

# KNOWLEDGE OF OCCUPATIONAL HEALTH HAZARDS (OHH) AMONG WORKERS IN LARGE SCALE INDUSTRIES IN ENUGU STATE

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## **Abstract**

The study was aimed at determining the level of knowledge possessed by workers in Large Scale Industries in Enugu State on the Occupational Health Hazards(OHH) associated with their work. Two research questions guided the study while two hypotheses were tested at 0.05 degree of significance. The descriptive survey was the design. A sample of 340 workers from two large scale industries in Enugu State was used. The instrument for data collection was a questionnaire designed by the researchers who also administered the questionnaire personally on the respondents. 312 copies of the questionnaires were retrieved properly completed. The findings show that the workers had very high level of knowledge of OHH but moderate knowledge of precautionary measures. Seminar and workshops were recommended for the workers on Occupational Health Hazards.

The issue of occupational hazard is as old as work itself. There is the presence of hazard in all occupations. As more developing countries started their march towards industrialization, the development of occupational health studies/knowledge in these countries. (Many of which were attaining political and economic emancipation) followed the path already laid down by their industrialized colonial masters. Asogwa (1986) noted that the match of developing countries to rapid industrialization must also be matched with the need to recognize that the health care of workers on whom productivity depends also matter a lot.

The International Labour Organization (ILO) and World Health Organization (WHO) (2000) defined occupational health as a concept aimed at promoting and maintaining the highest degree of physical, mental and social well-being of workers in all occupations; the protection of workers from factors in their work environment that are adverse to their health; the placing and maintenance of workers in an environment adapted to their physical and mental needs and the adaptation of work to man and of each man to his job. In the contemporary world of work, the issues of underdevelopment, child labour and employment of women in factories with their attendant health implications and the desire to improve productivity have attracted the attention of scholars to the impact of the work environment on workers and the society. The growing researcher interest in work environment becomes most appropriate since workplace, other than the home environment takes the largest proportion of people's time. According to Park (2009) work environment is the sum of external conditions and influences which prevail at the place of work which has a bearing on the health of the working population. Thus the industrial worker today is placed in a highly complicated environment which is getting more complicated as man is becoming more ingenious. Indeed for many people, particularly in developing countries like Nigeria, the boundary between the homes and workplace environments is blurred, since they often undertake agricultural activities within the home after work in industries or factories. The importance of safe workplace environment notwithstanding, the attention and interest of researchers in this area (workplace environment) in different parts of the world and in different occupations are uniform. This interest according to Asogwa (1986) is geared towards improving workers knowledge of the existence of health hazards in workplace environment.

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Omololu (1997) identified many health hazards in Nigerian workplaces to include excessive heat, excessive cold, harmful dusts and spores, toxic chemical exposure, lighting radiation, humidity, monotony of tasks, explosion hazards and physical workload. He observed that these health hazards are constantly present in these industries and that workers get afflicted quietly, only for the consequences to manifest when they must have disengaged from service. Consequently, it was important to ascertain the knowledge of occupational health hazards by workers in large scale industries as this would go a long way in influencing the precautionary measures taken by them. Hence the aim of this study was to determine workers level of knowledge of the hazards in two large scale industries in Enugu State namely Anambra Motor Manufacturing Company (ANAMCO) and Seven Up Bottling Company Plc.

Knowledge can be defined as the fact of understanding events, issues or objects that are acquired either through learning or experience (Donald & Young, 2004). In this study, knowledge implies the understanding of workers in large scale industries in Enugu State of the occupational health hazards (OHH) and the consequences of exposure to OHH. Similarly, a large scale industry according to ILO (2003) is that industry with a total asset base of one hundred and fifty million naira or more and has a staff strength of 300 staff and above.

Owumi (2002) was of the view that many workers in Nigeria are not knowledgeable on the harmful effects of their exposure to substances of production. Furthermore, Falana (2003) buttressed this point by stating that most Nigerian workers may be largely ignorant of their rights and duties under industrial laws and that employers of labour aided by officials of the state have continued to breach these laws. These laws include; regulations on the provision of safe work environment and provision of safety gadgets such as hand gloves and facial/nose masks as may be applicable.

In developed countries, there is a genuine interest to protect workers against the harmful effects of their work environment because, some workplace environments are not only dangerous to the workers but also to the general public due to pollution (Roughton, 2002). It appears that the contrary is the case in Nigeria including Enugu State where according to Falana (2003), there are safety laws for industries but enforcement has been a problem. In addition to possession of adequate knowledge of the dangers in the workplace it is important to ascertain precautionary measures put in place to further protect workers from the harmful effects of production materials. Precaution, according to Hornby (2001) refers to steps taken in order to avoid mishaps, with regards to the present study, precaution means all those actions, personal or organizational that workers take to protect themselves from hazards in their workplace environment. Precautionary measures in industries could be in form of designing, mechanization, substitution, dust control, enclosure and protective devices for workmen. Unfortunately it seems that such precautionary measures are not always in place in large scale industries in Enugu State. Owumi (2002) opined that non adherence to the use of precautionary measures by workers may not be unconnected with ignorance on the part of workers and non availability of the measures. Thus this study will ascertain the knowledge of precautionary measures against OHH by workers in large scale industries in Enugu State.

It is important to note that several variables may influence knowledge of and precaution against occupational hazards among different people. These variables in a workplace among others include age and years of experience on a given job. For instance Eze (1995) noted that age of the worker has a lot of influence on the level of knowledge a worker can acquire. Specifically, Ladou (2006) pointed out that younger workers within the age bracket of 18-40 years learn very fast, can retain information longer but that they also take a lot of risks at work due to poor knowledge of the consequences of their actions in their later years. On the other hand, workers that are beyond the age of 40years most times are not able to acquire new knowledge based on new technology at workplace (Diryer and Raftery, 2001).

## ***Knowledge of Occupational Health Hazards (Ohh) Among Workers in Large Scale Industries in Enugu State***

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Experience may influence workers knowledge of precautionary measures in a workplace. Owumi (2002) observed that the more years a worker spends in an organization, the less attention they pay to observance of precautionary measures even in the face of hazards. He noted that most workers who have spent 10years and above in an organization are experienced workers and tend to ignore routine details of protection.

Enugu State has many industries that meet up with the criteria of large scale industries but the present study focused on two industries ANAMCO and Seven Up Bottling Company Plc. These two industries have a wide spread of occupational areas which could promote exposure to a variety of health hazards. ANAMCO assembles cars and fabricates car spare parts while 7-up Bottling Company Plc produces and bottles carbonated drinks and table water. The need to ascertain the level of knowledge of such hazards and precautions taken by workers against such health hazards in these industries in Enugu State could not be overemphasized hence the need for the present study.

### **Problem of the Study**

A close observation of industries in Enugu State reveals that most of the workers are not adequately protected against occupational (industrial) hazards prevalent in their workplaces. This ugly situation gives a cause to worry because such would lead to exposure of these workers to hazards which might manifest in the social, mental, physical and psychological effects which in turn may influence their day to day living.

### **Research Questions**

The following research questions were posed to guide the study.

1. What is the level of knowledge possessed by workers in Large Scale Industries in Enugu State on the occupational health hazards in their work place?
2. What is the workers' level of knowledge of the precautionary measures to avoid occupational health hazards in their work place?

### **Hypotheses**

The following null hypotheses were tested at 0.05 level of significance

**HO1**-There is no statistically significant difference between experienced and inexperienced workers in their level of knowledge of OHH

**HO2**-There is no statistically significant difference between young and old workers on their level of knowledge of OHH.

### **Methods**

The descriptive survey research design was used for the study. Araoye (2004) asserted that this design facilitates the description of a situation in its current state and solicits information directly from respondents. Large scale industries in Enugu State were chosen for this study because of the increasing number of patients of OHH admitted at the National Orthopedic Hospital Enugu. The population for this study was 2378 workers in five large scale industries two of which were sampled using systematic random sampling technique. The two industries were ANAMCO and Seven-Up Bottling Company with staff population of 320 and 360 respectively. Proportionate sampling was used to select fifty percent of the workers resulting in 160 workers from ANAMCO and 180 workers from the Seven-Up Company. Simple balloting with replacement was used to get the actual 340 workers used for the study.

The instrument for data collection was a questionnaire named Knowledge of Occupational Health Hazard Multiple Choice Questionnaire (KOHMQ). The questionnaire was validated by three

experts in Health Education. Using test-retest method, a reliability index of 0.75 was achieved using Pearson Product Moment correlation coefficient formula. The response items were either correct or incorrect.

The researchers with the aid of two assistants administered the 340 copies of the questionnaire on the respondents. The respondents were required to complete the questionnaire the same day to avoid collusion. With this method 312 copies were returned dully completed. Data regarding knowledge of OHH and knowledge of precautionary measures against occupational health hazards were analyzed using frequency distribution tables and percentages. In determining the level of knowledge of occupational hazards and precautions, responses less than 40 percent were regarded as low, those between 40-59% were regarded as moderate level of knowledge while 60-80 percent were regarded as high level. Responses above 80 percent were termed very high level of knowledge. The Chi-Square statistics was utilized to test the two Null hypotheses. The two hypotheses were tested at 0.05 level of significance and at the appropriate degree of freedom.

## **Results**

### **Research Question 1**

What level of knowledge do workers of Large Scale Industries in Enugu State possess on the occupational health hazards associated with their workplace?

**Table 1: Workers Level of Knowledge on Occupational Health Hazards.**

S/N	Questionnaire items	Correct Response	%	Incorrect Response	%
1.	Definition of occupational health hazard	298	95.5%	14	4.5%
2.	Meaning of occupational health hazard	304	97.4%	08	2.6%
3.	Importance of knowledge of occupational health hazard	277	28.9%	35	11.1%
4.	Effects of occupational health hazard	250	80.1%	62	19.9%
5.	Cause of occupational health hazard	296	95%	16	5%
	<b>Total</b>	<b>285</b>	<b>95%</b>	<b>27</b>	<b>8.7%</b>

Data in table 1 shows that the respondents have very high level of knowledge for the five items testing level of knowledge of OHH. With 95.5%, 97.4%, 88.9%, 80%, 95% for items 1,2,3,4 and 5 respectively. The ground average of 91.3% confirmed their high level of knowledge.

### **Research Question 2**

What level of knowledge do workers possess on precautionary measures against occupational health hazards?

**Table 2: Knowledge of Precautionary Measures by Workers to Avoid Occupational Health Hazards.**

SN	Questionnaire items	Correct Response	%	Incorrect Response	%
6.	Protective devices used at the factory	205	65.7%	107	34.3%
7.	Meticulous studying of signs and Symptoms	267	85.5%	45	14.5%
8.	Protection against airborne contaminants.	136	43.8%	176	56.3%
9.	Protection against chemical hazards	16	5.1%	296	94.9%

*Knowledge of Occupational Health Hazards (Ohh) Among Workers in Large Scale Industries in Enugu State*

10.	Precaution against physical hazards	187	60%	125	40%
	<b>Grand average</b>	<b>121</b>	<b>52%</b>	<b>191</b>	<b>48%</b>

Data in table 2 shows that the respondents have high level of knowledge of protective devices used in the factory (65.7%) very high level of knowledge of meticulous studying of signs and symptoms (85.5%), high level of knowledge of precaution against physical hazards (60%) moderate level of knowledge of protection against air borne contaminant (43.8%) and low level knowledge of protection against chemical hazards (5.1%). A grand average of 52% showed moderate level of knowledge of precautionary measures.

**Hypothesis One:** There is no statistically significant difference between experienced and inexperienced workers in their level of knowledge of OHH.

**Table 3: Summary of X2 Analysis Verifying Experienced and Inexperienced Workers' Level of Knowledge of Occupational Health Hazards**

Workers Experience	Correct Answer	Incorrect Answer	Total	Level of sig.	X <sup>2</sup> cal value	X2 table value	DF	Dec
Experienced	112	80	192	0.05				
Inexperienced	61	59	120	0.05	6.839	3.841	1	Rejected
<b>Total</b>	<b>173</b>	<b>139</b>	<b>312</b>	<b>0.05</b>				

Data in table 3 shows that calculated Chi-square value of 6.839 is greater than the table value of 3.841. Therefore the null hypothesis is rejected indicating that the level of knowledge possessed by experienced workers, differ significantly from inexperienced workers.

**Hypothesis Two:** Young and old workers do not differ significantly in their level of knowledge of occupational health hazards.

**Table 4: Summary of X2 Analysis Verifying Workers Young and Old, on Their Level of Knowledge of Occupational Health Hazards**

Workers age	Correct Response	Incorrect Response	Total	Level of sig.	X <sup>2</sup> cal value	X2 table value	DF	Dec
Young	108	95	203	0.05				
Old	41	68	109	0.05	1.975	3.841	1	Rejected
<b>Total</b>	<b>149</b>	<b>163</b>	<b>312</b>	<b>0.05</b>				

Data in table 4 shows that the calculated X2 value of 1.975 is less than the table Chi-square value of 3.841. Therefore the null hypothesis of no significance difference is not rejected indicating that there is a significance difference between the level of knowledge possessed by young and old workers in the Large Scale industries in Enugu State.

**Discussion**

The result of the study revealed that workers in large scale industries in Enugu State had very high level of knowledge of occupational health hazards associated with their work place. This finding

is in contrast with assertions by Owumi (2003) and Falana (2003) who observed that many Nigerian workers in large scale industries do not have knowledge of occupational health hazards associated with their job. This disparity could be attributed to different managerial attitude of employers towards workers' welfare especially in industries that have foreign backing.

The second finding which showed that on the average, the workers have a moderate level of knowledge of precautionary measures may be attributed to its availability in the industries. Analysis of hypothesis revealed that experienced and inexperienced workers do not differ significantly in their knowledge of precautionary measures against occupational health hazards. This observation did not agree with Benedyk and Minister (2003) who stated that work experience play a significant role in knowledge and observance of precautionary measures.

There was no significant difference between the young and old workers on the level of knowledge of precautionary measures against occupational health hazards. This finding does not agree with Eze (1995) who observed that age of a worker has a lot of influence on the level of knowledge a worker can acquire it also differs from Ladou (2006) who pointed out that younger workers learn fast, can retain information longer but that they also take a lot of risks at work due to poor knowledge of the consequences of their action.

### **Conclusion**

There is the presence of hazards in all occupations but each occupation has its peculiar problems. The findings of this study showed that workers in large scale industries in Enugu had high level of knowledge of occupational health hazards but moderate level of knowledge of precautionary measures against occupational health hazard. The level of knowledge possessed by the experienced workers differ significantly from the inexperienced while there was no significant difference in the level of knowledge of precautionary measures between the young and older workers.

### **Recommendations**

In the light of the above analysis on the knowledge of occupational health hazards among workers in large scale industries in Enugu State, the following recommendations were made.

1. The occupational health providers in large scale industries should organize workshops and seminars periodically for all the categories of workers to enlighten them on hazards associated with their workplace.
2. The management should show strong commitment to occupational health and safety of the workers
3. Efforts should be made by management to provide ambient working environment with high safety culture in their company so that workers optimum performance will be ensured

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*Knowledge of Occupational Health Hazards (Ohh) Among Workers in Large Scale Industries in Enugu State*

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