



Safety Practices Among Petrol Pump Attendants In Obio-Akpor Local Government Area, Rivers State, Nigeria

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ABSTRACT

This study examined the safety practices among petrol pump attendants in Obio-Akpor Local Government area, Rivers State, Nigeria. Five research questions guided the study. A descriptive research design was adopted in the study with a population of 714 petrol pump attendants in Obio/Akpor Local Government Area. The simple random sampling technique was used to select a sample size of 400 for the study. The instrument for data collection was a structured questionnaire with a reliability coefficient of 0.89. Data collected was analyzed using mean. The finding of the study revealed that safety practices adopted against chemical hazards were: carefully handling and labelling chemical substances (3.64 ± 0.68), warning signs and symbols placed in petroleum stations (3.63 ± 0.89), all petrol pumpers wash hands before eating and do not eat while dispensing petroleum product (3.23 ± 0.93), and cleaning up properly after petroleum product spills at the work place to avoid contact with (3.15 ± 0.72). The result also showed that the safety practices adopted against biological hazards were: monthly sanitation in the work place to eliminate viruses, bacteria and fungi (3.24 ± 0.93), fumigation of petrol station to prevent mosquito and cockroaches in the work place (2.94 ± 0.97), and regularly disinfecting the work environment to reduce the risk of infection (2.90 ± 1.10). Also, the safety practices adopted against psycho-social hazards were: putting clear rules and regulation guiding the work place (3.76 ± 0.66), giving off days and shifts to reduce stress (3.70 ± 0.59), penalizing workers who harassed other workers (3.49 ± 0.83), timely payment of appropriate salaries. Based on the findings of the study, it was concluded that, petrol pump attendants in Obio/Akpor Local Government area, Rivers State had good safety practices. it was recommended among others that, the ministry of labour or environmental agencies should go for inspection of the petrol stations from time to time to ascertain that the knowledge of occupational hazards possessed by the attendants are useful for them to ensure adequate safety in the petrol stations.

Keywords: Attendants, Obio-Akpor, Practices, Petrol pump, Safety.

INTRODUCTION

In many nations of the world, evidence have shown that the level of safety attained in any working environment is affected by level of investment in safe working environment by the employers, employees and favorable government policies to ensure that every party play their own roles appropriately (Olurinola, et al 2015). This indicates that the process of safety is a collective effort in any organization where work safety is of essence. Generally, safety is essential part of living as it is observed everywhere life exists. Safety is essential part of living as it is observed everywhere life exists. Unshielded machinery, unsafe structures in the workplace and dangerous tools are some of the most prevalent workplace hazards

in developed and developing countries. In Europe, about 10 million occupational accidents happen every year (some of them commuting accidents). Adoption of safer working practices, improvement of safety systems and changes in behavioral and management practices could reduce accident rates, even in high-risk industries, by 50% or more within a relatively short time. Approximately 30% of the workforce in developed countries and between 50% and 70% in developing countries may be exposed to a heavy physical workload or ergonomically poor working conditions, involving much lifting and moving of heavy items, or repetitive manual tasks.

A practice is a method or way of doing something that is regular, consistent and in an expected way in a particular organization. It is the actual application or use of an idea, belief or method as opposed to theories relating to it. It is the customary, habitual or expected procedure or way of doing something. It is a repeated exercise in or performance of an activity or skill so as to acquire or maintain proficiency in it. Practices are also the act of rehearsing behavior repeatedly or engaging in an activity regularly for the purpose of improving and mastering it. Hudaefi (2019) defines practice as a method, procedure, process or rule used in a particular field or profession; a set of these regarded as standards.

Safety practices are ways or methods in which an individual, organization or institution adopt to continually or consistently reduce or eliminate danger, injury, losses or death within an environment. They are also things that are done to avoid or reduce accidents or hazardous situations. Most employers fail to provide a safe and adequate conducive environment while in some cases the workers use the facilities inappropriately or disregard the use of personal protective equipment (PPE). Petrol pump attendants handle pumps directly while dispensing petroleum products which often result to irritant contact of dermatitis. The use of PPE's at all occasions is a good and safe practice by Petrol pump attendants to protect themselves from exposure to health hazards, hazardous situation, processes and injuries. Evidence have shown in many nations of the world that the level of safety attained in any working environment is affected by level of investment in safe working environment by the employers, employees and favorable government policies to ensure that every party play their own roles appropriately (Olurinola, et al, 2015). This indicates that the process of safety is a collective effort in any organization where work safety is of essence.

In the same vein, Infrastructure Health and Safety Association (2019) posited that safe work practices are generally written methods outlining how to perform a task with minimum risk to people, equipment, material environment and procedures. Safety in the view of the researcher is freedom from danger, harm or injury. It is a condition, or situation of being sure that an adverse or harmful effect may not be caused by some agents under a given state. According to Vinodkurma and Bhasi (2010) safety management practices not only improved working conditions but also possibly influence employee's attitude and behaviors with regard to safety, thereby reducing accidents in workplace. Shirouyehzad et.al (2017) in Deepak, Mahesh and Medi (2019) reported that increase in knowledge level result in better performance and fewer errors and subsequently enhances organizational health and safety. Being aware of possible hazards in can increase productivity, prevent illness, reduce days off and save lives (OHSA, 2020)

It is commonly observed that most petrol stations operating in Rivers State have no established safe work practices and safe job procedures for addressing significant hazards or for dealing with circumstances that may present other significant risks and liabilities for the firm. Safety practices are normally or usually within methods outlining how to perform or undertake a job or task with minimum risk to people, equipment, material, environment and processes.

However, to achieve a safe work practice in any industrial setting like petrol service stations there shall be safe work procedures which are series of specific steps that generally guide work through a task from beginning to the end in a chronological order. This is usually done or designed jointly by assessment, accident investigation and or a supplement to safety practices to reduce workplace risks by minimizing potential exposure. This norm is scarcely practiced in the petrol services stations within Rivers State being studied. In some instances of Petrol Services Stations where safety practices and safe work procedure exist not all petrol station attendants may be aware of the fact that safety practices or safe job procedure have been established or are in effect or are written down and shall be followed.

The safety of petrol pump attendants is very important to achieve huge success and large daily sales at petrol filling stations. It is only when these workers are in good health condition at work or sales petroleum can be done. An occurrence of damage, injury or accidents to workers or other individuals within the work environment can demoralize the workers and sometimes lead to suspension of delay of sales or activities within the petrol station. Safety knowledge therefore encompasses awareness of occupational health and safety risks, including an evaluation of occupational health and safety program in an organization. Occupational health and safety Act requires employers to provide training as prescribed and to maintain equipment, materials, and protective devices in good condition (Azari et al., 2016). Without proper maintenance, inspection, and training records, however, the employer cannot prove that every reasonable precaution was taken to keep workers safe. Keeping records can provide evidence of due diligence and can help the employer identify any hazards and remedy them before they can cause a problem. Records must also be kept to show documentation of worker's injuries or medical treatment. As best practice, maintain a site log book. It tells the story of a project in case something goes wrong or there are questions about it later.

Employers are responsible for supplying their workers with the personal protective equipment (PPE) prescribed by law (Osei-Boateng & Ampratwum, 2015). Although many workers take their own PPE to a job, the employer is ultimately responsible for making sure that the proper PPE is used and is maintained in good condition. Head, eyes, ears, and hands must be adequately protected from falling or flying objects and sparks, dust, fragments of material, or anything else that can cause head injuries or burns. Not wearing PPE is not an option, neither is wearing worn out, damaged, or inadequate PPE. When not adhered to it poses several health challenges such as vomiting, nausea, dizziness, stomach pain, respiratory failure, depression, cardiac abnormalities, heart attack, cancer of the lungs, stomach ache, aphasia, leukemia and so on arise resulting from the fumes of petrol and other hazardous substances inhaled at workplace and safety challenges resulting from the disregard for the use of Personal Protective Equipment (PPE) like nose mask, coveralls, safety boots, aprons, safety gloves etc combined with stress and long hours of working.

The Health and Safety Authority (2014) identified that the primary objective of a safe system of work plan is to 'identify the major hazards associated with work activities and to ensure that appropriate controls are in place before work commences'. One of the fundamental points to note is that employers have a common law duty to ensure that a safe system of work plan is in place, prior to the work being started on-site (Shain, 2014). It is evident that not only must a safe system of work be produced, but it must also be implemented. Haslam et al. (2015) indicates that 'where safety depends on communication and coordination, it is important that a robust safe system of work is established', while Carter & Smith (2016) echo this point though identifying that an effective system of work is essential, particularly the improvement within the industry of hazard identification through the use of safe system of work plans.

From personal observation, a number of petrol pump operators are not in the habit of using PPE and observing safety practices necessary in discharge of their duties. Between 2015-2018 there have been fire outbreaks at some petrol pumping stations. According to report on channels T.V on December 31st, 2018; January 1st 2019, a tanker discharging fuel at a petrol pumping station along Enela Igwuruta Road in Obio Akpor Government Area, Rivers State burst into flames. Eye witnesses said that the petrol pump attendant was pumping petrol into a vehicle while the tanker was discharging its product before the fire outbreak, a practice which was unsafe and against the rules. Thus, this study investigated the safety practices among petrol pump attendants in Obio-Akpor Local Government area, Rivers State, Nigeria. The study provided answers to the following research questions:

1. What are the safety practices against physical hazards among petrol pump attendants in Obio-Akpor Local Government area, Rivers State?
2. What are the safety practices against chemical hazards among petrol pump attendants in Obio-Akpor Local Government Area, River State?
3. What are the safety practices against biological hazards among petrol pump attendants in Obio-Akpor Local Government Area, River State?

4. What are the safety practices against ergonomic hazards among petrol pump attendants in Obio-Akpor Local Government Area, River State?
5. What are the safety practices against psycho- social hazards among petrol pump attendants in Obio-Akpor Local Government Area, River State?

METHODOLOGY

A descriptive research design was adopted in the study with a population which consisted of 714 petrol pump attendants (Source: Nigerian Upstream Petroleum Regulatory Commission, 2022). The sample size for the study was 400 which was estimated using Taro Yamane formula given thus: $n = \frac{N}{1 + N(d)^2}$. Where n = sample size, N = population (714) and d = error level set at 0.05. The simple random sampling technique was used to select 250 petrol stations, 2 respondents from 150 petrol stations and 1 respondent from 100 petrol stations, which yielded 400 respondents in the study. The instrument for eliciting information for this study was structured questionnaire titled Safety Practices among Petrol Pump Attendants Questionnaire with a reliability coefficient of 0.89. The instrument was validated by three experts

Data was collected by face-to-face administration of the questionnaire. The petrol pump attendants were briefed and the researcher got consent from the petrol pump operators. The questionnaire was self-administrated. The instrument was administered with the help of three assistants which was done within two weeks interval following retrieving after completion on the spot. Collected data were coded and analyzed using statistical package for social science (SPSS) version 23.0). The result was obtained using descriptive and inferential statistical tools include was percentage.

RESULTS

The results of the study are shown below

Table 1: Mean and standard deviation of safety practices against physical hazards among petrol pump attendants in Obio/Akpor Local Government Area of Rivers State.

SN	Items	Mean	Std. deviation	Remark
1	The management send newly employed petrol pump attendants for training before they resume work	3.23	1.00	Good
2	Safety tips like “NO SMOKING”, “SWITCH-OFF ENGINES”, “NO USE OF MOBILE PHONES”, “IN”, and “OUT” exits are strictly obeyed in the petrol pump station.	3.79	0.58	Good
3	Petrol pump attendant enforce safety practices among consumers e.g. off vehicles before fueling them, no smoking	3.82	0.60	Good
4	My employer sends us for training to upgrade our efficiency and effectiveness.	2.44	1.19	Poor
5	Our employer provides us with personal protective equipment (PPE) such as safety boots, nose masks, safety gloves, safety goggles.	1.83	1.12	poor
	Grand mean	3.02	0.89	Good

Table 1 showed the mean and standard deviation of safety practices against physical hazards. The result showed the safety practices adopted by the respondents against physical hazards were, enforcement of safety practices among consumers (3.82±0.60), followed by strictly obeying safety tips like no smoking, switch off engines, no use of mobile phones, in and out exits (3.72±0.58), pre-employment training before resuming work (3.23±1.00), training and re-training to upgrade efficiency and effectiveness (2.44±1.19).

Table 2: Mean and standard deviation on safety practices against chemical hazards among petrol pump attendants in Obio/Akpor Local Government Area of Rivers State

S/N	Items	Mean	Std. deviation	Remark
1	Warning signs and symbols are placed in petrol stations	3.63	0.89	Good
2	Wear PPEs such as coverall, nose mask, gloves and goggles to reduce inhalation and contact with fuel.	1.62	0.91	Poor
3	All petrol pumps attendants wash hands before eating and do not eat while dispensing petroleum product.	3.23	0.93	Good
4	Chemical substances are carefully handled and labeled	3.64	0.68	Good
5	We clean up properly after petroleum product spill at the work place to avoid contact with it	3.15	0.91	Good
	Grand mean	3.05	0.72	Good

Table 2 showed the mean and standard deviation of safety practices against chemical hazards among petrol pump attendants. The result showed the safety practices adopted against physical hazards by the respondents were: carefully handling and labelling chemical substances (3.64+0.68), warning signs and symbols placed in petroleum stations (3.63+0.89), all petrol pumpers wash hands before eating and do not eat while dispensing petroleum product (3.23+0.93), and cleaning up properly after petroleum product spills at the work place to avoid contact with (3.15+0.72).

Table 3: Mean and standard deviation of safety practices against biological hazards among petrol pump attendants in Obio/Akpor Local Government Area of Rivers State

SN	Items	Mean	Std. deviation	Remark
1	The management provides enough PPE's for each petrol pump attendant to prevent skin contact diseases	1.68	1.06	Poor
2	The work environment is disinfected regularly to reduce the risk of infections.	2.90	1.10	Good
3	There is monthly sanitation in the work place eliminate viruses, bacteria, and fungi.	3.28	0.93	Good
4	The petrol station is fumigated to prevent mosquitoes and cockroaches in the workplace	2.94	0.97	Good
	Grand mean	2.70	1.01	Good

Table 3 showed the mean and standard deviation on safety practices against biological hazards among petrol pump attendants. The result showed the safety practices adopted against biological hazards by the respondents were: monthly sanitation in the work place to eliminate viruses, bacteria and fungi (3.24+0.93), fumigation of petrol station to prevent mosquito and cockroaches in the work place (2.94+0.97), and regularly disinfecting the work environment to reduce the risk of infection (2.90+1.10).

Table 4: Mean and standard deviation on safety practices against ergonomic/mechanical hazards among petrol pump attendants in Obio/Akpor LGA

S/N	Items	Mean	Std. deviation	Remark
1	There is maintenance of faulty equipment to reduce pains	3.50	0.88	Good
2	Vehicles, machines, tools, and devices that are in motion are supervised to prevent accident, injury or losses in a work environment.	3.73	0.72	Good
3	Shifts and breaks are given to petrol pump attendants to prevent muscular fatigue and low back pain	3.64	0.71	Good
	Grand mean	3.62	0.77	Good

Table 4 showed the mean and standard deviation of safety practices against ergonomic/mechanical hazards among petrol pump attendants. The result revealed that the safety practices adopted against ergonomic/mechanical hazards by the respondents were: supervision of vehicles, machines, tools and devices that are in motions to prevent accident, injury or losses in a work environment (3.73+0.72), giving shifts and breaks to petrol pump attendant to prevent muscular fatigue and low back pain (3.64+0.77) and maintenance of faulty equipment to reduce pains (3.50+0.88).

Table 5: Percentage distribution showing safety practices against psycho–social hazards among petrol pump attendants in Obio/Akpor Local Government Area of Rivers State

S/N	Items	Mean	Std. deviation	Remark
1	Company penalizes workers who harasses any worker	3.49	0.83	Good
2	The management pays appropriate salaries and it's paid on time.	3.49	0.71	Good
3	Off days and shifts are provided to reduce stress	3.70	0.59	Good
4	There are clear rules and regulation guiding the work place.	3.76	0.66	Good
5	Workers do not work more than 8 hours a day to promote mental health.	3.20	0.99	Good
6	There is break during work hours to avoid burnout	3.03	1.09	Good
7	Workers are treated equally	3.43	0.76	Good
8	Appropriate numbers of workers are employed to reduce overworking the employees.	3.47	0.66	Good
	Grand mean	3.45	0.79	Good

Table 5 revealed the mean and standard deviation of safety practices against psycho-social hazards among petrol pump attendants. The result showed that the safety practices adopted against psycho-social hazards

were: putting clear rules and regulation guiding the work place (3.76+0.66), giving off days and shifts to reduce stress (3.70+0.59), penalizing workers who harassed other worker (3.49+0.83), timely payment of appropriate salaries (3.49+0.71), appropriate numbers of workers are employed to reduce overworking the employees (3.47+0.66), treating workers equally (3.43+0.76), not working more than 8 hours a day to promote good health (3.20+0.99), and giving break during work hours to avoid burnout (3.03+1.09).

DISCUSSION OF FINDINGS

The findings of the study were discussed below:

The result in Table 1 showed that the safety practices adopted against physical hazards were: enforcement of safety practices among consumers (3.82±0.60), strictly obeying safety tips like no smoking, switch off engines, no use of mobile phones, in and out exits (3.72±0.58), and pre-employment training before resuming work (3.23±1.00). The finding of this study is expected as it is believed that the respondents' knowledge of physical hazards enhanced their consciousness against the hazards. The findings of the study is in line with that of Kyalo, (2020) whose study in Kaduna revealed that the respondents adopted safety measures against physical hazards. This similarity might be due to the homogeneity of the study respondents in both the previous and present study.

The result in Table 2 showed that the safety practices adopted against chemical hazards were: carefully handling and labelling chemical substances (3.64+0.68), warning signs and symbols placed in petroleum stations (3.63+0.89), all petrol pumpers wash hands before eating and do not eat while dispensing petroleum product (3.23+0.93), and cleaning up properly after petroleum product spills at the work place to avoid contact with (3.15+0.72). The finding of the study is in consonance with that of Moke (2019) whose study on the “adherence to safety practices and the effect of petroleum products on petrol station attendants in Abraka revealed that the respondents had good safety practices against chemical hazards. This similarity might be due to the homogeneity of the study respondents in both the previous and present study.

The result in Table 3 showed that the safety practices adopted against biological hazards were: monthly sanitation in the work place to eliminate viruses, bacteria and fungi (3.24+0.93), fumigation of petrol station to prevent mosquito and cockroaches in the work place (2.94+0.97), and regularly disinfecting the work environment to reduce the risk of infection (2.90+1.10). The finding of this study gives credence to that of Sellappa et al. (2010) whose study among Petrol Station Workers in South India revealed that the workers had good safety practices against biological hazards. This similarity might be due to the homogeneity of the study respondents in both the previous and present study.

The finding in Table 4 revealed that the safety practices adopted against ergonomic/mechanical hazards were: supervision of vehicles, machines, tools and devices that are in motions to prevent accident, injury or losses in a work environment (3.73+0.72), giving shifts and breaks to petrol pump attendant to prevent muscular fatigue and low back pain (3.64+0.77) and maintenance of faulty equipment to reduce pains (3.50+0.88). The finding of this study is in line with that of Oluka et al. (2020) whose study on the prevalence of work-related musculoskeletal symptoms and associated risk factors among domestic gas workers and staff of works department in Enugu revealed good safety practices against ergonomic/mechanical hazards among workers. This similarity might be due to the homogeneity of the study respondents in both the previous and present study.

The result in Table 5 showed that the safety practices adopted against psycho-social hazards were: putting clear rules and regulation guiding the work place (3.76+0.66), giving off days and shifts to reduce stress (3.70+0.59), penalizing workers who harassed other worker (3.49+0.83), timely payment of appropriate salaries. The finding of this study is in line with that of Ansah et al. (2018) whose study on the psychosocial safety among Ghanaian fuel attendants which showed good safety practices against psycho-social hazards. This similarity might be due to the homogeneity of the study respondents in both the previous and present study.

CONCLUSION

Based on the findings of the study, it was concluded that, the safety practices adopted by petrol pump attendants in Obio/Akpor Local Government area, Rivers State were: strictly obeying safety tips like no smoking, switch off engines, no use of mobile phones, pre-employment training before resuming work, carefully handling and labelling chemical substances, cleaning up properly after petroleum product spills at the work place to avoid contact with, monthly sanitation in the work place to eliminate viruses, bacteria and fungi, putting clear rules and regulation guiding the work place.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

1. The ministry of labour or environmental agencies should go for inspection of the petrol stations from time to time to ascertain that the knowledge of occupational hazards possessed by the attendants are useful for them to ensure adequate safety in the petrol stations.
2. The petrol stations managers should encourage the workers (attendants) to comply with safety measures by providing or distribution free personal equipment for the workers.
3. Health educators should carry out an enlightenment campaign for petrol stations attendants by organizing seminars and workshops for them occasionally.
4. The petrol station managers should ensure adequate compliance to safety practices by employing the services of safety officers to be on stand-by in the petrol stations.

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