

# Knowledge on Health Hazards and Safety Practices among Morticians in Port Harcourt Metropolis

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**Abstract— Background:** A number of bacterial and viral pathogens can survive in the cadavers and be transmitted through infected body fluids or aerosols and cause infection. Just like employees from other occupations, Morticians are exposed to various hazards that may put their health at risk as they perform their duties.

**Objectives:** The study investigated knowledge on health hazards and safety Practices among Morticians in Port Harcourt metropolis.

**Methods:** Descriptive survey design was used in the study with population 307 of three hundred and seven morticians in all registered mortuaries both government and private in Port Harcourt metropolis. They were all used as sample. A Self-Structured questionnaire was used for data collection. Content validity of the questionnaire was established as valid by three experts and reliability coefficient of 0.86 was obtained. Research questions were answered using mean, standard deviation and percentage. Data were analyzed using chi-square and z-test to test hypotheses.

**Results:** The result showed that, majority 296 (96.4%) were males while 11(3.6%) were females. 67(21.8%). 291(94.8%) of the respondents had knowledge of health hazards and safety practices. The result showed that average, of 64(20.8%) of the respondents were within the age of 18-30 years had knowledge of health hazards while 226(73.6%) of 31 years and above had knowledge of health hazards. The findings showed that age has a significant influence on knowledge of health hazards among morticians ( $X^2 = 3.847$ ,  $df = 1$ ,  $P$  value 0.46,  $p < 0.05$ ).

**Conclusions:** Based on the findings, morticians in Port Harcourt have knowledge of health hazards. However, Occupational health hazards are common in public morticians. The use of personal protective equipment highlighting the need to improve knowledge and availability of facilities for personal protection from infection in this occupational risk group.

**Index Terms—** knowledge, health hazards, safety, Morticians. Port Harcourt.

## I. INTRODUCTION

Highlight Mortuary practice involves the activities that are associated with the arrangement of the dead and these include embalment, funeral arrangements, cremation and burial. Mortuaries and their services are very crucial support services to healthcare delivery. A mortician, or funeral director, is someone who handles the details of funerals, burials, and cremations. Morticians are, undertakers, pathologists, and mortuary cosmetologists, among others and are often overlooked in studies, this may be as a result of the fact that they are few in numbers in the job. However, this

does not eliminate the fact that their health is at risk due to the hazards they face as they perform their duties.

Mortuary is a place for the reception of the dead, a place in which dead bodies are kept for hygienic storage or for examination until burial or cremation either in a hospital or elsewhere. It is also used for the storage of human corpse awaiting identification or removal for autopsy or disposal by burial, cremation or otherwise [1]. Every occupation has its own various hazards; morticians are also faced with various hazards that may put their health and lives at risk.

Mortuaries have for long been used as places to preserve and prevent deterioration of human corpses and they are useful sources for tracking records and information on dead persons as well as institution for research [2]. In Nigeria, the Christians use the mortuary more compare to the Muslims because they have to preserve the dead body and plan for its burial unlike the Muslims who bury immediately death occurs. A mortuary must therefore be set up to meet certain standards for proper functioning and maintenance. It requires working in a cool room with refrigerated cabinets having temperatures of between 2 to 6°C and -20°C for short and long term storage respectively and must have trolleys without racks.

Just like any occupation, being a mortuary attendant requires having knowledge, skill and abilities and some training or experience to perform duties. One requires a working knowledge of the techniques involved in handling and preparation of bodies of deceased persons for post-mortem examination or burial. They are required to have knowledge of hospital methods procedures, the care of surgical instruments equipment and also hygiene and personal safety.

Morticians are exposed to work place hazards and these include; chemical hazards (formalin, detergent, dyes etc.), physical hazards (allergic reactions, electrical shocks, burns, hearing impairment, eye strain, radiations etc.), mechanical hazards (cuts, sharps, pricks, trips, slips, falls etc.), biological hazards and non-biological hazards inherent in the cadavers (fungi, bacteria, (*Mycobacterium tuberculosis*) viruses (hepatitis B and C viruses and HIV etc.), psychosocial hazards (stress, stigmatisation, depression, substance abuse). There is also ergonomic hazards which may lead to musculoskeletal disorders from poor body positioning [3] [4]. Cut and prick accidents as well as blood or other body fluids coming in contact with mucous membranes serve as modes of transmission of blood borne infections including HIV and HBV. Aerosol generation during such work has been implicated in transmitting air borne infections such as tuberculosis.

Occupational safety practices are the strategies, policies,

activities and procedures that can be implemented by an individual or organization in order to prevent or minimize hazard [5]. Applying a good safety practice will reduce the accident rate and also lead a lot of benefits for a mortician. The knowledge of Morticians about health hazards and safety practices are important in order to understand how they might be free from consequent negative effects. Morticians who face various hazards in course of carrying out their duties ought to be knowledgeable about these hazards. The knowledge may enable them apply safe rules and ensure healthy practices.

[6], advised that the attendant hazards with respect to mortuary work calls for knowledge and safety practices in order to help the workers prevent and control these hazards through providing necessary general personal protective equipment (PPE), training, enforcing and monitoring compliance. It is therefore important for funeral home workers to be aware of the Personnel Protective Equipment (PPE) and the practice of safety precautions peculiar to their work because they are usually exposed to health hazards that include dangerous chemicals, infected body fluids, needle pricks and infectious diseases [7].

The society we live in today do not see morticians work to be a decent job and tends to discriminate against morticians. Morticians have been accused of sexually assaulting the dead, stealing from them, arrogance and drug addiction among others. This is a medical and social issue occasioned by physiological trauma and depression due to their job which is surrounded by myths and cultural practices leading to leading to behavioural change and excessive drug consumption. Also, more professionals are not in the mortuary field. The present study therefore, sought to examine knowledge on health hazards and safety Practices among morticians in Port Harcourt Metropolis.

II. METHODS

Descriptive survey research design was used in this study. The population for the study consists of three hundred and thirty-two (332) mortuary workers in all registered government and private mortuaries in Port Harcourt metropolis. A purposive sampling technique was used in selecting the sample size of 307 for this study. A self-structured questionnaire titled 'Knowledge on Health Hazards and Safety Practices (KHSPQ)' was used. The instrument was constructed based on the specific objectives of the study. The face and content validity of the questionnaire was established as valid by three experts. The reliability coefficient of the instrument was 0.86. Data were analysed using chi-square to test hypotheses. Research questions were answered using mean, standard deviation and percentage.

**Ethical clearance**

Ethical clearance for the study was obtained from the

Ethics Review Committee of Ministry of Health, of Government of Rivers State of Nigeria

III. RESULTS

**Table 1: Frequency Distribution of Demographic characteristics of the Respondents**

Demographic characteristics	F	%
<b>Gender</b>		
Male	296	96.4
Female	11	3.6
<b>Total</b>	<b>307</b>	<b>100.0</b>
<b>Age</b>		
18-30 years	67	21.8
31 and above years	240	78.2
<b>Total</b>	<b>307</b>	<b>100.0</b>
<b>Marital status</b>		
Single	105	34.2
Married	202	65.8
<b>Total</b>	<b>307</b>	<b>100.0</b>
<b>Educational qualification</b>		
No formal education	43	14.0
Primary education	20	6.5
Secondary education	136	44.3
Tertiary education	108	35.2
<b>Total</b>	<b>307</b>	<b>100.0</b>
<b>Religion</b>		
Christianity	301	98.0
Islam	4	1.3
Traditional	2	.7
<b>Total</b>	<b>307</b>	<b>100.0</b>

The demographic characteristics of the respondents showed that, majority 296(96.4%) were males while 11(3.6%) were females. The breakdown on the age showed that 67(21.8%) were within the age range of 18-30 years, 240(78.2%) were aged 31 years and above. 105(34.2%) were single while 202(65.8%) were married. The educational qualification of the respondents showed that, 43(14.0%) had no formal education, 20(6.5%) had primary education, 136(44.3%) had secondary education while 108(35.2%) had tertiary education. The result on the religion of the respondents showed that majority 301(98.0%) were Christians, 4(1.3%) were Muslims while (0.7%) were traditional worshippers

**Research Question 1,table2: Knowledge of Health Hazards and Safety Practices**

SN	Items	Yes	No	Total
1	Morticians are exposed to infections when working	302(98.4)	5(1.6)	307(100)
2	Morticians may get irritated due to contact with chemicals	298(97.1)	9(2.9)	307(100)
3	Morticians face depression/ anxiety due to the nature of their job	290(94.5)	17(5.5)	307(100)
4	Morticians are exposed to cuts/sharps / pricks during working	294(95.8)	13(4.2)	307(100)
5	Trips, slips and falls are experienced by morticians	286(93.2)	20(6.5)	307(100)
6	Morticians may have electrical shocks and burns when working	271(88.3)	36(11.7)	307(100)
7	Lifting, moving and carrying of corps may cause fatigue for morticians	293(95.4)	14(4.6)	307(100)
8	Morticians standing/ sitting for a longer hours during working may cause fatigue	294(95.8)	13(4.2)	307(100)
9	Morticians can practice good safety by using body covers (aprons, gown, overalls)	300(97.7)	7(2.3)	307(100)
10	Safety glasses, disposal gloves and safety foot wears are used by morticians for a good safety	299(97.4)	8(2.6)	307(100)
11	Morticians may avoid hazard by using elimination method (by not using hazardous substances)	283(92.2)	24(7.8)	307(100)
12	Morticians may avoid more hazard by using substitution method( by using less hazardous substances instead of dangerous ones)	280(91.2)	27(8.8)	307(100)
13	Morticians may avoid hazard by using isolation method ( by keeping hazardous substances at an isolated area)	282(91.9)	25(8.1)	307(100)
14	Negligence may expose morticians to health hazards	291(94.8)	16(5.2)	307(100)
15	Assessment of workplace for easy hazard identification is an important tool for morticians	296(96.4)	11(3.6)	307(100)
<b>Average</b>		<b>291(94.8)</b>	<b>16(5.2)</b>	<b>307(100)</b>

Table 2, below showed that majority 291(94.8%) of the respondents had knowledge of health hazards and safety practices. For instance, 302(98.4%) knew that morticians are exposed to infections when working, 298(97.1%) knew that morticians may get irritated due to contact with chemicals, 294(95.8%) knew that morticians are exposed to cuts/sharps / pricks during work, 286(93.2%) knew that trips, slips and

falls are experienced by morticians, 293(95.4%) knew that lifting, moving and carrying of corps may cause fatigue for morticians, 283(92.2%) morticians may avoid hazard by using elimination method (by not using hazardous substances), and 291(94.8%) negligence may expose morticians to health hazards. This implied that morticians have knowledge of health hazards and safety Practices

**Table 2; Knowledge of health hazards based on Respondents' Age**

S N	Knowledge of Health Hazards	18-30years (N=67)		≥31 years (N=240)	
		Yes	No	Yes	No
1	Morticians are exposed to infections when work	66(98.5)	1(1.5)	236(98.7)	3(1.3)
2	Morticians may get irritated due to contact with chemicals	65(97.0)	2(3.0)	233(97.1)	7(2.9)
3	Morticians face depression/ anxiety due to the nature of their job	65(97.0)	2(3.0)	225(93.8)	15(6.3)
4	Morticians are exposed to cuts/sharps / pricks during working	64(95.5)	3(4.5)	230(95.8)	10(4.2)
5	Trips, slips and falls are experienced by morticians	64(95.5)	3(4.5)	222(92.9)	17(7.1)
6	Morticians may have electrical shocks and burns when working	62(92.5)	5(7.5)	209(87.1)	31(12.9)
7	Lifting, moving and carrying of corps may cause fatigue for morticians	64(95.5)	3(4.5)	229(95.4)	11(4.6)
8	Morticians standing/ sitting for a longer hours during working may cause fatigue	65(97.0)	2(3.0)	229(95.4)	11(4.6)
9	Morticians can practice good safety by using body covers (aprons, gown, overalls)	66(98.5)	1(1.5)	234(97.5)	6(2.5)
10	Safety glasses, disposal gloves and safety foot wears	65(97.0)	2(3.0)	234(97.5)	6(2.5)

	are used by morticians for a good safety				
11	Morticians may avoid hazard by using elimination method (by not using hazardous substances)	64(95.5)	3(4.5)	283(92.2)	24(7.8)
12	Morticians may avoid more hazard by using substitution method( by using less hazardous substances instead of dangerous ones)	63(94.0)	4(6.0)	217(90.4)	23(9.6)
13	Morticians may avoid hazard by using isolation method ( by keeping hazardous substances at an isolated area)	62(92.5)	5(7.5)	220(91.7)	20(8.3)
14	Negligence may expose morticians to health hazards	63(94.0)	4(6.0)	228(95.0)	12(5.0)
15	Assessment of workplace for easy hazard identification is an important tool for morticians	64(95.5)	3(4.5)	232(96.7)	8(3.3)
	<b>Average</b>	<b>64(20.8%)</b>	<b>3(0.97)</b>	<b>226(73.6%)</b>	<b>14(4.56%)</b>

Table 2, revealed the knowledge of health hazards based on the age of morticians in Port Harcourt Metropolis. The result showed that average, of 64(20.8%) of the respondents were within the age of 18-30 years had knowledge of health hazards while 226(73.6%) of 31 years and above had knowledge of health hazards. This implied that all the respondents irrespective of their age were knowledgeable of the items; infection 66 (98.5%) and 236 (98.7%), irritation due to chemical 65(97.0%), 225 (97.8%), exposed to cuts/sharps/ pricks during work 64 (95.5%) and 230 (95.8%) among other items.

**Table 3: Knowledge of health hazards based on Respondents' Gender**

SN	Knowledge of Health Hazards	Male (N=296)		Female (N=11)	
		Yes	No	Yes	No
1	Morticians are exposed to infections when work	292(98.6)	4(1.4)	10(90.9)	1(9.1)
2	Morticians may get irritated due to contact with chemicals	287(97.0)	9(3.0)	11(100)	0(0.0)
3	Morticians face depression/ anxiety due to the nature of their job	280(94.6)	16(5.4)	10(90.9)	1(9.1)
4	Morticians are exposed to cuts/sharps / pricks during working	283(95.6)	13(4.4)	11(100)	0(0.0)
5	Trips, slips and falls are experienced by morticians	276(93.2)	20(6.8)	10(90.9)	1(9.1)
6	Morticians may have electrical shocks and burns when working	261(88.2)	35(11.8)	10(90.9)	1(9.1)
7	Lifting, moving and carrying of corps may cause fatigue for morticians	283(95.6)	13(4.4)	10(90.9)	1(9.1)
8	Morticians standing/ sitting for a longer hours during working may cause fatigue	283(95.6)	13(4.4)	11(100)	0(0.0)
9	Morticians can practice good safety by using body covers (aprons, gown, overalls)	290(98.0)	6(2.0)	10(90.9)	1(9.1)
10	Safety glasses, disposal gloves and safety foot wears are used by morticians for a good safety	288(97.3)	8(2.7)	11(100)	0(0.0)
11	Morticians may avoid hazard by using elimination method (by not using hazardous substances)	274(92.6)	22(7.4)	9(81.8)	2(18.2)
12	Morticians may avoid more hazard by using substitution method( by using less hazardous substances instead of dangerous ones)	270(91.2)	26(8.8)	10(90.9)	1(9.1)
13	Morticians may avoid hazard by using isolation method ( by keeping hazardous substances at an isolated area)	273(92.2)	23(7.8)	9(81.8)	2(18.2)
14	Negligence may expose morticians to health hazards	280(94.6)	16(5.4)	11(100)	0(0.0)
15	Assessment of workplace for easy hazard identification is an important tool for morticians	286(96.6)	10(3.4)	10(90.9)	1(9.1)
	<b>Average</b>	<b>280(94.6)</b>	<b>16(5.4)</b>	<b>10(90.9)</b>	<b>1(9.1)</b>

Table 3 below; showed knowledge of health hazards among morticians in Port Harcourt Metropolis based on gender. The result showed that 280(94.6%) of the male respondents had knowledge of health hazards, 16 (5.4%) do not have knowledge of health hazards while 10(90.9%) of the females had knowledge of health hazards and 1 (9.1%) do not have knowledge of health hazards. This implied that all the respondents were knowledgeable of all the items stated below.

**Hypothesis 1, table 4: Chi-squared test showing influence of age on the knowledge of health hazards among morticians**

Age	Knowledge of Health Hazards		Total	df	X <sup>2</sup> -value	P-values	Decision
	Knowledgeable	Not knowledgeable					
18-30yrs	57(85.1)	10(14.9)	67(100)	1	3.947	0.47	Accepted
≥31yrs	176(73.3)	64(26.7)	240(100)				
Total	233(75.9)	74(24.1)	307(100)				

Not Significant, P>0.05

Table 4, shows the chi-square test of influence of age on knowledge of health hazards among morticians. The findings revealed that age has no significant influence on knowledge of health hazards among morticians (X<sup>2</sup> = 3.847, df = 1, p-value=0.46, p>0.05). Therefore, the null hypothesis which states that age has no significant influence on the knowledge of health hazards among morticians in Port Harcourt metropolis was accepted.

**Table 5: Chi-squared test showing influence of gender on the knowledge of health hazards among morticians**

Gender	Knowledge of Health Hazards		Total	df	X <sup>2</sup> -value	P-values	Decision
	Knowledgeable	Not knowledgeable					
Male	225(76.0)	71(24.0)	296(100)	1	.063	0.802	Accepted
Female	8(72.7)	3(27.3)	11(100)				
Total	233(75.9)	74(24.1)	307(100)				

Significant, P>0.05

Table 5 shows the chi-square test of influence of gender on knowledge of health hazards among morticians. The findings revealed that gender has no significant influence on knowledge of health hazards among morticians (X<sup>2</sup> = .063, df = 1, p>0.05). Therefore, the null hypothesis which states that gender has no significant influence on the knowledge of health hazards among morticians in Port Harcourt metropolis was accepted.

65 years of age, the findings revealed that the response rate was high (63%) and compares favourably to previous studies of funeral directors in the UK. Also,[10] study on exposed hazard and musculoskeletal injuries revealed that age has a significant influence on the knowledge of health hazards.

The result showed that 280 (94.6%) of the male respondents had knowledge of health hazards while 10(90.9%) of the females had knowledge of health hazards. The finding of the study showed that gender has no significant influence on knowledge of health hazards among morticians (X<sup>2</sup> = .063, df = 1, p>0.05). This finding might be due to the fact that the males constituted a greater percentage of the morticians who were the respondents of the study. Also, the males would have been more acquainted with the work and have had more work experience, hence the greater proportion of males having more knowledge than the females.[10], findings was contrary to this study, that male and younger workers were more exposed to health hazards than that of the female and older workers. [11],observed that males experience blood splash, cuts on skin at work and exposure to needle-stick injury more than female. This is in contrast with findings from a study where males were more likely than females to have injury as source of exposure to blood [12].

IV. DISCUSSION

The findings of the study showed that majority 291(94.8%) of the morticians in Port Harcourt had knowledge of health hazards and safety practices. This finding is not surprising because there is the expectation that the mass and social media is helping to fill the gap in knowledge of vast issues including health hazards which the morticians took advantage of to get acquainted with the health hazards associated with their work. Also the nature of job or the duty one performs exposes him to the health hazards associated with that particular occupation. This can be implicated for the high level of knowledge found in this study. However, it is possible that despite the knowledge of health hazards, some may not take necessary measures to prevent or control them. The finding of this study corroborates that of [7] which showed a high level of knowledge demonstrated by morticians. The findings of this study is also similar to that of [8] who reported that, workers of funeral homes have good knowledge of safety precautions.

The result showed that on the average, 64(95.5%) of those within the age of 18-30 years had knowledge of health hazards while 226(94.1%) of those aged 31 years and above had knowledge of health hazards. The finding of the study showed that age has a significant influence on knowledge of health hazards among morticians (X<sup>2</sup> = 3.847, df = 1, p<0.05). This finding is not surprising because several studies have proved that age is a strong epidemiological variable that influences several health knowledge and practices health hazards inclusive. This is in line with[9] in their study health and safety survey of Irish funeral industry workers that 59% were between the ages of 35 and 55 years and 9% were over

V. CONCLUSION

Based on the findings of the study, it was concluded that, majority of morticians in Port Harcourt Metropolis have knowledge of health hazards but should be encouraged to translate the good knowledge to effective safety practices. Also, their knowledge of health hazards was influenced by age with significantly different based on their gender.

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