

# Knowledge of Workplace Hazards, Safety Practices and Prevalence of Workplace-related Health Problems among Sawmill Workers in Sokoto, Nigeria

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## ABSTRACT

**Introduction:** Working in sawmills has been identified as one of the most dangerous occupations even in countries with high levels of compliance with occupational health and safety regulations. This study aimed to assess the knowledge of workplace hazards; safety practices and prevalence of workplace-related health problems among sawmill workers in Sokoto, Nigeria.

**Material and Methods:** A cross-sectional study was conducted among 215 sawmill workers selected by multistage sampling technique. A set of pretested, interviewer-administered, structured questionnaire was used as data collection instrument.

**Results:** The mean age of the respondents was  $29.3 \pm 8.4$  years, and they were predominantly males (99.5%). Whereas, less than two-thirds, 120 (55.8%) of the 215 respondents had good knowledge of sawmill workers' workplace hazards, most of them (80.9%) had good knowledge of prevention of exposure to the hazards.

**Conclusion:** The poor knowledge of workplace hazards, sub-optimal safety practices and high prevalence of workplace-related health problems despite good knowledge of prevention of exposure to the hazards among sawmill workers in Sokoto, Nigeria, underscore the need for government to closely monitor the sawmill operators' practices and ensure full compliance with occupational health and safety regulations.

**Keywords:** Knowledge, Workplace Hazards, Safety Practices, Health Problems

situation is even worse in the sub-Saharan African countries where compliance rates are generally low.<sup>1,3,8,9</sup> This is not surprising in view of the myriads of hazards associated with saw milling, including injuries from machines (particularly if used improperly or without proper safeguards), and excessive noise resulting in irreversible noise induced hearing loss (NIHL). Other hazards include irritation and other adverse health effects resulting from wood dust and chemicals used for finishing products including allergic skin reactions, conjunctivitis, hay fever, asthma, cough and other respiratory diseases, and adenocarcinoma of the nasal sinus.<sup>1,10</sup>

Recent reports show a substantial increase in work-related mortality from 2.33 million per year in 2014 to 2.78 million in 2017, accounting for 5% of the global total deaths, and with the biggest share of work-related mortality being due to work-related diseases which accounted for 2.4 million (86.3%) of the total estimated deaths, while fatal accidents accounted for the remaining 13.7%. In addition, Asia was the highest contributor and constituted about two-thirds of the global work-related mortality, followed by Africa at 11.8% and Europe at 11.7%.<sup>11</sup> Even though the high work-related mortality in Asia and sub-Saharan Africa can be explained by the poor awareness of workplace hazards, poor knowledge and low compliance with occupational health and safety regulations in studies conducted among various occupational groups (including sawmill workers) in these places, the figures are alarming considering the fact that

## INTRODUCTION

Over the years the forestry and wood products sectors have contributed immensely to the socioeconomic development of many developed and developing countries. While hundreds of thousands of people are directly employed in sawmills where raw logs are processed and converted to wood timber in countries endowed with forest resources, almost equal numbers are indirectly employed in other sectors that either further process the wood into other products, or make use of processed woods worldwide.<sup>1-4</sup> Nigeria is endowed with vast areas of rain forest, and the timber industry contributes significantly to the economy of the country with hundreds of thousands of people employed in the numerous sawmills across the country.<sup>5-7</sup>

Although, no occupation is free of hazards, working in sawmills has been identified as one of the most dangerous occupations even in countries with high levels of compliance with occupational health and safety regulations, and the

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for every worker that dies, many more are incapacitated by occupational diseases and injuries.<sup>12-15</sup>

A cause for concern is the generally poor knowledge of occupational hazards and their prevention, the abysmally low level of compliance with occupational health and safety regulations, and the high prevalence of workplace-related health problems in studies conducted among sawmill workers in Nigeria.<sup>16-19</sup> It is also disturbing that contrary to occupational health and safety regulations that mandate employers of labor to educate their employees on the workplace hazards to which they are exposed, and their prevention, reports from studies conducted in Nigeria and other sub-Saharan African countries showed that majority of sawmill workers never had any training on occupational health and safety, and were either unaware, or became aware of their workplace hazards after experiencing the diseases and injuries associated with them.<sup>9,18</sup>

Prevention of occupational hazards and the associated diseases, accidents and injuries cannot be promoted among sawmill workers if they are unaware of their workplace hazards or comply with occupational health and safety regulations. In addition, assessment of the pattern of workplace-related health problems would provide information for prioritizing occupational health and safety interventions. This study was conducted to assess the knowledge of workplace hazards; safety practices and prevalence of workplace-related health problems among sawmill workers in Sokoto, Nigeria.

## MATERIAL AND METHODS

A cross-sectional study was conducted among sawmill workers in Sokoto metropolis, Nigeria, between November and December 2014. Sawmill workers who have been in practice for at least 6 months and consented to participate in the study were considered eligible for this study.

The sample size was estimated at 215 using the Fisher's formula for estimating minimum sample size for descriptive studies,<sup>20</sup> an 85.1% prevalence of awareness of at least one workplace hazard among sawmill workers from a previous study,<sup>16</sup> a precision level of 5% and an anticipated participant response rate of 95%. The eligible study subjects were selected by systematic sampling technique in the clusters of sawmills and wood shops in Sokoto metropolis, Nigeria.

A standardized, structured, interviewer-administered questionnaire was developed and used to obtain information on the participants' socio-demographic characteristics, knowledge of sawmill workers' workplace hazards and prevention, safety practices, and the prevalence of workplace-related health problems among them. It was reviewed by researchers in the Department of Community Health, Usmanu Danfodiyo University, Sokoto, Nigeria, to ascertain content validity. The questionnaire was pretested on 20 sawmill workers in a cluster of wood shops that was not used for the study. Some questions were rephrased for clarity based on the observations made during the pretesting. Four resident doctors assisted in questionnaire administration after being trained on the conduct of survey

research, the objectives of the study, and questionnaire administration.

Institutional ethical clearance was obtained from the Ethical Committee of Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria. Permission to conduct the study was obtained from the owners of the selected sawmills and wood shops. Informed written consent was also obtained from the participants before questionnaire administration.

## STATISTICAL ANALYSIS

Data were analyzed using the IBM SPSS Version 20 statistical computer software package. Respondents' knowledge of the workplace hazards of sawmill workers was scored and graded on a 7-point scale. One point was awarded for a correct response, while a wrong response or a non-response received no points. This gives a minimum score of '0' and a maximum score of '7' points. Those that scored  $\geq 4$  of 7 points were considered as having 'good' knowledge, while those that scored  $< 4$  of 7 points were graded as having 'poor' knowledge. Respondents' knowledge of the prevention of exposure to workplace hazards was scored and graded on a 9-point scale. One point was awarded for a correct response, while a wrong response or a non-response received no points. This gives a minimum score of '0' and a maximum score of '9' points. Those that scored  $\geq 5$  of 9 points were considered as having 'good' knowledge, while those that scored  $< 5$  of 9 points were graded as having 'poor' knowledge. Frequency distribution tables were constructed; and cross tabulations were done to examine the relationship between categorical variables. The chi-square test was used to compare differences between proportions. Logistic regression analysis was used to determine the predictor of good knowledge of sawmill workers' workplace hazards and their prevention. All levels of significance were set at  $p < 0.05$ .

## RESULTS

All the 215 questionnaires administered were adequately completed and used for analysis giving a response rate of 100 percent. The ages of the respondents ranged from 18 to 58 years (mean =  $29.3 \pm 8.4$ ), and most them 176 (81.9%) were aged 20 – 39 years. Almost all the respondents 214 (99.5%) were males. Majority of respondents 116 (54.0%) were married, and most of them 203 (94.0%) were Muslims. Majority of respondents 122 (56.7%) had primary education and below, and a larger proper proportion of them 89 (41.1%) were wood traders. Less than half of respondents 97 (47.1%) had attended a training workshop on occupational health and safety, and a larger proportion of them 102 (47.4%) have worked for less than 10 years (Table 1).

### Respondents' knowledge of workplace hazards of sawmill workers

Whereas, most of the respondents 175 (81.4%) were aware that their job exposes them to some hazards, less than two-thirds 120 (55.8%) had good knowledge of their workplace hazards. The workplace hazards most commonly known to

Variables	Frequency (%) n = 215
<b>Age group (years)</b>	
< 20	10 (4.7)
20 – 29	116 (54.0)
30 – 39	60 (27.9)
40 – 49	21 (9.8)
≥ 50	8 (3.7)
<b>Sex</b>	
Male	214 (99.5)
Female	1 (0.5)
<b>Marital status</b>	
Single	98 (45.6)
Married	117 (54.4)
<b>Religion</b>	
Islam	203 (94.0)
Christianity	12 (5.6)
<b>Level of education</b>	
Primary and below	122 (56.7)
Secondary and tertiary	93 (43.3)
<b>Job specification</b>	
Machine operator	72 (33.5)
Wood pusher/carrier	54 (25.1)
Wood trader	89 (41.4)
<b>Trained on occupational health and safety</b>	
Yes	97 (45.1)
No	118 (54.9)
<b>Length of practice</b>	
1 – 9	102 (47.4)
10 – 19	92 (42.8)
≥ 20	21 (9.8)

**Table-1:** Socio-demographic profile of respondents

Workplace hazards	Correct response Frequency (%) n = 215
Wood dust	152 (70.7)
High noise level	61 (61.9)
Harsh weather condition	121 (56.3)
Vibrations from machines	118 (54.9)
Musculoskeletal problems	177 (82.3)
Noxious and toxic solvents	74 (34.4)
Fungi and moulds	51 (23.7)
<b>Knowledge grade</b>	
Good	120 (55.8)
Poor	95 (44.2)

**Table-2:** Respondents' knowledge of workplace hazards of sawmill workers

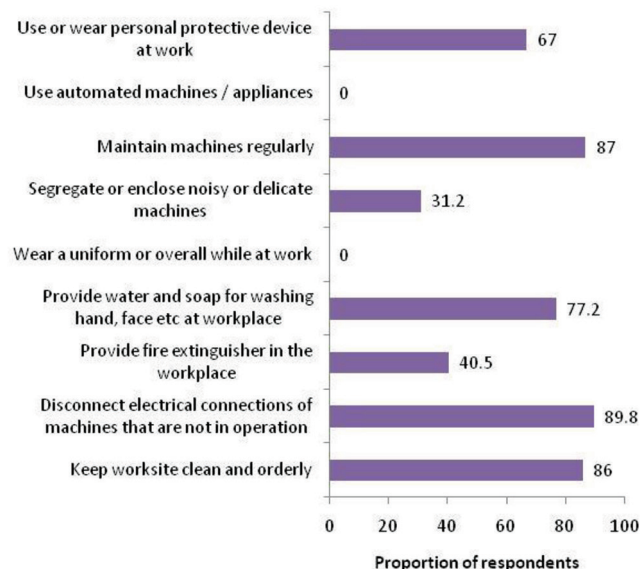
the respondents were musculoskeletal problems (82.3%), wood dust (70.7%), high noise level (61.9%) and harsh weather conditions (56.3%). Only about half and less of respondents knew the other workplace hazards of sawmill workers as shown in Table 2.

**Respondents' knowledge of prevention of exposure to the workplace hazards of sawmill workers**

Most, 174 (80.9%) of the 215 respondents had good knowledge of prevention of exposure to the workplace hazards of sawmill workers. The preventive measures most

Prevention of exposure to workplace hazards	Correct response Frequency (%) n = 215
Keep the worksite clean and orderly	181 (84.2)
Disconnect electrical connections of machines that are not in operation	190 (88.4)
Provide fire extinguisher in the workplace	139 (64.7)
Provide water and soap for washing of hand, face, etc.	190 (88.4)
Wear a uniform or overall while at work	140 (65.1)
Segregate or enclose noisy or delicate machines	128 (59.5)
Regular maintenance of machines	188 (87.4)
Use of automated machines / appliances	106 (49.3)
Use or wear personal protective devices at work	166 (77.2)
<b>Knowledge grade</b>	
Good	174 (80.9)
Poor	41 (19.1)

**Table-3:** Respondents' knowledge of prevention of exposure to workplace hazards of sawmill workers



**Figure-1:** Respondents' safety practices

commonly known to the respondents were disconnecting electrical connections of machines that are not in operation (88.4%), provision of water and soap for washing hand, face, etc (88.4%), regular maintenance of machines (87.4%), keeping the worksite clean and orderly (84.2%) and use of personal protective devices while at work (77.2%). Majority of respondents also knew the other preventive measures as shown in Table 3.

**Factors associated with respondents' knowledge of the workplace hazards of sawmill workers and their prevention**

There was significant association (p < 0.05) between good knowledge of the workplace hazards of sawmill workers and being a machine operator, having secondary or tertiary education and being a Christian. The proportion of respondents with good knowledge of the workplace hazards

Socio-demographic variables	Knowledge of workplace hazards n = 215		Knowledge of prevention of workplace hazards n = 215	
	Good No (%)	Poor No (%)	Good No (%)	Poor No (%)
Age (years)				
<40	103 (55.4)	83 (44.6)	155 (83.3)*	31 (16.7)
40 and above	17 (58.6)	12 (41.4)	19 (65.5)	10 (34.5)
	$\chi^2 = 0.107, p = 0.743$		$\chi^2 = 5.160, p = 0.023$	
Sex				
Male	119 (55.6)	95 (44.4)	173 (80.8)	41 (19.2)
Female	1 (100)	0 (0)	1 (100)	0 (0)
	$\chi^2 = 0.795, p = 0.372$		$\chi^2 = 0.237, p = 0.627$	
Marital status				
Single	61 (62.2)	37 (37.8)	90 (91.8)*	8 (8.2)
Married	59 (50.4)	58 (49.6)	84 (71.8)	33 (28.2)
	$\chi^2 = 3.020, p = 0.082$		$\chi^2 = 13.880, p < 0.001$	
Religion				
Islam	110 (54.2)	93 (45.8)	164 (80.8)	39 (19.2)
Christianity	10 (83.3)*	2 (16.7)	10 (83.3)	2 (16.7)
	$\chi^2 = 3.903, p = 0.048$		$\chi^2 = 0.048, p = 1.000$	
Previous training				
Yes	60 (61.9)	37 (38.1)	83 (85.6)	14 (14.4)
No	60 (50.8)	58 (49.2)	91 (77.1)	27 (22.9)
	$\chi^2 = 2.616, p = 0.106$		$\chi^2 = 2.462, p = 0.117$	
Education level				
Primary and below	61 (50.0)	61 (50.0)	96 (78.7)	26 (21.3)
Secondary and tertiary	59 (63.4)*	34 (36.6)	78 (83.9)	15 (16.1)
	$\chi^2 = 3.866, p = 0.049$		$\chi^2 = 0.918, p = 0.338$	
Job specification				
Machine operator	48 (66.7)*	24 (33.3)	66 (91.7)*	6 (8.3)
Wood pusher and seller	72 (50.3)	71 (49.7)	108 (75.5)	35 (24.5)
	$\chi^2 = 5.170, p = 0.023$		$\chi^2 = 8.085, p = 0.004$	
Length of practice (years)				
< 10	55 (53.9)	47 (46.1)	87 (85.3)	15 (14.7)
10 and above	65 (57.5)	48 (42.5)	87 (77.0)	26 (23.0)
	$\chi^2 = 0.282, p = 0.596$		$\chi^2 = 2.395, p = 0.122$	
*Statistically significant				

**Table-4:** Distribution of respondents' knowledge of workplace hazards of sawmill workers and their prevention by their socio-demographic profile

Variables	Adjusted Odds Ratio (AOR)	95% CI		p value
		Lower	Upper	
Predictor of knowledge of hazards				
Age (< 40 years versus 40 years and above)	1.106	0.428	2.854	0.835
Marital status (singles versus married)	0.533	0.274	1.038	0.064
Religion (Christianity versus Islam)	3.241	0.644	16.306	0.154
Education level (Secondary and tertiary versus primary and below)	1.206	0.649	2.241	0.553
Job specification (Machine operator versus wood pusher and seller)	2.746*	1.281	5.885	0.009
Predictor of knowledge of hazards' prevention				
Age (< 40 years versus 40 years and above)	0.437	0.150	1.270	0.835
Marital status (singles versus married)	0.237	0.090	0.622	0.003
Religion (Christianity versus Islam)	1.527	0.275	8.476	0.628
Education level (Secondary and tertiary versus primary and below)	0.808	0.360	1.814	0.605
Job specification (Machine operator versus wood pusher and seller)	0.608	0.241	1.533	0.292
*Predictor				

**Table-5:** Predictor of good knowledge of the workplace hazards of sawmill workers and their prevention

of sawmill workers was significantly higher ( $p < 0.05$ ) among machine operators (66.7%) as compared to wood pushers or sellers (50.7%), Christians (83.3%) as compared to Muslims (54.2%), and those with secondary and tertiary education



Variables	Frequency (%)
Ever experienced workplace-related accidents / injuries and other medical conditions (n = 215)	
Yes	119 (55.3)
No	96 (44.7)
*Accidents/injuries ever experienced (n = 119)	
Crush injuries from machines	32 (26.9)
Being struck by equipment or object falling from a height or missile object	59 (49.6)
Burns from fires or explosions	13 (10.9)
Cut injuries to the fingers / body parts	79 (66.4)
Electric shock	29 (24.4)
Accidental falls	26 (21.8)
Amputation	12 (10.1)
*Medical conditions ever experienced (n = 119)	
Respiratory problems	19 (16.0)
Hearing problems	17 (14.3)
Ear irritation	28 (23.5)
Eye irritation	78 (65.5)
Skin irritation	34 (28.6)
Back pain, sprains, and joint pains	80 (67.2)
Fatigue, stress and exhaustion	94 (79.0)
*Multiple responses allowed	
<b>Table-6: Prevalence of workplace-related health problems among respondents</b>	

(63.4%) as compared to those with primary education and below (50.0%) as shown in Table 4. In logistic regression model the sole predictor of good knowledge of the workplace hazards of sawmill workers was being a machine operator. Respondents that operate machines were approximately three times more likely to have good knowledge of the workplace hazards of sawmill workers as compared to those that push or sell wood (aOR = 2.726, 95% CI = 1.281 – 5.885,  $p = 0.009$ ) as shown in Table 5.

There was significant association ( $p < 0.05$ ) between good knowledge of prevention of the workplace hazards of sawmill workers and being aged less than 40 years, being single, and being a machine operator. The proportion of respondents with good knowledge of prevention of the workplace hazards of sawmill workers was significantly higher ( $p < 0.05$ ) among those aged less than 40 years (83.3%) as compared to those aged 40 years and above (65.5%), the singles (91.8%) as compared to the married (71.8%), and machine operators (91.7%) as compared to wood pushers or sellers (75.5%), as shown in Table 4. In logistic regression model no predictor of good knowledge of prevention of the workplace hazards of sawmill workers was found (Table 5).

#### Respondents' safety practices

While some of the safety practices were observed by most of the respondents, some were observed by majority of respondents, quite a number of them were observed by only a few of the respondents, and none of the respondents reported observing some of the safety practices.

The safety practices most commonly observed by the respondents were disconnecting electrical connections of machines that are not in operation 193 (89.8%), maintaining machines regularly 187 (87.0%), and keeping the worksite clean and orderly 185 (86.0%). Majority of respondents

also observed some safety practices such as providing water and soap for washing hand and face at the workplace 166 (77.2%), and using or wearing personal protective device at work 144 (67.0%). Only a few respondents observed the remaining safety practices, and some of the safety practices (particularly, wearing uniform or overall at work) have never been observed by any of the respondents (Figure 1).

#### Prevalence of workplace-related health problems among respondents

Majority, 119 (55.3%) of the 215 respondents had experienced workplace-related accidents/injuries and other medical conditions. The workplace-related accidents/injuries most commonly experienced by the respondents were cut injuries to the fingers and other parts of the body (66.4%), being struck by equipment or objects falling from a height or missile objects (49.6%), crush injuries from machines (26.9%) and electric shock (24.4%). The workplace-related medical conditions most commonly experienced by the respondents were fatigue, stress and exhaustion (79.0%), back pain, sprains and joint pains (67.2%), and eye irritation (65.5%). Other workplace-related accidents/injuries and medical conditions ever experienced by the respondents are as shown in Table 6.

#### DISCUSSION

This study assessed the knowledge of workplace hazards; safety practices and prevalence of workplace-related health problems among sawmill workers in Sokoto, Nigeria. The relatively young age of the respondents in this study with majority of them (54.0%) being in the 20 to 29 years age group, and almost all of them (99.5%) being males could be related to the strenuous nature of their job which involves carrying heavy woods and operating delicate machines in noisy and hot work environment (as elderly people and females are

less likely to be able to cope with such conditions). Also, operators of small scale businesses (including sawmills) usually prefer to recruit young people as compared to older ones because of the lower cost of employing them, and being more flexible in terms of the work hours.<sup>21</sup> Studies conducted in other cities in Nigeria including Abakaliki<sup>15</sup> and Uyo<sup>22</sup> also reported relatively young cohorts of sawmill workers with a male preponderance.

Whereas, awareness of workplace hazards of sawmill workers was high (81.4%) among the respondents in this study, less than two-thirds of them (55.8%) had good knowledge of their workplace hazards. This could be due to their low educational attainment as majority of them (56.7%) had primary education and below, and the fact that less than half of them (45.1%) had attended any training on occupational safety. In the event of insufficient training on occupational safety at the workplace, individuals with little education are less likely to be able to search for additional information on their workplace hazards from other sources (including the internet) independently, this could be responsible for the significantly ( $p < 0.05$ ) higher proportion of respondents with secondary and tertiary education having good knowledge of the workplace hazards of sawmill workers (63.4%) as compared to those with primary education and below (50.0%). Whereas, good knowledge of the workplace hazards of sawmill workers was associated with both their level of educational attainment and their job specification, the only predictor of good knowledge of the workplace hazards of sawmill workers was their job specification, with respondents that operate machines being approximately three times more likely to have good knowledge of the workplace hazards of sawmill workers as compared to those that sell or push wood (aOR = 2.726, 95% CI = 1.281-5.885,  $p = 0.009$ ). This could be due to the additional risks associated with operating machines, and those who have experienced accidents/injuries and other medical conditions resulting from the hazards could become aware of them after their bitter experiences. This is supported by the findings in a study conducted among timber workers in a South-Eastern State in Nigeria, which reported high level of awareness of the hazardous nature of wood dust, and their main source of awareness was from their personal experiences.<sup>18</sup> It is therefore not surprising that whereas less than two-thirds (55.8%) of the respondents in this study had good knowledge of the workplace hazards of sawmill workers, most of them 80.9% had good knowledge of prevention of exposure to the hazards.

Studies conducted among sawmill workers in Nigeria and other sub-Saharan African countries majorly reported poor training on occupational health and safety with concomitantly poor knowledge of their workplace hazards.<sup>9,14,23</sup> While a study among sawmill workers in Kwara state,<sup>23</sup> Nigeria, reported that less than a fifth (15.8%) of respondents had good knowledge of occupational health, another study among wood workers at a timber market in Ghana,<sup>14</sup> reported that only a few respondents (5.34%) had high knowledge of the ocular hazards of sawmill workers. Also, a study conducted

among workers in saw milling industries in Nakuru County, Kenya,<sup>9</sup> reported that most (80.0%) of the workers did not have any occupational health and safety training. These findings are of serious concern considering the fact that workers are less likely to protect themselves against their workplace hazards if they are unaware of them.

Although, most of the respondents in this study observed quite a number of the safety practices such as disconnecting the electrical connections of machines that are not in operation (89.8%) and keeping the worksite clean and orderly (86.0%), compliance with many of the key practices was sub-optimal, including using personal devices at work (67.0%), providing fire extinguishers (40.5%), and segregating/enclosing noisy of delicate machines (31.2%). Even though, compliance with many of the key safety practices was sub-optimal among the respondents in this study, the levels are relatively higher than those obtained in studies conducted among sawmill workers in other cities across Nigeria.<sup>16-18</sup> A study among sawmill workers in Ile-Ife, Nigeria,<sup>16</sup> reported that 72.3 to 79.8% of respondents have never utilized any safety device. Another study among sawmill workers in North-central Nigeria,<sup>17</sup> reported that less than 20% of participants wore protective devices. Also, a study among timber workers in South Eastern Nigeria<sup>18</sup> reported that only 13% of respondents consistently use protective devices, and all of them (100%) indiscriminately dispose of waste wood.

A striking finding in this study is the discordance in the proportion of respondents that knew the various ways of preventing exposure to their workplace hazards and those that practiced them. While 64.7% knew provision of fire extinguisher at the workplace as a preventive measure, only 40.5% did so; while 59.5% knew segregating or enclosing noisy or delicate machines as a preventive measure, only 31.2% did so; and while 65.1% knew wearing a uniform or overall while at work as a preventive measure, none of them (0%) did so. It is therefore evident that the non-compliance with standard occupational health and safety practices by sawmill workers in Nigeria is not just due to unawareness (even though on the job training of workers is generally poor), but majorly, non-compliance with occupational health and safety regulations by their employers in terms of non-provision of the necessary equipment, lack of supervision of staff, and the fact that the practices of sawmill operators are largely not monitored in Nigeria.<sup>15,17</sup>

The high prevalence of workplace-related health problems (55.3%) among the respondents in this study is not surprising in view of the sub-optimal compliance with safety practices by them. Similar to the finding in this study, high prevalence rates of workplace-related accidents/injuries and other medical conditions were reported in studies conducted in Nigeria<sup>19,22,24,25</sup> and other developing countries<sup>8,12,13,14,26</sup> with serious adverse effects on the quality of life of those affected (as well as their families), and their productivity. These findings underscore the need for government to closely monitor the sawmill operators' practices and ensure full compliance with occupational health and safety regulations.

## CONCLUSION

The poor knowledge of workplace hazards, sub-optimal safety practices and high prevalence of workplace-related health problems despite good knowledge of hazards prevention among sawmill workers in Sokoto, Nigeria, underscore the need for government to closely monitor the sawmill operators' practices and ensure full compliance with occupational health and safety regulations.

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