concluded that to improve autopsy performance, policies, training, funding, and modern facilities in hospitals and healthcare centres should be developed.

KEYWORDS: Adult residents, Autopsy, Autopsy practice, Bayelsa State, Post-mortem examination.

INTRODUCTION

Death is an inevitable end for all humans, including all living things. However, the cause(s) of death may vary. All living things must die, according to the ultimate law of biological sciences. Some deaths come naturally while others do not. However, whenever there is a death, it is left to an autopsy to be performed on the body to determine why the deceased died, particularly in a case of suspicious death. An autopsy is a scientific or medical examination of a deceased person to determine the actual causes of death. The term "autopsy" is often used interchangeably with "post-

mortem examination” or “necropsy” (Pallis, 2022). Pratiwi, Fitrasanti, and Tanzilah (2022) described an autopsy (post-mortem examination) as a panoramic assessment of the corpse and the vicissitudes connected to the individual’s death. It is an examination that involves a vastly specialised medical technique that comprises of a systematic inspection of a dead body to decide the cause and mode of death and to assess any illness or damage that may be existing (Olowookere et al., 2020). It includes finding and ratifying the final diagnosis, the post-mortem examination also discloses the link between the cause of death and the accompanying pathologies and clarifies the connection concerning the two (Kaoje et al., 2016). There are two different kinds of post-mortem examinations: the one performed by the coroner and the one performed at the hospital. In terms of their technical performance, there is no difference between the two, even though the hospital care may be focused on certain issues (Kaoje et al., 2016; Olowookere et al., 2020; Pratiwi et al., 2022).

Full-body autopsies continue to be the most reliable method for establishing the reasons for a person's death, notwithstanding recent advances in diagnostic tools. The reason is that, the degrees of discordancy amid medical diagnoses and the diagnoses at autopsy for both communicable and non-communicable diseases range from 17 percent to 65 percent, and even up to 40 percent of post-mortem (PM) examinations disclose substantial evidence concerning the cause of death that was never known beforehand (Oluwasola et al., 2009; Shojania & Burton, 2008). Clinical autopsies are not often done as part of the standard medical treatment that patients receive (Turnbull, Osborn, & Nicholas, 2015). Additionally, autopsy rates have been on the decline all throughout the globe, but they are mainly low in sub-Saharan Africa (Udoh, 2022). This is due to a combination of factors, including low perceived benefit, fears of body disfigurement, the practicalities of making funeral arrangements, and cultural beliefs that cause next of kin to refuse autopsies (Lishimpi et al., 2001; Udoh, 2022). In particular, the expense of conducting a comprehensive clinical autopsy as well as the competence required to perform one are obstacles that prevent its usage (Yawson, Tette, & Tettey, 2014).

In addition, the next of kin may refuse to provide their permission for the procedure. There is not enough human resource capacity to handle the number of autopsies that need to be done because there are not a lot of qualified pathologists in the African area. (Yawson et al., 2014). It has been demonstrated that in these types of situations, minimally invasive autopsies (MIA), which involve less invasive PM examination procedures such as minimally invasive tissue sampling (MITS) techniques, can determine the cause of death in four out of five cases (Castillo et al., 2015). This is because it is a less intensive procedure, the turnaround time for results can be faster, and it does not lead to major delays in burial, which is particularly important in some communities where these constitute reasons for the refusal (Gurley et al., 2011). The fact that it does not lead to major delays in burial is particularly important. Even though post-mortem examinations play an important role in assessing healthcare systems and have significant advantages for public health, the number of post-mortem examinations being performed globally has been on the decline. The technique is also seen by many physicians as a tool for witch hunts that are meant to show the clinician's ineptitude or mistake in judgement (Oluwasola et al., 2009). The medico-legal significance of post mortems is invaluable. It is common knowledge that physicians do not have sufficient expertise in post-mortem examination, and it is also common knowledge that the drop in the autopsy rate was related to the difficulty of gaining agreement from the family of the dead, which is a reflection of their knowledge (Abidin et al., 2013). Several studies that were carried out

in different parts of the world revealed a diminishing rate of post-mortem procedures (Hoyert, 2011). Meanwhile, the history of post-mortem examinations and the retention of organs showed that there is a reasonable medical rationale for these practices. Without a doubt, these procedures have contributed to an increase in medical knowledge and an increased understanding of human anatomy and human disease, which is to the benefit of all of us (Oluwasola et al., 2009).

It is therefore required of medical professionals, notably doctors and nurses, to disseminate information to the general public so that individuals may have an in-depth grasp of what a post-mortem examination comprises and the reasons why it may be essential or beneficial in certain instances. In addition to this, it is required of them to develop a connection with the deceased person's family and provide the possibility of a post-mortem investigation to determine the true cause of death. This research, therefore, aims to evaluate the participants' levels of knowledge and attitude of autopsy practice in Bayelsa State.

METHODOLOGY

Study Area

The study was carried out in Bayelsa State. Bayelsa is a state in southern Nigeria, at the heart of the Niger Delta Region. Bayelsa State was formed in 1996 from the old Rivers State, making it one of the federation's newest states. It has a border with Rivers State to the east and Delta State to the west, with the Atlantic Ocean dominating its southern boundaries. It has a total area of 10,773 km². The State is divided into eight LGAs. They are Brass, Ekeremor, Kolokuma/Opokuma, Nembe, Ogbia, Sagbama, Southern Ijaw and Yenagoa. The State is bordered by Rivers State, of which it was originally a part, and Delta State. Ijaw is extensively spoken in Bayelsa State, as are Isoko and Urhobo in their native towns. It is also the ancestral home of the Urhobo people in the Sagbama local government area. Bayelsa State, located in the Niger Delta Region, has a riverine and estuarine landscape, with bodies of water inside the State limiting the construction of major road infrastructure.

Research Strategy

This study adopted a mixed method, which includes a combination of quantitative and qualitative methodology.

Quantitative Research Method

Research Design

The quantitative research approach uses the cross-sectional descriptive survey method. According to Nwankwo (2011), the descriptive survey method is a study design that is concerned with ascertaining and establishing pieces of data that are studied and whose findings are generalised to the entire population. This is the most common survey design for descriptive studies. The descriptive method was used to investigate the knowledge, attitude and uptake of post-mortem examination (autopsy) amongst the people of Bayelsa State. This method is appropriate for this study because it helps researchers answer questions related to what, when, and where, and the data collected cannot be interfered with. Several scholars have used this method to investigate related studies (Kaoje et al. 2016, Taher et al. 2018).

Study Population

The study target population comprises traditional rulers, opinion leaders, chiefs, medical professionals, and many more in the study area. As such, the study was divided into two groups: community members (this includes traditional rulers, opinion leaders, chiefs, and other men and women in the selected community) and healthcare professionals within the selected communities (doctors, nurses, pharmacists, lab scientists, and public health practitioners). The study population was drawn from the selected communities with hospitals or healthcare centres in each of the eight LGAs (see Appendix II for the population frame).

Eligibility Criteria

- i. Participants must be 18 years and above
- ii. people living and or working in the study area, expressing willingness to participate in the study, and being present at the time of data collection.

Sample and Sampling Technique

The sample for this study is 400 participants drawn from 40 communities, five communities in each LGA respectively. The sample was selected using the multi-stage sampling techniques (see detail below).

- i. **First Stage:** A list of all the eight LGAs served as a sample frame. Five communities from each of the LGAs, making a total of 40 communities were selected using a simple random sampling (balloting).
- ii. **Second Stage:** Each of the selected communities have a hospital or community health centres which were listed alphabetically and numbered. 40 communities (five) communities from each LGAs were chosen using simple random sampling by balloting.
- iii. **Third Stage:** At the community level, a list of all the houses in the main streets served as the sample frame from which houses were selected using simple random sampling method.
- iv. **Fourth Stage:** In each house, a list of the households served as the sample frame, from which, one household was selected.
- v. **Fifth Stage:** At the hospital level, a list of the health professionals and inpatient relatives serve as the sample frame from which respondents were selected using simple random sampling method.

Sample Size Determination

The minimum sample size was calculated using the WHO steps guideline formula stated below.

$$n_o = \frac{Z^2 pq}{d^2}$$

Where n_o is the minimum sample size

Z is the standard normal deviate corresponding to 1.96 at 95% confidence level (2-sided test)

q (1- p) is the probability of having autopsy knowledge and awareness.

p is the estimated proportion of people with knowledge and awareness of post-mortem examination from a previous study also done in Nigeria which is 62% (Kaoje et.al, 2016).

d is the desired level of precision (error margin) of the study at 5% which is 0.05

$$n_o = \frac{1.96^2 \times 0.62(1 - 0.62)}{0.05 \times 0.05} = \frac{3.84 \times 0.62 \times 0.380}{0.0025} = 361.9 \sim 362$$

Therefore, the minimum sample size for this study is 362

This was Corrected with a nonresponse rate of 10 percent to give us 398 and oversampling was done for 2 respondents, giving a total sample size of 400.

Instruments for Study

The research instrument for data collection is a self-structured questionnaire entitled **“knowledge and attitude of autopsy practice amongst the people of Bayelsa State (KAAP-2022).”** Structured questionnaires with two sub-sections (A-B) were used as the instrument. Section A contains participant socio-demographic information, and Section B investigates the knowledge, attitude and uptake of post-mortem examination (autopsy) amongst the people of Bayelsa State. A five-point Likert scale, which is an ordinal scale of measurement, that is, strongly agree (5 points), agree (4 points), undecided (3 points), disagree (2 points), and strongly disagree (1 point). The questionnaire was drawn based on an extensive literature review and the objectives, which ascertain the knowledge, attitude and uptake of post-mortem examination, as well as the challenges of carrying out post-mortem examination in the study area.

Data Collection

A total of 400 copies of the questionnaire was administered to the respondents with the help of three trained research assistants who are undergraduate students.

Qualitative Research Method

Research Design

This study equally used a qualitative research technique. Qualitative research is a commonly used methodological approach in the social sciences, public health and other relevant fields, aimed at exploring and comprehending the actions, experiences, beliefs, and perspectives of people. The qualitative approach in this study used the thematic analysis technique developed by Clarke and Braun in 2006 (Clarke & Braun, 2017). Accordingly, the qualitative methodological perspective provides guidance on determining which approaches will effectively contribute to achieving the research objectives (Carrier, 2008). Quantitative research design compliments the finding of a quantitative study design. It also helps to guide decision as policy makers. This study design involves the examination of patterns in the exploration of deeper meaning, as well as the investigation of participant thoughts, feelings, and opinions regarding their knowledge, attitude, and uptake of post-mortem examination (autopsy). The findings were categorised into themes. This chosen research design is deemed appropriate for this study as it delineates the methodology and procedures used, while also furnishing the reader with contextual knowledge to facilitate the evaluation of the findings and conclusions.

Population

A total of six individuals who met the inclusion criteria in the study area were sampled for interview.

Sampling Technique

The purposive sampling method sampled participants for the qualitative study for all those who met the criteria for participation. As such, the criterion for inclusion is being a healthcare

professional is still in practice for at least five years. The choice of five was chosen, to show the healthcare personnel must have some years in service. Also, since the data for this study will be collected via interview, the interview will be tailored to align with the study's research questions.

Method of Data Collection

The research questions that the research developed with used to generate in-depth, semi-structured interview questions (see Appendix II for a copy of the interview questions). The 6 interviews took place with each participant' after an agreed time period and was recorded for around an hour before being transcribed. The interview was designed to enable the researcher to gather open-ended data and explore the ideas, experiences, thoughts, and opinions of the participants regarding the **knowledge and attitude autopsy practice amongst the people of Bayelsa State**, Nigeria. The interview was conducted using a semi-structured format, with the researcher taking detailed notes while concurrently using audio recordings. The interviewer documented both the interviewee's spoken and nonverbal reactions. The interviews were conducted in the English language at a mutually agreed upon time by the participants, with an average duration of 35 to 55 minutes for each interview. After obtaining informed permission, each interview session was recorded using phone recording. All interviews were accurately recorded, transcribed, and corrected for accuracy, and the audio was in English. Every piece of information was compared to the investigator's notes. Any discrepancies were resolved by listening again to the audio recording.

Method of Data Analysis

The quantitative data collected was collated, coded and analysed. The Statistical Package for Social Science (SPSS package 25th edition) was used for the data analysis. The data was computed using descriptive statistical tools of charts, tables, frequencies, and percentages. A simple majority was used to determine the agreement or disagreement.

The qualitative data were analysed using thematic analysis. This is because of the method's adaptability, Braun and Clarke's six steps for an experiential thematic analysis was employed to analyse the data: i) familiarisation of data, ii) generation of codes, iii) combining codes into themes, iv) reviewing themes, v) determine the significance of themes, and vi) reporting of findings

Ethical Consideration

Approval for ethical clearance was obtained before the commencement of fieldwork from the Research and Ethical Committee of the College of Health Sciences, Niger Delta University, Bayelsa State. At the community and hospital levels, the approval of the traditional rulers and hospital heads respectively were obtained to give informed consent before carrying out the study.

RESULTS:

Section One: Respondents' Demographic Characteristics

The greater majority of the responding participants 221, were males (59.1% of the responses), and the remaining 153 participants were females (40.9 % of the responses) (Figure 4.1). This indicates male dominance with male female ratio of 1.5:1 and that the majority of responses in the study area came from male participants.

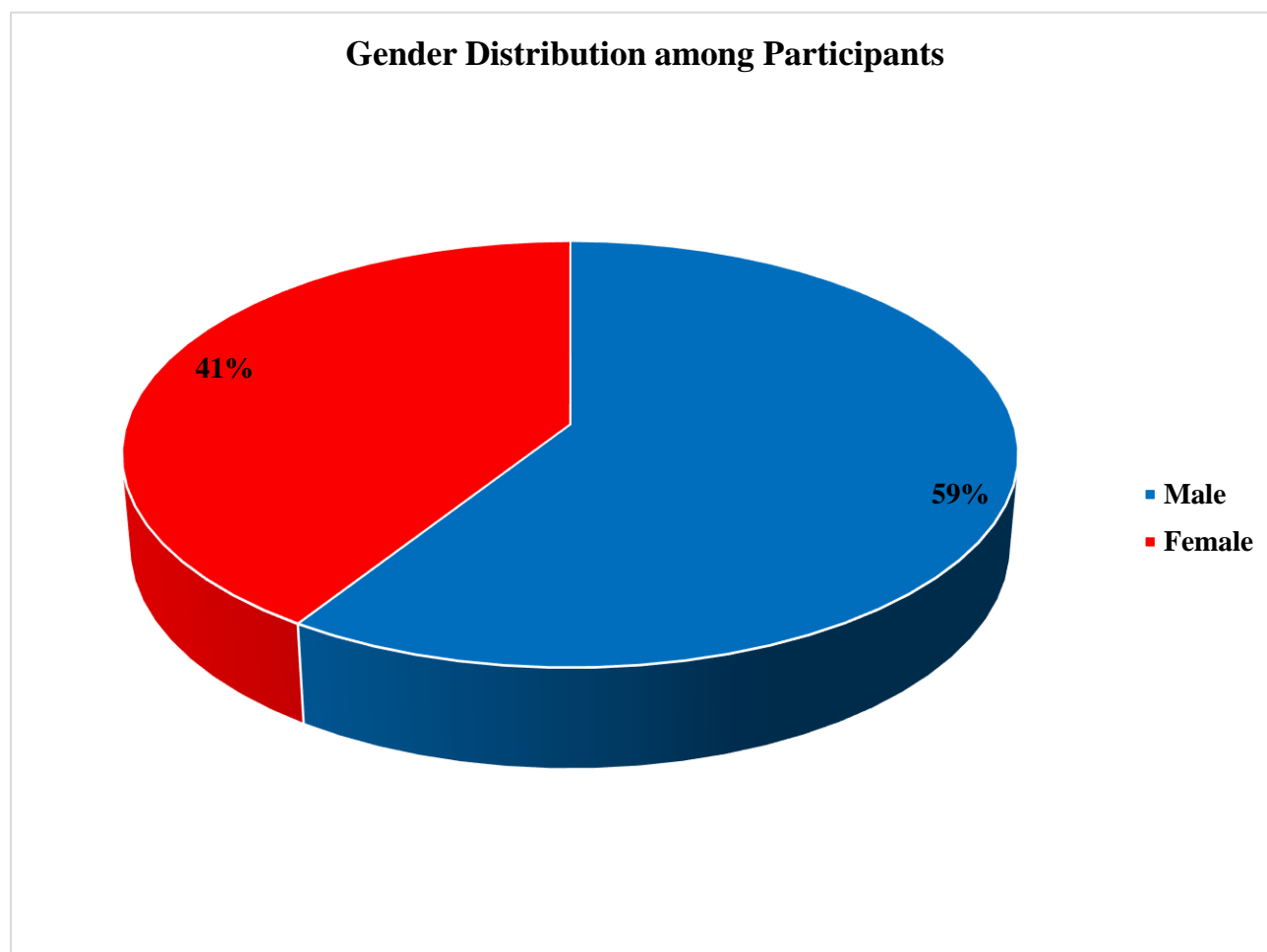


Figure 1.1: Gender Distribution among Participants.

The majority of the participants in the study were between 21- and 30-year-old (129, 34.5% of the responses) and over 31-40 year old (101, 27.0% of the responses). A minority of 62 and 48 respondents were 41-50 years old, and 51 years and above respectively (that is, 16.6% and 12.8% of the responses) (Figure 4.2). The mean age of respondents is 37 years.

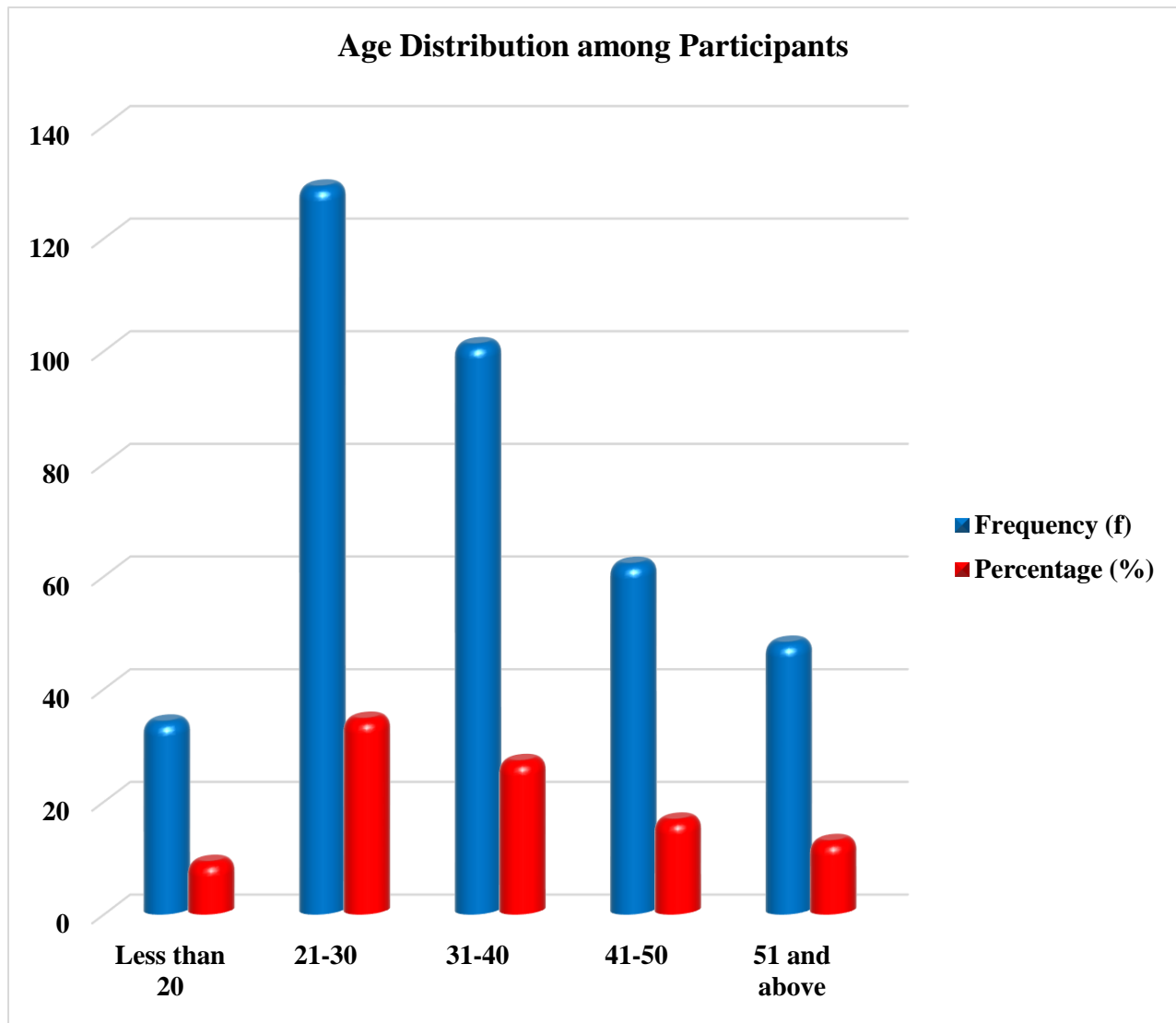


Figure 1.2: Age Distribution among Participants

The greater majority, 218, of the respondent (58.3% of the responses) are from Ijaw ethnicity, 56 (15.0% of the responses) are from Urhobo ethnicity. A total of 100 participants (26.7% of the responses) are from other ethnic groups within Nigeria (Figure 4.8). This indicates that the majority of participant are from Ijaw ethnic group.

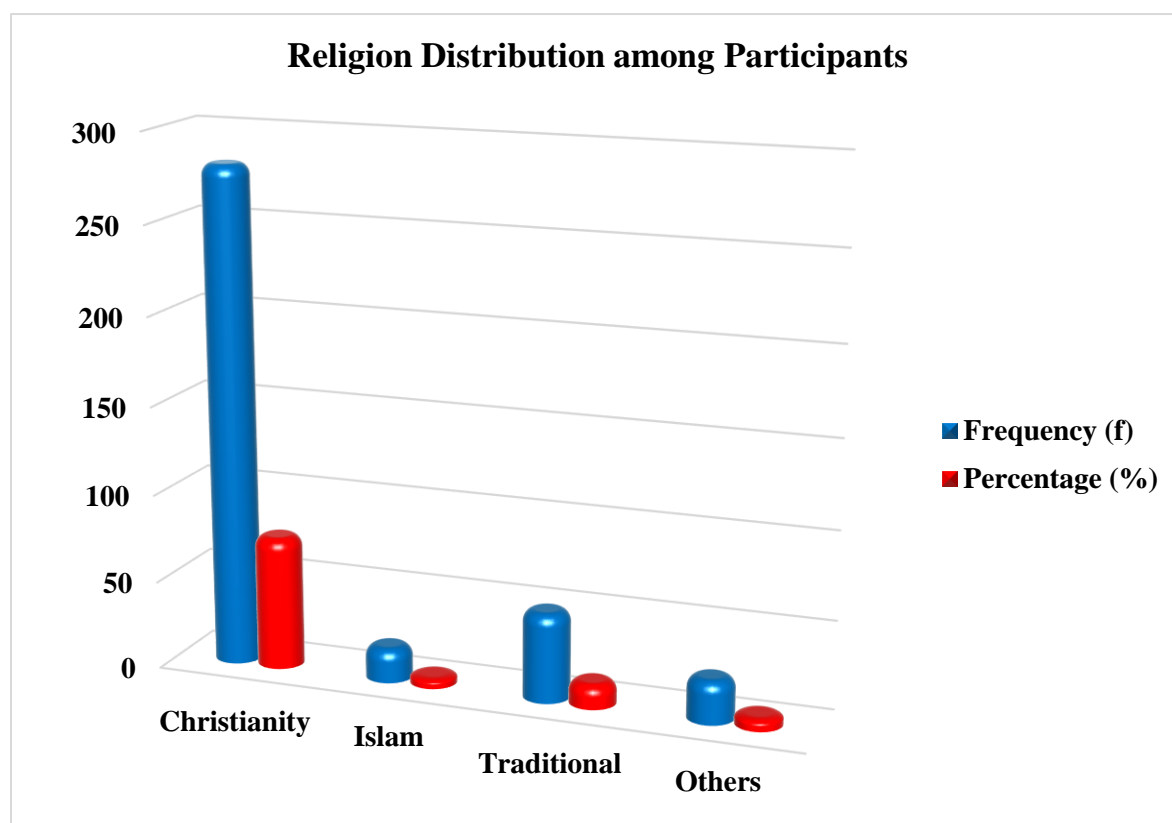


Figure 1.3: Religion Distribution among Participants

The greater majority, 218, of the respondent (58.3% of the responses) are from Ijaw ethnicity, 56 (15.0% of the responses) are from Urhobo ethnicity. A total of 100 participants (26.7% of the responses) are from other ethnic groups within Nigeria (Figure 4.8). This indicates that the majority of participant are from Ijaw ethnic group.

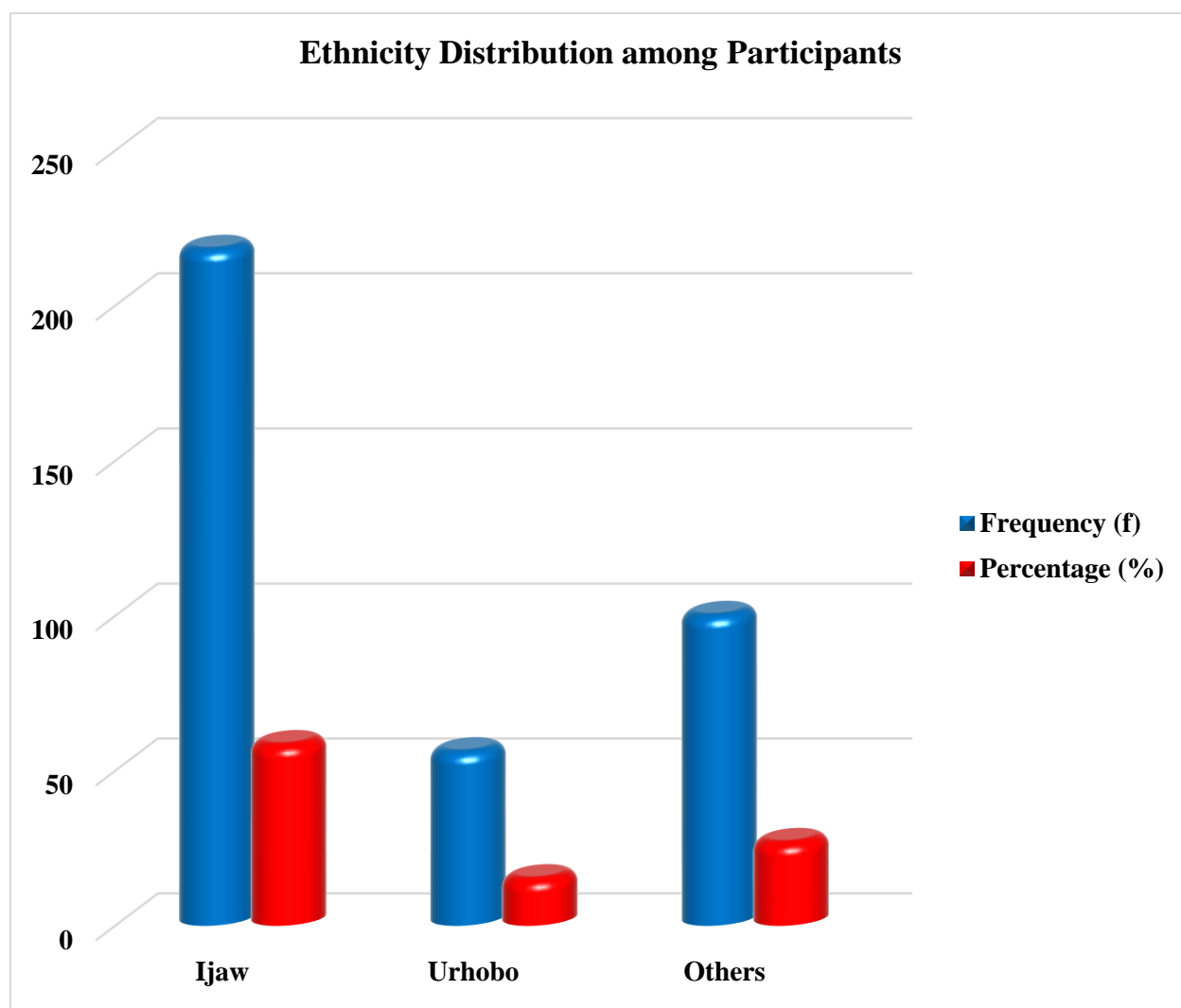


Figure 1.4: Ethnic Distribution among Participants

In terms of the professional distribution among participant, the greater majority, 165, of the respondent (44.1% of the responses), are members of community with one handiwork or the other, while 11 participants (2.9% of the responses) are medical practitioners. 62 participants (16.6% of the responses) are professional nurses, 8 participants (2.1% of the responses) are community leaders, while 128 participants (34.2% of the responses) were catagorised as others, as some of them were students (Figure 4.9). This indicates that the majority of participant are community members that one handiwork or the other.

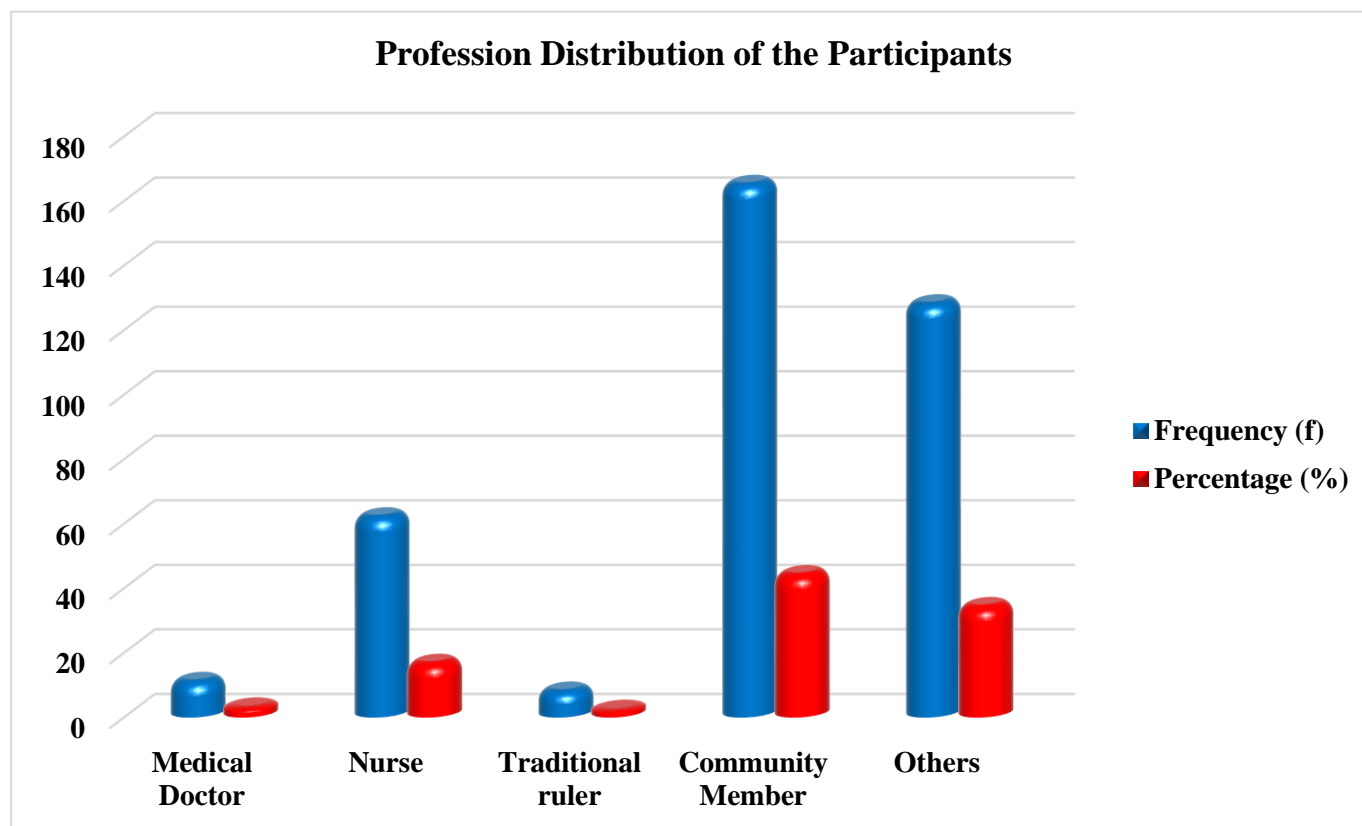


Figure 1.5: Professional Distribution among Participants

Section Two: This part consists of four major research questions divided into items (1-21).
Responses to the questionnaire one: The level of knowledge of post-mortem examination (autopsy) (items 1-6) are analysed in this part.

Regarding research question one, which examine the level of knowledge of post-mortem examination (autopsy). In item 1, on whether *most deaths have medically justifiable cause*, the majority of respondents, 82, and 188 out of 374 respondents (that is, 21.9% and 50.3% of the responses) respectively, while 62 and 34 participants (that is, 16.6% and 9.1%) disagree and strongly disagree with the statement, while 8 participants (2.1%) remained unsure. On whether *the word autopsy is known to most people*, the majority of respondents, 81, and 170 out of 374 respondents (that is, 21.7% and 45.5% of the responses) respectively, while 88 and 28 participants (that is, 23.5% and 7.4%) disagree and strongly disagree with the statement, while 7 participants (1.9%) remained unsure. In item 2, on whether *autopsy is the medical procedure of thorough examination of a dead person in order to determine the cause of the death*, the majority of respondents, 62, and 162 out of 374 respondents (that is, 16.6% and 43.3% of the responses) respectively, while 94 and 41 participants (that is, 25.1% and 11.0%) disagree and strongly disagree with the statement, while 15 participants (4.0%) remained unsure about the statement as such remained neutral.

On item 3, on whether *autopsy can be carried out in any dead person irrespective of their age and time of death*, the majority of respondents, 82, and 142 out of 374 respondents (that is,

21.9% and 38.0% of the responses) respectively, while 104 and 34 participants (that is, 27.8% and 9.1%) disagree and strongly disagree with the statement, while 12 participants (3.2%) remained unsure about the statement as such remained neutral. On whether *autopsy will help in determining the true cause someone's death*, the majority of respondents, 92, and 164 out of 374 respondents (that is, 24.6% and 43.9% of the responses) respectively, while 72 and 34 participants (that is, 19.2% and 9.1%) disagree and strongly disagree with the statement, while 12 participants (3.2%) remained unsure about the statement as such remained neutral. On whether *in recent times autopsy is performed to determine in a death case*, the majority of respondents, 101, and 178 out of 374 respondents (that is, 27.0% and 47.6% of the responses) respectively, while 56 and 28 participants (that is, 15.0% and 7.5%) disagree and strongly disagree with the statement, while 11 participants (2.9%) remained unsure about the statement as such remained neutral (Figure 4.10). In all, the results showed that more than half of the participants, have adequate level of knowledge of post-mortem examination (autopsy) in the study.

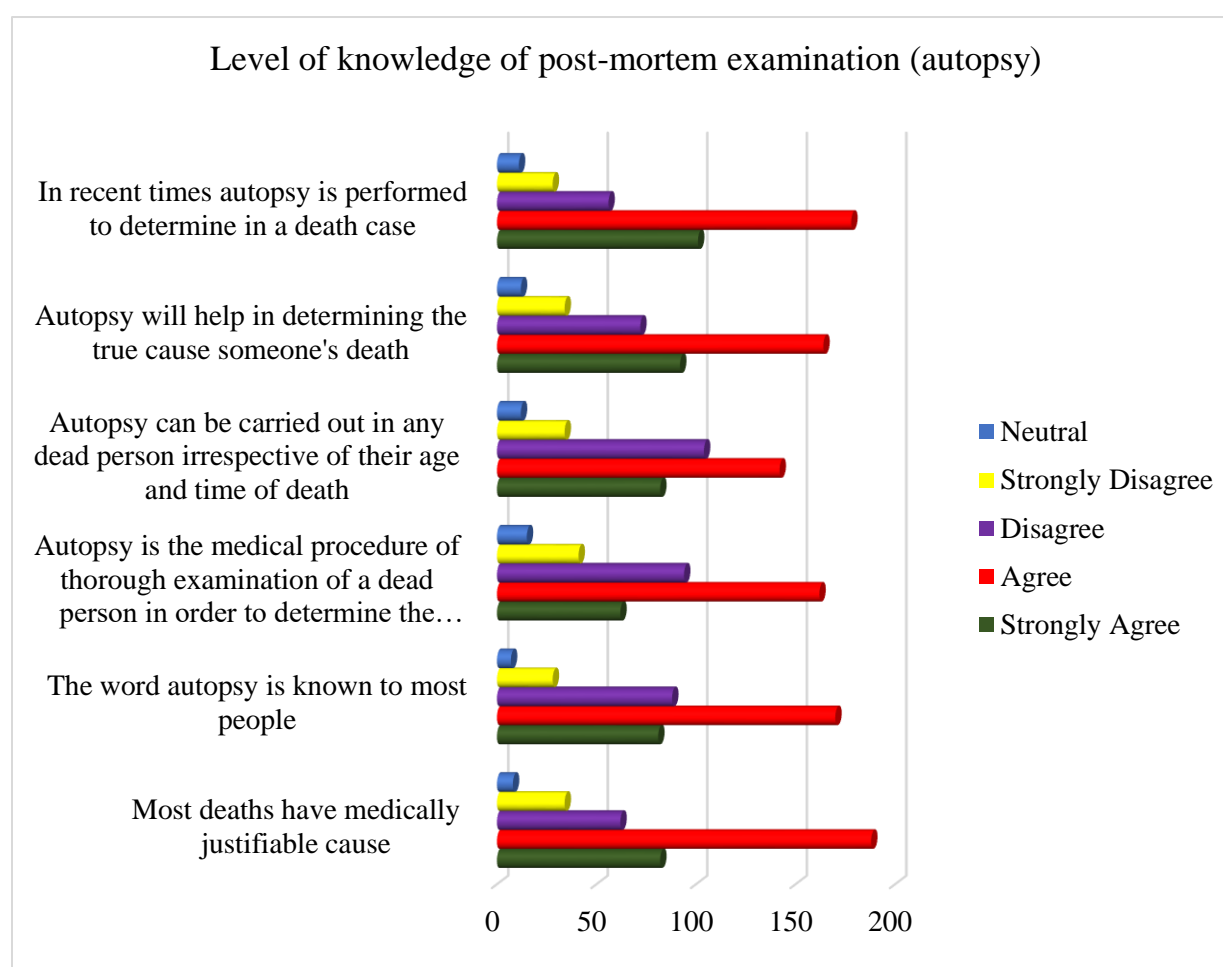


Figure 1.6: The level of knowledge of post-mortem examination (autopsy)

Responses to questionnaire question 2: The participants' attitude towards on post-mortem examination (autopsy) are contained in items 7-11.

Regarding research question two, which examines participants' attitude towards on post-mortem examination (autopsy). In item 7, on whether *there is no wrong with performing autopsy on a dead sibling or relative*, the majority of respondents, 67, and 160 out of 374 respondents (that is, 17.9% and 42.8% of the responses) respectively, while 71 and 34 participants (that is, 19.0% and 9.1%) disagree and strongly disagree with the statement, while 42 participants (11.2%) remained unsure. On whether *autopsy can help determine true cause of the death of a sibling or relative* (item 8), the majority of respondents, 76, and 171 out of 374 respondents (that is, 20.3% and 45.7% of the responses) respectively, while 61 and 34 participants (that is, 16.3% and 9.1%) disagree and strongly disagree with the statement, while 32 participants (8.6%) remained unsure. In item 9, on whether *people need to start conducting autopsy in order to determine the main cause of deaths*, the majority of respondents, 82, and 176 out of 374 respondents (that is, 21.9% and 47.1% of the responses) respectively, while 51 and 34 participants (that is, 13.6% and 9.1%) disagree and strongly disagree with the statement, while 31 participants (8.3%) remained unsure about the statement as such remained neutral.

On item 10, on whether *autopsies are ethical and do not dishonour the dead*, the majority of respondents, 78, and 190 out of 374 respondents (that is, 20.9% and 50.8% of the responses) respectively, while 51 and 33 participants (that is, 13.6% and 8.8%) disagree and strongly disagree with the statement, while 22 participants (5.9%) remained unsure about the statement as such remained neutral. On whether *people may think that doing an autopsy on a dead body is an offence against the dead and an act of physical desecration*, the majority of respondents, 86, and 194 out of 374 respondents (that is, 23.0% and 51.9% of the responses) respectively, while 41 and 32 participants (that is, 10.7% and 8.6%) disagree and strongly disagree with the statement, while 21 participants (5.6%) remained unsure about the statement as such remained neutral (figure 4.11). In all, the results showed that majority of the participants, have positive attitude towards post-mortem examination (autopsy).

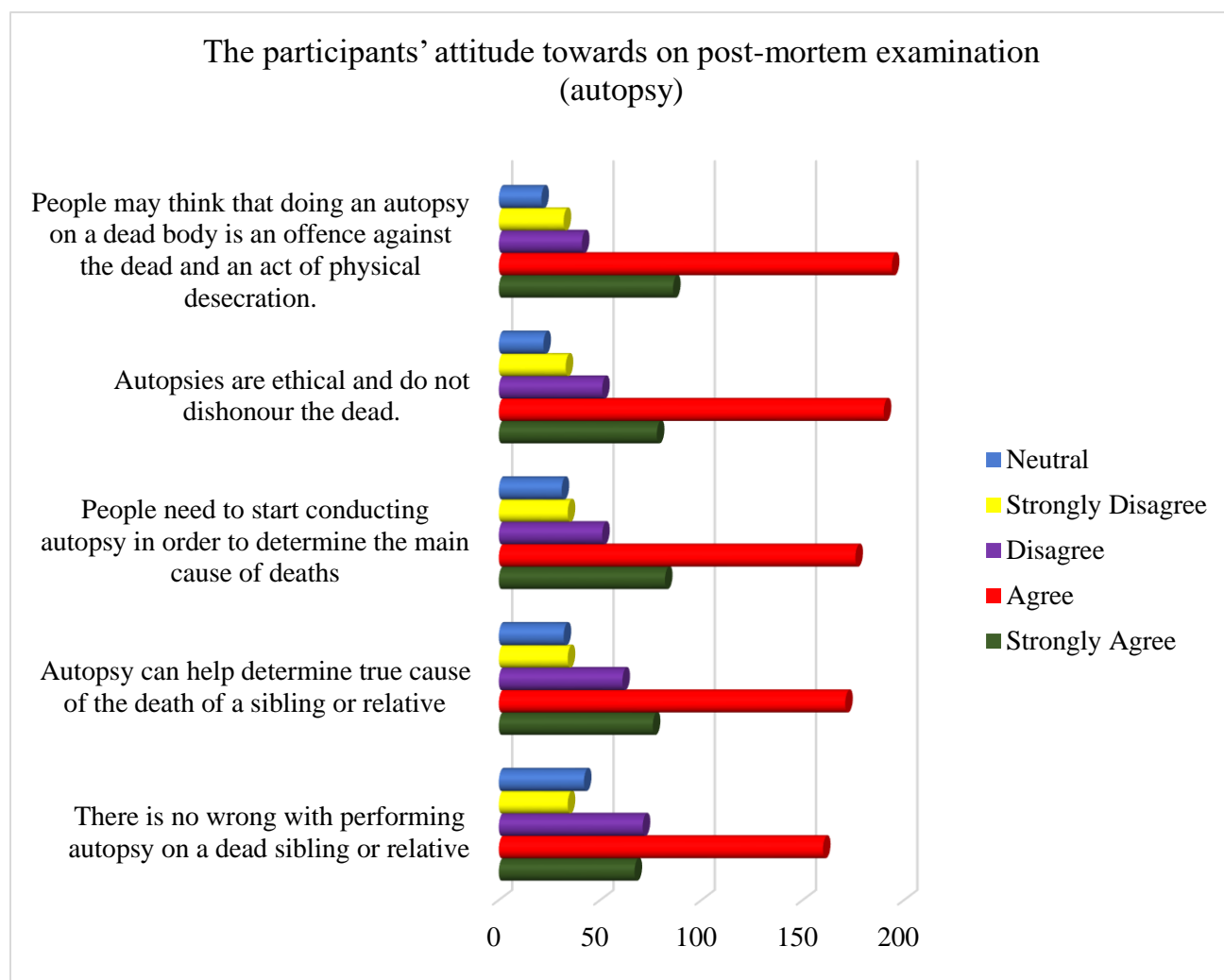


Figure 1.7: The participants' attitude towards on post-mortem examination (autopsy).

Thematic Visual Map

Knowledge of Post-Mortem Examination (Autopsy)

The part presents the overarching theme of knowledge and presents two sub-themes: autopsy as part of medical training and autopsy as a clinical quality control tool and an auditing tool for medical education, which are constructed to influence knowledge towards post-mortem examination (autopsy).

Autopsy as Part of Medical Training

The section constructs autopsy as part of medical training as means to enhance knowledge on post-mortem examination (autopsy). Thus, post-mortem examination (autopsy) is an important aspect of medical practice; however, the practice is becoming uncommon among medical practitioners. The section presents the autopsy as part of medical training. Some existing studies have reported mixed findings of post-mortem examination (autopsy) in the academic literature on the level of

knowledge of post-mortem examination (autopsy) among medical practitioners (Udoh, 2022; Olowookere et al., 2020a; Olowookere et al., 2020b; Kaoje et al., 2016; Oluwasola et al., 2009). While this knowledge is higher among medical practitioners, the same cannot be said among the general public in Nigeria, particularly in rural communities where post-mortem examination (autopsy) is rarely. The participant 4, as this is to say:

For me, autopsy, or a post-mortem examination, is not a popular topic in academic conversation because it is linked to death. No one wants to talk about dying. But, even for nurses, autopsy is part of the training for people who work in medicine. Autopsy is a type of post-mortem study that is specialised in anatomical disease, but all doctors know something about it. About 20 to 30 years ago, most people didn't know what an "autopsy" or "post-mortem examination" was because they didn't happen very often. These days, things are different. (P4, line 139-145).

From the excerpt, post-mortem examination (autopsy) is constructed as part of medical training, and as such, both doctors and nurses are abreast of the concept of autopsy. This implies that among doctors there is high knowledge of post-mortem examination (autopsy). There is general belief that post-mortem examination (autopsy) is not new to doctors and that doctors are abreast of it. Results from quantitative studies have shown that more than 50% of medical students have had no autopsy experience, and 88% of the doctors, some of whom are doctors in training (resident doctors), had not witnessed autopsy in the past year (Menkiti et al., 2023). However, Kaoje et al. (2016) insisted that doctors and nurses have fundamental knowledge of postmortem examination because they are particularly knowledgeable in this regard.

Participant 2 has this to say:

A higher percentage of medical professionals possess adequate to excellent knowledge regarding postmortem examination, despite the fact that medical personnel training has deteriorated due to government negligence in the healthcare industry. Nonetheless, physicians and nurses are cognizant of the importance of postmortem examinations, their utility in ascertaining potential causes of death, and the potential for utilising this information to avert future fatalities of a similar nature. (P2, line 62-66).

From the extract, knowledge of post-mortem examination (autopsy) is constructed as part of medical training, where post-mortem examination (autopsy) is presented as a solution to address other related deaths. The findings are consistent with Kaoje et al. (2016) assertion that postmortem examination is acknowledged as an essential part of medicine. In addition to establishing and confirming the final diagnosis, the postmortem examination also helps in showing the connection between the cause of death and the associated pathologies and explains the relationship between the two (Costache et al., 2014).

Autopsy as a clinical quality control and an auditing tool for medical education

The section presents the autopsy as clinical quality control and auditing tool for medical education. Participant 6 posited that:

Autopsy is crucial in medical practice in determining likely cause of death. This is in addition to clinical quality control, medical reporting, and

medical education. However, because of the medico-legal implications over the past few decades, the number of autopsies performed and the time it takes to obtain permission have decreased, raising concerns about the public and medical professionals' misconceptions about this process. (P6, line 282-286).

As the passage above says, autopsies are built as a way to check the quality of care and as a way to teach medical students about ethics. This means that autopsies are used as part of training for medical students to learn more about the possible causes of death and how they can be avoided in the future. However, most people, including some medical professionals, don't seem to fully understand what an autopsy is. The sixth person said that there are many myths about autopsies and that doctors are learning less and less about them. These results are in line with what other autopsies (Bagga et al., 2016) have shown. Bagga et al. (2016) say that the number of autopsies used in medical education has been going down along with the number of autopsies done around the world. The current state of autopsies (exams done after death) is scary.

Attitude of Post-Mortem Examination (Autopsy)

The section presents the overarching theme of attitude, and presents to two sub-themes; autopsy and medico-legal implications, and autopsy and cultural beliefs which are constructed to influence attitude towards post-mortem examination (autopsy).

Autopsy and Medico-legal implications

The section constructs autopsy and medico-legal implications as tool for positive or negative attitude towards post-mortem examination (autopsy). Participant 6 posited that:

As a medical practitioner, I can see the benefits of autopsy, and autopsy serves a crucial function in the advancement of medical understanding and is therefore advantageous. I hold a positive attitude towards post-mortem examination (autopsy), both from a scientific and personal standpoint. Nevertheless, the medico-legal ramifications arising from the health policies of our nation continue to pose a challenge, deterring numerous medical practitioners from engaging with post-mortem examination (autopsy). (P6, line 322-326).

According to the quotes that were just presented, the majority of medical professionals have a favourable attitude towards post-mortem examination (autopsy), but they are concerned about its potential medical and legal repercussions. The fact that most physicians have this attitude towards medico-legal consequences suggests that it might be one of the reasons why they do not propose a post-mortem examination (autopsy) to the friends, families, or relatives of patients who have recently passed away. This is due to the fact that post-mortem examination (autopsy) is recognised to have other clinical relevance in addition to determining the cause of death, which can bring value to medical practice. Participant 1, as this to say:

Many medical professionals, including physicians and nurses, may have a positive attitude towards postmortem examinations. However, when families experience bereavement after a death, they may question the effectiveness of their efforts. Some believe that medical professionals may be responsible for not pursuing all available medical interventions. This

leads to a reluctance to endorse autopsies, fearing they could lead to unfounded accusations and legal actions. Despite these challenges, many healthcare professionals still have a positive attitude towards post-mortem examinations, or autopsies, as they are typically required for most fatalities. (P1, line 30-42).

The above citation reiterated that most physicians and other healthcare practitioners do have a positive attitude towards post-mortem examinations (autopsy). But they do not recommend it due to the legal and other unfounded accusations that may arise. This is in alignment with earlier observations from other related studies (Olowookere et al., 2020b; Chawla et al., 2019; Kaoje et al., 2016; Oluwasola et al., 2009). Chawla et al. (2019) posited that despite the medico-legal challenges, medical students have a positive attitude towards autopsy. More so, the medico-legal challenges for autopsy to be performed except for rare and special cases mostly related to criminal investigations (Kaoje et al., 2016; Oluwasola et al., 2009). Another participant has this to say:

It is important to add that the medical students of today will become the forensic medicine specialists and pathologists of tomorrow. As such, I think if they have high knowledge and understanding of autopsy, as well as a positive attitude, this could have an inevitably negative effect on the autopsy practice in the country, which is on the decline. Therefore, I think it is necessary to cultivate a good attitude in medical students and young doctors in this direction for suitable knowledge and information, particularly in this day and age when the existence of autopsy is endangered at certain institutions. (P3, line 92-103).

The quotes showcase the continuous decline of post-mortem examination (autopsy), and the participants is particularly worried about the current autopsy practice. While people may have knowledge of autopsy, the practice is dying a natural death because of the beliefs associated with it, both culturally and religiously (Atanda et al., 2016). As such, it is strongly believed that if doctors and other healthcare practitioners showed positive attitude and recommends it for families, or relative who are bereaved, it could sprung up the practice.

In all, it is suggested that positive attitude among doctors and other healthcare practitioners can instill or spur positive attitude of post-mortem examination (autopsy) in the general public. In nutshell, the interviewed participants believed that doctors and other healthcare practitioners have a complete understanding, and positive attitude of post-mortem examination (autopsy) and its role medical practise; however, they mostly worry about the influence of other factors.

Autopsy and Cultural Beliefs

The section presents the autopsy as clinical quality control and auditing tool for medical education which could drive positive or negative attitude towards post-mortem examination. Participant 5 posited that:

While I can submit that autopsy, that is, the post-mortem examination can play a crucial role in the advancement of medical sciences by facilitating the examination, classification, and providing a better understanding of the physiological processes of the human body, as well as the impacts of illnesses on different organ systems. Also, I can say that cultural beliefs sometimes influence people to allow doctors and other clinicians to

perform autopsies. Some call it mutilation of the dead body, while others call it abomination. There are several myths associated with these cultural beliefs, resulting in a negative attitude towards autopsy; even some doctors believe this in spite of their knowledge and training. (P5, line 245-253).

The above extract highlights the utilisation of constructed cultural beliefs as a means to foster unfavourable attitudes towards post-mortem examinations (autopsies), throughout the general public and certain healthcare professionals. Undoubtedly, individuals are subject to social influences that are derived from their environment, background, and social network. The impact of cultural ideas on our lifestyle choices, including our perceptions and attitudes, remains important despite the accumulation of information over time. Cultural ideas have a significant role in shaping an individual's personality and attitude, ultimately influencing their intentions towards engaging in a certain practice. From this perspective, a significant number of individuals in Nigeria are affected by a shared cultural idea that views autopsies as a form of mutilation or as an act that violates the deceased or their ancestors. According to Warter and Warter (2018), it may be observed that ancient beliefs continue to have influence on individuals' attitudes regarding autopsy in contemporary times. Another participant has this say:

Many people have a negative attitude towards autopsy due to existing beliefs that performing surgery on the death is wrong and that organs and other body parts may be used for devilish intend, witchcraft, or traditional rituals, and for some to seek wealth. This generation's focus on wealth may negatively impact attitudes towards performing autopsy on the deceased. (P1, line 51-55).

The aforementioned passage elucidates the use of created socio-cultural ideas as a mechanism for malevolent intentions, resulting in the development of unfavourable attitudes among individuals towards post-mortem examinations (autopsies). This suggests that there is a necessity to enhance public knowledge regarding postmortem procedures and examinations. The acquisition of scientific findings through these processes will enable medical practitioners to make informed judgements and cultivate a more receptive atmosphere. Consequently, families and relatives will be able to comprehend the importance of autopsies for achieving closure with their deceased loved ones.

DISCUSSION

Discussion of Findings

This study examined the knowledge and attitude of autopsy practice amongst the people of Bayelsa State. The findings are sequentially discussed below:

Demographic Information of Participants

The findings on demographic information showed that out of the total of 374 participants who took part in the research, the majority of them were men ($n = 221$; 59.1%), and the majority of them were between the ages of 21 and 30 ($n = 129$; 34.5%). The majority of the people who took part in the study were married ($n = 178$; 47.6%) and had degrees from an accredited college or university ($n = 202$; 54.0%). Also, the majority of the participants are employed ($n = 122$; 32.6%), and out of the total number of employed participants (122), 40 (10.7%) have between 6 and 10 years of work experience. Most respondents identified as Christians ($n = 281$; 75.1%), identified

as being of Ijaw ethnicity (n = 218; 58.3%), and most of the participants (n = 165; 44.1%) are from various communities and do different menial jobs. The findings in this study are consistent with a related study that was conducted in Sokoto, Nigeria, where Kaoje et al. (2016) reported male dominance in their findings, with the majority of the study population being medical professionals and nurses. These findings show that the majority of the participants are males, married, Christians, have higher education, are employed, and, as such, have adequate knowledge to provide useful information with regard to the questions raised in this study.

Level of Knowledge of Post-Mortem Examination (Autopsy)

In line with the research objective and question one, which examines the level of knowledge of autopsy practice, the result shows that the majority of the participants agreed that most deaths have medically justifiable causes, and autopsy is a medical procedure that can be carried out on any dead person, regardless of age or time of death. Also, they believed that an autopsy could help determine the true cause of someone's death, and in recent times, it has become more common. In all, the majority of participants have adequate knowledge of post-mortem examination (autopsy). The findings in this study are in agreement with other previous studies (Pratiwi et al., 2022; Udoh, 2022; Chawla et al., 2019; Kaoje et al., 2016; Oluwasola et al., 2009; Shojania et al., 2003).

Kaoje et al. (2016) found out that a greater proportion of the respondents in their study had fair to good knowledge of postmortem examinations. The author insisted that in their study, one in every five participants had poor knowledge of autopsy. According to the findings of a study that was carried out by Pratiwi et al. (2022), a sizeable majority of the participants demonstrated levels of knowledge of autopsies that were considered to be adequate. Despite this, there are still people who continue to show that they do not have an appropriate understanding of autopsies. Similarly, Udoh (2022) conducted a study among doctors and found that there is widespread agreement on the high level of knowledge displayed by doctors in the context of autopsies. Despite this, a number of medical professionals demonstrated an insufficient level of expertise while conducting autopsies and used methods that fell below acceptable standards. In the same vein, Olowookere et al. (2020) found individuals in their study population to have fair to good knowledge of the postmortem examination (autopsy). The importance of autopsy goes beyond the common misconceptions or held beliefs that the primary purpose of a postmortem investigation is solely to ascertain the cause of death, a perception that is not entirely accurate (Blum et al., 2020). This is because in a number of cases of post-mortem examination, the cause of death is already established, particularly in situations where the dead individual has been under medical care before their demise (Shrestha et al., 2019).

Along with confirming the cause of death, the main goals of a post-mortem examination are to find out how and when the person died, identify the person who died if their identity is unknown, carefully record their injuries, see if the injuries match their medical history, find any underlying diseases or causes that may have contributed to their death, and collect trace evidence from the body. Hence, the findings in this study have reiterated the same outcome as those of other related studies. Despite the fact that I disagree with the conclusions that were published by Menkiti et al. (2023), Despite the fact that both the general public and medical professionals have a broad understanding of autopsies, Menkiti et al. (2023) claimed that the performance of autopsies among the deceased is on the decline.

According to Olasveengen et al. (2017), both the autopsy and the post-mortem examination have played an incredibly significant role in the expansion of knowledge in the field of medicine. It has

been established that autopsies are significant due to their potential to shed light on the circumstances surrounding a person's demise. Furthermore, autopsies are significant in clinical quality control, medical auditing, and educational settings for medical professionals. It is a crucial examination tool to have when carrying out a medicolegal investigation into a death that cannot be explained by natural causes (Borrego et al., 2009). Although the findings in this study are consistent with other earlier findings, even though most of the earlier studies focused on medical practitioners and medical students, this current population was mostly sampled from rural communities in Bayelsa State. The consistency is obviously a result of the technological exposure of the era. We are in a technological and digital age where various forms of information, even though sometimes this information could be misleading, are available to individuals who access the internet.

The implications of these findings show evidence of increasing knowledge about postmortem examination (autopsy) among the general public compared to a few years ago. This is because before now, postmortem examination (autopsy) was not as common as it was, so much so that death was always attributed to myth and mythical beliefs. Hence, the findings here have now showcased that common knowledge about autopsies may likely increase the need to perform autopsies among deceased relatives and family.

Participants' Attitude towards and Level of Acceptability of Post-Mortem Examination (Autopsy)

The research objective and question two examine the participants' attitude towards and level of acceptability of post-mortem examination. The result shows that the majority of participants believed it was not wrong to perform an autopsy on a dead sibling or relative, as it could help determine the true cause of death. They also believed that people needed to start conducting autopsies to determine the main cause of deaths among their relatives, friends, or colleagues, as autopsies are ethical and do not dishonour the dead. In a nutshell, the results showed that the majority of participants had a positive attitude and a higher level of acceptance of the post-mortem examination (autopsy). The findings of this study are consistent with previous research (Pratiwi et al., 2022; Udoh, 2022; Olowookere et al., 2020; Chawla et al., 2019; Kaoje et al., 2016; Oluwasola et al., 2009).

The results of a study by Pratiwi et al. (2022) revealed that a sizable portion of the participants had a favorable attitude toward the autopsy procedure. Despite this, there are certain individuals who are adamant about showing gloomy attitudes towards autopsies. In addition, Udoh (2022) performed a poll among physicians, and the results showed that there is widespread agreement with the positive attitude that is displayed by physicians in the setting of autopsies. Despite this, a number of practitioners of medicine had a negative attitude and utilised methods that fell below acceptable standards. In their studies, Olowookere et al. (2020), Chawla et al. (2019), and Kaoje et al. (2016) all reported a greater number of their respondents having a positive attitude towards postmortem examination (autopsy) and accepting its practice. Furthermore, more than half of their study populations were willing to consent to a postmortem examination of themselves. Oluwasola et al. (2009) found a positive attitude towards autopsy among medical practitioners. Similarly, Kaoje et al. (2016) found that more participants had a positive attitude than a negative attitude towards postmortem examination (autopsy). The authors further added that three out of every five participants' had a positive attitude towards postmortem examination (autopsy). The outcome of the positive attitude from prior studies could be attributed to the fact that these studies were

conducted among medical practitioners and individuals that work in the medical field; as such, they are already familiar with the process of postmortem examination (autopsy).

However, the positive attitude of this current study population, which is mostly individuals living in rural communities, could be attributed to the fact that they now access information through technological and social media, which is now a major means of information and awareness creation for various health-related information, even though this information is to be interpreted with caution (Dasho, Kuneshka, & Toci, 2022). However, the findings reported in the study contradict the reports of other studies (Lishimpi, 2001; Udoh, 2022). The authors of these studies, Lishimpi et al., 2001; Udoh, 2022, cite a number of reasons for their negative attitude towards autopsy. Accordingly, this is due to a mix of variables, including a low perceived benefit, worries about bodily disfigurement, the practicality of arranging funeral preparations, and cultural beliefs that prompt next-of-kin to refuse autopsies (Lishimpi et al., 2001; Udoh, 2022; Menkiti et al., 2023). Menkiti et al. (2023) insisted that people have a negative attitude towards autopsy practice despite the usefulness of autopsies among the deceased.

In furtherance, the outcomes of this study made it abundantly evident that many of the participants support the procedure of postmortem examination. Although there is no doubt that there is still an urgent need to enhance public awareness of the benefits of postmortem examination (autopsy) (Oluwasola et al., 2009), even though more participants responded positively to the practice of autopsy, there is a need to improve public understanding of the benefits of postmortem examination (autopsy). The findings in this study clearly imply that there is an increasing positive attitude towards postmortem examination (autopsy), and other research has also demonstrated the dissonance between knowledge, attitude, and practice (Olowookere et al., 2020; Chawla et al., 2019; Kaoje et al., 2016), demonstrating the need to know the socio-economic environment in order to explain why people behave in specific ways that are unrelated to or even contradictory to their attitude.

Conclusion

The study examines the knowledge and attitude of autopsy practice amongst the people of Bayelsa State. The results revealed that most deaths have medically justifiable causes, and autopsies can be performed on any dead person, regardless of age or time of death. The results show that adult residents in Bayelsa State have adequate knowledge and positive attitude towards practice.

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