Stress and its Associated Risk Factors among Health Workers in University Teaching Hospital (Uch), Ibadan

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ABSTRACT

The health workers experience a harsh physical and psychologically exhaustive work process, with high and complicated demands and long work journeys; they work in shifts, with a work burden motivated by the insufficient number of professionals to attend to the overcrowded services. Therefore, the study examine stress and it's associated risk factors among health workers in University Teaching Hospital (UCH), Ibadan.

The study adopted a descriptive research design survey in which a total of two hundred health workers in University Teaching Hospital (UCH), Ibadan were selected using simple random sampling technique. Two research questions and two hypotheses were tested using descriptive and inferential statistics at 0.05 level of significant.

The findings of the showed that the level of stress among health workers is high (X=3.46 > 3.00), associated risk factors among health workers is low (X=1.15 < 1.50) and perceived effects of stress among health workers is low (X=2.85 < 3.00). There is significant negative relationship between stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan; $r_{(198)} = -.226$ $p < 0.05$ and there was significant difference of stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan based on gender ($T_{(198)} = 1.643$, $p < .05$).

It was recommended that early screening of health professional for occupational stress and its risk factors has to be given attention. Counselingcenters manned by qualified psychologists should be established with the various healthcare facilities, to help health workers cope with the stress they encounter as a result of their job demands.

INTRODUCTION

Healthcare workers are an essential group of professionals whose work is critical to the maintenance of a healthy society. Healthcare providers primarily comprise certified medical personnel who are mainly

physicians, nursing staff, medical scientists, pharmacist, and medical technicians as well as nonclinical support staff including the administrative class. Owing to their specialized training, healthcare professionals are expected to demonstrate a high knowledge and awareness regarding health consequences of lifestyle changes such as diabetes and cardiovascular diseases (Sharma, Anand, Kishore, Dey and Ingle 2014).

Considering the health-related knowledge at the disposal of hospital workers and their proximity to healthcare delivery, the assumption will be that the prevalence of cardiometabolic diseases and its modifiable risk factors would be relatively low (Egbi, Rotifa, and Jumbo, 2015). However, certain work-related risk factors, such as shift work and mental and physical stress, which characterize the work environment of the hospital put health workers among a high occupational risk group for certain disease conditions.

Healthcare workers are mentors to the general population for a healthy life and have the principal responsibility of encouraging appropriate lifestyle changes that affect the prevention of these diseases (Nobahar and Razavi, 2015). Evidence suggests that there is a strong and consistent relationship between healthcare workers choices and the recommendations he or she makes to his or her patients (Hegde, Sathiyanarayanan, Venkateshwaran, Sasankh, Ganeshkumar, and Balaji, 2015). Thus, preventing cardiovascular disease and other related metabolic risk factors among healthcare workers is a major strategy to achieving a healthy workforce in the workplace as well as in the general population.

Health workers is the main workforce at hospital institutions and these professionals' work is fundamental, as they are responsible for direct and uninterrupted care to the patient, 24 hours per day, seven days per week. As a care manager, the health workers has a unique perspective on patient care and hospital operations and stands at the frontline of these health services. These professionals are submitted to different occupational risks though, mainly psychosocial risks (Iwuala, Ayankogbe, Olatona, 2015). The health workers experience a harsh – physical and psychologically exhaustive –work process, with high and complicated demands and long work journeys; they work in shifts, with a work burden motivated by the insufficient number of professionals to attend to the overcrowded services. In addition, in this environment, permeated by complex interpersonal relationships with the multiprofessional team, there is a lack of acknowledgement, autonomy and devaluation of this group; there is the daily contact with suffering, high performance requirements for the teams and concerning patient safety.

Furthermore, stress is a common mental health problem in the community. Stress is a state of emotional suffering typically characterised by symptoms of depression and anxiety. These symptoms often coexist and co-occur with common somatic complaints and a wide range of chronic conditions, as well as with medically unexplained syndromes. Up to 50 percent of persons with specific medical problems or stressors have been diagnosed with psychological problems. Stress has been defined variously by many authors (Akintunde, Salawu, and Opadijo, 2014). For example, According to United States National Institute for Occupational Safety and Health, job stress is defined as "the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, responses, or needs of the worker.

Work-related stress (WRS) is simply stress, which is caused or made worse by working. Job stress is a substantial and growing concern for workers, their advocates, employers, occupational health and safety regulators, and workers' compensation programs. Kyei et al. (2016) define stress as a feeling of strain and pressure and reflects disparity between comprehension of the requirements on one hand, and the ability to cope with this demand on the other.

Molero et al. (2019) also define stress as a complex psychobiological process which is experienced when the individual perceives a threat or danger in the environment. Stress remains a major organizational challenge confronting many healthcare professionals due to its adverse effects on staff performance, job satisfaction,

and patients' outcomes. Stress has become an endemic problem in healthcare contributing to health-related challenges which decrease efficiency and productivity.

The current work environment of nurses is confronted with increasing healthcare complexities such as heavy workloads, inadequate staffing levels, scarce resources and expanding roles which significantly promote work-related stress (Jones et al., 2015). Almutairi et al. (2020) have argued that health care professionals especially those in pre-hospital care are exposed to emotional stress every day and therefore likely to be. depressed. Kyei et al. (2016) report that stressed employees exhibit signs of depression or not being appreciated, nervousness and anxiety, loss of appetite, exhaustion, blood pressure and even lead to abnormal menstruation.

Generally, stress can also be said to be a psychological and physiological response to undesirable experiences generally termed as stressors (Al-Makhaita et al., 2014). Stress was defined by Geslani and Gaebelein (2013) as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being". Though "stress" is more commonly thought of as harmful (Epel et al., 2018), how it is responded to could be more detrimental or otherwise. The management of stress could lead to "eustress" (positive responses such as innovation and improved productivity) or "distress" (negative outcomes) (Kaburi et al., 2019). Rudland et al. (2020), for instance, report that thinking more positively about stress, could lead to productive learning in health education and improve performance.

Occupational stress has a number of negative consequences including burnout which has long-lasting effects on the individual with impacts on workplace performance and culture. Other impacts of stress include but are not limited to intention to leave the workplace, reduced quality of life, lower job satisfaction, and impaired job performance (Jordan, Adaband Cheng, 2020). Furthermore, concentration, attention and decision-making of an individual may be significantly compromised by stress. In the nursing profession, occupational stress can have a negative impact on patient and family outcomes. Stress can contribute to adverse clinical care that affects patients thereby impacting quality of care and treatment outcomes. Many have considered that one needs certain levels of stress to endure life challenges as long as that stress does not bare a health risk or becomes chronic.

Health workers (HWs) are at the forefront of the Covid-19 outbreak response and as such are exposed to hazards that put them at risk of infection. As early as February 2020, scholars had established that transmission of the disease among HWs is associated with overcrowding, absence of isolation room facilities, and environmental contamination (Wu and McGoogan, 2020). However, in the context of the rapidly evolving Covid-19 pandemic, occupational health and safety policymakers need timely access to updated health information on the risk HWs face. This evidence is best obtained through a systematic review; however, this review method requires vast resources, including time, to complete that do not suit the needs (Tricco, Antony and Zarin, 2015). In this study, we aimed to map available evidence on Covid-19 risk factors among HWs to guide future research and policy.

These and other factors trigger stress and produce physical and mental health problems for these professionals. Stress is commonly interpreted as the feeling of being tense, burdened and concerned with the job requirements. Nevertheless, this stress results from the interaction between psychological demand, control/decision over the work and the social support the worker receives in his daily work from colleagues and heads. In this theoretical perspective, social support is understood as the result of interpersonal interaction at work which, as it favors a pleasant environment and support from peers and heads, produces a mitigating effect on the worker's psychological demands and work-related tension. Therefore, the study examine stress and it's associated risk factors among health workers in University Teaching Hospital (UCH), Ibadan.

Research Questions

The following research questions will be formulated to guide the conduct of the study and would be answered in the study:

1. What is the level of stress among health workers in University Teaching Hospital (UCH), Ibadan?
2. What are the associated risk factors among health workers in University Teaching Hospital (UCH), Ibadan?

Hypotheses

The following hypotheses will be tested at 0.05 level of significant:

1. There is no significant relationship between stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan
2. There is no significant difference of stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan based on gender

METHODOLOGY

This study adopts descriptive survey research design. This approach involves interpretation of facts without manipulating any variable. The participants for this study are health workers in University Teaching Hospital (UCH), Ibadan. The study makes use of two hundred (200) health workers in in University Teaching Hospital (UCH), Ibadan through Simple Random Sampling Technique in selection of health workers in University Teaching Hospital (UCH), Ibadan. 91 (45.5%) of the respondent are male and 109 (54.5%) of the respondents are females. Questionnaire was used to gather information from the respondents.

To establish the reliability of the stress and it's associated risk factors among health workers measurement used in the survey instrument, the reliability coefficient (Cronbach coefficient alpha) was verified at 0.78. Content validity was established and strengthened through an extensive review of the literature.

The researcher seek permission from the head of University Teaching Hospital (UCH), Ibadan for the administration of the questionnaire among health workers in University Teaching Hospital (UCH), Ibadan. The researcher seek part of the visits was to solicit their willingness to participate in the study. The descriptive statistics was used for testing the demographic why the inferential statistics which include; Pearson product Moment Correlation (PPMC) in checking the significant relationship among the variables and T-Test to measure the differences between the variables at 0.05 level of significant.

RESULTS

Research Question 1: What is the level of stress among health workers in University Teaching Hospital (UCH), Ibadan?

Table 1: Showing frequency distribution on the level of stress among health workers

	1	**2**	**3**	**4**	**5**	**Mean $\bar{x}$**	**SD**
1. In the last month, how often have you felt that you were unable to control the important things in your life?	**1** **0.5%**	**3** **1.5%**	**2** **1.5%**	**64** **32%**	**130** **65.0%**	**4.60**	**.643**

2. In the last month, how often have you felt confident about your ability to handle your personal problems?	20 10.0%	24 12.0%	21 10.5%	93 46.5%	42 21.0%	3.57	1.230
3. In the last month, how often have you felt that things were going your way?	39 19.5%	51 25.5%	44 22.0%	33 19.5%	33 19.5%	2.85	1.359
4. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	49 24.5%	41 20.5%	39 19.5%	39 19.5%	32 16.0%	2.82	1.413
Weighted mean = 3.46							

Table 1 above shows the frequency distribution on the level of stress among health workers in University Teaching Hospital (UCH), Ibadan. In the last month, how often have you felt that you were unable to control the important things in your life? ($\bar{x}$ =4.60) was ranked highest by the mean score rating and was followed in succession by In the last month, how often have you felt confident about your ability to handle your personal problems? ($\bar{x}$ =3.57), In the last month, how often have you felt that things were going your way? ($\bar{x}$ =2.85) and In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? ($\bar{x}$ =2.82) respectively. The table shows the weighted mean of 3.46 > 3.00 is higher than the standard mean which implies that it is high. This implies that the level of stress among health workers in University Teaching Hospital (UCH), Ibadan is high. It also revealed that the health workers in University Teaching Hospital (UCH), Ibadan experience high level of stress.

Research Question 2: What are the associated risk factors among health workers in University Teaching Hospital (UCH), Ibadan?

Table 2: Showing frequency distribution on the associated risk factors among health workers

	Yes	**No**	**Mean** $\bar{x}$	**SD**
1 Shift work	145 72.5%	55 25.5%	1.28	.448
2 Lack of adequate break time	141 70.5%	59 29.5%	1.30	.457
3 Unfair distribution of working hour	145 72.5%	55 27.5%	1.28	.448
4 Unsocial working hour	138 69.0%	62 31.0%	1.31	.464

5 Underutilization of skills	189 94.5%	11 5.5%	1.06	.229
6 Poor supervision/ Poor relationship with supervision	185 92.5%	15 7.5%	1.08	.264
7 Lack of motivation	182 91.0%	18 9.0%	1.09	.287
8 Working with the public	183 91.5%	17 8.5%	1.09	.280
9 High workload	187 93.5%	13 6.5%	1.07	.247
10 A poor working environment	196 98.0%	4 2.0%	1.02	.140
Weighted mean = 1.15				

Table 2 above shows the frequency distribution on the associated risk factors among health workers in University Teaching Hospital (UCH), Ibadan. Unsocial working hour ($\bar{x}$=1.31) was ranked highest by the mean score rating and was followed in succession by Lack of adequate break time ($\bar{x}$ =1.30), Unfair distribution of working hour ($\bar{x}$ =1.28), Shift work ($\bar{x}$=1.28), Lack of motivation ($\bar{x}$=1.09), Workingwith the public ($\bar{x}$ =1.09), Poor supervision/ Poor relationship with supervision (1.08), High workload ($\bar{x}$=1.07), Underutilization of skills ($\bar{x}$=1.06) and A poor working environment ($\bar{x}$=1.02) respectively. The table shows the weighted mean of 1.5 < 1.50 is low than the standard mean which implies that it is low. This implies that associated risk factors among health workers in University Teaching Hospital (UCH), Ibadan is low. It also revealed that health workers in University Teaching Hospital (UCH), Ibadan risk factor to stress is low.

Research Question 3: What are the perceived effects of stress among health workers in University Teaching Hospital (UCH), Ibadan?

Table 3: Showing frequency distribution on the perceived effects of stress among health workers

Items	1	2	3	4	5	**Mean** $\bar{x}$	**SD**
1. Stress causes physical, emotional and mental discomfort among health workers	49 24.5%	45 22.5%	27 13.5%	51 25.5%	28 14.0%	2.82	1.41
2. Stress poses a threat to the health of workers and in turn affects the quality and productivity at work	53 26.5%	50 25.0%	23 11.5%	43 21.5%	31 15.5%	2.75	1.44

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3. Stresses decreases attention and concentration at work and increases the risk for work place accidents	43 21.5%	60 30.0%	26 13.0%	47 23.5%	24 12.0%	2.75	1.34
4. Stress may harm professional effectiveness	48 24.0%	51 25.5%	29 14.5%	44 22.0%	28 14.0%	2.77	1.39
5. Stress reduces health workers ability to establish a strong supervisor and coworker	33 16.5%	54 27.0%	41 20.5%	38 19.0%	34 17.0%	2.93	1.34
6. Stress causes poor working relationship with supervisors and co- workers	44 22.0%	58 29.0%	32 16.0%	47 23.5%	19 8.5%	2.70	1.30
7. Stress makes health workers susceptible to burn out and brain drain	43 21.5%	55 27.5%	30 15.0%	38 19.0%	34 17.0%	2.83	1.40
8. Stress at work affects workers roles in their family	41 20.5%	62 31.0%	29 14.5%	38 19.0%	30 15.0%	2.77	1.37
9. Stress adversely affects health worker's integrity	45 22.5%	61 30.5%	32 16.0%	36 18.0%	26 13.0%	2.69	1.34
10. Errors are common when health workersare stressed	20 10.0%	24 12.0%	21 10.5%	93 46.5%	42 21.0%	3.57	1.23
Weighted mean = 2.85							

Table 3 above shows the frequency distribution on the perceived effects of stress among health workers in University Teaching Hospital (UCH), Ibadan. Errors are common when health workers are stressed ($\bar{x}$ =3.57)was ranked highest by the mean score rating and was followed in succession by Stress reduces health workers ability to establish a strong supervisor and coworker ($\bar{x}$=2.93), Stress makes health workers susceptible to burn out and brain drain ($\bar{x}$ =2.83), Stress causes physical, emotional and mental discomfort among health workers ($\bar{x}$ =2.82), Stress may harm professional effectiveness ($\bar{x}$ =2.77), Stress at work affects workers roles in their family ($\bar{x}$ =2.77), Stress poses a threat to the health of workers and in turn affects the quality and productivity at work ($\bar{x}$=2.75), Stresses decreases attention and concentration at work and increases the risk for work place accidents ($\bar{x}$=2.75), Stress causes poor working relationship

with supervisors and co- workers ($\bar{x}$ =2.70) and Stress adversely affects health worker's integrity ($\bar{x}$ =2.69) respectively. The table shows the weighted mean of 2.85 < 3.00 is low than the standard mean which implies that it is low. This implies that perceived effects of stress among health workers in University Teaching Hospital (UCH), Ibadan is low. It also revealed that health workers in University Teaching Hospital (UCH), Ibadan risk factor to perceived effects of stress on their job is low.

Hypothesis One: There is no significant relationship between stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan

Table 4: showing PPMC summary on the relationship between stress and risk factors among health workers

Variable	N	Mean	SD	DF	R	Sig	P
Stress	200	13.83	3.15	198	-.226	.000	<0.05
Risk factors		11.54	1.64				

Table 4 show the significant relationship between stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan. The result revealed that there is significant negative relationship between stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan; $r_{(198)} = -.226$ $p < 0.05$. This implies that stress have negative weak correlation to risk factors among health workers in University Teaching Hospital (UCH), Ibadan.

Hypothesis Two: There is no significant difference of stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan based on gender

Table 5: Summary Table of t-test for independent measures showing comparison between stress and risk factors based on gender

	Gender	**N**	**Mean**	**SD**	**Df**	**T**	**Sig**
	Male	91	11.80	1.70			
Stress and risk factors					198	.1.643	.201
	Female	109	11.33	1.57			

From Table 5, the result showed that there was significant difference of stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan based on gender ($T_{(198)}$= 1.643, p<.05). From the table above, a mean score of 11.80 for male participants while female participants had a mean score of 11.33 with a mean difference of 0.47 and statistically significant.

DISCUSSION OF FINDINGS

From research question one on the level of stress among health workers in University Teaching Hospital (UCH), Ibadan. The result shows that the weighted mean is higher than the standard mean which implies that it is high. This implies that the level of stress among health workers in University Teaching Hospital (UCH), Ibadan is high. It also revealed that the health workers in University Teaching Hospital (UCH), Ibadan experience high level of stress.

Also, from research question two on the associated risk factors among health workers in University

Teaching Hospital (UCH), Ibadan. The result shows that the weighted mean is low than the standard mean which implies that it is low. This implies that associated risk factors among health workers in University Teaching Hospital (UCH), Ibadan is low. It also revealed that health workers in University Teaching Hospital (UCH), Ibadan risk factor to stress is low.

However, from research question three on the perceived effects of stress among health workers in University Teaching Hospital (UCH), Ibadan. The result shows that the weighted mean is low than the standard mean which implies that it is low. This implies that perceived effects of stress among health workers in University Teaching Hospital (UCH), Ibadan is low. It also revealed that health workers in University Teaching Hospital (UCH), Ibadan risk factor to perceived effects of stress on their job is low.

Furthermore, from hypothesis one on significant relationship between stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan. The result revealed that there is significant negative relationship between stress and risk factors among health workers in Federal Neuro Psychiatric Hospital. This implies that stress have negative weak correlation to risk factors among health workers in University Teaching Hospital (UCH), Ibadan.

Lastly, on hypothesis two on significant difference of stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan based on gender. The result showed that there was significant difference of stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan based on gender. This implies that there is mean difference in male and female level of stress and risk factor which is statistically significant.

This is supported with the study of Pawlina & Schnorr (2018) do report that female health professionals are more likely to suffer stress as compared to males. Nirmala and Babu (2015) report that male healthcare workers felt higher levels of stress as compared to their female colleagues. These differences could be attributed to the variations in tools, settings and the male to female ratio of the health workers employed in the current study and the other studies. Also, Salam (2016), Boran et al. (2012), and Birhanu et al. (2018) identified in their study that there was the lack of clarity in promotion criteria. O'Connor, (2021) noted that stress is also a major contributor to attrition and widespread shortages in the health profession. Ganann, Ciliska and Thomas (2010) study found that the evidence on risk factors are likely to be underreported given the rapid evolution of the pandemic and lack of readily available data from other parts of the world like Africa at the time of the review. Third, owing to the heterogeneity among included articles, our review findings cannot be generalized or clinically implicated.

CONCLUSION

The main purpose of this study is to investigate stress and it's associated risk factors among health workers in University Teaching Hospital (UCH), Ibadan. In line with the findings, this research work has established that, the weighted mean is higher than the standard mean which implies that it is high. This implies that the level of stress among health workers in University Teaching Hospital (UCH), Ibadan is high. It also revealed that the health workers in University Teaching Hospital (UCH), Ibadan experience high level of stress. Also, the weighted mean is low than the standard mean which implies that it is low. This implies that associated risk factors among health workers in University Teaching Hospital (UCH), Ibadan is low. It also revealed that health workers in University Teaching Hospital (UCH), Ibadan risk factor to stress is low. However, the weighted mean is low than the standard mean which implies that it is low. This implies that perceived effects of stress among health workers in Federal Neuro Psychiatric. Furthermore, there is significant negative relationship between stress and risk factors among health workers in Federal Neuro Psychiatric Hospital. This implies that stress have negative weak correlation to risk factors among health workers in University Teaching Hospital (UCH), Ibadan. Lastly, there was significant difference of stress and risk factors among health workers in University Teaching Hospital (UCH), Ibadan based on gender.

RECOMMENDATION

Based on the findings above the following recommendations have been made:

1. Early screening of health professional for occupational stress and its risk factors has to be given attention.
2. Management of healthcare institutions should put up structures which will strictly ensure employees carry out their respective roles and responsibilities in such way to reduce stress
3. Counseling centers manned by qualified psychologists should be established with the various healthcare facilities, to help health workers cope with the stress they encounter as a result of their job demands.
4. Nurse managers should focus on interventions for nurses with lower educational levels, nurses in teaching hospitals and those who work overtime
5. Occupational stress of nurses could be decreased by international benchmarking techniques by managers, including producing new schedules for work hours of employees, employing new staff, and consideration of remuneration.

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