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*Original Research Article*

# Knowledge of Occupational Hazards among Cleaning Workers: A Study of Cleaners of a Nigerian University

Funmilola Adenike Faremi[1], Adesola Adenike Ogunfowokan[1], Matthew Idowu Olatubi[2], Bolarinwa Ogunlade[3], Oluwatosin A Ajayi[4]

[1]Department of Nursing Science, Obafemi Awolowo University, Ile-Ife, Nigeria.
[2]Millenium Eye Centre, Akure, Ondo State, Nigeria.
[3]Medical and Health Services, Obafemi Awolowo University, Ile-Ife, Nigeria.
[4]Obafemi Awolowo University Teaching Hospital Complex, Ile Ife

Corresponding Author: Funmilola Adenike Faremi

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## ABSTRACT

**Background:** The health and wellness of workers in any occupation could be linked to the specificities of the job and the attending hazards in the workplace.
**Objective:** This was done with a view to providing baseline information that will help in the creation of awareness of occupational hazards among cleaners.
**Methodology:** This is a descriptive study that was carried out among 230 cleaners working in a University in South Western Nigeria.
**Results:** The results showed that knowledge about job hazards is exceedingly high among the sampled cleaners. Part of the explanations for this is that most of them had received formal training for the job. Interestingly, having received such training is the only factor that is significantly associated with the level of awareness among the cleaners. Contrary to what one might expect, the older, more experienced or more educated cleaners were not necessarily more knowledgeable about job hazards.
**Conclusion:** This study concludes that the level of knowledge of job hazards among the cleaners is high. Notwithstanding, efforts are still necessary, particularly from public health nurses, for this level of awareness to be sustained.

***Key words:*** Knowledge, Occupational Hazards, Awareness, Cleaners

## INTRODUCTION

An occupational hazard is any condition of a job that can result in illness or injury, endangerment, hazard, jeopardy peril risk, a source of danger and a possibility of incoming loss or misfortune. Aliyu & Sheu (2006). A working condition that can lead to illness or death also constitutes an occupational hazard. The health and wellness of workers in any occupation could be linked to the specificities of the job and the attending hazards in the workplace.

However simple any job may seem there are usually specific hazards associated with it. Occupational hazards cause or contribute to premature death of millions of people worldwide and result in ill health or disablement of hundreds of millions each year. In fact, the World Health Report 2005 places occupational risks as the tenth leading cause of morbidity and mortality (WHO, 2005).

Occupational health therefore deals with everything related to health and safety in the workplace, with greater emphasis on primary prevention of hazards. Many factors at the workplace that could result in any form of unhealthiness significantly influence the health of workers. Safety measures are actions taken to mitigate such factors and to protect personnel as much as possible from known hazards (WHO, 2005). Cleaning services involve a wide range of activities that are performed in different work environments, such as homes, offices, industries, schools, shops, aircrafts and hospitals. The risks that cleaners may be exposed to depend on the tasks they perform and also the premises they work in. Most of the time, the employers of cleaning personnel have difficulties in controlling the environment in which the cleaners work although they are responsible for their health and safety. Emmanuelle (2009). Thus, in many cases, the cleaners work in the premises of the customers where they generally have very little power to influence the working conditions and environment.

Moreover, in most developing countries like Nigeria, the cleaning worker often lacks formal training, tools and information. Usually, this category of workers is poorly educated and employed as ad-hoc staff with very little formal requirements. As a consequence, they mostly do not understand the health implications of what they do and the environment in which they do it. They are primarily concerned with the job as a means of livelihood. In a general sense, the foregoing adequately represents the situation in many Universities in Nigeria.

Cleaning job on its own exposes the workers to hazards such as risk of slips, trips and falls, particularly during 'wet work'; exposure to dangerous ingredients in cleaning materials; exposure to hazardous substances being cleaned, which can include biological hazards such as moulds or human wastes; psychosocial issues including work-related stress, violence and bullying; risk of musculoskeletal disorders; and other risks such as electric shock from work equipment (Emmanuelle, 2009). There is therefore the need to assess this category of workers awareness of occupational hazards related to their job and their knowledge of the various forms of hazards.

***Research objective***

This study seeks to assess the level of knowledge of cleaners working in a university environment on the health hazards associated with their occupation.

## MATERIALS AND METHODS

A descriptive research design using convenience sampling technique was used for this study. Primary data was collected directly from respondents. A structured research instrument was used to gather data from the cleaners working in the university. An appropriate sample for the study is estimated by summing using Yamane's (1967) which gave 228 respondents of the 530 available. To minimize sampling bias, the population was stratified and the total sample was estimated by proportional probability. Data collected for the study were analyzed mostly by descriptive procedures. This was done keeping the research questions in mind.

$$n = \frac{N}{1 + N * e^2}$$

Where:
n = the estimated sample,
N = the available population (530),
e = sampling error (5%)

## RESULTS

### *Sample Characteristics*

Table 1 contains demographic information on the sampled cleaners in the university. As seen in the table, only about 8% of the cleaners are less than 30 years old while about 22% are over 45 years of age. Further analyses revealed that their age ranged between 20 and 50 years with an average age of 39.6 (standard deviation 6.2) years. The sex distribution of the respondents showed that most (77.4%) of the cleaners are female. Regarding their marital status, 41.3% of the respondents are married. About a third is divorced; approximately 13% is single while about 12% is widowed. Finally from Table 1, it is seen that over half of the cleaners have secondary school education.

Table 1: Demographic characteristics of the sampled cleaners

| **Age (years)** | **Percentage (n=230)** |
|---|---|
| Less than 30 | 7.83 |
| 31-35 | 24.35 |
| 36-40 | 23.48 |
| 41-45 | 22.61 |
| Over 45 | 21.74 |
| *Total* | *100.00* |
| **Sex** | |
| Male | 22.61 |
| Female | 77.39 |
| *Total* | *100.00* |
| **Marital status** | |
| Single | 12.61 |
| Married | 41.30 |
| Divorced | 34.35 |
| Widowed | 11.74 |
| *Total* | *100.00* |
| **Highest educational attainment** | |
| None | 3.04 |
| Primary | 6.96 |
| Secondary | 56.52 |
| Tertiary | 33.48 |
| *Total* | *100.00* |

Table 2 gives information on the work related characteristics of the sampled cleaners. As seen from the table, most (about 49%) of the respondents have spent between 1 and 3 years on the job. Average years of experience on the job were estimated at 5.3 years (standard deviation 5.88). Most (about 98%) of the respondents indicated that they have received some formal training for the job.

Table 2: Work characteristics of the sampled cleaners

| **Experience on the job (years)** | **Percentage (n=230)** |
|---|---|
| Less than 1 | 8.26 |
| 1-3 | 48.70 |
| 4-6 | 18.26 |
| 7-9 | 5.65 |
| Over 10 | 19.13 |
| *Total* | *100.00* |
| **Formal training for the job** | |
| Yes | 97.83 |
| No | 2.17 |
| *Total* | *100.00* |

### *Knowledge of Job Hazards among Cleaners*

Table 3 summarises the results on the awareness of job hazards among the cleaners. Of the 230 respondents, about 99% indicated that they had heard about job hazards before the time of this study. About half of the respondents (about 49%) who claimed to be aware of job hazards heard about it for 2 to 4 years. The most common source of awareness were colleagues (46.7%) closely followed by employers (43%) and 9.69% mass media.

Table 3: Awareness of job hazards among the sampled cleaners

| **Awareness of job hazards (n=230)** | **Percentage** |
|---|---|
| Yes | 98.70 |
| No | 1.30 |
| *Total* | *100.00* |
| **Aware of job hazards since... (n=227)** | |
| Within the last six months | 5.29 |
| 6 months to 1 year | 9.69 |
| 2 to 4 years | 48.90 |
| Over 5 years | 36.12 |
| *Total* | *100.00* |
| **Source of awareness information (n=227)** | |
| Colleagues | 46.70 |
| Employer | 43.17 |
| Mass media | 9.69 |
| Others | 0.44 |
| *Total* | *100.00* |

The results of the chi-square tests (Table 5) showed that the awareness of job hazards is independent of the age, experience and educational attainment of the cleaners. However, a significant relationship ($\chi^2$ = 13.88, p<0.001) exists between the respondents' awareness of hazards and whether they had received training for their job (Table 5).

Table 4: Chi-square tests of the relationship between respondent characteristics and awareness of job hazards

| **Respondent characteristics** | $\chi^2$ | **Df** |
|---|---|---|
| Age | 4.32 | 4 |
| Experience on the job | 1.18 | 3 |
| Highest educational attainment | 0.36 | 3 |
| Formal training for the job | 13.88* | 1 |

To assess their understanding of job hazards, respondents were asked to give a definition of job hazards. Following this, they were asked to list up to 3 causes of job hazards. Table 5 presents the analyses for the 227 respondents who claimed to be aware of job hazards. The definitions proffered by the cleaners clearly indicate that they have a good understanding of what job hazards mean. About 22% of the cleaners defined a job hazard as job injury and approximately 40% of them defined it as sickness or inconveniences and body weaknesses caused by the job. Other definitions proffered by the respondents include negative situation encountered on the job (about 18% of the respondents), pains gotten from the job (about 11%), bad condition of the body from working (6.2%) and tough period from the job (2.2%).

Table 5 also summarises the causes of job hazards identified by the cleaners. The leading cause is heat, as mentioned by about half of all the 227 respondents. This is followed by chemical spillage mentioned by about 43% of the cleaners. Noise and dust were each listed by about 37% of the cleaners and fungi infection was listed by about 20%. The least frequently identified causes of job hazards were back pain (4.9%), insufficient rest (4.4%) and overwork (3.1%).

Table 5: Understandingof job hazards among the sampled cleaners

| **Self-definition of job hazard (n=227)** | **Percentage** |
|---|---|
| Job injury | 22.47 |
| Sickness through the job | 20.70 |
| Inconveniences/weakness of the body as a result of job | 19.38 |
| Negative situation encountered in the job | 18.06 |
| Pains gotten from the job | 11.01 |
| Bad condition of the body from working | 6.17 |
| Tough period from job | 2.20 |
| *Total* | *100.00* |
| **Self-identified causes of job hazard*** | |
| Heat | 49.34 |
| Chemical spillage | 43.17 |
| Noise | 37.44 |
| Dust | 37.00 |
| Fungi infection | 19.82 |
| Back pain | 4.85 |
| Not having enough rest | 4.41 |
| Too much of labour | 3.08 |

*Each of the 227 respondents that indicated being aware of job hazards could list on the questionnaire up to 3 causes of job hazards. Percentages were calculated for each item based on the 227 respondents.

## DISCUSSION

The awareness of job hazards was found to be independent of the age, experience and educational attainment of the cleaners. However, having received formal training for their job was found to be associated with higher levels of awareness of occupational hazards among the cleaners. This finding is plausible since part of the essence of training is improving workplace

safety, a task that is facilitated by increasing awareness of potential hazards.

The finding that 227 out of 230 cleaners included in this study claimed to be aware of job hazards is rather high. This, however, is not surprising because, despite the overall low level of educational attainment among the sample, the proportion of those who had received formal job training is very high. This is suggestive of the vantage position that employers occupy as their willingness (or otherwise) to provide training for and on the job could lead to an increase (or otherwise) of safety awareness among their staff (ILO, 2009).

Only about a third of the cleaners who indicated being aware of job hazards had been aware for over 5 years. Considering that the average experience on the job is about 5 years, it becomes clear that most of the cleaners learnt about job hazards after they had started working at their current job. This is a pointer to major two possibilities: the job training they have received or increased personal/peer awareness as a result of coming in frequent contact with potentially hazardous situations.

The results on the source of awareness information lend support to both of the foregoing possibilities. Colleagues and employers were identified as the leading sources of awareness information on job hazards. Again, this is an indicator of how influential employers could be in facilitating workplace safety for the cleaners. An additional important point to note from this result is that social networks are also important in the spread of safety information. Worker to worker interactions facilitate information sharing and this is especially useful when new recruits enter the workplace. Thus, encouraging such interactions is beneficial as far as workplace safety is concerned. This is consistent with the submission of Woods et al (2006) that measures for improving the social aspects of work mainly involve promotion of open and positive contacts in the workplace, support of the individual's role and identity at work, and encouragement of teamwork.

The mass media is not particularly useful as it was identified as the source of awareness information on job hazards by only a tenth of the cleaners. Two reasons may explain this. First, the cleaners are generally not very well educated so the print media is largely ineffective as a means of information dissemination among them. Secondly, even in the electronic media there are very few, if any at all, campaigns or advertisements that focus on informing people about job hazards in general.

An occupation hazard, as defined by Aliyu & Sheu (2006), is any condition of a job that can result in illness or injury, endangerment, jeopardy, peril, risk, a source of danger and a possibility of income loss or misfortune. Essentially, this includes all forms of departure from health among workers caused by their working conditions. In defining job hazards, it is usual practice to define it in relation to some of its possible outcomes, and that is exactly what the cleaners sampled for this study have done. Although such outcome-oriented definitions cannot be regarded as comprehensive, they reflect a fairly adequate level of understanding when offered by non-health workers such as the subjects of this study. Thus, it is remarkable to note that most of the respondents understood job hazards as injury, sickness or body weakness associated with their job.

The causes of job hazards identified by the cleaners also suggest a high level of understanding of job-related hazard risk factors. The most commonly identified causes of job hazards are heat, chemical spillage, noise, dust, and fungi infection. The importance of these risk factors is obvious, considering the cleaners' work

environment. Some of them work in laboratories and get exposed to high levels of heat and noise or are prone to chemical spills. In addition, they often come in contact with moist paper and other fungi-prone surfaces especially during the rainy season when several offices may get flooded or heavily moisturized. The problem of dust is much more prevalent in the dry season when most surfaces that must be cleaned are dust-laden. These definitions by the cleaners are in line with ILO's (2009) identified causes of work related hazards.

## CONCLUSION

This study set out to answer question relating to the knowledge of hazards related to the cleaning job. These questions were addressed in the context of one of Nigerian, using a sample of more than 200 cleaners employed by different cleaning contractors. A large proportion of these cleaners are poorly educated middle-aged married women.

It has been demonstrated that knowledge about job hazards is very high among cleaners. Part of the explanations for this is that most of them had received formal training for the job. Interestingly, having received such training is the only factor that is significantly associated with the level of awareness among the cleaners. In fact, contrary to what one might expect, the older, more experienced or more educated cleaners were found to be not necessarily more knowledgeable about job hazards.

Most of the cleaners have known about health hazards for quite a while and they also have a very clear understanding of what these hazards are. Apart from employers, interaction in the workplace is evidently another major factor that facilitates workplace safety and knowledge about job hazards among the cleaners studied. Learning from colleagues, especially for new recruits, is a potentially important primer in the knowledge and prevention of job hazards.

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