Original Research Article

Assessment of Knowledge, Attitude and Practices regarding Occupational Hazards among Nurses at Nawaz Sharif Social Security Hospital Lahore Pakistan

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Abstract: Occupational hazards associated with health are present in every occupation, and they are the leading cause of death and mortality. Occupational safety at the workplace improves the employees' health and increases their productivity. In the medical profession, Nurses constitute the largest group of healthcare workers, and experience a higher rate of workplace hazards exposure than other health care workers. This study aims to assess the knowledge, attitude and practices among nurses concerning occupational hazards in a public hospital. The research method was descriptive cross-sectional. The data was collected from Nawaz Sharif Social Security Hospital Lahore Pakistan. The data was collected from nurses by using questionnaires. The result showed that 67.5% nurses were with high knowledge about occupational hazards. Overall positive attitude was 56.91 % and overall practice level was 57.72% which is insufficient. The practical implication of the study is to improve the practices and reduce the exposure of occupational hazards. There should be training and educational meetings for the nurses to enhance the occupational safety, develop policies on all aspects related to occupational hazards.
Keywords: Occupational hazards, Nurses, Productivity, Attitude, Practices

INTRODUCTION

Occupational hazards are conditions surrounding a work environment that increase the probability of death, disability, or illness to a worker [4].

Pasha, Liesivuori, & Finland, [14] stated that "Over worldwide million of the workers exposed to the work place accidents and hazardous substances. Almost one million work related deaths and 250 million occupational accidents occur annually. In Pakistan developing county, there is worsening condition due to some reasons that each year many workers suffered with injuries, lack of education, inadequate medical facilities, lack of correct information, and literacy at work place. According to World Health Organization "Occupational hazards is the 10th leading cause of diseases and death at work place [15].

Sadleir, [3] stated that workplace hazards are diverse in nature in different occupations. Hospitals are moderate health risk industries as it is associated with many services and people from different professions. Hospital is a service delivery industry; of high work demand profoundly depend on staff for efficient delivery of services [3].

Loewenson, [5] cited that Reducing risk to safety and health through ensuring safe design and choice of safe equipment through the establishment of safe work environments refers to the occupational health and safety [5].

Nursing is a profession within the health care sector focused on the care of individuals ,families and communities so they may attain, or recover optimal health and quality of life [7].

Nursing sectors and workers in other profession like farming, automobile, truck driving have the highest risk of exposure to high risk occupational hazards [1].

Nurses are the largest group of healthcare workers in medical profession and some of them have directly contact with the patient. Nurses experience a higher rate of workplace hazards exposure than other health care workers because nurses assist and perform more bedside procedures" [8].The study was carried out to examine "the knowledge of nurses on the factors that predispose them to occupational hazards in their chosen profession. It was confirmed that 95% nursing professionals are exposed to occupational hazards"[2].

Nurses are at risk of injuries and occupational hazards due to their job activities in the health care set up like physical , chemical ,mechanical ,psychosocial ,biological risk [16]. A study in Philistine revealed the high rates of Needle stick Injuries due to the poor practices like inappropriate vaccination of nurses ,malpractice of infection control standards at work place [17].

Nursing activities in hospital settings such as changing the posture of bed ridden patients, helping the patient during mobilization out of bed, transferring patient to another department, and carrying heavy equipments cause backache [8]. Further, de Castro states ''In hospital setting Nurses have musculoskeletal issues also included in the occupational health hazards [18].

Nurses handle chemicals, drugs and other disinfectants at work place which is helpful for the patient's diagnosis and treatments [8]. In Gaza strip, a study conducted by Eljedi reported that 66% Nurses of Gaza hospital had been injured with the sharps, used syringes [17]. Further studies revealed that contaminated needles and other sharp devices transmit more than 20 different blood borne diseases like hepatitis B , HIV to the nurses in hospitals [9].Nurse's quality of life and quality of care for the patient's may affect more due to the occupational stress. Clinical practice errors increased and also patient's care get decreased by the nurses due to the job related stress [10].

Research Question
- What is the Nurse's knowledge about occupational hazards in Nawaz Sharif Social Security hospital Lahore?
- What are the Nurse's attitude about occupational hazards in Nawaz Sharif Social Security hospital Lahore?
- What are the Nurse's practices regarding occupational hazards in Nawaz Sharif Social Security Hospital Lahore?

Theoretical Framework
The theory of planned behavior proposed by Icek Ajzen in 1967 [19]. According to this theory perceived behavioral control is directly related to beliefs, attitudes, and behavioral intentions. This theory applied to this research study because this study is mainly based on the prevention of occupational hazards among nurses.
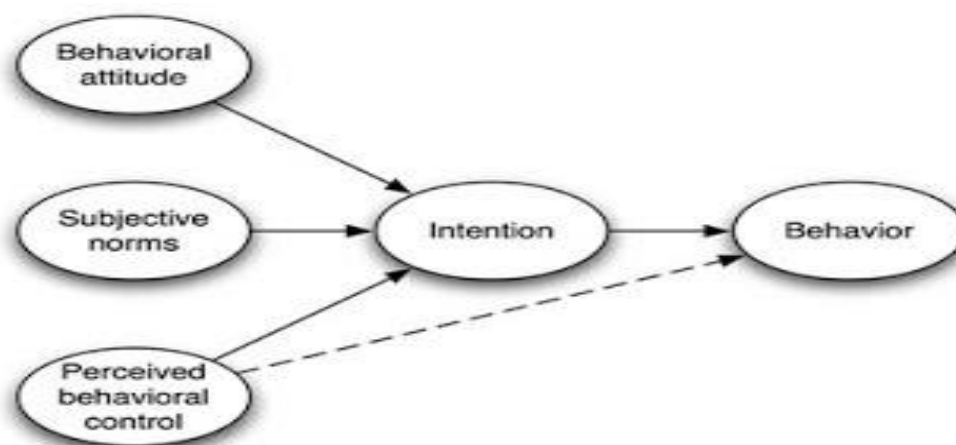
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LITERATURE REVIEW
A study by Health Canada's Office of Nursing revealed that registered nurses who were full-time employed had an illness- and injury-related absenteeism rate is 83% higher than that of other occupational group people .This level of absenteeism raises questions about nurses' health, safety from occupational hazards in which they work, the work they do and how it is organized. [20].

Another study was conducted in which 53.6% nurses at the hospital were unaware about high risks they were exposed to in the course of their work. 89% nurses were knowledgeable about the expected occupational hazards for the health of workers at work

place. Further staff nurses were aware about hand washing practices before and after clinical procedures [1].

A review was led in Nigeria in like manner N= 258 (99.4 %) respondents trusted that work related dangers ought to be organized and immediately considered as a major aspect of favorable work arrangements in medicinal services offices yet N= 258 (98.3 %) trusted that aversion and control of risks in the social insurance offices ought to be a join obligation between the hospital management and staff [1].

Analyst expressed that "wearing hand gloves for clinical methodology was in honed by (96.2 %) N=258 however (22.8 %) out of N= (258) practice was wrong. What's more, sharps and infusion needles were securely arranged (93.8 %) out of (N= 258).All HCWs ought to be completely inoculated against Hepatitis B infection where just 62.4 % respondents were vaccinated [1].

A study conducted in Nigeria by [11]''showed that prevalence of low back pain is 68% present in female nurses and 32% present in male nurses and this is the very serious aspect of occupational hazards[11]. A descriptive study in Erzurum, showed '' Turkey found infection risk (97.9%), stress (83%), psychiatric trauma (66%), allergic substance (63.8%), noise(36.2%), and physical abuse (23.4%) to be prevalent among practicing nurses'' [6].

Another study conducted in Pakistan in AKU accordingly," It was watched that more attendants contrasted with specialists, 73% versus 38%, advised the contamination control office inside 24 hours of injury. In other clinical practice 88% of the nurses utilized a kidney tray to convey syringes or sharp things rather than 41% specialists. Likewise, higher number of nurses wore gloves during invasive procedures. Be that as it may, more nurses (24%) were in the propensity for exchanging uncapped needles

McCray, 1986 [8] stated that Needle stick harm and cuts from sharp instruments represent 76% of work related exposures to HIV among Nurses. Another study revealed that Significant numbers of nurses are regularly exposed to heat (37.9%), slippery floors. (36.4%), chemical irritants (20%), unclean working environment (42.1%) [8].

METHODOLOGY
Research Design
The design of the study was descriptive cross sectional

Research Tool
Research tool was questionnaire that is adopted from Aluko 2016. [1].

Sampling Technique
The convenient sampling method was utilized to gather information from chosen population

Target population
Target population was all Registered Nurses of Nawaz Sharif Social Security hospital Lahore.

Inclusion criteria & Exclusion criteria
All registered Charge nurses and Head Nurses of Nawaz Sharif Social Security hospital Lahore was included in inclusion criteria. Nursing Superintendent and the Nurses who was not willing to participate included in exclusion criteria

Sample Size
Sample size was 123 out of 200 population determined by using solvin's formula

Data analysis
Data analyzed by using SPSS version 21.

Analysis is the categorizing, ordering, manipulating and summarizing the data to an interpretable form so that the research problem can be studied and tested including relationship between variables (Kerlinger). Interpretation is the process of making sense of the results and examining the implications of the findings within a boarder context.

RESULTS
Data interpreted by using four tables of variables given below
- Demographic Variable data present in table
- Knowledge Variable data present in table
- Attitude Variable data present in table
- Practice Variable present in table

The questioners were distributed in 130 participants for data collection, 123 were returned back with complete information as (n=123) sample size was required in (N=200) population. All 100% data was collected from Nawaz Sharif Social Security hospital Lahore.

Demographic Variable
Gender, Age Group, Marital Status, Qualification Job Experience in NSSS Hospital.

Table-1: Demographic Data

S. no	Demographic information	Statements	Frequency	Percentage
1	Sex	Female 122, Male 1	122, 1	99%, 1 % = 100%
2	Age group	20-25 years	18	14.6%
		26-30 years	42	34.1%
		31-35 years	37	30.1%
		36-40 years	26	21.1%
3	Marital status	Married	80	65.0%
		Unmarried	43	35.0%
4	Qualification	Nursing Diploma	81	65.9%
		Specialization	34	27.6%
		Post RN	8	6.5%
5	Job Experiences	Less than 1 year	25	20.3%
		2-5 years	10	8.1%
		6-10 years	40	32.1%
		Above 10 years	48	39%
6	Designation	Staff Nurse	12	91.1%
		Head Nurse	11	8.9%
7	Total		123	100%

Table #1 shows that 99% respondants were female ,34.1% were in age group of 26-30yrs, married respondants were 65%,Nursing diploma holders were 65.9%, Above 10 yrs job experiecend Nurses were 39% in range,91.1% were staff Nurses.

Table-2: Over all Knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High Knowledge (Correct answered 5-8)	83	67.5	67.5	67.5
	Low Knowledge (Correct answered1-4)	40	32.5	32.5	100.0
	Total	123	100.0	100.0	
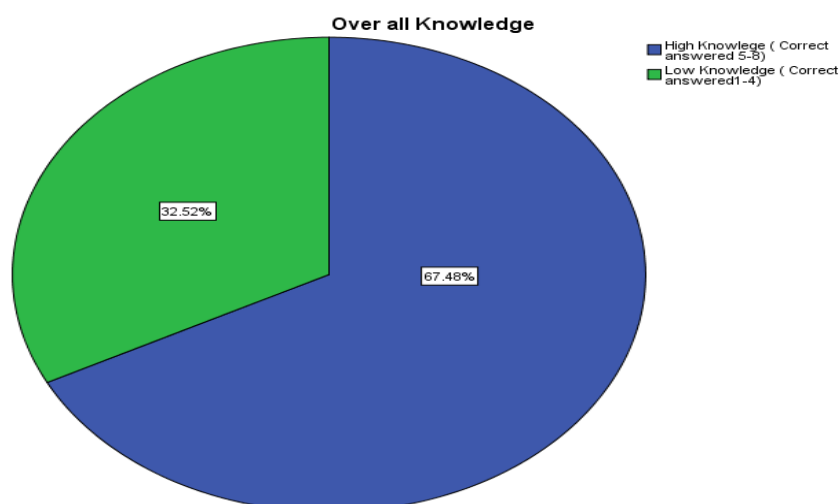
Fig-1: Overall knowledge

Figure#1, Table #2 ,Figure #1 shows that (n=83)67.5% respondants have High knowledge level and 32.5% have low Knowledge.

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Table-3: Over all Attitude

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Positive Attitude(Strongly Agree, Agree)	70	56.9	56.9	56.9
	Negative Attitude (Strongly Disagree, Disagree)	53	43.1	43.1	100.0
	Total	123	100.0	100.0	
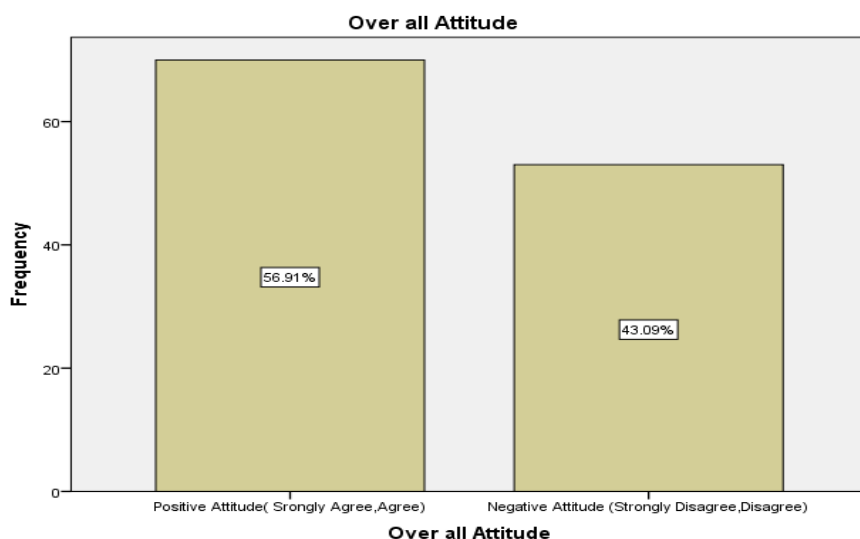
Fig-2: Overal attitutde

Table#3 ,Figure# 2 shows that over all 56.91% (n=70) respondants were Strongly agree , Agree and 43.09% (n=30) were diagree , Strongly disagreed

Table-4: Over all Practice

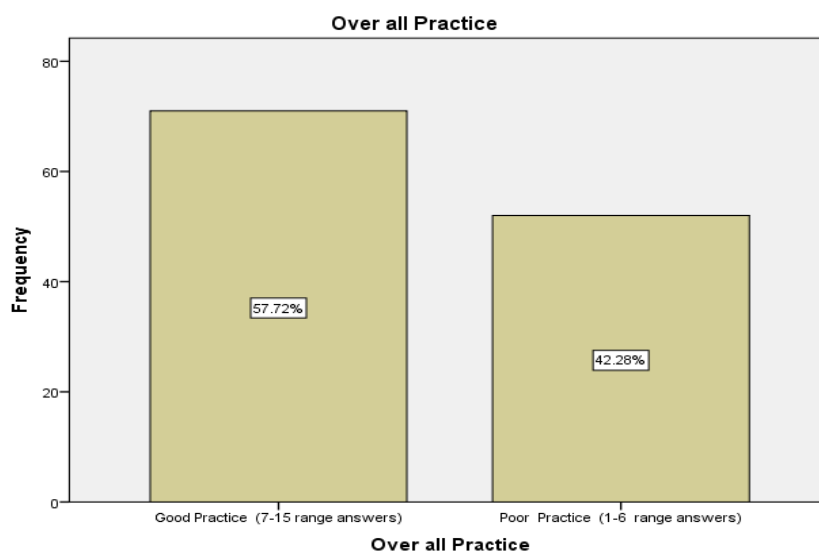|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Good Practice (7-15 range answers)	71	57.7	57.7	57.7
	Poor Practice (1-6 range answers)	52	42.3	42.3	100.0
	Total	123	100.0	100.0	

Fig-3: Overall practice

Figure # 3 and Table # 4 shows that 57.72% respondents have good practices and 42.28% have poor practices

Chi-square Analysis
Statistically significant association between qualification and Knowledge

Table-5: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.783[a]	8	.214
Likelihood Ratio	12.593	8	.127
Linear-by-Linear Association	7.074	1	.008
N of Valid Cases	123		
a. 9 cells (60.0%) have expected count less than 5. The minimum expected count is .20.			

According to the Pearson correlation result there is a statistically slightly significance association between qualification of participants and Knowledge of Staff Nurses because significant in the above table # 5 p= .008 that is slightly higher than P value (0.05).

Chi-square Analysis
Statistically Non -significant association between qualification and Attitude

Table- 6: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	57.079[a]	56	.435
Likelihood Ratio	56.196	56	.468
Linear-by-Linear Association	4.964	1	.026
N of Valid Cases	123		
a. 82 cells (94.3%) have expected count less than 5. The minimum expected count is .07.			

According to the Pearson correlation result there is a statistically non- significance association between qualification of participants and Attitude of Staff Nurses because non-significant value in the above table # 6 p= .026 that is slightly higher than P value (0.05).

Chi-square Analysis
Statistically Non -significant association between qualification and Practice

Table-7: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.124[a]	22	.452
Likelihood Ratio	24.844	22	.305
Linear-by-Linear Association	2.874	1	.090
N of Valid Cases	123		
a. 28 cells (77.8%) have expected count less than 5. The minimum expected count is .07.			

According to the Pearson correlation result there is a statistically non- significance association between qualification of participants and practice of Staff Nurses because significant in the above table # 8 p= .090 that is slightly higher than P value (0.05).

Chi-square Analysis
Statistically Non -significant association between job experience of participants and Knowledge of Staff Nurses.

Table-8: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.266[a]	12	.680
Likelihood Ratio	11.427	12	.493
Linear-by-Linear Association	1.526	1	.217
N of Valid Cases	123		
a. 12 cells (60.0%) have expected count less than 5. The minimum expected count is .24.			

According to the Pearson correlation result there is a statistically non- significance association between job experience of participants and Knowledge of Staff Nurses because non-significant value in the above table # 9 p= .217 that is slightly higher than P value (0.05).

Chi-square Analysis

Statistically Non -significant association between job experience of participants and Attitude of Staff Nurses.

Table-9: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	84.661[a]	84	.459
Likelihood Ratio	81.894	84	.545
Linear-by-Linear Association	5.905	1	.015
N of Valid Cases	123		
a. 116 cells (100.0%) have expected count less than 5. The minimum expected count is .08.			

According to the Pearson correlation result there is a statistically non- significance association between job experience of participants and attitude of Staff Nurses because non-significant value in the above table # 10 p= .015 that is slightly higher than P value (0.05)

Chi-square Analysis

Statistically Non -significant association between job experience of participants and practices of Staff Nurses.

Table-10: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	56.616[a]	48	.184
Likelihood Ratio	53.184	48	.281
Linear-by-Linear Association	3.368	1	.066
N of Valid Cases	123		
a. 59 cells (86.8%) have expected count less than 5. The minimum expected count is .08.			

According to the Pearson correlation result there is a statistically non- significance association between job experience of participants and Practices of Staff Nurses because non-significant value in the above table # 11 p= .066that is slightly higher than P value (0.05).

DISCUSSION

This study was conducted in Nawaz Sharif Social Security hospital Lahore Pakistan among nurses regarding the occupational hazards at work place. Upon survey in hospital, maximum age group was 34.1% that was between 31-35yrs .65% respondents were married and majority 69.5% were diploma holder but 39% nurse's job experience was above 10 years .According

the findings of the studies there was over all 67.5% Nurses had high level of knowledge and 32.52% had low level of knowledge regarding occupational hazards at work place. There was another study conducted in Nigeria and the results showed 54.6% nurses had high level of knowledge and 45.4% nurses showed low level of knowledge at work place.

According to the Attitude of Nurses regarding prevention of occupational hazards, there were 58.9% nurses showed positive attitude and 43.1% nurses showed negative attitude. Similarly, Nigeria 's Studies finding showed 88.2% nurses positive attitude and 11.8% nurses showed negative attitude regarding the

safety precaution about occupational exposure at work place.

Nawaz Sharif hospital study's result showed that there were only 57.7% nurses had good practices and 42.3% nurses showed bad practices regarding safety practice at hospital.

While Nigeria study finding revealed that almost 50% nurses had bad practices regarding safe practices about occupational hazards. On relationship among variables, the respondent's qualification and knowledge were significantly associated, in the agreement with the findings of (Tziaferi et al).but the correlation of qualification with attitude and practices is not sufficient. Similarly, correlation between Job experience and KAP studies is not significant. Nigeria's studies revealed the qualification was not significantly associated with practices.

Strength of the Study
The present study has a number of strengths which are follows:
- This is a study conducted in Pakistan context which assessed knowledge, attitude, practice of nurses regarding occupational hazards
- Moreover, this study has gathered rich data on knowledge, attitude, and practice variables along with the demographic variables simultaneously.
- In this study questionnaire used was already been tested for validity and reliability of urdu translation in Pakistan population
- The sample size 123 was enhanced the internal validity of this research
- The training of the data collector and continuous supervision during data collection phase
- by the principal investigator was strength to ensure the appropriate quality of data collected for this study

Limitation
The study has certain limitations that need to be acknowledging in the interpretation of the result. This is a cross sectional study, therefore inferences related to the causality of association could not be drawn; however, case control and cohort studies should be conducted to establish causal relationship. Convenient sampling was applied in data collection process, whereas the probability sampling method can enhance the induction of different strata of the participants. Time duration was short for this study. Convenience sampling technique was also a limitation. Population was only selected from one government hospital. Lack of the interest of the participant's. Staff nurses refused to participate due to work overload, shortage of time, shortage of staff.

CONCLUSION
The research study concluded that nurses have knowledge regarding occupational hazards but have some mal practices also which lead their life to threatening conditions. There is some other issues also which contribute to the exposure of nurses to occupational hazards at work place like unavailability of proper equipments. There is no proper hospital policy regarding the reporting of exposed cases and also no proper immunization to all nurses against contagious diseases. There are no any institutional level drills or training sessions for the safety of nurses at work place regarding the occupational hazards.

Recommendations
- There should be regular training and educational meetings for the staff nurses to enhance the occupational safety, develop policies or strategies on all aspects related to occupational hazards
- There should be regularly routine check-ups of nurses to ensure occupational health.
- There should be proper records of accidents and injuries to its nurses to provide useful data on nurse safety/performance and first-hand information from nurses on their safety concerns.
- Pre-employment history and gender should also be considered since existing medical conditions of nurses can be aggravated depending on the role they have been assigned to.

REFERENCES
1. Aluko, O. O., Adebayo, A. E., Adebisi, T. F., Ewegbemi, M. K., Abidoye, A. T., & Popoola, B. F.(2016). Knowledge, attitudes and perceptions of occupational hazards and safety practices in Nigerian healthcare workers. *BMC research notes, 9*(1), 71.
2. Amosu, A., Degun, A., Atulomah, N., Olanrewju, M., & Aderibigbe, K. (2011). the level of knowledge regarding occupational hazards among nurses in Abeokuta, Ogun State, Nigeria. *Current research journal of biological sciences, 3*(6), 586-590.
3. Sadleir, R. J., Vannorsdall, T. D., Schretlen, D. J., & Gordon, B. (2010). Transcranial direct current stimulation (tDCS) in a realistic head model. *Neuroimage, 51*(4), 1310-1318.
4. Collins dictionary (n.d). Retrieved from https://www.collinsdictionary.com/dictionary
5. Loewenson, R. H. (1998). Health impact of occupational risks in the informal sector in Zimbabwe. *International Journal of Occupational and Environmental Health*, *4*(4), 264-274.
6. Ochei, K. C., Obeagu, E. I., Eteng, U. E., Kingston, O.-E. U., & Michael, O. Journal of Biological and Chemical Research.
7. Doyle, M. J. (2017). Allergic rhinitis. *Dermatological Nursing, 16*(1).

8. Rhule, H. K. A. (2012). *Health Related Risks of Nursing Practice at Effia-Nkwanta Regional Hospital, Sekondi.* Department of Theoretical and Applied Biology, Kwame Nkrumah University of Science And Technology.

9. Ramsay, J., Denny, F., Szirotnyak, K., Thomas, J., Corneliuson, E., & Paxton, K. L. (2006). Identifying nursing hazards in the emergency department: A new approach to nursing job hazard analysis. *Journal of safety research, 37*(1), 63-74.

10. Sarafis, P., Rousaki, E., Tsounis, A., Malliarou, M., Lahana, L., Bamidis, P., . . . Papastavrou, E. (2016). The impact of occupational stress on nurses' caring behaviors and their health related quality of life. *BMC nursing, 15*(1), 56.

11. Sikiru, L., & Hanifa, S. (2010). Prevalence and risk factors of low back pain among nurses in a typical Nigerian hospital.

12. Stanyar, K. R. (2014). Impact Of Physical And Psychosocial Workplace Hazards On Employee Health: An Irish T Ale Of Civil Servant Workers.

13. Yassi, A., & Lockhart, K. (2013). Work-relatedness of low back pain in nursing personnel: a systematic review. *International journal of occupational and environmental health, 19*(3), 223-244.

14. Pasha, T. S., Liesivuori, J., & Finland, K. (2003). Country profile on occupational safety and health in Pakistan. *Kuopio (Finland): Finnish Institute of Occupational Health*.

15. Faremi, F. A., Ogunfowokan, A. A., Mbada, C., Olatubi, M. I., & Ogungbemi, A. V. (2014). Occupational hazard awareness and safety practices among Nigerian sawmill workers. *International journal of medical science and public health*, *3*(10), 1244-1249.

16. Isara, A. R., & Ofili, A. N. (2012). Prevalence of occupational accidents/Injuries among health care workers in a federal medical centre in southern Nigeria. *West African journal of medicine*, *31*(1), 47-51.

17. Obaid, H. A. A., & Eljedi, A. (2015). Risk factors for the development of diabetic foot ulcers in Gaza Strip: a case-control study. *International Journal of Diabetes Research*, *4*(1), 1-6.

18. Vara, J. Á. F., Casado, E., de Castro, J., Cejas, P., Belda-Iniesta, C., & González-Barón, M. (2004). PI3K/Akt signalling pathway and cancer. *Cancer treatment reviews*, *30*(2), 193-204.

19. Ajzen, I., & Fishbein, M. (1970). The prediction of behavior from attitudinal and normative variables. *Journal of experimental social Psychology*, *6*(4), 466-487.

20. Sawatzky, R., Ratner, P. A., Johnson, J. L., Kopec, J. A., & Zumbo, B. D. (2009). Sample heterogeneity and the measurement structure of the Multidimensional Students' Life Satisfaction Scale. *Social Indicators Research*, *94*(2), 273-296.