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WORK ENVIRONMENT OF HEALTH PROFESSIONALS: AN ASSESSMENT OF BIOLOGICAL AND PSYCHOSOCIAL OCCUPATIONAL HEALTH HAZARD IN PRIMARY HEALTH CENTRES IN LAGOS STATE

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ABSTRACT

This study aimed at assessing Biological and Psychosocial Occupational Health Hazards among Health Professionals in selected primary health centres in Lagos State. To achieve this study, two research questions and two null hypotheses were postulated. The descriptive survey research method was adopted while the instrument for data collection was a Biological and Psychosocial Occupational Health Hazards Questionnaire (BPOHHQ).Three hundred questionnaires were distributed and collected on the same spot. Section A was on demographic data of the respondents while Section B of the instrument contained items on the two hypotheses. The research instrument used for the study was a four- point Likert-type rating scale questionnaire. The test-retest method of reliability was adopted. The reliability of the instrument was ascertained using the calculated Cronbach's alpha coefficient with R-value of 0.86. Chi square analytical tool was used to test all stated hypotheses at 0.05 level of significance; In conclusion findings from the study showed that there was significant occurrence of Biological and Psychosocial health hazards. It was therefore recommended that Regular in-training for all health professionals should be put in place and encouraged by the government to acquaint them with knowledge on best work practices that predisposes them to minimal risk to hazard while at work.

Keywords: Health Professional, Biological Health Hazards, Psychosocial health hazards, Primary Health Centres.

Introduction

Human is faced with daily challenges of providing for their needs necessary for life sustenance and achievements of life goals. It has been observed that health professionals are faced with different types of hazards in their day-to-day execution of professional practices and the incessant occupational health hazards witnessed and encountered by health care professionals is currently witnessing an alarming projection (Moyce & Schenker, 2018).

As much as Occupational health hazard is recurrently gaining attention it would be out of place not to adequately consider occupational health hazards among health professionals. The primary health care is one of the level of healthcare that provides health services to help members of the community

achieve wellbeing and Alma Mata 1978 conceptualised it as an essential health care based on scientifically sound and socially acceptable methods and technology accessible to all individuals and families in a community while full participation of community members in implementation and decision making is prioritized (Packard, 2016). Consequently, Hing, Hooker & Ashman, (2011) opined that primary healthcare is a common occurrence in community health centers and offers care to marginalized populations. the routine care needed to protect, maintain, or restore our health is known as The Healthcare delivery system provides an encompassing health delivery service at the grassroots which includes dental services, maternal and child health care, Antenatal care, immunization among many others. Hence, requiring the services of several health professionals like dentists, Nurses, doctors, community health workers, Laboratory Scientists among many others (Lu, Jamani, Benjamen, Agbata, Magwood & Pottie, 2020). The health unit professionals are designated as agents responsible for the active integration of the process constituent aspects in the health work process (Carrapa, Castanheira, & Placideli, 2018).

For healthcare to be delivered at its best, it is of utmost necessity that the health and safety of health professionals be promoted for the health of the community not to be in jeopardy. Poor performance results in inappropriate care, which lowers health outcomes since fewer individuals become motivated to use services and those who do are mistreated (Oswald, 2012). Kim, Mustaq, & Tabassum, (2014) defined Occupational safety and health (OSH) as a cross-disciplinary area concerned with guarding the safety, health and welfare of people who are engaged in work or employment.

The ever-increasing accumulative unpalatable effects has created a sense of urgency in the need of Team-based treatment approach which is becoming increasingly important in the Contemporary healthcare climate (Rosenthal, Gravrand & Lisi, 2019). Some of these can be linked to insurance policies that obstruct the effectiveness of care delivery, lack of training and qualifications for its workforce, aging and turnover of village doctor, fragmented health information technology systems, a lack of digital data on routine clinicalpractice, financial subsidies and incentives that do not encourage cost savings and good performance, a alack of a system for measuring and improving quality, subpar results in clinical trials (Li, Jiapeng, Shuang, Cheng, Jan, maeseneer, Quingyue & Mossialos, 2017). Occupational health hazards encountered by health professionals include needle stick injuries, hepatitis infection, HIV/AIDS, severe acute respiratory syndrome (SARS), cancer of occupational origin owing to chemical, physical, and biological exposure to the hazards in the work place.

Biological health hazard is one of the many workplace hazards, and it is particularly significant because of the variety of exposures and contact with extremely dangerous substances (Vermeulen, Schymanski, Barabási, & Miller 2020). It is

assumed that bio aerosols and dust at work interact with other occupational agents and serve as significant carriers of microorganisms (Eriksen, Graff, Pedersen, Straumfors, & Afanou, 2022). A few biological substances are also classified as human carcinogens, which can be crucial in countries with developing economies or particular cultural habits. More also, Occupational biohazards can also include medical waste or samples of a biologically sourced Organism, virus or Toxin (Zahar, & Fazir, 2020). Rim & Lim, (2014) reiterated that biohazards in the workplace are pathogens or dangerous biohazards substances that have an impact on employees' health either directly through infections or vicariously through harm to the workplace.

Conventional with recent happenings, Psychosocial health hazards is fast gaining recognition as the fourth kind of occupational health hazard characterized by workplace violence, stress and strain which are experienced due to work design, management, organization, social and environmental context factors adopted by a workplace having the potential to hurt psychologically or physically (Chirico, Heponiemi, Pavlova, Zaffina & Magnavita, 2019). The World Health Organisation reveled that this adverse reaction happens w hen work demands and pressures do not alig n with employees' talents and instead test the ir capacity to cope (W.H.O, 2019).

Consequentially, it is sad that most of the health workers have paid less attention on recognizing hazards to their health until signs and symptoms of health impairment manifest. Job stress has also been revealed to result into burnout (emotional, physical and mental stress), job dissatisfaction, occupational illness and injuries, employee or labour turnover, reduced mental health, depression, and even suicide (De Looff, Cornet, Embregts, Nijman, 2018). Therefore, this study assessed the occupational health hazards among health professionals in selected primary health centres in Lagos State.

Research Questions

The following research questions were answered for the study:

1. Will there be cases of biological health hazards among health professionals?
2. Will there be cases of psychological health hazards among health professionals?

Research Hypotheses

The following research hypotheses were postulated for the study:

1. There will be no significant incidence of biological health hazards encountered on health professionals in the selected primary health centres in Lagos State.
2. There will be no significant incidence of psychosocial health hazards on health professionals in the selected primary health centres in Lagos State.

Research Method

The descriptive survey research design was adopted because of its capability to examine the relationship between variables under study, hypotheses testing and development of

generalization. The population of this study comprised 300 health professionals in the selected primary health centres in Lagos State. Mixed sampling technique was used in the course of sampling the population of Three hundred health professionals. Purposive sampling technique was used to select the primary health centres in Lagos State which are; Ojo PHC, Iba PHC, Egan PHC, Ikotun PHC and Bola Tinubu PHC Akowonjo. Simple random sampling techniques were adopted for this study to select 60 health professionals from each Primary health centre. The research instrument for the study was the Biological and Psychosocial Occupational Health Hazard Questionnaire (BPOHHQ). The questionnaire was divided into two sections A and B. Section A contained demographic data of respondents, while Section B is structured to test the hypotheses. The questionnaire adopted a Likert's attitudinal scale which are Strongly agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) to enable respondents give near accurate responses to the questions. The face and Content validity of the instrument were ascertained by a panel of three experts in the departments of Human kinetics, Sports and Health Education, faculty of education, Lagos State University, Ojo Lagos. The test-retest method of reliability was adopted and the reliability of the instrument was tested using the Cronbach alpha technique. An r-value of 0.86 was obtained and used as basis for the adoption of the instrument for data collection. The copies of the questionnaire were personally administered with the help of three trained research assistance to the respondents. A total of 300 copies of the questionnaires were distributed and collected with the help of researcher assistants at the spots and data collection lasted for four weeks. Copies of the administered questionnaires were checked to ensure that they were well completed. Daily review meetings were held at the beginning and end of each day with the research assistants. Data collected were analyzed using appropriate descriptive statistics of frequency counts and percentages for data presentation. While the inferential statistics of Chi-square (X^2) was used to test stated hypothesis at 0.05 alpha level of significance. The Statistical Package for Social Science (SPSS) version 23 was used for analyzing the data collected.

Presentation of Results

Table 1: Distribution of respondents by Age.

Age	Frequency	Percentage %
21-30	234	78.00
31-40	31	10.30
41-50	23	7.70
50 years above	12	4.00
Total	300	100.00

Table 1 showed that 234 (78.00%) of the respondents were within the age bracket of 21-30 year, while 31(10.30%) were within the age bracket of 31-40 years and 23 (7.70%)

were 41-50 years, and 12 (4.00%) were within the age bracket of 50 years above.

Table 2: Frequency and percentage distribution of respondents by Gender.

Gender	Frequency	Percentage %
Male	21	7.00
Female	279	93.00
Total	300	100.00

Table 2 showed that 21(7.0%) of the respondents were male while 279 (93.0%) of the respondents were female.

Table 3: Frequency and percentage distribution of respondents by Job type.

Job type	Frequency	Percentage %
Doctor	19	6.31
Nurse/Midwife	133	44.33
Pharmacist	79	26.3
Lab Scientist	52	17.32
Others	17	5.70
Total	300	100.00

Table 3 showed that 19 (6.3%) of the respondents are doctor, 133 (44.3%) were nurses/midwives, 79 (26.3%) were pharmacist, 52 (17.3%) were lab scientists and 17 (5.7%) were from other field of health.

Hypothesis One

Hypothesis one states that there will be no significant incidence of biological health hazards among Health professionals in the selected Primary health centres in Lagos State. This hypothesis was tested using Chi-square at 0.05 level of significance. The result is presented on the table below.

Table 4.9: Chi-square analysis on the incidence of Biological health hazard among health professionals in selected primary health centres in Lagos State.

Responses	FRQ	%	DF	LS	Cal X^2	P value	RMK
SA	154	51.3					
A	138	46.0	2	0.05	128.24	0.000	Sig
D	0	0					
SD	8	2.7					
TOTAL	300	100.0					

Table projects the data collected from the respondents on hypothesis three. It shows that 51.3% of the respondents strongly agreed while 46.0% respondents agreed, 0% respondents disagreed and 2.7% respondents strongly disagreed to the items. However, it further reveals a calculated X^2value of 128.24 which is statistically significant at p= 0.000<0.05 at 2^0 of freedom hence the rejection of the null hypothesis. It therefore implies that there was significant incidence of biological health hazards among Health professionals in selected Primary health centres in Lagos State.

Hypothesis Two

Hypothesis four states that there will be no significant incidence of Psychological health hazards among Health professionals in the selected Primary health centres in Lagos State. This hypothesis was tested using Chi-square at 0.05 level of significance. The result is presented on the table below.

Table 4.10: Chi-square analysis on the incidence of Psychological health hazard among health professionals in selected primary health centres in Lagos State.

Responses	FRQ	%	DF	LS	Cal X^2	P value	RMK
SA A D SD TOTAL	80 196 0 24 300	26.7 65.3 0 8.0 100.0	2	0.05	153.92	0.000	Sig

Table projects the data collected from the respondents on hypothesis four. It shows that 26.7% of the respondents strongly agreed while 65.3% respondents agreed, 0% respondents disagreed and 8.0% respondents strongly disagreed to the items. However, it further reveals a calculated X^2value of 153.92 which is statistically significant at p= 0.000<0.05 at 2^0 of freedom hence the rejection of the null hypothesis. It therefore implies that there was significant incidence of psychological health hazards among Health professionals in selected Primary health centres in Lagos State.

Discussion of Finding

Hypothesis One States that "There is no significant incidence of biological hazards encountered on health professionals in the selected primary health centres in Lagos State". Chi square (χ2) analysis revealed a value of 128.24 which is statistically significant at 2^0 of freedom. Since the p= 0.000<0.05, the null hypothesis was therefore rejected. This finding agrees with findings of Sacadura-Leite et *al*., (2018) in their study on biological hazards for healthcare workers where there was incidence of biological hazard. They reviewed biological hazards for healthcare for workers and described the procedures undertaken by an occupational

health department of a Portuguese hospital where vancomycin-resistant staphylococcus was isolated from the patients. The study reviewed that Healthcare workers are potentially exposed to a large number of microorganisms. They reiterated that workers in healthcare settings and social workers have the fourth-highest rate of work-related diseases. Some health effects caused by biological agents can be prevented through vaccination, and the immune response can be affected by chronic stress. Activities, such as disinfecting, cleaning, transporting contaminated equipment, or working in contaminated areas, can also expose nurse assistants or other hospital workers to biological hazards in healthcare settings

This finding also corroborates with Lalic Kukuljan & Pavicic, (2010) study of case report of occupational middle ear tuberculosis in a nurse at the department of pulmology, Clinical hospital, Rijeka for 17 years. The study showed that this 40-year-old female patient ear infection was caused by Mycobacterium tuberculosis while she assisted in bronchoscopy. Reports from this study therefore revealed the occurrence of biological hazards. Consequently, finding of this study corroborates the reports Rim & Lim, (2014) in their review on biologically hazardous agents at work and efforts to protect workers' health. This review considered researches that has been carried out after 2010, they discovered the incidence and prevalence of biological hazards in workplaces especially among workers and seek to uncover the factors responsible, the adverse effects and protective measures to be adopted. From the over 200 publications considered It could therefore be inferred that there is significant incidence of biological hazards among health professionals in selected primary health centres in Lagos State.

Hypothesis Two states that "There is no significant incidence of psychosocial hazards encountered on health professionals in the selected primary health centres in Lagos State". However, analysis revealed a $\chi 2$ value of 153.92 which is statistically significant at 2^0 of freedom. Since the p= 0.000< 0.05, the null hypothesis was rejected. Finding of the study is in agreement with the study conducted by Okeafor & Alamina, (2018) which showed that health care workers are exposed to psychosocial hazards in the workplace. A total of eighteen subjects were interviewed from the sections of the hospital. Work overload had the highest proportion of all the psychosocial hazards in the theatre (83%), radiology (71%), clinic (52%), ward (42%) and laboratory (38%). This study further considered the corresponding risks among healthcare workers in a tertiary health facility in Rivers State.

Also, findings of this study commemorate Krystyna, Elzbieta & Marek, (2018) study which was conducted on the low representation of men among nursing staff in Poland, in comparison to what similar statistics show for other countries. The research was conducted from September 2017 to April 2018 in the Podlaskie Voivode ship (Poland). A total of 640 respondents working as nurses in in-patient health care facilities, of which 87% were women and 13% were men, were included in the study. It

was concluded that it has been noticed, that results received from the research confirm that psychosocial hazards may have significant impact on the number of men present in the nursing profession in Poland. It also suggested that the greater psychosocial hazards experienced by male nurses in the workplace may be an effect of the particularly low representation of men among practicing nursing staff.

A study was conducted on a work site cross-sectional descriptive study carried out amongst the health workers at the Baptist Medical Centre Ogbomoso, Oyo State, south-western Nigeria. A total of 324 consenting health workers of the institution were administered the job demand-control questionnaire to assess work stress. More than a quarter (26.2%) of the subjects perceived themselves as stressed at work. The single largest group of hypertensive subjects was seen amongst subjects with work stress (Akinwumi, Mojisola, Akintayo & Ayo, 2012).

It could therefore be inferred that there is significant incidence of psychological hazards among health professionals in selected primary health centres in Lagos State.

Conclusion

Based on the findings of this study, it was concluded
that:

There was significant incidence of Biological and Psychosocial health hazards among Health professionals in the selected Primary health centres in Lagos State.

Recommendation

Based on the conclusion of the study, it was recommended that:

1. Regular in-training for all health professionals should be put in place and encouraged by the government to acquaint them with knowledge on best work practices that predisposes them to minimal risk to biological and psychosocial hazard while at work.
2. Health facilities should be constructed and arranged in a manner that equipment and facilities are properly arranged following the principles and recommendation of ergonometric making the health environment friendly and free from preventable hazard.
3. Precautionary measures and appropriate procedures for running facilities, equipment and handling of patients should be properly adhered to protect the safety of all workers for optimum wellness of professionals.

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