Occupational Safety Practice, Health Hazards and Health Problem among Petrol Station Worker in Ibadan, Oyo State Nigeria

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Dedication

This research work is dedicated to the God almighty, the author and finisher of our faith whom by his grace foreknew, predestined and made this work on success and for seeing me through my academic year.

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Certification

This is to certify that **Ejilude D. Adekunle** with matriculation number LCU/PG/001960 carried out this research work titled **"Occupational Safety Practice, Health Hazards and Health Problem among Petrol Station Worker in Ibadan** in the Department of Public Health, Faculty of Basic Medical and Applied Sciences, Lead City University, Ibadan, Oyo State, for the award of **Doctor of Philosophy Degree (PhD) in Public Health (Occupational and Environmental Health)** and that this has not been previously submitted.

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"Even though the above mentioned institutions and persons have assisted in the completion of this research work, I alone stand responsible for the errors, if any found in the work"

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ABSTRACT

Petrol station workers encounter several hazards and health problems while working. Occupational hazards are the risks to life or functioning of an individual that is inherently associated with his occupation or working environment which can have deleterious effect on the individual's health and his working efficiency. Petrol pump attendants are one such category of workers who are constantly exposed to various hazards at their workplace. This study was conducted to determine the occupational hazards, health problems and safety practices of petrol station workers in Ibadan, Oyo state, Nigeria. The research was a descriptive cross-sectional study that employed a multi-staged selection technique. To achieve the required sample size, 650 randomly selected petrol station employees were chosen from 130 petrol stations with an average age of 29.4 ± 4.6 years in the Ibadan metropolitan area. The data was analyzed using the Statistical Package for the Social Sciences (SPSS Version 20.). Based on the results of occupational safety practices, it was discovered that 48.7%, 47.7%, and 48.2% of the respondent's wear face masks, do not eat or drink while working, and do not use personal protective equipment, respectively. The results of the distribution of occupational safety practices showed that 48.7% of the respondents wore face or nose masks 47.7%, of the respondents did not drink or eat while working and 48.2% of the respondents did not use personal protective equipment while working, and do not use personal protective equipment, respectively. The results of the distribution of occupational safety practices showed that 48.7% of the respondents wore face or nose masks 47.7%, of the respondents did not drink or eat while working and 48.2% of the respondents did not use personal protective equipment while working. Hazards reported included inhalation of petrol fumes (61.1%), confrontation from customers (74.6%) and Exposure to noise (75.5%). Health problems reported included headache (71.9%), vertigo (77.9%), slurred speech (76.6%), cough (90.6%), and nausea (88.5%). There was a statistically significant association between having headache, nausea, cough and inhalation of petrol vapour ($p < 0.01$) or car exhaust fumes ($p < 0.05$). Awareness about personal protective equipment was 30.7%, while use was 7.0%. Hand washing after contact with fuel was practiced by 73.5% of the respondents. The result of this study indicated the relationship between occupational safety practices and health hazards of the petrol attendant was positive and significant ($X^2 = 89.668$; P-val< 0.05); the relationship between inhalation of petrol fume and health problems of the petrol attendant was positive and significant ($X^2 = 89.668$; P-val< 0.05); that relationship between inhalation of petrol fume and health problems of the petrol attendant was positive and significant ($X^2 = 89.668$; P-val< 0.05).

Petrol station attendants in this study were exposed to various hazards and health problems. Awareness and use of PPE was very low. Efforts should be made by stakeholders to ensure that owners of filling stations take responsibility for the health and safety of their workers.

Keywords: Petrol station workers, Occupational Hazards, Health Problem, Safety Practices, Ibadan, Nigeria.

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List of Acronyms

Abbreviation	Meaning
ACGIH	American Conference of Governmental Industrial Hygienists
BTEX	Benzene, Toluene, Ethylene and Xylene s
CAD	Coronary Artery Diseases
COV	Crude Oil Vapor
COPD	Chronic Obstructive Pulmonary Disease
DNA	Deoxyribonucleic Acid
DWH	Deepwater Horizon
ECA	Employees' Compensation Act
EU	European Union
GDP	Gross Domestic Programme
HA	Hippulic Acid
HND	Higher National Diploma
H&S	Health and Safety
HSE	Health and Safety Executive (HSE)
HSP	Health Safety Practices
IARC	International Agency for Research on Cancer
ILO	International Labour Organization (ILO)
IOH	International Occupational Health
IOGP	International Association of Oil & Gas Producers (IOGP)
IPMAN	Independent Petroleum Marketers Association of Nigeria
LCU	Lead City University, Ibadan
LFN	Laws of the Federation of Nigeria (L.F.N)
LGA	Local Government Areas

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LPG	Liquefied petroleum gas (LPG).
MA	Mandelic Acid
MDA	Malondialdehyde
MHA	Methylhppuric Acid
NCOHS	National Council for Occupational Health and Safety
NIOSH	Nigerian Institute for Occupational Safety and Health
NNPC	Nigerian National Petroleum Company (NNPC)
NSIT	National Social Insurance Trust (NSIT)
OND	Ordinary National Diploma
OPEC	Organization of Petroleum Exporting Countries ()
OSHA	Occupational Safety and Health Administration
OSH	Occupational safety and health
OHS	Occupational Health and Safety Services
OHSP	Occupational Health and Safety Practices
OSHMS	Occupational Health and Safety Management System
PIB-Draft	Petroleum Industry Bill
PPE	Personal Protective Equipment
RNS	Reactive Nucleus Species
ROS	Reactive Oxygen Species
SDT	Self Determination Theory
SMS	Safety Management System
SOD	Superoxide Dismutase
SPDC	Shell Petroleum Development Company of Nigeria
SSA	Sub-Saharan Africa
TAC	Total Antioxidant Capacity
USEPA	United States Environmental Protection Agency

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VOCs	Volatile Organic Compounds
WHO	World Health Organization
WMSS	Work-Related Musculoskeletal Symptoms

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