

Occupational Hazards and Safety Practices among Woodworkers in Sokoban Wood Village, Ghana

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ABSTRACT

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The study determined the knowledge of workers on occupational health hazards and safety practices at Sokoban Wood Village in Ghana. A descriptive design with a quantitative approach was adopted. The study employed convenience sampling of the non-probability technique to select respondents to participate in the study. Data was collected from 83 respondents using structured questionnaires and analyzed descriptively with the aid of SPSS software. These findings shed light on the potential risks and challenges faced by the participants, highlighting the importance of occupational safety measures and health education to mitigate these hazards. Woodworkers were aware of occupational hazards associated with their work. The lack of proactive measures in response to noise pollution and the reliance on self-medication for airway-related ailments highlight the need for improved awareness, education, and healthcare services. It was recommended, among other things, that the leaders and managers should link up with local health authorities to provide comprehensive training programs that educate woodworkers about the potential hazards they face in their occupation, particularly related to sawdust and noise exposure.

Keywords

ENT

Knowledge

Occupational Hazards

Safety

Woodworkers

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Introduction

Wood processing and its related activities like any other industrial activity pose some degree of hazard to the workers and knowing occupational hazards and safety practices goes with practicing them [1]. However, it has been reported that this is also a problem among workers. This is indifferent to the findings reported in Ghana by Bentum et al. [2]. In a study where more than 62% of wood workers failed to comply with standard precautions in their duties. Also, the use of personal protective equipment (PPE) was used among 73.3%, 50%, and 62.5% of miners, metal workers, and welders respectively [3]. That notwithstanding, there is a higher probability these scenarios will be different in companies that process wood. According to Jerie [4], the two most prevalent occupational hazards associated with wood processing are hearing-related problems and the effects of sawdust inhalation. Hearing loss impacts 1.3 billion individuals globally and ranks as the fourth leading cause of disability, incurring an estimated annual cost exceeding 750 billion dollars. In the United States, an estimated 22 to 30 million workers may be exposed to noise levels from occupational and non-occupational sources. Boateng & Amedofu [5]. Hong et al. [6] described occupational noise-induced hearing loss as hearing loss resulting from work-related noise exposure, with a global prevalence estimated between 16% and 24%. For woodworkers, respiratory disease is one of the major occupational diseases they encounter [7]. Mitchual et al. [7] stated that wood dust, an organic dust, has been found by the International Agency for Research in Cancer to be a human carcinogen that increases the risk of woodworkers developing cancer in the respiratory system. Despite the increasing incidence of workplace hazards, workers in wood processing industries show poor health-seeking behaviors such as self-medication from over-the-counter stores as well as herbal preparations [2]. Fast forward, these poor health-seeking behaviors lead to tremendous health effects which necessitate a change in health-seeking behaviors.

Every workplace poses a certain level of hazards such as biological, chemical, and physical hazards, ergonomic factors, organizational problems, and psychosocial to the individual workers working there [8]. People working in the wood processing industries are exposed to ear nose and throat related, such as allergies, infections, and even cancers [9]. The complexity of this situation is exacerbated by the reliance on outdated machines and equipment, substandard working conditions, insufficient safety practices, inadequate monitoring, and particularly resource-limited environments such as Ghana [10]. The report indicated that uneducated workers were twice as likely to face occupational hazards compared to their educated counterparts. Furthermore, it was determined that the majority of the exposure took place during wood cutting; however, most of the workers were not utilizing personal protective equipment. A study carried out in a wood processing company in Ghana revealed that the average rating of respondents regarding their use of personal protective

equipment ranged from 1.09 to 2.51. This indicates that the workers at the wood processing company seldom or never utilize gloves, dungarees, goggles, face shields, nose and mouth masks, earplugs, or helmets during wood processing. However, they demonstrated a stronger awareness of safe practices when working with machines and during maintenance [7]. Due to hazards associated with working in the wood processing industry coupled with poor health-seeking behavior of the workers and limited studies in the industry, there is a need to conduct more studies to bridge the gap that exists regarding occupational hazards and safety practices in the wood processing industries. This study was therefore designed to assess knowledge of occupational health hazards and safety practices among workers at the Sokoban Wood Village.

Research Methods

A. Study Design

A descriptive design and a quantitative approach were employed to meet the research objectives. This is because descriptive research serves to outline the characteristics under investigation. Descriptive research entails the collection of data that characterizes events, followed by the organization, tabulation, depiction, and detailed description of the gathered information. Descriptive research is characterized as a systematic approach to gathering data aimed at testing hypotheses or addressing inquiries related to the present condition of the subjects involved in the study [11].

B. Study Area

The study area was the Sokoban Wood Village. The Wood Village is an ultra-modern wood village complex enclave built for carpenters and wood sellers. It is located in the southeastern part of the Kumasi in a town called Sokoban. The market is an open shed with an aluminum roofing sheet. There are several heavy-duty wood-cutting machinery that are used to cut timber logs into desirable shapes and sizes for sale. The shaped woods are packed into groups based on side purposes. The village has a woodworker chairman who performs leadership welfare duties. The wood village has the following cadre of workers; carpenters, wood sellers, and food vendors who sell various food to the traders and customers who patronize wood products daily. Hundred and five (105) woodworkers were found to be regular at the timber market every day.

C. Study Population

The study population covered only woodworkers. These traders and workers should be working at the timber market daily. Again, the selected traders or workers should be working directly with wood in the setting. All other traders not working directly with wood will be excluded from the study. The hundred and five (105) woodworkers at the timber wood village were the potential respondents.

D. Sampling Procedure

Sampling is the process of selecting a subset of the population of interest to represent the whole population. The study employed a nonprobability method of sampling technique to select respondents to participate in the study. With this method, the researcher engaged only those who worked directly within the Sokoban Wood Village. The sample size was derived based on the target population of the Yamane sample size formula with a 95% confidence level. The Yamane formula (Eq. 1) is quoted as:

$$n = \frac{N}{1 + N(e)^2} \dots\dots\dots (1)$$

Where:

- n = sample size
- N = population size (105)
- e = acceptable margin of error (0.05)²

Therefore, $n = 105 / 1 + 105((0.05))^2 = 83$

E. Data Collection Instrument

Data were collected from the respondents using structured questionnaires. A questionnaire is a research instrument consisting of a series of questions to gather information from respondents [11]. The questions were closed-ended. The questionnaires will be divided into four sections as follows: biographical data, knowledge of woodworkers regarding the effects of occupational hazards on the ear, nose, and throat, safety measures taken by woodworkers towards occupational hazards, and health-seeking behaviors of woodworkers at Sokoban Wood Village engage.

Effective quantitative analysis must ensure precision and reliability in its measurements. The instrument must accurately measure its intended parameters and maintain consistency in its measurements. The validity of an instrument refers to the extent to which it accurately measures what it is intended to measure [11]. This study utilized a structured self-administered questionnaire. The content validity was established by comparing the tool's items with the study's objectives to assess whether they encompass all elements intended for exploration in this study. The reliability of an instrument refers to the extent to which it consistently and stably measures an attribute, yielding repeatable outcomes or effects [11]. The study tool's reliability was confirmed via a pre-test conducted with ten traders from Sokoban Wood Village in Kumasi, who were excluded from the main study.

F. Data Collection Procedure

Data collection began after ethical approval was obtained from stakeholders including the leaders of the wood dealers' association of Sokoban Wood Village and the assembly man for the area. An introductory letter from the Ear, Nose, and Throat Nursing School, Kumasi was sent to the leader/ chairman of the wood dealers' association of Sokoban Wood Village and the

assembly man for the area for permission to conduct the study at the market. The purpose of the study was explained to prospective respondents. Verbal informed consent was obtained from respondents who agreed to participate before questionnaires were administered. The participants were explicitly informed that they had the freedom to withdraw from the study at any time they wished. The participants were assured of their anonymity through the implementation of coded questionnaires and transcriptions. The questionnaires lacked a column for names as well. The cultural norms of the people were observed and respected. Each respondent was given 40 – 60 minutes to fill out the questionnaire. Data collection lasted for four days.

G. Data Processing and Analysis

Data was processed and analyzed using the SPSS software version 25, this was presented using tables and charts. Descriptive analyses, including frequencies and percentages of categorical variables, were calculated to describe the sample.

Results

This section presents a general overview of the results of the study. The study was analyzed using descriptive statistics after which they were presented in the form of frequency tables, and charts for easy interpretation. This same chapter further discusses the key findings of the study.

Table 1 represents the demographic data of respondents with their gender being 73 representing 88% of them were males and 10(12%) were females. Most of the respondents thus, 70(84.3%) were between the ages of 18-39 years while 13(15.7%) were 40 years and above.

Table 1. Demographic characteristics of the respondents

Variables	Freq.	Percent
Gender		
• Male	73	88
• Female	10	12
Age		
• 18-39	70	84.3
• 40 and above	13	15.7
Educational Qualification		
• Basic	83	100
• SHS	0	0
Years of experience		
• 1-5 years	69	83.1
• 6-10 years	11	13.3
• 11 and above	3	3.6
Total	83	100

With regards to their educational qualification, 83(100%) had basic education; none of the respondents had a Diploma, First degree, or Master's degree. Also, 69(83.1%) had between 1-5 years of working experience, 11(13.3%) had between 6-10 years of working experience and 03(3.6%) had 11 and above years of working experience.

Table 2 presents the responses of the participants regarding their awareness that their occupation has some hazards associated with it and all the participants thus 83(100%) indicated that yes, there is a hazard in their occupation.

Table 2. Awareness of occupation hazards

Variables	Freq.	Percent
Are you aware that your occupation has some hazards associated with it?		
• Yes	83	100
• No	0	0
Do you agree that sawdust and noise can have some health implications on your ears, nose, and throat?		
• Yes	69	83.1
• No	14	16.9
Please indicate which of these categories you belong to.		
Non-smoker	82	98.9
• Active smoker	1	1.2
• Passive smoker	0	0

Regarding whether they agree that sawdust and noise can have some health implications on their ears, nose, and throat. To that, 14(16.9%) being the majority indicated "NO" and 69(83.1%) indicated "YES". The data set reveals the smoking status of the respondents. The majority of the respondents 82(98.8%) indicated that they belong to the non-smoker category, 01(1.2%) indicated that he was an active smoker and none of the respondents was a passive smoker

Table 3 indicates the response of the participants as to which of the consequences listed, they have experienced in the number of years they have worked in the wood village. The majority of the respondents thus 80(96.4%) stated that they have experienced cough, and 68(82%) stated that they have experienced nasal blockage. Also, 56(67.5%) stated that they have experienced runny nose, and 2(2.4%) stated that they have experienced ear infections.

Table 3. Consequence of exposure at work experienced by the workers

Variables	Yes (%)	No (%)
Cough	80 (96.4)	3 (3.6)
Runny nose	56 (67.5)	27 (32.5)
Nasal blockage	68 (82)	15 (18)
Asthmatic attack	0 (0)	0 (0)
Allergic reaction	1 (1.2)	82 (98.8)
Ear infection	2 (2.4)	81 (97.6)
Breathlessness	1 (1.2)	82 (98.8)

More so, 1(1.2%) stated that they have experienced an allergic reaction and 1(1.2%) also stated that they have experienced breathlessness. None of the respondents stated that they had experienced asthmatic attacks.

Table 4 represents the responses of the participants about the noise produced at the wood village and whether it is unbearable or not. Majority, thus 66(79.5%) of the respondents stated "NO", 16(19.3%) stated "YES" and 1(1.2%) stated that, they have no opinion.

Table 4. Knowledge of some occupational hazards

Variables	Freq.	Percent
Do you consider the noise level at the Wood Village unbearable?		
• Yes	16	19.3
• No	66	79.5
• Don't have an opinion	1	1.2
Regarding the noise produced by the machines, which of the following have you experienced?		
• Headache	75	90.4
• Reduction hearing	8	9.4
• None	0	0
Are you aware that exposure to wood dust is a risk factor for nasal and sino-nasal cancers?		
• Yes	2	2.4
• No	81	97.6

Table 4 shows the responses of the participants regarding the effect of the noise produced by the machines at the wood village. The majority, 75(90.4%) of the respondents indicated that they have experienced headaches due to the noise produced by the machines. Also, 8(9.6%) indicated that they have experienced a reduction in hearing due to the noise produced by the machines. None (0%) of the respondents indicated any experience of hearing loss due to the noise the machines produce. It shows that their awareness of wood dust exposure is a risk factor for nasal and sino-nasal cancers. To that, 81(97.6%) indicated that they are not aware that exposure to wood dust is a risk factor for sino-nasal cancers while 02(2.4%) indicated that they are aware that wood dust exposure is a risk factor for sino-nasal cancers.

Fig. 1 shows the response of the participants on safety measures or precautions taken by the workers of the wood village. From the figure, respondents were asked if they use any protective clothing or equipment during work and 74 representing 89.2% stated "NO", they don't use any protective clothing or equipment during work whereas 9 representing 10.8% stated "YES", they use protective clothing or equipment during work.

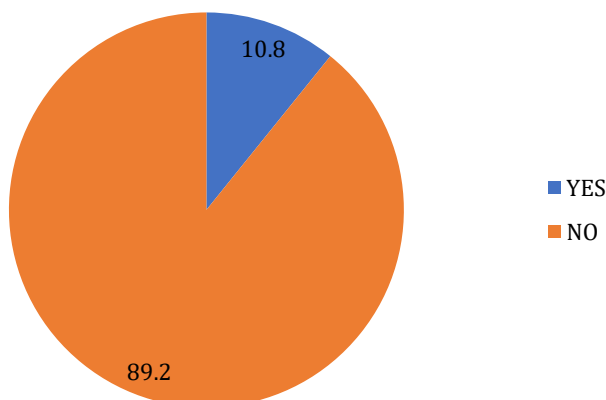


Fig. 1. Use of Protective Clothing and Equipment

Fig. 2 indicates participants' responses on the number of times they use protective clothing or equipment of which 71(85.5%) the majority stated that they never use any protective clothing or equipment when working, 11(13.3%) also stated that, they sometimes use the clothing or equipment during work and 01(1.2%) stated that, they always use the protective clothing or equipment when working.

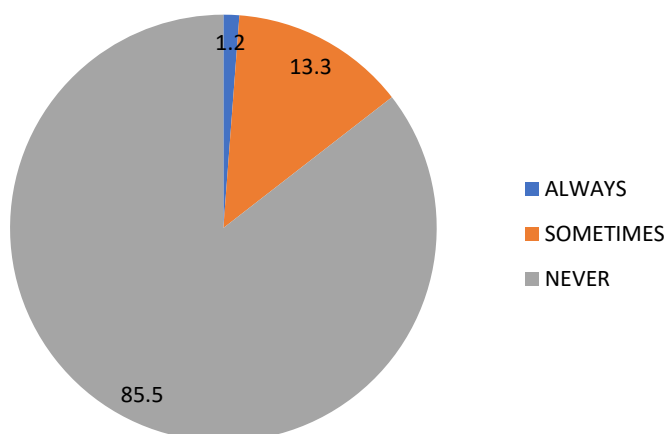


Fig. 2. Frequent Use of Protective Clothing and Equipment

Fig. 3 depicts the responses given by the respondents on the factors that affect their usage of personal protective clothing or equipment. The majority 65(78.3%) of the respondents indicated that the unavailability of clothing or equipment is a factor affecting their usage. Secondly, 20(24.1%) of the respondents indicated that the usage of personal protective clothing or equipment is inconvenient. More so, 01(1.2%) stated that they usually forget the usage of the clothing or equipment during work, and 01(1.2%) also stated that, lack of sanctions affects their usage of the protective clothing or equipment during work. 0(0%) of the respondents indicated that the use of protective clothing is unnecessary while 0(0%) indicated that, they are unaware of the use of protective clothing or equipment.

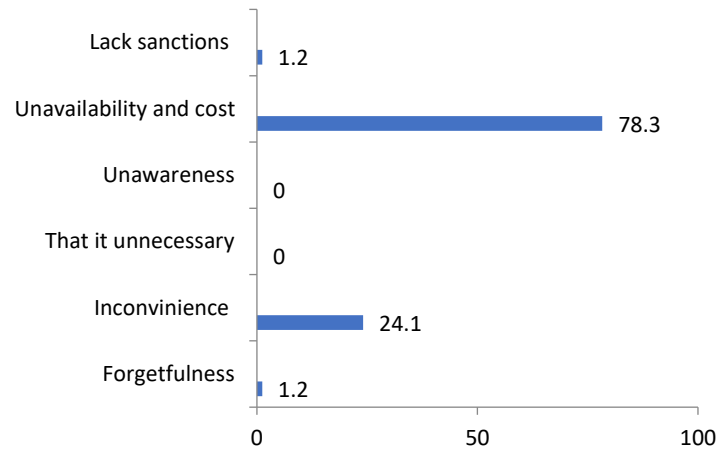


Fig. 3. Factors affecting the usage of personal protective clothing/equipment

Fig. 4 depicts the responses of the participants regarding which item they use to prevent sawdust inhalation. To that, 59(71.1%) indicated that they do not use any of the aforementioned items to prevent sawdust inhalation, and 22(26.5%) indicated that they use facemasks to prevent sawdust inhalation. Furthermore, 8(9.6%) stated that they use cloth to prevent sawdust inhalation, and 6(7.2%) also indicated that they use handkerchiefs to prevent sawdust inhalation. Lastly, 1(1.2%) stated that they use face shields to prevent sawdust inhalation.

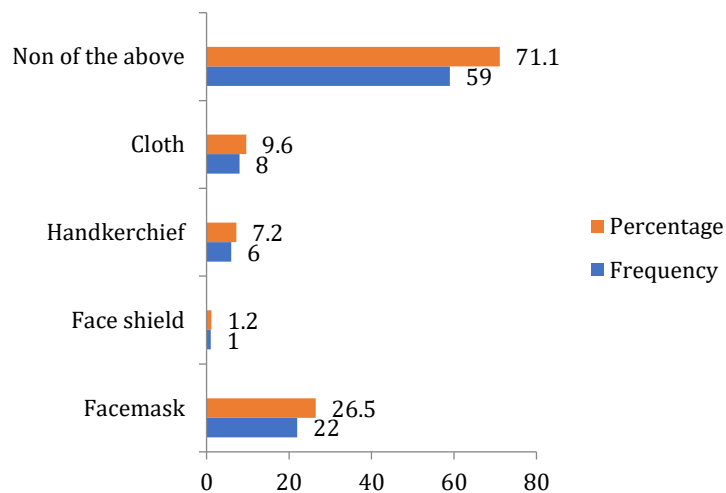


Fig. 4. Prevention of sawdust inhalation

Fig. 5 represents the response of the participants on other strategies they use apart from using equipment. The majority, thus, 68(81.9%) of the respondents indicated that they bathe after closing from work, 28(33.7%) also stated that, they wash their hands after work whereas

20(24.1%) stated that, they change clothes after work. However, 1(1.2%) stated that they shower when they are on break.

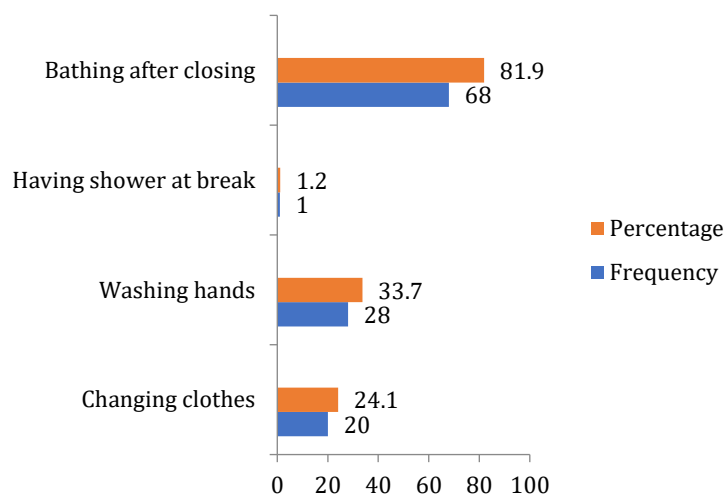


Fig. 5. Other strategies used apart from using equipment

Fig. 6 depicts the responses of participants on which of the above-mentioned items or gadgets they use to prevent the impact of noise pollution. According to the graph, 68(81.9%) of the respondents stated that they have and use none of the above-mentioned items to prevent the impact of noise pollution. Secondly, 12(14.5%) stated that they use face shields to prevent the impact of noise pollution. Also, 11(13.3%) stated that they use earplugs or earphones to prevent the impact of noise pollution while 01(1.2%) indicated that, they use ear muffs to prevent the impact of noise pollution.

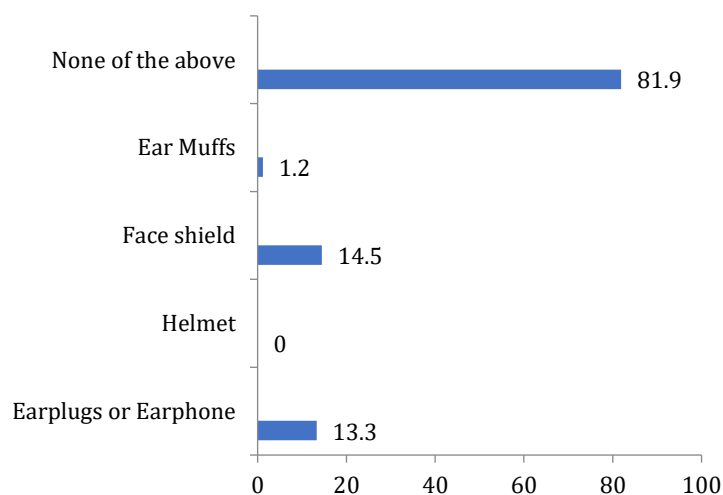


Fig. 6. Gadget used to prevent impact of noise pollution

Fig. 7 shows the responses of participants regarding the effect of noise pollution and the actions they take to promote health. To that, 0(0%) of the respondents go for a hearing

assessment, 0(0%) see a doctor whereas the majority of the respondents, which is 77(92.8%), indicated that, they consider noise pollution to be normal. More so, 6(7.2%) indicated that they do nothing.

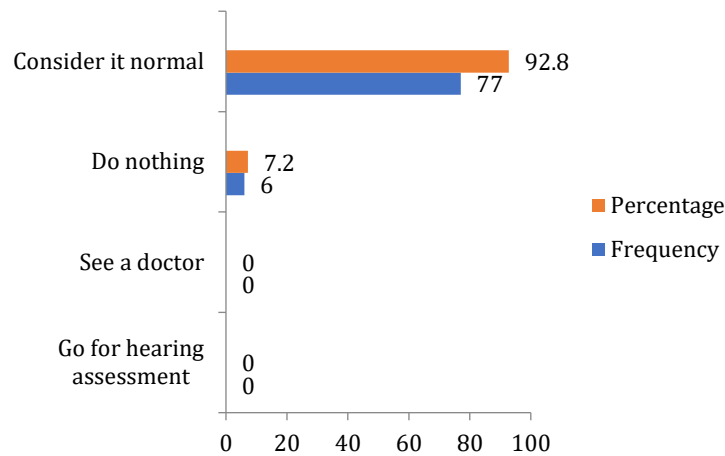


Fig. 7. Effects of noise pollution

Fig. 8 depicts the actions the respondent takes when they develop airway related ailment due to sawdust 76 (91.6%) stated that they buy medications from the pharmacy, 04(4.8%) stated that, they go to the hospital when they develop airway-related ailment due to sawdust. Also, 02(2.4%) indicated that they irrigate the nasal cavity when they develop airway-related ailments due to sawdust while 01(1.2%) stated that, they take some days off work when they develop airway-related ailments due to sawdust.

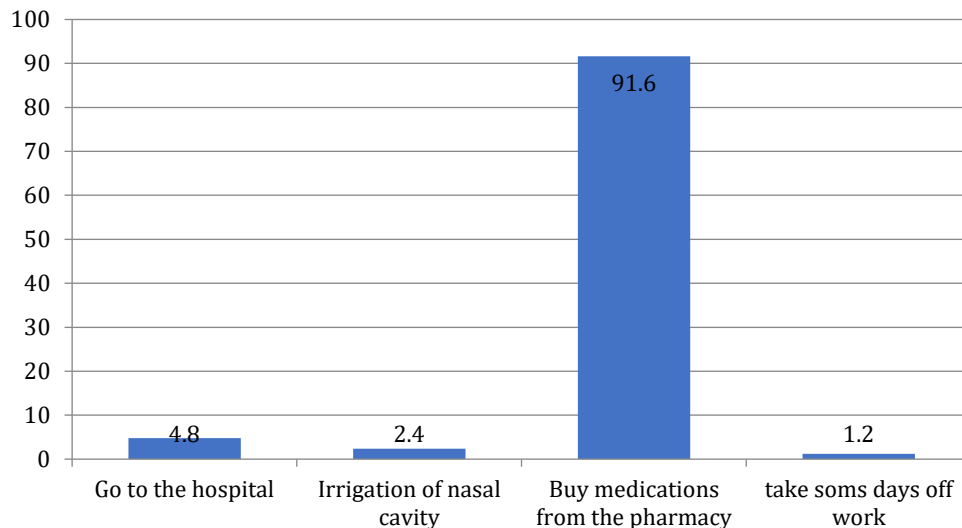


Fig. 8. Actions taken when there is airway related ailment

Discussion

A. The awareness of occupational hazards

Regarding participants' awareness of occupational hazards, the data reveals that all participants (100%) indicated that there are hazards associated with their occupation. This high level of awareness is positive as it suggests that the participants recognize the potential risks and dangers in their work environment. This finding aligns with the research findings of Elsaidy and Mahmoud [12], who indicated that exposure to excessive noise in workplaces poses a significant risk for the development of sensorineural hearing loss in young adults engaged in the wood and metal manufacturing industries. Dartey et al. [13] found that the level of contamination by microscopic fungi is significant and has been shown to cause infection. Their findings indicated that the composition of wood significantly impacts the growth of microscopic fungi. Samples of dust tested, derived from sanding with papers of two different grits, exhibited positive results for certain fungal species.

B. The effects of occupational hazards on the Ear, Nose, and Throat (ENT)

Also, health implications of sawdust and noise on the participants' ENT the majority (83.1%) agreed that sawdust and noise can have health implications on their ears, nose, and throat, while a smaller proportion (16.9%) disagreed. This finding highlights that the majority of participants recognize the potential health risks associated with sawdust and noise exposure in their occupational setting. This finding aligns with the work of Ebekozen et al. [14], which indicates that timber sawmills have played a role in the health and environmental challenges faced by traders. The hazards that were identified have been categorized into three distinct sub-themes. The most frequently reported occupational hazards by the respondents included dust inhalation and noise exposure. A total of 62 respondents (48.8%) identified vibration, while 60 respondents (47.2%) noted excessive heat. A total of one hundred and five individuals (82.7%) reported experiencing various health issues while at work, including injuries and coughs. The data indicates that the majority (98.8%) of the participants identified themselves as non-smokers, with only one participant (1.2%) reporting being an active smoker.

The participants reported various consequences they have experienced over the years working in the wood village. The majority reported experiencing cough (96.4%), nasal blockage (82%), and runny nose (67.5%). A smaller proportion reported experiencing ear infections (2.4%), allergic reactions (1.2%), and breathlessness (1.2%). These findings indicate that certain ENT-related health issues, such as cough and nasal blockage, are prevalent among the participants due to their work environment. This coincides with the findings of Ebekozen et al. [14], who reported that vibration and excessive heat were identified by 62 (48.8%) and 60 (47.2%) of respondents, respectively. One hundred-five individuals (82.7%) reported experiencing health issues at work, including injuries and coughs. Similar findings were

reported in a study by Goetzel [15], which indicated that 1.3% of workers experienced breathing problems. Reported upper respiratory issues included coughing, breathlessness, and chest tightness, which were exacerbated by smoking. Exposure to sawdust increases the susceptibility of workers to respiratory impairment in the occupational setting. The study identified a significant prevalence of respiratory symptoms, with duration of exposure exhibiting an inverse relationship with various pulmonary function test parameters. Rhinorrhea, sneezing, and productive cough are the most common symptoms observed.

In a related study by Schlünssen et al. [16], it was demonstrated that exposure to all wood dust components among wood processing workers exceeded international standards. The processing of specific wood species and exposure metrics related to both current and cumulative inhalable wood dust exposures were linked to a heightened risk of work-related ocular-nasal symptoms, asthma symptoms, bronchial reversibility, and airway inflammation.

Considering the noise levels at the wood village, the majority of participants (79.5%) stated that the noise produced at the wood village is not unbearable, while a smaller proportion (19.3%) indicated that it is unbearable. This information provides insights into the perceived noise levels in the workplace and the potential impact on the participant's well-being. However, this perception is not in line with that of Yatera et al. [17], who stated the prevalence of hearing impairment was comparable among woodwork workers. The overall prevalence of reported hearing impairment was twenty percent due to high noise levels.

For the findings on the effects of the noise produced by machines at the wood village, the data shows that the majority of participants (90.4%) have experienced headaches due to the noise, while a smaller percentage (9.6%) reported a reduction in hearing. These findings highlight the negative effects of occupational noise on the participants' health, specifically headaches and hearing. These findings were in contrast to Owoyemi et al. [9] who discovered that 54.33% of workers in the sawmills were having hearing problems. Permanent hearing impairment because of excessive noise and dust exposure was seen. Nevertheless, Claire et al. [18] discovered that the majority of study participants reported difficulty hearing in the left and right ear without the use of a hearing aid, respectively. By this discovery, the left ear is more significantly affected than the right ear. In the same vein, Elsaidy & Mahmoud [12] asserted that young adults who are employed in wood manufacturing enterprises are at a high risk of developing sensorineural hearing loss as a result of working in workplaces with excessive commotion. The risk of developing hearing loss may be elevated by the absence of aural protection during work hours and extended periods of exposure. Additionally, Lie et al. [19] discovered that the duration of exposure was correlated with the severity of hearing loss among participants.

Nevertheless, Osman [20] conducted related research that revealed an overall prevalence of 20.7% hearing impairment among wood. Tinnitus and communication difficulties were reported by 26.4% and 32.9% of the total study participants, respectively. Moreover, 16.4% and 8.4% of employees reported experiencing hearing difficulties in the left and right ear, respectively, without the use of a hearing device.

About the participant's comprehension of wood particle exposure as a risk factor for sino-nasal and nasal cancers. The data indicates that the majority of participants (97.6%) were unaware that exposure to wood dust is a risk factor for these types of malignancies, while a small proportion (2.4%) indicated that they were in the know. This discovery emphasizes the necessity of heightened awareness and education regarding the potential health hazards associated with wood dust exposure to nasal and sino-nasal malignancies. Yuan [21] discovered that exposure to wood dust is a risk factor for nasal and sino-nasal malignancies; however, these findings are not in agreement with this. Working in timber industries increases the risk of work-related injuries and cancer. Wood dust is classified as a group 1 agent that is carcinogenic to humans. The Council of the European Union has also classified hardwood dust as carcinogenic.

C. Safety measures and precautions taken by workers

Regarding participants' responses on the use of protective clothing and equipment during work, the majority of respondents (89.1%) stated that they do not use any protective clothing or equipment, while a smaller proportion (10.8%) reported using such measures. This finding indicates a concerning lack of adherence to safety protocols and suggests the need for increased awareness and implementation of safety measures in the workplace. However, findings in the study by Jerie [4] differ. Workers in the wood processing business were seen wearing nose masks. However, the outcomes of a study that was conducted by Bentum et al. [2] revealed that the workers are aware of PPE. In terms of their assessment of the necessity of using PPE, the majority of woodworkers had a positive attitude; however, they did not use PPE very frequently. According to the findings of yet another study conducted by Fentie et al. [22], a sizeable percentage of respondents were unaware of the importance of wearing personal protective equipment. Even though practically all of the workers were aware of the possible dangers associated with exposure to sawdust, only one-fifth of the workers were observed wearing protective masks. The utilization of safety aids consistently was suggested as a best practice for workers. Once more, Osman [20] discovered that in a survey about PPE, the majority of the respondents were aware of any sort of PPE, with face masks and goggles being the most popular types. On the other hand, only 33.9% of respondents reported utilizing any kind of PPE while they were working. Lie et al. [19] revealed that respondents, on the whole, had a positive attitude towards the practices of occupational safety. Only a small

percentage of respondents believed that it was not important to use PPE while they were on the job.

In a related study by Junaid et al. [23], it was noted that a few control practices such as sprinkling of water at the sawmill and cleaning wood dust on the floor. Effective use of safety devices is the best means of eliminating hazards associated with any work or occupation. Having a policy to prevent and manage abuse is non-negotiable in such a competitive job where everyone is looking for as many customers as possible to stay in business.

Concerning the frequency of using protective clothing or equipment among the participants. The data reveals that the majority (85.5%) reported never using any protective clothing or equipment, while a smaller percentage (13.3%) indicated that they sometimes use them. Only a small fraction (1.2%) reported always using protective clothing or equipment. This finding further emphasizes the inadequate utilization of safety measures by the workers. Face masks were rarely worn by workers, and the reasons for this were mostly due to forgetfulness or the idea that they were not required or convenient.

On factors affecting the usage of personal protective clothing or equipment, the responses indicate that the unavailability of the clothing or equipment is the primary factor affecting usage, as reported by the majority of respondents (78.3%). Other factors include inconvenience (24.1%), forgetfulness (1.2%), and lack of sanctions (1.2%). These findings highlight the need for improved accessibility and availability of safety equipment, as well as the importance of education and enforcement of safety practices in the workplace. The majority of the wood enterprises lacked PPE for their workers.

The data shows that a significant proportion of respondents (71.1%) do not use any item to prevent sawdust inhalation. However, 26.5% reported using facemasks, while smaller percentages mentioned using cloth (9.6%), handkerchiefs (7.2%), and face shields (1.2%). These findings suggest that there is room for improvement in promoting and ensuring the use of appropriate protective measures against sawdust inhalation. The same was the situation in the study by Ranga [8], who reported in his study only one of the 107 administrative sawmill workers wore protective wear, but 27(23.5%) of the 107 technical sawmill workers did. Face shields were used by 2(7.1 percent); safety glasses with side protection were used by 10 percent.

Additional strategies employed by the participants apart from using equipment, the majority (81.9%) reported bathing after work, while smaller proportions mentioned washing hands (33.7%), changing clothes (24.1%), and showering during breaks (1.2%). These strategies can contribute to minimizing the potential risks associated with occupational hazards and maintaining personal hygiene. These findings agree with the finding in a study by

Osuchukwu et al. [24] where it was found that hygiene practices such as changing clothes, hand washing, and having a shower during breaks to wash off dust. These hygiene practices help to reduce the quantity of dust on the bodies and clothes of sawmill workers as they go to their respective houses; thus, preventing exposure of household members to wood dust.

Considering the gadgets or items used to prevent the impact of noise pollution. The data indicates that the majority of respondents (81.9%) do not use any of the mentioned items to prevent the impact of noise pollution. However, some participants reported using face shields (14.5%), earplugs or earphones (13.3%), and ear muffs (1.2%). None of the respondents mentioned using helmets. These findings suggest a lack of awareness or implementation of appropriate measures to protect against the harmful effects of noise pollution. Robinson et al. [25] also concluded that goggles, face shields, nose and mouth masks, earplugs, and helmets were never used by the timber firm's personnel during wood processing. The hazardous working conditions that contribute to various occupational hazards encompass prolonged working hours, extended periods of sitting, and significant travel requirements.

The findings that 89.1% of participants do not use protective clothing or equipment during work highlight a significant gap in adherence to safety protocols, which can be analyzed through the lens of the Health Belief Model (HBM). The low usage of protective clothing suggests that workers may not perceive themselves as susceptible to workplace hazards or may underestimate the severity of potential injuries or illnesses. A study by Brosseau [26] shows that workers often underestimate the risks associated with their tasks, particularly in environments where hazards are not immediately visible, such as exposure to chemicals or long-term ergonomic risks. If workers do not believe they are at risk or that the consequences are severe, they are less likely to adopt protective measures. Moreover, even if workers recognize the risks, they may not perceive the benefits of using protective clothing or equipment as outweighing the barriers. For example, protective gear may be uncomfortable, restrict movement, or be perceived as unnecessary for routine tasks [27]. Additionally, organizational factors such as lack of access to appropriate equipment or inadequate training can act as significant barriers to compliance [28]. Furthermore, the absence of cues to action, such as reminders, safety training, or visible consequences of non-compliance, may contribute to the low usage of protective measures. Muller [29] found that regular safety training and visible enforcement of safety protocols can significantly improve compliance. Without such cues, workers may not feel motivated to change their behavior. Lastly, self-efficacy, or the belief in one's ability to use protective equipment correctly, also plays a critical role. If workers lack confidence in their ability to use protective gear effectively or believe it interferes with their job performance, they are less likely to use it [30]. This is particularly relevant in high-pressure work environments where efficiency is prioritized over safety.

D. The health-seeking behaviors of woodworkers.

Regarding participants' responses on the effects of noise pollution and the actions they take to promote their health. The data reveals that none of the respondents (0%) go for hearing assessments or see a doctor when exposed to noise pollution. The majority (92.7%) consider noise pollution as normal, while a smaller percentage (9.6%) reported taking no action. These findings indicate a lack of awareness and proactive measures to address the potential health risks associated with noise pollution. There is a need for increased education and awareness about the importance of regular health assessments and seeking medical advice when exposed to excessive noise levels. These findings are similar to that of Osuchukwu, et al. (2015), where it was demonstrated that workers who are injured at work do not always seek medical attention. As a result of insufficient medical compensation and the lack of medical aid or free health services. However, Abere, Nwaogazie, and Akaranta, (2017), concluded from their study that continuous exposure to sawdust causes inflammation of the upper airway structures which leads to a decrease in lung compliance and workers must undergo routine medical check-up function testing.

With regards to actions taken by respondents when they develop air pollution-related ailments due to sawdust exposure, the majority (97.6%) reported buying medications from the pharmacy to address these ailments. A smaller proportion (4.8%) mentioned going to the hospital, while even fewer individuals (2.4%) indicated irrigating the nasal cavity. Additionally, a small percentage (1.2%) reported taking some days off work when experiencing airway-related ailments. These findings suggest that self-medication is the most common approach taken by woodworkers to manage their symptoms, and seeking professional medical help or taking time off work is less commonly practiced. It is important to emphasize the significance of seeking appropriate medical care and implementing preventive measures to reduce the occurrence of airway-related ailments among woodworkers. These study findings are similar to the findings of Mitchual et al. (2015) who reported that the workers would usually report headaches, nausea, respiratory problems, small cuts, back pains, and hip and leg pains. Also, by Özler, and Akoğlu, (2020), indicated that nasal irrigation solutions were used in the upper respiratory tract. Seawater exhibits a variety of supplementary chemical effects as a result of its chemical constituents, including magnesium, calcium, potassium, bicarbonate, and other ions.

With the health belief model (HBM), respondents perceived noise pollution as normal and not a threat or risk to their lives, therefore, they did not seek medical attention. In addition, most of the respondents were interested in self-medication to save time and cost for their

business. Due to the risk that some air pollution-related ailments have on their health and business, they normally seek medical attention.

Conclusion

A descriptive survey was successfully conducted to examine occupational hazards and safety practices among woodworkers in Sokoban Wood Village in Ghana. The study concludes that, although woodworkers of the Sokoban Wood Village were aware of the health hazards their occupation can pose on their ears, noses, and throats, they have few safety measures or precautions in place to protect them. This was due to the unavailability and cost of protective clothing and equipment such as gowns, facemasks, ear plugs, face shields, helmets, and boots and the inconveniences it causes when they wear them. Since workers did not use protective clothing and equipment they were infected with various ear, nose, and throat conditions which they treated them using over-the-counter medications. This is very disturbing because it can lead to ear, nose, and throat health complications such as profound hearing loss, sinusitis, sinonasal cancers, laryngeal cancers, etc. This poses a threat to the health of wood workers in Sokoban Wood Village in Ghana.

Suggestions

Based on the findings related to the effects of occupational hazards on the ENT, safety measures and precautions, and health-seeking behaviors of wood workers, the following recommendations can be made to the leaders and woodworkers at Sokoba Wood Village. The leaders and managers should link up with the public health department of the Atwima Kwawoman district health directorate to provide comprehensive training programs that educate woodworkers about the potential hazards they face in their occupation, particularly related to sawdust and noise exposure. Again, the district health administrators should insist and monitor that owners and operators of workshops should make available and accessible appropriate protective clothing and equipment at the workplace. Public health workers should educate the workers on seeking medical treatment at the nearest health facility rather than using over-the-counter medications. Lastly, workers should purchase modern, comfortable, and appropriate PPEs to reduce perceived barriers. Future studies can consider health-seeking behaviours among woodworkers in Kumasi or another region in Ghana.

Conflict of Interest

The authors declare that there is no conflict of interest.

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