Health and Safety Education Needs in the Bottling Industry in Nigeria: A Study of Nigerian Bottling Company Ltd. in South-East Nigeria

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Abstract

The study was designed to examine the degree of health and safety education needs in Nigerian Bottling Company Ltd. Health and Safety programmes receive high attention from governments all over the world because the productivity of an employee is a function of some factors including health and safety. Health is a state of complete physical, mental, social, spiritual and occupational well being, not merely the absence of disease or infirmity. The Nigerian Factories Act posits that employers should make adequate arrangements for the health and safety of employees including the provision of adequate supply of clean drinking water which should be maintained at suitable points easily accessible to all employees. The survey research design was employed for the study. The sample consisted of 100 females and 200 males; ranging in age from 21 to 60 (Mean: 50:5 years) Data were analyzed through descriptive and Chi-Square statistical methods and the result showed a high degree of health and safety education needs in Nigerian Bottling Company Ltd.

Keywords

Health and Safety Education, Occupational Wellbeing, Physical Andmental Health Education, OSHA, Industrial Health Programmes

Received: September 14, 2015 / Accepted: January 28, 2016 / Published online: February 3, 2016

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1. Introduction

Employees who are sick or injured on the job are of little use to the company. For this reason business has long been interested in the health and safety of its employees. It is believed that the productivity of an employee is a function of some factors which include health and safety. Health in this instance includes total physical and mental stability. Organizations in Nigeria strive to meet health and safety standards as required by the Nigerian Factory Act 1958 and 1987 as amended from time to time. Such standards stipulated by the Act help to build an efficient labour force by reducing accidents, absenteeism and turnover. They maintain standards for pre-employment physical examinations, medical treatment and first aid, sanitary working conditions and health education. Education and training for health and safety of employees must receive high attention because of the economic incidence of health and safety to an organization. For example, there was a major case in the 1980s when the world witnessed its greatest industrial accident in recent history in the Bhopal Indian Plant of Union Carbide and the casualty was put at 3,500 dead employees. So many of industrial accidents occur in factories across the world that make the proper examinations and observations of health and safety rules and regulations critical. For example, since 1970, when the Occupational Safety and Health Act

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principles of health and safety. Current research shows that being, not merely the absence of disease or infirmity. The population and contribute greatly to the economic and social
2 M. A. Ewuzie and John N. N. Ugoani: Health and Safety Education Needs in the Bottling Industry in Nigeria: equipment to the employees, putting safety devices on machinery, and developing safety procedures to be used at all times. Health education programmes are necessary to help workers who have alcohol or emotional problems. Alcoholism and drug abuse are common occupational health issues around the world. Although some organizations look at health and safety education programmes as added cost, governments try to ensure through legislation, that health and safety are given priority attention (Udeze, 2000). National Health Survey of America point out that 4% is injured in accident every year. Half are under 25 years of age, 42% deaths are between 25 to 44 years. 400 million days of restricted activity and 100 million losses of workdays were reported (Takala, 2002, Ogbo 2009). According to the World Health Organization (2007) a substantial part of the general morbidity of the population is related to work problems. It is also estimated that workers represent half the global population and contribute greatly to the economic and social value to contemporary society. Industrialization in Nigeria has brought in its wake, health problems such as occupational diseases, industrial accident and environmental pollution. Most industries in Nigeria aim to maximize production. While health and safety needs of workers are relatively neglected. This situation is partly due to governmental reluctance to legislate and enforce strict laws and regulations stemming from the need to encourage both foreign and local investments for economic development, and partly to the lack of education and training in occupational health and safety at all levels, (US, 2009, Ogbo, 2009). If industrial health is to be effective in Nigerian industries, awareness in health and safety education among decision-makers should be created through promoting proper attitude and understanding of basic principles of health and safety. Current research shows that the issue of ignorance and disease is highly relevant to the health and safety situation in many Nigerian industries. Recent observations suggest that safety gadgets are provided in most industries, but these safety gadgets are not properly used by the workers. (Lenneman, et al, 2011, Pamela, et al, 2011, Locppke, 2009, Nat. Int. for Health, 2010). This research examined the health and safety education needs in South East Zone of Nigeria to find out if the company complies with the health and safety requirements in Nigeria to ensure conducive work environment. World Health Organization (2007) defines Health as a state of complete, physical, mental, social, spiritual and occupational well-being, not merely the absence of disease or infirmity. The health of the workers is that state which enables the worker to perform his day to day activity without undue fatigue and illness. The concept of industrial health as stated by Takala (2002) is concerned with all factors which influence the health of people at work. It is in reality, preventive medicine, and hygiene as applied to working people, including not only persons who are employed in factories but also farmers, miners, store keepers, clerks, professional persons and all others who are gainfully employed in any type of occupation. Health education in industries is an integral part of health practice. According to Professional Health and Safety (2009) industrial health is a link between the threefold consideration of the environment, health care delivery, and consumer protection. The damaging effect of occupational hazard in bottling industries calls for an assessment and raising awareness amongst organizations as pertains to policies and practice. the promotion and maintenance of the highest degree of physical, mental and social well being of workers in all occupations, the prevention among workers of departures from health caused by their working conditions, the protection of workers in their employment from risk resulting from factors dangerous to health, the placing and maintenance of the workers in an occupational environment adapted to his physiological and psychological condition. The importance of health education in any industry cannot be over-emphasized since it is a major factor in hazard control and prevention of accidents (Pamela, et al, 2011). World Health Organization (2007) view education for hazard control and accidents prevention as the systematic development and cultivation of natural production. Health education is the growth within someone of his or ability to develop health knowledge and to utilize and apply meaning to it. industrial hazards such as chemical, noise, fatigue, vibration, heat, explosion, electrocution, falls, cuts, light etc. give rise to occupational diseases. To minimize or eliminate these hazards, there is the need to bring about a positive change in the workers knowledge, attitudes and practices about health and safety. The management of companies would be educated on their responsibility to ensure a safe and healthy environment at work. Medical health services in industries should be properly organized for the treatment of injuries sustained during work hours. However, with the growth of workman’s compensation laws, pre-employment physical examination was added to the programme. Current researchers are of the view that industrial health programmes should go beyond the prevention of hazards to physical and mental health, it should extend into the positive promotion, treatment, of sudden illness, optical services and even diagnosis of ailment as aspects of modern industrial health promotion (Lenneman, et al, 2011). The management of most companies provide protective services such as hand gloves, safety boots, safety goggles, ear protectors etc for workers. Plant surveillance by “headmen” or linesmen are also carried out to ensure accident free production. Ogbo (2009)

observes that many progressive industries have come to realize that measures towards prevention of non-occupational disease and towards improvement of the health of the workers result in benefits to the company as well as the workers. That is to say that the purpose of industrial health programme is to promote the optimal growth and development of the workers and thus lead to increase in production. Modern health programmes in industry are divided into several phases, such as curative medicine, preventive medicine, for the treatment of injuries and illnesses. The seriously injured are sent to hospitals under retainership of the company. Medical examination before and after employment form a major part of preventive medicines. Safety officers or plant nurses are involved with plant sanitation, supervision of food handlers, vaccination of workers etc. (Professional health and safety consultants 2009, National Institute for occupational safety and health 2010). National Bottling Company (NBC) is a conglomerate that is established in Nigeria with branches in South East Zone, and serves approximately 160 million people by producing and distributing coca-cola brand among others. NBC employs many Nigerian workers (The Guardian, 2015). Paying attention to health and safety issues in the workplace is important because body and emotion interact to reinforce the motivational aspects of performance of the employees. Motivation is an affectively toned associative network arranged in a hierarchy of strength and importance in the individual emotional makeup which drives the objective to be purposed. Data on workplace effectiveness suggest that neurological substrates of emotional self-awareness is a prerequisite for effective self-management and empathy. In a fundamental sense, the effectiveness of human relationship skills hinges on the ability to influence the emotions of others. That ability in turn helps to build mutual relationships. This is obvious because health and safety needs in the workplace may not be appreciated if there is the lack of empathy, in which case, there may be less chance of being effective in achieving cordial labour – management relationship and high performance. This evidence that empathy and self management are foundations for social effectiveness finds support at the neurological level. (Goleman, 2001, Brothers, 1989, Damasio, 1999, St. Louis, 1994).

1.1. Statement of the Problem

Poor employee health leads to low productivity and most seriously absenteeism with its concomitant effects. Even in the absence of current statistics, about 2800 Nigerian employees were injured in their places of work in the past five years, resulting in permanent disabilities. The total cost of this cannot be quantified in terms of money because it may not be accurate to place a monetary value on human lives. The amount of money lost because of hospital bills, lost wages, administrative costs, insurance expenses, burial entitlements and settlements, etc, run into millions of naira. This excludes losses sustained by the company as a result of damages to machines and equipment. Health and safety programmes have not been fully institutionalized in Nigeria, thereby giving employers the opportunity to tend to handle such critical issues with levity, including the neglect of health and safety education needs, despite the provisions of the workman’s compensation Act in Nigeria that places obligation on employers to take these issues seriously.

1.2. Objective of the Study

The study was designed to explore the degree of health and safety education needs in Nigerian Bottling Company Ltd.

1.3. Delimitation of the Study

The study was delimited to Nigerian Bottling Company’s plants, depots, outlets, in the South East Zone of Nigeria composed of Abia State, Anambra State, Ebonyi State, Enugu state and Imo State.

1.4. Significance of the Study

The study will help the employees of different companies, students, researchers and the general public gain an insight over the importance and needs for health and safety education in the work environment.

1.5. Limitation of the Study

The study was constrained by the lack of current data on the number of injured employees at work in Nigeria, as well as lack of co-operation from some employees in giving out information. However, these limitations did not dilute the academic value of the study.

1.6. Hypotheses

To achieve the objective of the study, two hypotheses were formulated and tested at 0.05 level of significance.

Ho: There is no need for health and safety education in Nigerian Bottling Company Ltd.

Hi: There is need for health and safety education in Nigeria Bottling Company Ltd.

2. Literature Review

Productivity of employees is a major global organizational objective. Further, it is now believed that a healthy employee is a productive and happy employee. Consequently, health and safety programmes continue to attract the attention of
employees and employers around the world. Nigerian Bottling Company Ltd is a major employer in Nigeria. The brand is a member of Coca-Cola Hellenic Bottling Company, and one of the biggest companies in the non-alcoholic beverage industries in Nigeria and the sole franchise bottler of the Coca-cola Company in Nigeria. The company serves approximately 160 million people by producing and distributing a unique portfolio of quality brands, bringing passion to the market place, and demonstrating leadership in corporate social responsibility. Almost on a yearly basis, the company employs young graduates under the Coca-cola Hellenic Management Trainee Programme. (The Guardian, 2015) It has employees in excess of 5000. Against this background, the company no doubt has a huge responsibility over the health and safety education needs of its employees so as to ensure high productivity. In Nigeria, organizations are expected to make adequate provisions for the health and safety of employees. The health provisions start off in a general requirement that every factory must be kept in a clean state and free from effluvia arising from any drain, sanitary convenience or nuisance. Accumulations of dirt and refuse must be removed daily by a suitable method from the floors and benches of workrooms and from the stair cases and passages. The floor of every work room must be cleaned at least once in every week by washing or, if it is effective and suitable, by sweeping or other methods. All inside walls and partitions and all ceilings or tops or rooms and all walls, sides and tops of passages and staircases must where they have a smooth impervious surface, be washed with hot water and soap or cleaned by other suitable methods at least once in every period of twelve months, and where they are kept painted with oil-paint or vanished, be repainted or revarnished at least once in every five years but must, at least once in every twelve months, be washed with hot water and soap or cleaned by other suitable methods. In any case, they must be kept white washed or colour-washed and the white washing or colour washing repeated at least once in every period of twelve months. Matters relating to general provisions on safety are contained in part three of the Factories Act No.16 of 1987, which provides for the fencing of machinery. These machinery include prime movers, transmission machinery and every dangerous part of any machinery other than prime movers and transmission machinery. Every fly wheel directly connected to any prime mover must be securely fenced whether the fly wheel or prime mover is situated in an engine house or not. Also, every part of any electric generator, motor or rotary converter and every fly wheel directly connected to it must be securely fenced unless where it is in such a position or of such construction as to be as safe to every person employed or working on the premises as it would be if securely fenced. The head and tail race of every water wheel and every water turbine must be securely fenced. Uvieghara (2001) posits that every part of transmission machinery must be securely fenced unless it is in such position or of such construction as to be as safe to every person employed or working on the premises as it would be if securely fenced. According to him, efficient devices or appliances must be provided and maintained in every room or place where work is carried on by which the power can promptly be cut off from the transmission machinery in that room or place. No driving belt, when not in use, must be allowed to rest upon a revolving shaft which forms part of any transmission machinery. Suitable striking gear or other efficient mechanical appliances must be provided and maintained and used to move driving belts to and from fast and lose pulleys which form part of the transmission machinery, and any such gear or appliance must be constructed, placed and maintained as to prevent the driving belt from creeping back on the fast pulley.

Every power driven machine having its individual source of power must be provided with an efficient starting and stopping appliance or control and every electrical equipment or appliance intended for use in a factory must be of such construction as to be safe for use by all persons required to use it or who come into contact with it and must be maintained at all times in a safe condition. Every dangerous part of any machinery, other than prime movers and transmission machinery must be securely fenced unless it is in such a position or of such construction as to be as safe to every person employed or working on the premises as it would be if securely fenced, provided that, in so far as the safety of a dangerous part of any machinery cannot, by reason of the nature of the operation be secured by means of a fixed guard, the requirement to securely fence is deemed to have been complied with if a device is provided which, in the opinion of the Director of Factories, satisfactorily protects the operator or other persons from coming into contact with that part. Any part of a stock-bar which projects beyond the headstock must be securely fenced unless it is in such a position as to be safe to every person employed or working on the premises as it would be if securely fenced. Uvieghara (2001) emphasizes that the words securely fenced in all these instances have been given the same meaning. Fencing means the erection of a fence or guard. The duty to securely fence is an absolute one in the sense that a guard must be provided even if it will render the machinery in question commercially impracticable or technically impossible to use when fenced. The Nigerian Factories Act of 1958 and 1987 (as amended from time to time) contains provisions concerning the health and safety of the employees with a focus on other important issues like lighting and ventilation, safety wear, and overcrowdings (Udeze 2000). The provisions emphasize that a factory must not, while work is carried on there, be so...
overcrowded as to cause risk or injury to the health of the persons employed in the factory. It is required that every workroom must not be less than nine feet in height measured from the floor to the lowest point of the ceiling or, where there is no ceiling, to the lowest point of the roofing material. It is a rule that there must be posted in the workroom a notice specifying the number of persons who, having regard to the above requirements, may be employed in that room for maintaining the safety standards. The subject of safety and accident prevention is of tremendous concern to health and safety managers, work supervisors and the workers for many important reasons. Even though there is no accurate statistics about work related accidents in Nigeria, it is however, obvious that the figures would be very high if eventually ascertained. Also the economic costs, medical payments, and legal implications are among the negative consequences of health and safety problems in the work place.

### 3. Method

#### 3.1. Participants

The sample consisted of 300 participants (100 females and 200 males) ranging in age from 21 to 60 (Mean = 40.5 years, SD = -19.5). The participants were generated from the employees of Nigerian Bottling Company Ltd, in the South-East Zone of Nigeria.

#### 3.2. Materials

Data were generated through primary and secondary sources. Primary data were generated through a 20 item 5-point instrument. Employees Health and Safety Questionnaire (EHSQ) adapted on the Likert-type scale. Because of the sensitive nature of the investigation, data collected were supplemented by personal interviews. Previous investigations have found the total scores on the Likert scale to be acceptably internally consistent with a Cronbach’s Alpha value of about .82. Also, content and construct validity have been established (Nworuh, 2001).

#### 3.3. Procedure

The data collection materials were administered on the participants by the investigators and two research assistants. All the materials were retrieved and found suitable for the purpose of analyses.

Data analysis

Data were analyzed through descriptive and Chi-Square statistical methods. The results were presented in tables with absolute numbers and percentages capable of easy understanding.

### Table 1. Gender of Respondents.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Respondents</th>
<th>Response</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>200</td>
<td>66.67</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>100</td>
<td>33.33</td>
</tr>
<tr>
<td>3</td>
<td>Total</td>
<td>300</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2015

Table 1 showed that 200 male, and 100 female composed the sample of the study.

### Table 2. High quality medical services.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Respondents</th>
<th>Available</th>
<th>Not available</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>62</td>
<td>62</td>
<td></td>
<td>20.67</td>
</tr>
<tr>
<td>2</td>
<td>238</td>
<td></td>
<td>238</td>
<td>79.33</td>
</tr>
<tr>
<td>3</td>
<td>300</td>
<td>62</td>
<td>238</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork 2015

Table 2 showed the levels of medical services at different locations of NBC.

### Table 3. Regular Health and Safety Education Programmes for workers.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Respondents</th>
<th>Available</th>
<th>Not available</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>101</td>
<td>101</td>
<td></td>
<td>33.67</td>
</tr>
<tr>
<td>2</td>
<td>199</td>
<td></td>
<td>199</td>
<td>66.33</td>
</tr>
<tr>
<td>3</td>
<td>300</td>
<td>101</td>
<td>199</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2015

Table 3 showed the proportion of regular health and safety education programmes for workers of the company.

### Table 4. Health and safety prevention devices.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Respondents</th>
<th>Available</th>
<th>Not available</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>127</td>
<td>127</td>
<td></td>
<td>42.33</td>
</tr>
<tr>
<td>2</td>
<td>173</td>
<td></td>
<td>173</td>
<td>57.67</td>
</tr>
<tr>
<td>3</td>
<td>300</td>
<td>127</td>
<td>173</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2015

Table 4 was used to analyze the percentage of health and safety prevention devices for workers protection.

### Table 5. Health Hazard occurrence among workers.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Respondents</th>
<th>Frequent</th>
<th>Not frequent</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>215</td>
<td>215</td>
<td></td>
<td>71.67</td>
</tr>
<tr>
<td>2</td>
<td>85</td>
<td></td>
<td>85</td>
<td>28.33</td>
</tr>
<tr>
<td>3</td>
<td>300</td>
<td>215</td>
<td>85</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2015

Table 5 showed the frequency of health hazards among the workers.
4. Discussion

From the Test statistics it was observed that the Chi-square value of approximately 21, was significantly greater than the table value of about 9, at 0.05 level of significance, and with 4 degrees of freedom. By this empirical result, it was found that there is need for health and safety education in Nigerian Bottling Company Ltd in Nigeria. Therefore the null hypothesis was rejected while the alternate hypothesis was accepted. This is the interest of the study. Nigerian Bottling Company Ltd is a giant in the Bottling Industry in Nigeria and demonstrates high level of Corporate Social Responsibility (CSR) including the provision of free medical care for the employees, and the deployment of sophisticated machinery and equipment. What is mostly not prevalent is a high level of awareness or education on the part of the majority of the employees on how to use some of the equipment for their personal protection and greater productivity. Some employees engaged in technical work like mechanics, electricians and others like truck drivers still do so under the influence of alcohol at the detriment of their personal health and safety and low productivity, as the result of the lack of education on health and safety needs. Health and safety education should go beyond physical to include mental health and there should be periodic physical and mental examinations for all employees exposed to health hazards, and where necessary, there may be need for psychiatrists to help in the areas of counselling, to determine employees psychological and emotional status. The twin issues of health and safety education needs cannot be overemphasized because the reduction of accidents reduces high cost of insurance, employee compensation, damage to company facilities, improved productivity and enhanced goodwill for the company. Pre-employment examination is a very important aspect of Medicare in industries because it is one sure way to ensure that employees are doing jobs for which they are suitable and capable. Safety programmes have some institutionalized base and framework charged with its implementation, like the OSHA in the USA and the Factories Act in Nigeria. The high frequency of health hazard occurrence among workers as identified in this study to be about 71 percent necessitates the enforcement of the Nigerian Factories Act 1987, Capter 126, laws of the Federation of Nigeria. The Act seeks to promote safety consciousness or awareness amongst employers and their employees; and to ensure that injured employees are properly compensated by the employers in case of any injury sustained in the course of their employment. Section 14-17 of the Act provides that all machinery safe guards provided in the factory with respect to such machinery must not only be properly secured but must also be of sound construction. This duty is absolute. Under the Act, no person shall be employed or allowed to handle and use any machine or other technical devices which may cause bodily harm or injury unless such a person has been trained in the use of and handling of such machine or technical device by the employer, or he is under adequate supervision of a person knowledgeable in the use and handling of such machine or technical device. Employers must take effective steps to ensure that employees are not only familiar with the means of escape in case of fire but also the route to be followed in case of escape from such fire. The Nigerian Factories Act 1987 posits that sufficient and suitable sanitary conveniences should be provided by the employers for all persons employed in the factory. These conveniences should not only be provided but also same must be maintained and kept clean always. Separate sanitary conveniences must be provided for persons of opposite sexes. In line with the Act, every employer shall ensure that adequate supply of clean drinking water is provided for all the employees. The supply of the drinking water should be maintained at suitable points easily accessible to all the employees. Also, the employer must ensure that an easily accessible first-aid box or cupboard as the case may be provided in the factory. The first-aid box or cupboard must meet the prescribed or approved standards. The health and safety education needs among employees is very important not only for high productivity, but equally because the employers may be liable to legal proceedings by the employees if an employee is injured in the course of his employment and he may be compensated by the employer under the law. Also, any breach of the provisions of the Factories Act shall be prosecuted by the inspector of factories or other officers whether or not they are legal practitioners.

5. Recommendations
Based on the results of this empirical study these recommendations are urgent for implementation.

i. There is the need for the provision of high quality medical services for workers. This is imperative to avoid absenteeism and improve productivity.

ii. Employers must ensure to have regular health education programmes for workers. This will enable them protect themselves at work.

iii. Health and safety devices should be put in place by employers. Workers should also be trained on how to handle such items for their maximum health and safety at work.

iv. Suitable sanitary conveniences must be provided by employers. Good drinking water, and other welfare items need to be available in the factory for the workers. Productivity is often tied to workers welfare, and employers cannot neglect this.

v. Employers need to familiarize themselves with the relevant contents of the Factories Act 1987 to ensure compliance, and avoid legal proceedings against them.

**Scope for further study**

Further study could examine the relationship between health and safety need and absenteeism among university lecturers in Nigeria. This is imperative because of the perceived high rate of absences among them.

**6. Conclusion**

With the results of the study, it was found that there is health and safety education needs among the workers in the Bottling Industry in Nigeria. To this extent, they need to establish health and safety committees to work out modalities in accordance with the Factories Act 1987 for the benefit of their workers and high productivity.

**References**


