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Occupation-Related Stress and Stress-Related Risk Factors among Nurses in West Africa

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Abstract: Occupational stress has for many decades remained a major concern Worldwide. In West Africa region, it is an amplified discussion owing to technological deficit, deficiency of work-relieving physical and social amenities, unemployment and underemployment and corruption. Nurses are health workers involved in the healthcare and management of people. The review was designed to examine various stress–relating risk factors among nurses in West Africa. A literature search was done using Web-based databases like Google Scholar, PubMed, Scopus, and Web of Science. The search was done using several terms and text words. Increased workload, hazard exposure, shortage of staff, poor incentives, poor patient attitude, increased length and frequency of duty, shortage of resources and equipment, work environment, high energy involvement and limited opportunity for professional advancement were risk factors for occupation-related stress among nurses in West Africa. The most predominant risk factor was increased workload followed by shortage of equipment and resources.

Keywords: Occupation-related stress, West Africa, Stress-related risk factors, stress, nurses.

Research Paper

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INTRODUCTION

Virtually every organization contains a service delivery component. At individual level, personal goals elicit conduct of extra efforts. When demand for service is greater than the natural ability of employees, sensations of physical, psychological and physico-psychological discomforts ensue and this is known as work-related stress or occupational stress [1,2]. Occupational stress is a form of stress associated to occupations, engagements and activities. Like in general stress, it represents homeostatic deviation and hence elicits responses such as activation of sympatho-adrenal and hypothalamo-hypophyseal-adrenal axes. Increase in blood pressure, high blood glucose, heart rate, respiratory rate, pupillary dilation and increased cortical discharge occurs when axes are activated [3]. Moreover, work-related stress leads to burnout, low productivity, absenteeism, accidents and death [4,5]. Around 1.1 million people were reported to die of job stress and job stress-related diseases [6].

Occupation-related stress is an avoidable stress. Apart from absenteeism and opting out, barrages of coping strategies avail for managing stress. Pharmacological management requires the use of drugs for the treatments of stress related symptoms. Non-pharmacological coping strategy such as problem-focused strategy has been used for stress management. It primarily aims at solving a problem to change the source of the stress [7]. Apart from problem-focussed strategy, positive attitude is another influential strategy for reducing stress [2,8]. Adaptive stress management involves several strategies like positive coping; planning; anticipation; positive reframing and instrumental support [9].

Nurses are a group of health workers who are involved in care of individuals and the entire community. They are one of the largest care-related health professionals. The continuous, all round nature of nursing service necessitates a shift working pattern [10,11]. A typical healthcare related nursing job involves physical, mental and emotional energies. For instance, nurses are bound to be sympathetic and emotional owing to their proximity to patients. However, rather than alleviating stress, uncontrolled emotions about patient could orchestrate or worsen stress. For this reason, there is a standard ratio for nurses and patients [12]. Implementation of nurses and patients ratio is necessary to reduce work overload and stress.

Occupation-related stress among nurses is high generally. In United Kingdom, 42% of nurses reported to be burn out [10,11]. A study by Onigbogi and Banerjee, (2019) [13] indicated that prevalence of psychosocial stress among healthcare workers in Nigeria was 61.97% with work overload and poor communication and staff attitude being the two most prevalent risk factors. The aim of the review was to determine the risk factors for work-related stress among nurses in West Africa.

METHODOLOGY

A literature search was done using Web-based databases like Google Scholar, Pubmed, Scopus, and Web of Science. The search was done using several terms and text words such as occupational stress, occupation-related stress, job stress, West Africa, stress management and nurses.

Text words such as job stress in Nigerian nurses, job stress in Ghanaian nurses, job stress in Gambian nurses, job stress in Ivorian nurses, job stress in nurses in Benin Republic, job stress in nurses in Sierra Leone, job stress in Liberian nurses, among others were specifically used as inclusion criteria to obtain articles on causes of occupational stress in West African nurses. Only studies on nurses and those whose participants were predominantly nurses (>50% of sample size) were selected. Articles that examined stress in other health professionals were excluded. The percentage of each cause was calculated as number of articles that reported the cause divided by total number of the articles that examined the causes of occupational stress in West African nurses.

West Africa

West Africa is a westernmost geopolitical region in Africa. It contains 16 sovereign countries; six of which are Anglophone countries while others are Francophone nations. The region has over 380 million people as at 2017 with female fold occupying 49.7% of the entire population. As of 2022, the unemployment rate in West Africa was 6.8% according to Statista [14].

According to IMF, (2011) [15], the total gross domestic product stood at 752, 982 billion USD. The total nominal gross domestic product of the region as at 2013 was US$655.93485 billion. There was inconsistency in GDP growth rate in the regions. For instance, real GDP growth rate decreased from 6.2% in 2011 to 2.8% in 2015 [16]. The inconsistency has significantly marred West Africa economic development. Inconsistent governmental policies, natural disaster, technological deficit, deficiency of work-relieving physical and social amenities, unemployment and underemployment and corruption are among the factors that have bedeviled the region over the years and culminated in occupational stress.

Figure 1: Map of West Africa

West Africa is a victim of intense colonial administration in years past. Hence, the structure of labor force has history and resemblance with the pattern adopted by colonial countries. For instance, like in the West, Nurses in West Africa do shift duty. However, they differ from their counterparts in developed world in terms of work load, access to technology, standard of living and ease of work.

Non-Pharmacological Stress Coping Strategies

Stress is sensation that indicates physical, psychological, or physical-psychological discomforts [17]. Stress relating to one's job is known as occupational stress. Responses to stress involve activation of sympatho-adrenal axis triggering flight and fight reactions and causing rise in heart rate, blood pressure, blood glucose and pupillary dilation. Virtually, all workers experience stress relating to their jobs in varying degrees and the effects vary ranging from physical symptoms like headache to absenteeism, injury and death. Obvious coping strategies exist to mitigate stress. They include pharmacological management such as the use of drugs for the treatments of stress related symptoms and non-pharmacological scoping strategies.

Problem-focused/ emotion-focused coping strategies

Problem-focused coping strategy aims at solving a problem to change the source of the stress. Emotion-focused coping, aims at reducing, or managing emotional distress associated with (or caused by) the situation [18]. Problem-focused coping may involve several different activities such as planning, direct action, asking for help, organizing other activities.

Positive stress-coping strategy

Positive attitude inversely correlates with distress. This finding was consistent with previous studies that found positive attitudes at work to be the most influential strategy for reducing stress [2,8]. This factor is related to functional coping strategies that enable individuals to reframe negative situations in positive ways. This is because it is associated with increased self-efficacy, improved psychological well-being, and improved quality of life [5]. One study

reported that the most common coping strategies used by health care workers were accepting crisis situations and adopting a positive attitude while at work [4]. Similarly, Khalid *et al*. (2016) [2] found that a positive attitude in the workplace had the greatest impact on reducing staff stress.

Adaptive coping strategies

Adaptive stress management involves several strategies like positive coping; planning; anticipation; positive reframing; instrumental support; while some of the maladaptive coping strategy demonstrated by frontline workers in response to stress includes denial; distraction; self-blame; substance use; and venting [9]. Interestingly, these individual responses were also modified by their personality traits such as neuroticism, affectivity, openness, agreeableness, and conscientiousness [19].

Healthy coping strategies

It was observed that frontline workers in particularly stressful situations used healthy coping strategies to maintain a normal life, manage the situation, and seek information. It has been suggested that religion and social support represent adaptive coping strategies among the resources used for coping [20,21]. Religious coping was one of the key themes that were predominantly reported amongst West African frontline healthcare worker given the cultural and religious diversity that exist in this region. Faith/belief-based practices and belief systems are held in high esteem and this were believed to have played an integral role in coping with the COVID-19 pandemic thus building resilience in the face of an unknown solution. Studies from the Middle East nations like Saudi Arabia also alluded to religious involvement shown to correlate with better overall psychological functioning and better social support [22].

Occupation-related stress and stress-related risk factors among Nurses in Nigeria

In Nigeria, a study conducted by Ella *et al.*, (2016) [23] was designed to investigate the effect of job stress on employees' satisfaction in Calabar in the Southern region of Nigeria using 115 randomly selected respondents. In the study, the authors schemed respondents based on gender (male or female), marital status (single or married) and educational levels (diploma, first degrees or postgraduate qualifications) through self-developed questionnaire. Job stress was demonstrated to be related to job satisfaction. Job satisfaction was significantly marred by increased workload, confusing multiple role demands, work hazards.

A study conducted by Okpua and Orji-Ifeanyi, (2019) [24], 226 nurses that were randomly selected were administered questionnaire to determine the degree at which nurses in the teaching hospital were stressed.10.62% percent of the respondent reported severe stress moderate stress was reported by 80.5%. Principal underlying factors for stress included long working hours, increased work load, shortage of staff and equipment, working environment, poor incentives, hazard exposure, and patient attitude.

In Ogun State, 425 respondents were selected in a study that examined the impact of occupational stress on perceived life quality and a structured questionnaire was devised to collect information among Nurses [25]. 48% of the respondents claimed to experience high job stress. 7.8% reported to be moderately stressed. Long night shift hour, inadequacy of equipment, increased workload, poor remuneration, long orthostasis, high emotional energy required to deal with troublesome patients and attitude of patient (demanding and aggressive) were the stress-related risk factors.

Burnout is one the cardinal symptoms of occupation stress. An investigation was conducted by Alabi *et al.*, (2021) [26] to determine burnout and life quality in Nurses. 259 nursing officers from two mental health hospitals in Nigeria were recruited and data collection was done using questionnaire, Short-Form Health Survey and Maslach Burnout Inventory. Emotional burnout was shown to have a prevalence of 44.4%. Among the likely predisposing factor for burnout included role conflict and poor funding from authority. Lasebikan and Oyetunde, (2012) [27] examined the prevalence and factors associated with nurses in hospital. Maslach Burnout Inventory was utilized in the quantification of burnout. The prevalence of emotional burnout was 39.1%. Inter-professional conflict, shortage of nursing staff and increased night shift frequency, were reported to be responsible for the emotional burnout.

Iyiola *et al.*, (2016) [28] investigated the effect of stress on healthcare delivery in nurses. 137 nursing officers were recruited. In the study, occupational stress was demonstrated to be related with decreased job performance. Abayomi *et al.*, (2022) [29] investigated the prevalence of occupational stress in nursing officers in Adeoyo Maternity Hospital, Ibadan. 142 respondents were adopted for the study and data was collected through self-administered semi structured questionnaire. The study revealed there was occupational stress in nurses. The authors identified the stress-related risk factors as staff and equipment deficiency, sleep deprivation, work environment, number of year in nursing service, and poor adaptation to work.

A study was conducted between August and November, 2017 by Okoye *et al.*, (2021) [30] to examine whether there was job stress in nursing staff of National Hospital Trauma Center, Abuja. 80 nursing officers were recruited for the study and data collection was done through structured self-administered

questionnaire. Nursing officer reported to be stressed and increased workload and deficiency of consumables were identified as stress-related risk factors.

Anigbogu *et al.,* (2022) [31] investigated the sources of occupational stress in nurses in Nnamdi Azikiwe University Teaching Hospital. 234 nursing officers were recruited through convenient sampling. Underlying risk factors for occupational stress in the nurses were long working hours, increased workload and weak problem solving system. However, task design, job role, harassment and physical violence and psychological discomfort were identified as the types of occupational stress they experienced in descending order of prevalence.

Ojekou *et al.,* (2015) [32] investigated the impact of work environment on stress level and burnout extent in Nigerian nurses working in a tertiary teaching hospital. 100 participants were selected through purposive sampling and a self-developed questionnaire was developed to examine the impact of work environment on the degree of occupational stress and burnout in nurses. Stress level was shown to be higher in nurses with low work experience (0 to 3 years). Work environment was also demonstrated to relate with stress level and burnout extent.

Although a study conducted by Olayinka *et al*., (2013) [33] was designed to highlight strategies deployed by nurses in the management of occupational stress, stress characterization was taken into consideration. 100 nursing officers were adopted for the study using purposive sampling. A questionnaire that consists of 45 items was utilized in data collection. Headache was the most prominent stress symptom reported by the nurses. Others included, anger, amnesia and lack of concentration.

Ella et al., (2021) [34] highlighted the relationship between job stress and occupational performance in nurses in a Nigerian teaching hospital and the prevalence of stress-inducing events. 183 responders were recruited randomly and Nursing Stress Scale was devised for data collection. The most stress-related risk factors were insufficiency of staff and increased workload. Others included shortage of resources (drugs and equipment) and death of affectionate patient.

A study was carried out by Ogundeji, (2016) [35] to sample the feelings of nurses concerning occupational stress and the strategies deployed. 50 nursing officers were selected randomly and standardized questionnaire was administered to collect data. The study reported that the highest source of stress in the nurses was increased workload.

Occupation-related stress and stress-related risk factors among nurses in other West Africa Countries

Using purposive sampling and self-administered questionnaire, Adzakpah [36], recruited 73 Ghanaian nurses. The respondents reported they were stressed and highlighted stress-related risk factors as poor motivation, poor staffing, increased workload, and absence of break during shift duty and poor patients' attitude. In Ghana, Adzakpah (2016) [37] investigated the level of occupational stress among Ghanaian nurses.73 nurses working at St. Dominic Hospital at Akwatia were adopted through purposive sampling and self-administered questionnaire. The prevalence of stress as reported by the respondents was 37.01%. The authors also reported that stress-related risk factors included increased workload, inadequate equipment and resources, and conflicting demands.

In a study conducted by Kaburi *et al.,* (2019) [38] to identify the causes of stress among nurses, 167 nurses were selected from Salaga Government Hospital, Ghana. Likert type questionnaire and Nurse Stress Index were deployed in obtaining information from the respondents. The nurses reported to be stressed. Moreover, stress-related risk factors were reported to include lifting of patients manually, lifting of equipment, fear of acquiring infection, impaired motivational system (e.g. receiving comment only during poor performance) and insufficient privilege for professional development.

Opoku *et al.,* (2022) [39] evaluated the prevalence of stress among psychiatric nurses in Ghana. The study was conducted between March, 2020 and May, 2021. They also factored in the role of educational qualification in stress perception. 311 psychiatric nurses were selected randomly. Perceived Stress Scale was one of the instruments used in collection of data from the respondents. 42% claimed to experience mild to high stress. While respondents with diploma were reported to exhibit less likelihood (29.6%) of experiencing moderate stress when compared with Master degree holders, those with bachelor's degree had 7.1% lower likelihood of having moderate stress when compared with holders of Master's degree.. Workplace violence is a form of occupational stress. Ebrima *et al.,* (2017) [40] evaluated the prevalence of workplace violence among nurses in Gambia. The study was conducted between July and September, 2014 and 219 nurses were selected. A self-administered questionnaire used for collection of data. 62.1% claimed being exposed to workplace violence a year before the study. The nature of violence the nurses were exposed to was verbal abuse, physical assault and sexual harassment and the violence was majorly executed by patient relatives and patients.

Darboe *et al.,* (2016) [41] investigated whether there was an association between psychosocial job-related stress and self -rated health among health officers who were predominantly nurses in Gambia. A questionnaire that contained 22 items was utilized in data collection. There was a statistically significant

association between work psychosocial job-related stress and self-rated health.

Mikponhoue *et al*., (2019) [42] assessed the prevalence of burnout, one of the symptoms of occupational stress among nurses and other staff in Benin Republic. The study was conducted between September and October, 2019 t Zone Hospital Cotonou. 173 respondents were selected and Malasch Nurnout Inventory was used to collect data. The prevalence of burnout was reported as 30.6%.

Ouyi and Anagba, (2022) [43] investigated the relationship between work-related stress and job satisfaction in a university center in Togo. 137 respondents that consisted principally of nursing officers were selected. A significant inverse correlation (r=-0,335) was established between stress and satisfaction with 94.9% reporting to be moderately stressed and 62.8% claiming to be dissatisfied.

Table 1: Causes of occupational stress among West African nurses

s/n	Causes of occupational stress among West African nurses	Percentage
1	Increased workload	75.00%
2	Hazard exposure	16.67%
3	Shortage of staff	33.33%
4	Poor incentives	33.33%
5	Poor patients' attitude	25.00%
6	Increased length and frequency of duty	33.33%
7	Shortage of resources and equipment	50.00%
8	Work environment	16.67%
9	High energy involvement	25.00%
10	Work experience	25.00%
11	Limited opportunity for professional advancement	8.33%

12 articles that centered on causes of occupational stress among West Africa nurses were filtered from a pool of 60 articles. Percentage was calculated as number of articles that reported a cause divided by the total number of articles.

DISCUSSION

Occupation related stress is a global phenomenon. It is inimical to productivity, work force and employees' health causing physical and psychological trauma and death. About 1.1 million of people worldwide die of occupational stress or occupation related ailment [6]. The review highlighted the risk factor for occupational stress among nurses in West Africa.

The standard ratio of nurses to patient is 1 to 6 in general ward [12]. Increase in the number of patients leads to increase in workload. Among the stress-related risk factors in West African nurses in the study, increased workload was the most predominant occupying 75% (Figure 2). Out of 12 articles that were filtered, 9 reported increased workload. Some of the reasons for increased workload may include chronic exodus of nursing officers to regions of greener pasture, ambiguity regarding nursing responsibilities and infrequent commensurate replacement of exited nursing officers. Increased in workload does not only affect nurses.

However, they have one of the closest proximities to patients. Despite the fact that staffing is related to workload, 33.33% of occupational stress in West African nurses was attributed to poor staffing. This indicated that there might be other subjective reasons underlying increase in workload. Such may include work role conflict, job design and irrational job expectation. One of the consequences of increased workload is burnout. Some studies evaluated prevalence of burnout among nurses and the associated risk factors. Although they were not put into consideration in the estimation of the proportions of stress inducers in the study, they remain significant whenever occupational stress is discussed. Increased length and frequency of duty is also related to workload. Abnormal work pattern elicits psychological and physiological reactions causing injuries, accident and increased absenteeism [13].

Health professionals are not trained martially in schools to carry loads, lift machine and patients. Therefore, job may become dissatisfying, discouraging and stressful where manual lifting is required. In a Ghanaian study, manual lifting of equipment and patients reported as a cause of work-related stress in nurses [38]. This kind of problem ensues where non-nursing staff that are saddled with this kind of responsibility are absent probably in a bid to cut down employment bill, lack of work scheme or corruption.

Shortage of resources and equipment was the second most predominant cause of work-related stress in West Africa nurses. Work becomes boring and difficult where working equipment and resources are not available. It leads workers with no other option than improvisation, a mental energy-sapping task. In West

Africa, shortage of equipment and resources may be a consequence of corruption and economic downturn.

Work environment and exposure to various work related hazards potentiate stress. Hazards such as artificial light especially for nurses that are on night duty can cause discomfort and disability glare. It can also disrupt circadian rhythms, causing deranged melatonin secretion, altered leptin secretion, impaired hormonal secretions and altered sleep/wakefulness cycle [44-47]. Noise can cause headache, confusion, increase in blood pressure and heart rate [3,17,48-52].

Work experience is a risk factor for occupational stress. In most of articles analyzed, nurses with short work experience reported higher stress level than those who had long experience. This might be because older nursing officers have more administrative activities and less core nursing functions than young ones. Another stunning observation was the role of educational qualifications in stress. Opoku *et al*., (2022) [39] reported that nurses who had Master's degree experience more stress than those who had either diploma or first degree. Perhaps, if the basic qualifications to attain professional peak is first degree, then having higher qualifications may not be associated with lower stress levels.

A score of nurses reported that inadequate opportunity for career advancement, poor incentives and poor patients' attitude were risk factors for work related stress. Concerning patients' attitude, aggressive and uncooperative patients can cause inflict physical assault on nurses. A study by Ebrima *et al.,* (2017) [40] in Gambia showed that 62.1% of nurses reported to have suffered from workplace violence such as verbal abuse, physical assault and sexual harassment with majority of the violence conducted by patient relatives and patients.

CONCLUSION

Increased workload, hazard exposure, shortage of staff, poor incentives, poor patient attitude, increased length and frequency of duty, shortage of resources and equipment, work environment, high energy involvement and limited opportunity for professional advancement were risk factors for work-related stress among nurses in West Africa. The most predominant risk factor was increased workload followed by shortage of equipment and resources.

Conflict of interest

None declared.

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