

BIOLOGICAL, ENVIRONMENTAL AND OCCUPATIONAL HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA, LEGON

DETERMINANTS OF WORKPLACE STRESS IN THE HEALTH SECTOR: A

CASE STUDY OF NURSES AT THE TEMA GENERAL HOSPITAL

BY

DORCOO KWAME CHRISTIAN JNR.

10288063

**THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA,
LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE
AWARD OF THE MASTER OF SCIENCE IN OCCUPATIONAL HYGIENE**

DEGREE

INTIGRI PROCEDAMUS

JULY, 2016

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DECLARATION

I, Dorcoo Kwame Christian Jnr. declare that this Thesis, with the exception of quotations and references contained in published works which have all been identified and acknowledged, is entirely my own work, and it has not been submitted either in part or whole for another degree elsewhere.

STUDENT: DORCOO KWAME CHRISTIAN JNR.

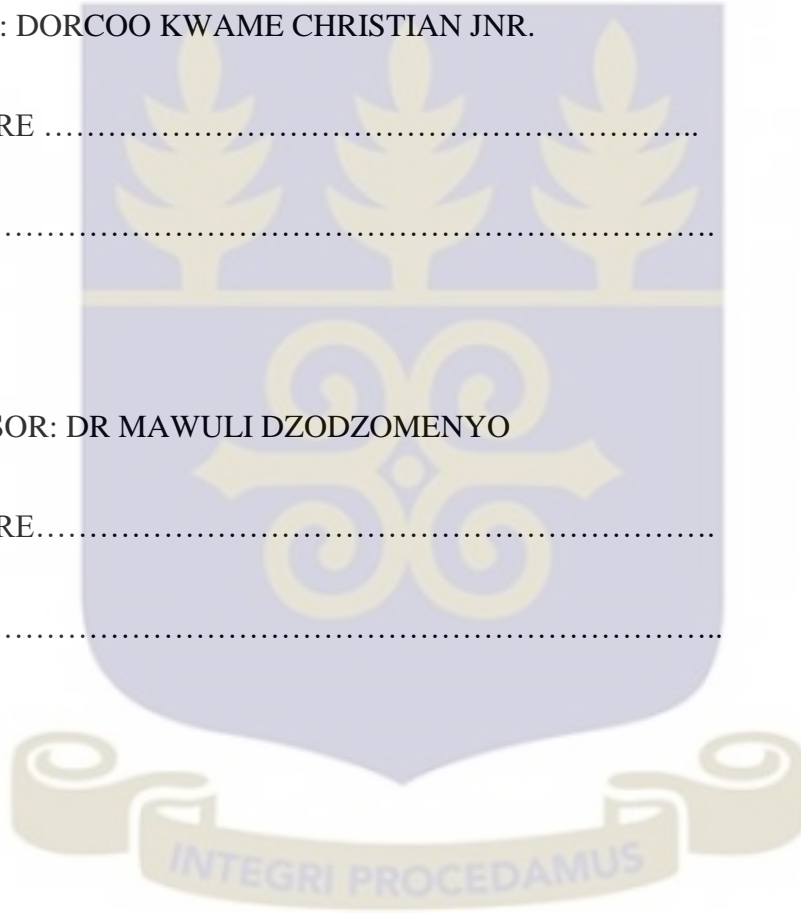
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SUPERVISOR: DR MAWULI DZODZOMENYO

SIGNATURE.....

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DEDICATION

This project is dedicated to the Almighty God for His wonderful protection over me throughout the study of this course.

This work is also dedicated to my mother, Beatrice Tekpor, for her support, prayers and encouragement throughout the period of my study.



ACKNOWLEDGEMENT

Thanks be to God for the grace and favour I received from him to complete this programme.

Writing this thesis was a very big academic undertaking which I might not have been able to undertake, let alone complete it without the supervision, guidance and advise from a number of people who deserve particular mention.

I would first like to express my deep and sincere gratitude to my supervisor, Dr. Mawuli Dzodzomenyo. His wide knowledge and logical way of thinking have been of great value to me. His understanding, encouragement and personal guidance have provided a good basis for my thesis. I want to thank Dr. Arko Mensah for his early morning motivations on how to go about our thesis either before or after he lectures, and also all the other lecturers who helped me to make this thesis a reality.

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My warmest appreciation goes to all the staff of Tema General Hospital, including the medical director and all the various nurse managers for their cooperation in the administration of my questionnaires. I will make special mention of Mrs Emelia Koranteng of the Labour Ward, Vincent of the Fevers Unit, Delasi of the In-Service Training Department, Selasi of the Paediatric Medical Ward for their immense support.

Finally I acknowledge the numerous authors whose works have been cited in this book.

ABSTRACT

Stress is the body's way of responding to any form of demand placed on it. Job stress is experienced in relation to the day-to-day work required of nurses. Examination of stress is necessary because work stress is associated with fair or poor physical and mental health as well as a reduction in overall performance levels. This study was carried out to assess the prevalence of stress among nurses, identify the facility related factors contributing to stress and the coping mechanisms adopted by nurses to reduce stress. A descriptive cross-sectional study design was employed in this study. A total of 198 nurses at the TGH were randomly sampled from a total of 399 for the study. The stress component of the DASS scale was used to measure stress levels among the nurses. Data was analysed with STATA version 13 software. The prevalence of stress among the nurses was 99% with 45%, 30%, 20% and 4% having extremely severe, severe, moderate and mild stress respectively. No statistically significant relationship was found between demographic characteristics of nurses and their level of stress: age, sex, professional rank, level of education, marital status, years of working experience. Facility related factors contributing to stress among nurses were poor interpersonal relationship (mean=3.712, SD=1.052), role at work (mean=3.402, SD=1.067), level of control (mean=3.364, SD=0.984) and change (mean=3.164, SD=0.957). The high prevalence of stress among the nurses in this study suggests the need for multisectoral concerted efforts to address stress associated with the nursing profession. The factors contributing to stress among nurses provide a strong indication of the need for improvement in nursing management and leadership practices.

TABLE OF CONTENTS

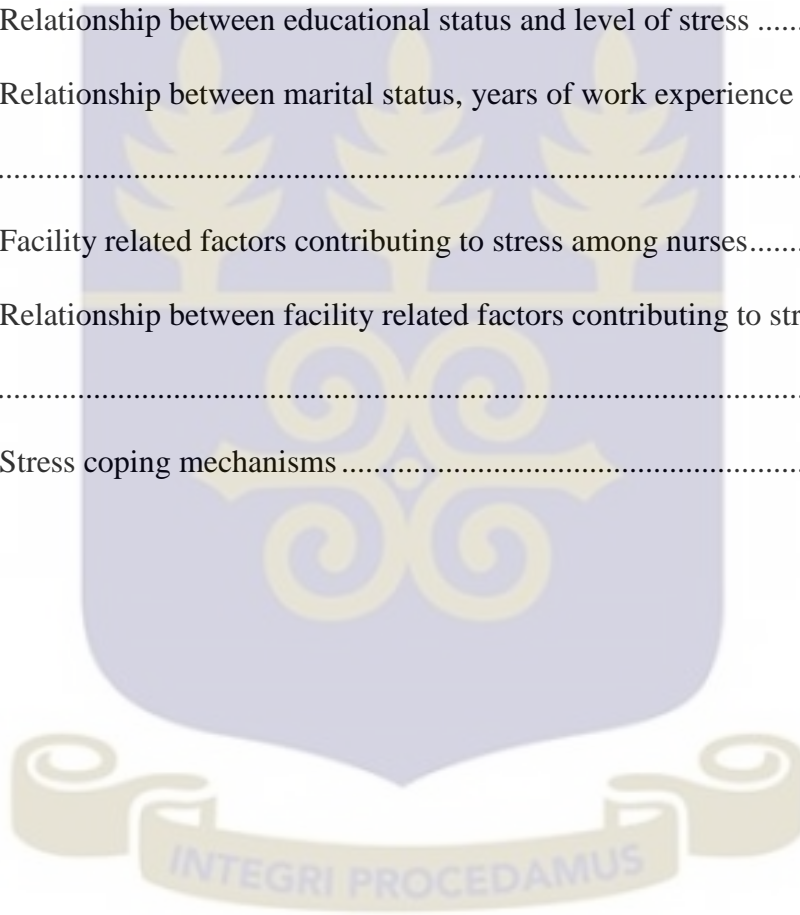
TITLE PAGE.....	i
DECLARATION.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
ABSTRACT.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
LIST OF ABBREVIATIONS.....	xi
CHAPTER ONE.....	1
INTRODUCTION.....	1
1.1 Background to the Study.....	1
1.2 Problem Statement.....	4
1.3 Conceptual Framework.....	5
1.4 Justification of the study.....	8
1.5 Research Questions.....	9
1.6 General Objective.....	9
1.7 Specific Objectives.....	10
CHAPTER TWO.....	11
LITERATURE REVIEW.....	11
2.0 Introduction.....	11
2.1 Stress.....	11
2.2 Workplace Stress.....	11

2.3	Stress among Nurses.....	13
2.4	Factors Contributing to Stress among Nurses	15
2.5	How Nurses Cope with Stress	20
2.6	Summary.....	23
CHAPTER THREE		25
METHODOLOGY.....		25
3.0	Introduction	25
3.1	Study Design	25
3.2	Study Location.....	25
3.3	Study Population	26
3.3.1	Inclusion Criteria	27
3.3.2	Exclusion criteria	27
3.4	Variables.....	27
3.5	Sample Size Calculation.....	28
3.6	Sampling Procedure.....	28
3.7	Data Collection Tool	29
3.8	Quality Control.....	30
3.9	Pre-Test of the Questionnaire.....	31
3.10	Data Processing and Analysis	31
3.11	Ethical Consideration	32
CHAPTER FOUR.....		34
RESULTS		34
4.0	Introduction	34
4.1	Demographic Characteristics of Respondents.....	34
4.2	Prevalence of Stress among Nurses.....	37
4.3	Association between Demographic Characteristics of Nurses and Levels of Stress	37
4.4	Facility Related Factors Contributing to Stress among Nurses.....	41
4.5	Coping Mechanisms adopted by Nurses to reduce Stress	45

CHAPTER FIVE	47
DISCUSSION	47
5.0 Introduction	47
5.1 Demographic Data.....	47
5.2 Prevalence of Stress among Nurses.....	49
5.3 Demographic Characteristics of Nurses and their Relationship with Levels of Stress 51	
5.4 Facility Related Factors Contributing to Stress among Nurses.....	51
5.5 Coping Mechanisms adopted by Nurses to reduce Stress	55
CHAPTER SIX.....	57
CONCLUSION AND RECOMMENDATIONS.....	57
6.0 Introduction	57
6.1 Conclusion.....	57
6.2 Implications of the Study.....	58
6.2.1 Implications for Research	58
6.2.2 Implications for Policy Making.....	58
6.2.3 Implications for Practice and Management	59
6.2.4 Implications for Education.....	59
6.3 Limitations of the Study	59
6.4 Recommendations	60
REFERENCES	62
APPENDIX A: QUESTIONNAIRE	68
APPENDIX B: CONSENT FORM	73
APPENDIX C: ETHICAL APPROVAL LETTER.....	76
APPENDIX D: INTRODUCTORY LETTER	77

LIST OF TABLES

Table	Page
Table 4.1: Demographic Characteristics of Respondents	35
Table 4.2: Relationship between Age, Sex and level of stress	38
Table 4.3: Relationship between professional rank and level of stress	39
Table 4.4: Relationship between educational status and level of stress	40
Table 4.5: Relationship between marital status, years of work experience and level of stress	41
Table 4.6: Facility related factors contributing to stress among nurses.....	43
Table 4.7: Relationship between facility related factors contributing to stress and level of stress.....	44
Table 4.8: Stress coping mechanisms	46



LIST OF FIGURES

Figure	Page
Figure 1.1: Conceptual framework on stress and coping strategies	6
Figure 3.1: Areal map showing the location of Tema General Hospital within the Tema Metropolis	26
Figure 4.1: Professional rank distribution of respondents	36
Figure 4.2: Prevalence of stress	37



LIST OF ABBREVIATIONS

HCW	-	Health Care Workers
ILO	-	International Labour Organization
OSH	-	Occupational Safety and Health
WHO	-	World Health Organization
WPS	-	Workplace Stress
TGH	-	Tema General Hospital
GHS-ERC	-	Ghana Health Service – Ethical Review Committee



CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Stress is the body's way of responding to any form of demand placed on it. This occurs in response to either negative or positive experiences. According to McVicar (2003), stress is “a subjective phenomenon based on individual perceptions, producing positive (eustress) and negative (distress) perspectives” (p. 640). In situations where a person finds it difficult to deal with stressors such as difficult life situations, problems and goals, stress occurs (Videbeck, 2007). The effects of stress can be physical, emotional and / or cognitive. Everybody can, to some extent, cope with stress. However, people do not have similar reactions to similar stressors at the same time (Timby, 2008).

Historically, stress has been classified as a stimulus or a response to situation. Many studies have been carried out on stress and many frameworks and perspective have been made concerning stress. Selye (1976), one of the pioneers of the concept of stress suggested a physiological assessment of stress by considering the association between stress and illness. In addition, Lazarus and Folkman (1984) also posited a psychological view whereby stress is viewed as a kind of relationship between a person and his or her environment which is perceived as demanding and exceeding the resources or the capacity of the individual to handle hence compromising one's health or well-being.

According to Lazarus and Folkman (1984), one only experiences stress in situations that are perceived as exceeding ones' ability to handle. Stress is experienced only when situations are appraised as exceeding one's resources. This indicates that an individual may perceive

additional responsibilities or tasks placed on him or her as a threat whilst others may take it as a challenge. Role stress ensues when an individual experiences incongruity between his or her own perception about the nature of the role and the actual nature of the role (Lambert, Lambert & Ito, 2004). Role strain occurs due to negative reaction in the event of role stress. This is manifested as frustration, with burnout occurring as an outcome. Burnout comprises depersonalization, emotional exhaustion, and a reduction in ones' personal accomplishment (Maslach & Jackson, 1986). As a part of life, stress is known to generate negative or positive consequences. Stress has a positive influence by serving as a form of motivation towards progress and the creation of more awareness and initiative. On the other hand, stress has a negative influence when it results in feelings of rejection, distress and depression (Mehta & Chaudhary, 2005).

Work related stress among nurses is as a result of the daily routine and demands placed on nurses (Shields & Wilkins, 2006). This has raised a lot of concerns among researchers in various organizations because of the impact that workplace stress has on the performance of employees. Within the health sector, employees are at a greater risk of stress and stress related illness by virtue of the nature of their work and their work environment. Prolonged stressful situations leads to burnout which nurses are particularly perceived to be susceptible (Zaghloul, 2008). Assessment of workplace stress is important due to its link with poor mental and physical health as well as reduced performance (Shields & Wilkins, 2006).

Nursing as a profession, comprises the delivery of humane, empathetic, proficient and moral care, in work environments often characterised by inadequate resources coupled with increasing responsibilities. According to Zaghloul (2008), the nursing profession is

demanding. Some imbalance exists between the provision of quality nursing care and how nurses cope with the stressful nature of the work environment in which they work (Kalliath & Morris, 2002). According to Lowe (2006), health workers in general have higher levels of workplace stress compared to other category of workers. Nurses who experience high levels of job strain and distress at work are likely to experience poor health (Shields & Wilkins, 2006). The most common cause of stress among Ghanaian nurses is the long working hours they endure, financial challenges they face and the stress associated with the death of a patient (Dapaah, 2014).

When stress is too much, it affects one's health physically and emotionally. In situations where nurses manage to deal with the stress associated with their profession, there is less absenteeism, excessive workloads are managed well, they live healthier and longer life and there is some form of stability of the nursing workforce and quality nursing services are provided. Nurses' success or failure at the job is also linked to their ability to successfully manage stress. The emotions of nurses can affect others, especially their clients and stress, to some extent, affects the way they interact with others. When nurses are able to manage their stress effectively, then they will be they have a positive impact on the lives of people around them.

With less stress, nurses are able to spend quality time together and contribute positively to the outcome of their patients. There is therefore the need for health service administrators and management to assess the contributory factors in workplace stress among nurses for necessary action to be taken in order to ensure a stable and continuous nursing workforce at various health care institutions.

1.2 Problem Statement

Nursing is undoubtedly a stressful profession due to the frequent direct and continual exposure of nurses to persons going through a lot of pain, agony and suffering, and the need to give attention and emotional support to these patients. This exposes nurses to various stressors (Lambert & Lambert, 2008).

Stress among nurses is mainly as a result of the demand for physical labour, exposure to suffering and emotional demands from patients and their families, unstable work hours, the shift system of work interactions with colleagues, patients and their families and other health professionals. Continual exposure to situations like this is likely to lead to feelings of irritability, depression and disappointment (Preto & Pedrão, 2009).

Most nurses suffer psychological and physical effects of stress (Nursing Times Career, 2014). Many types of physical ailments have been linked with stress. These include high blood pressure, heart attack, heart disease, peptic ulcer, headache, pain in the neck, asthma, cancer, to mention but a few (Mehta & Chaudhary, 2005). The onset of psychological ailments such as depression has also been associated with stressful life events (Hammen, 2005), including sleep problems (Harvey, Jones & Schmidt, 2003). In Ghana, the Ministry of Health (MoH) is not ignorant of the plights faced by nurses and has tried to help address the problem, but according to Offei and Quansah (2009), the MoH could not successfully identify where to begin.

Although literature on the causes of stress among nurses is available, not many studies have been carried out on the prevalence of stress among nurses in Ghana. The recent study on stress among nurses in Ghana was carried out by Dapaah (2014) on the causes of stress

among nurses in the Greater Accra Region.

Through observation and personal interviews, the researcher has noticed that nurses complain of workplace stress. In addition to their stresses, some nurses complain of other stressors such as family responsibilities, traffic situations in town, high cost of living, combining school with work or doing extra work. Others also experience work related stress such as increased workload, shortage of resources at work and conflict with other staff members. Personal communication with some of the nurses reveals some of the nurses openly confessing frustration with work and the desire to move out of the clinical area. This therefore poses a negative rebound effect on the quality of nursing care. This has motivated the researcher to conduct this study to explore work-related stress among nurses.

1.3 Conceptual Framework

The model for this study was adapted from (Teye, 2011) which was based on the general socio-cognitive theory (Bandura, 1986, Osipow, 1998, Cooper & Bright 2001). The figure represents the general theoretical model of the stressor, coping and stress. It gives the clear indication that the extents to which stressors within an organization generate stress responses are based on the effectiveness of stress coping strategies. The arrows linking organisational stressors to coping strategies and then to stress give the indication that there is not direct relationship between the stressor and the stress response, but rather coping serves as a link between them. Secondly, the severity of occupational stressors, in addition to coping strategies and stress response has been shown to depend on the age of employees, their marital status, their rank, level of educational and sex.

Below the framework are the explanations of the various organisational stressors.

Organisational stressors

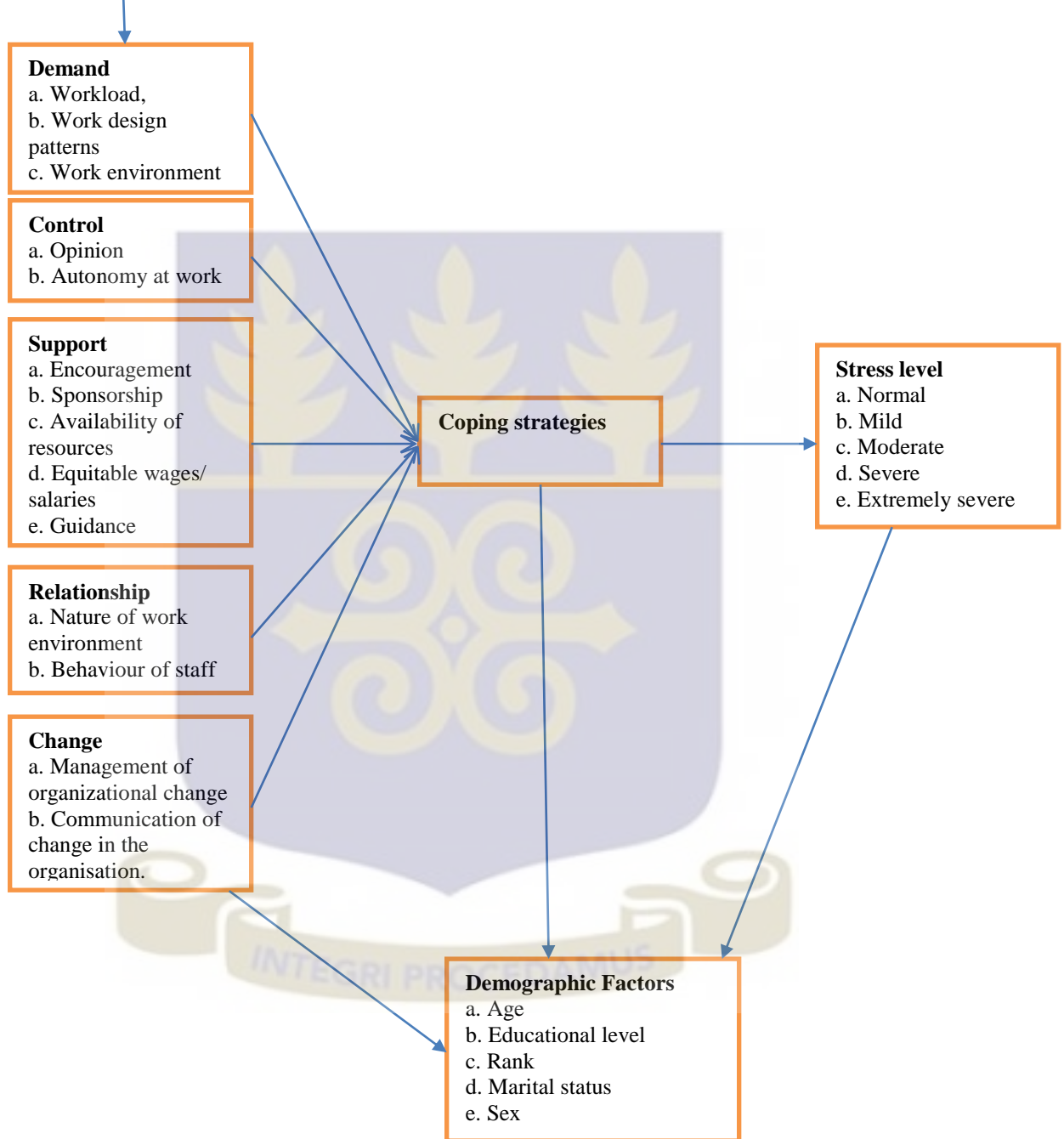


Figure 1.1: Conceptual framework on stress and coping strategies

Factors relating to the workload, design of work patterns and the work environment comprises work demand. Secondly, the extent to which an employee had a say or is recognized in an organisation has an effect on the way the individual works and this is referred to as control. This comprises the extent to which an employee is allowed to make contribution to decision making at the workplace.

Support involves encouragement from management, staff and superiors (Zhang & Zhu, 2008). This includes among other things the availability of the necessary resources, in addition to better wages. According to Sanders (2013), support comprises the availability of all assistive devices required to make work comfortable and safe and the needed guidance from superiors.

With regard to relationship, it comprises the existence or otherwise of a positive work environment. Where there is no positive work environment, the end product is conflict which encourages unacceptable behaviour. Relationship includes promoting positive working to avoid conflict and dealing with unacceptable behaviour. Role is the extent to which employees have an understanding of their role in the organisation and how the organisation make sure they do not have conflicting roles.

Finally, the nature and frequency of change in management, in addition to how change is communicated and implemented, can to some extent be stressful. This in general comprises how change within the organisation is managed and communicated among staff within the organisation.

Workplace stress has been categorized into five subgroups according to the stress component in the Depression, Anxiety and Stress Scale (DASS). This includes normal, mild, moderate, severe and extremely severe stress levels. Coping strategies adopted in response

to stress situations include problem focused coping, reappraisal, avoidance coping and emotional coping.

1.4 Justification of the study

The Tema General Hospital (TGH) is the largest public health institution located in the Tema Metropolis. It serves as the main referral point for all other clinics/ hospitals in the Tema Metropolis. The Hospital has a total of ten (10) wards with a bed capacity of 294. The Tema General Hospital provides a 24 hour specialist and general services on both out-patient and in-patient basis. Since the inception of the NHIS in 2003, a total of about 207,329 Out-Patient Department (OPD) cases were handled by medical personnel of the TGH in 2008 as against 180,814 cases in 2007 representing a 14.6% increase. This statistics shows that the OPD cases keeps on increasing and as a result poses a lot of work demand on nurses.

The nurse to patient ratio is really a challenge in the health sector left alone TGH and this is a major stressor in the profession. There is also a growing concern about the quality of service rendered by nurses (Offei & Quansah, 2009). Nurses have major roles to play in the provision of timely and quality services, but according to Offei and Quansah (2009) high levels of occupational stress tend to impact negatively on performance.

It is therefore essential to study the prevalence of stress and the coping strategies among nurses as it will help sensitize the Ministry of Health, their staff and all stakeholders on the need to take necessary actions to address the issue of workplace stress among nurses and introduce better ways of coping with stress. It will also help in the formulation of

appropriate health and safety work policies and regulations necessary to reduce stress to normal levels among health care workers in general.

Findings from the study will also serve as material that will be reviewed by future researchers as literature when carrying out similar studies. Recommendations for future studies based on the findings from this study will encourage more research on the area of workplace stress and its management among health workers in Ghana. The ultimate beneficiary of these interventions as a result of the findings will be the healthcare worker (Nurses).

1.5 Research Questions

1. What is the prevalence of stress among nurses at the Tema General Hospital?
2. Do demographic factors contribute to stress levels among nurses?
3. What are the facility related factors contributing to stress among nurses?
4. How do nurses cope with stress?

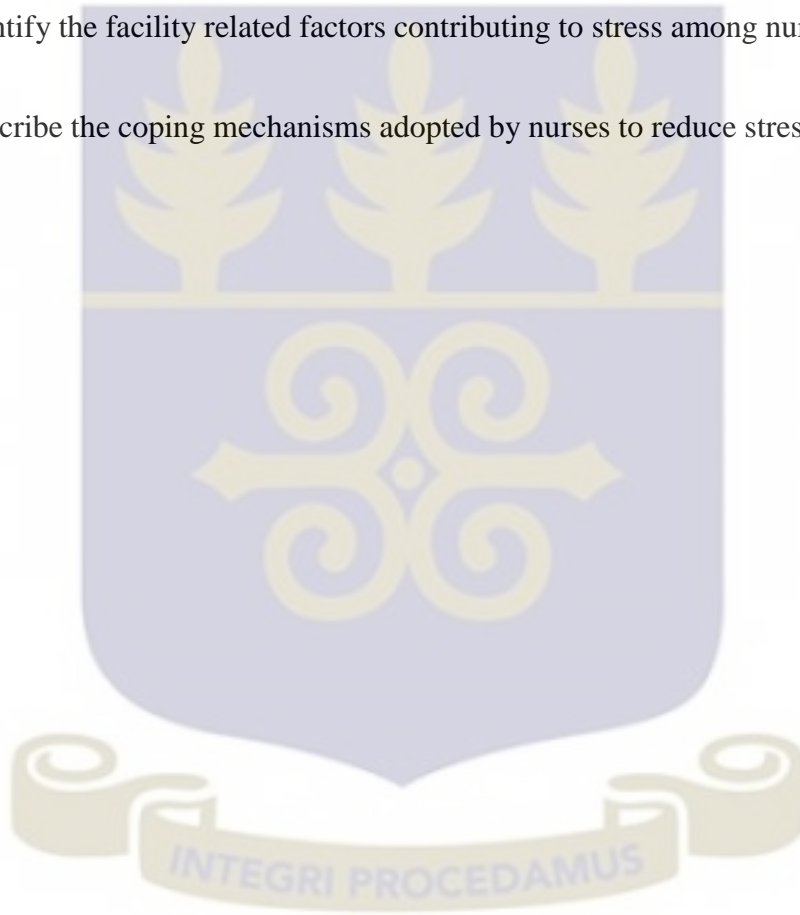
1.6 General Objective

The general objective of the study is to determine the prevalence of stress among nurses at the Tema General Hospital and to assess the factors contributing to this situation.

1.7 Specific Objectives

The specific objectives of the study are to:

1. Assess the prevalence of stress among nurses at the Tema General Hospital
2. Assess demographic factors and their association with stress among nurses.
3. Identify the facility related factors contributing to stress among nurses
4. Describe the coping mechanisms adopted by nurses to reduce stress.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents a review of literature for the study. This includes a general overview of stress and workplace stress. In addition, previous studies on stress among nurses, factors contributing to stress at the workplace and coping strategies adopted by nurses to deal with stress are also included in this chapter.

2.1 Stress

Stress is referred to as a mixture of related experiences, reactions and outcomes produced by various different situations or circumstances that have different effects on each and every individual (Manktelow, 2005). According to McGowan (2001), stress occurs when one is faced with events or encounters that they perceive as dangerous to their physical or psychological well-being. Job stress is described as unhealthy physical and emotional reactions that occur when there is incongruity between job requirements and the abilities, resources, in addition to the needs of a worker. Stress is generally defined as undue, inappropriate or exaggerated response to a situation (Roohafza, Sarrafzadegan, Sadeghi, Talaei, Talakar & Mahvash, 2012). Workplace stress is also referred to as the non-specific negative response of the body to workplace demands placed on it.

2.2 Workplace Stress

Stress became a known concept in nursing due to data gathered from patients and literature gathered from empirical studies which indicated the link between stress and health. The

Spielberger State-Trait (STP) model of occupational stress (Spielberger, Vagg, & Wasala, 2003), views stress as a complex process comprising three major components. These components are; (1) the sources of stress experienced within the work environment, (2) how these stressors are appraised by the employee and (3) emotional reactions that these stressors generate when perceived as a threat.

The STP model of occupational stress places more focus on two major workplace stressors which include pressure from the demands at the workplace and the lack of support (Spielberger et al., 2003). The impact of individual differences and personality traits on ones' stress response is also recognized by the STP model. In this model, occupational stress is described as an arousal process involving the mind and body as a result of physical and/ or psychological demands that the work place places on the individual. Anxiety and anger is said to occur as an emotional response when the stressor is perceived as a threat to the individual. Severe and persistent anxiety and anger leads to physical and psychological strain which may result in adverse behavioural consequences (Spielberger et al., 2003).

Employees are believed to assess their work environment based on the severity and the frequency of specific workplace demands and the nature and level of support they receive from co-workers and supervisors as well organisational features such as organizational policies and procedures. The inability of an individual to identify the frequency with which a particular stressor occurs is believed to contribute to overestimation of the effects of highly stressful situations that seldom occur in addition to underestimating effects of events that are moderately stressful and occur frequently.

2.3 Stress among Nurses

Using a brief version of the Job Stress Scale, Filha, Costa and Guilam (2013) conducted a study on occupational stress among nurses in Campo Grande in Brazil. The aim of the study was to determine the association between nurses' job stress and their self-rated health at emergency units in public health facilities. This was a cross-sectional study that involved 134 nursing personnel from nine public health units comprising 12 nurse assistants, 21 registered nurses and 101 nurse technicians. Data was collected using a self-administered questionnaire and the Chi-square test and multivariate analysis were carried out using SPSS (version 13.0).

In this study, passive work was found to be common among 43% of the women and high strain work was found to be common among 32.5% of the men. Younger staff, below 35 years of age, had high strain (43.4%). However, the rest of the age ranges had passive work being common among them ($p = 0.005$). Low demand and low control was common among workers who had family income of up to 3.4 minimum salaries, with university level education, or who were suffering from chronic illness. Respondents who had higher income, had gone through more schooling and were single experienced work with high strain however, this was not statistically significant. Employees who were new at the work place had greater high strain compared to those who had worked in the place for a longer time. A significant association with passive work was found among workers who did more on-call night duties, unspecified working hours, and did extra on-call duties every week. Those who were dissatisfied with work and had less social support had high strain at work but no significant difference was observed in relation with their satisfaction with life.

In a cross-sectional survey, Rothmann, van der Colff and Rothmann (2006) carried out a

study on occupational stress of nurses in South Africa. Random samples of 1780 participants were taken which included 980 professional nurses and 800 enrolled and auxiliary nurses from seven of the nine provinces of South Africa. Using the Spielberger State-Trait (STP) model of occupational stress, the Nursing Stress Indicator (NSI) was developed and used to collect data.

Severe workplace stressors found in this study included watching of patients suffering, increasing demands from patients, carrying out ward or unit stock control, health risks associated with coming into contact with patients, the inability of superiors and management to recognize the good work done, some staff issues including staff shortage, lack of staff motivation, time constraints to perform required tasks and lack of commitment to work by colleagues. Among these stressors, health risks associated with contact with patients, the lack of recognition by management and superiors for good work in addition to insufficient staff were highest stressors.

Comparing differences between professional nurses and then enrolled and auxiliary nurses showed that professional nurses experienced more stress as a result of the fear of making mistake at the workplace. Furthermore, professional nurses had more stress as a result of disputes with colleagues and medical practitioners concerning patients' treatment plan.

Milutinović et al. (2012) carried out a cross-sectional study to assess stress among critical care nurses in Intensive Care Units (ICU), and the relationship between nurses' perception of stress and the physical and psychological manifested.

Separate analysis revealed the existence of significant differences in nurses' perception of individual stressful situations in relation to their age, marital status, and level of education. In situations such as death or dying and increased workload, married nurses experienced

higher stress levels compared to the nurses who were divorced or not married. Younger nurses also experienced higher stress levels compared to older nurses.

In a descriptive cross-sectional study in Portugal, Rodrigues and Ferreira (2011) investigated stressors in nurses working in intensive care units. A total of 235 nurses from two Intensive Care Units located in Porto, Portugal, took part in the study. The aim of the study was to assess the stressors associated with nurses working in intensive care units. A self-developed structured questionnaire was used to collect data and the Interpersonal Work Relations Scale in addition to the Nurse Stress Index were adopted and used to measure stress and work relations among the nurses. Higher levels of stress were noticed among nurses within the early stages of their carrier. Secondly, poor physical work structure was also found to lead to higher stress levels. According to Rodrigues and Ferreira (2011), worse interpersonal relations among nurses led to higher levels of stress among nurses. Nurses who experienced poor interpersonal relationship with their managers viewed the dimension "Support and Organizational Involvement" as a stressor.

2.4 Factors Contributing to Stress among Nurses

The sources of stress among nurses are related to the nature of the nursing profession. Among the stressors associated with the nursing profession is the intense work environment nurses find themselves and the extended working hours they endure, in addition to running of shifts on weekends, night shifts and working on holidays. Sources of stress in the working environment of nurses include new technology, nature of work conditions, extra work load, shift work system, ambiguous and conflicting roles in addition to the responsibility of persons that nurses have to bear (Arnold, Cooper & Robertson, 1998). According to Ruggiero (2003), the shift work system among nurses could be related to the stressful nature

of the profession, which he described as mentally and physically demanding. Intense emotional support needed by patients and families simultaneously is yet another burden of stress placed on nurses.

Nurses' exposures to pain and suffering of their clients and the physically and mentally traumatic life events that are witnessed by nurses at work each day can contribute to stress among nurses (Cohen-Katz et al., 2005). These issues can finally result in emotional exhaustion among nurses. Research shows that psychological distress extends beyond the victims of trauma (Collins & Long, 2003). According to Dunkley and Whelan (2006), health care workers, including nurses are exposed to emotional and spiritual stress as they constantly witness patients undergoing suffering, pain and trauma. This, as described by Pearlmann and Saakvitne (1995) involves a transformation of the experience of the patient to the carer as he or she attends to the patient, which they termed vicarious traumatization.

French, Lenton, Walters and Eyles (2000) came up with nine sub-scales of workplace situations that places demand on nurses. These workplace situations are; conflict and misunderstandings with physicians, lack of adequate preparation, relationship problems with colleagues, issues with supervisors, discriminatory attitudes at the workplace, too much workload, difficulty in arriving at the decision concerning treatment of patients, the task of having to deal with death and dying patients, and putting up with patients and their families.

In addition, intra-professional and inter-professional conflicts also continue to be an important source of stress for nurses. Inter-professional conflict, particularly among nurses and physicians, appears to be a big problem (Bratt, Broome, Kelber & Lostocco, 2000). The issue of poor interpersonal conflict among health professionals has also been confirmed by research findings which show evidence of bullying (Kivimaki, Elovainio, & Vahtera,

2000).

The stressful nature of the work environment, in addition to poor interpersonal relationships among nurses and other health professionals, the stressful nature of the nursing profession, other organizational factors, various roles that nurses have to play, and their personal characteristics have been found to be the major causes of stress to nurses. The major determinants of emotional exhaustion were increased demands on the job, staff shortage, lack of career advancement opportunities, lack of autonomy at the workplace and work overload (Moustaka & Constantinidis, 2010).

The Demand-Control Model describes stress in the workplace as due to the imbalance between psychological demands and the level of control that an individual has over his or her work, and this can have adverse effect on the health of workers. Therefore, the greater the demand that work places on an individual and the less control one has over his/her work, the higher the risk that one will become physically or psychologically stressed (Karasek & Theorell, 1990). Among the main causes of workplace stress among nurses was their lack of preparation in addressing emotional needs of their patients and this leads to anxiety among the nurses (Sveinsdottir, Biering & Ramel, 2006).

Dapaa (2014) carried out a descriptive study to assess the causes of stress among nurses in the Greater Accra Region of Ghana. She employed a descriptive survey design and 369 nurses working in government facilities within the Greater Accra Region were sampled. However, the convenient sampling technique was used to select participants for the study, which might contribute to bias in the sample selection process. The nurses comprised of 108 (29.3%) males and 261 (70.7%) females.

Majority (73.3%) of them had more than 15 years' of work experience in nursing. The life

events theory which explains how individuals and the environment in which they live in effect each other was used to guide the study. The use of theory in research helped to give meaning to the findings of the study since the findings were presented and discussed under the constructs of the theory.

Data was analysed quantitatively using frequencies, mean distributions and standard deviations. The mean score on the factors contributing to stress among the nurses was 3.96, which suggested that the nurses confirmed that the key items listed in the questionnaire actually contributed to stress among nurses. The major factor contributing to workplace stress among the nurses in the study was the number of hours spent at work ($M=3.890$, $SD=1.158$). This was then followed by financial difficulties ($M=3.863$, $SD=1.184$). The third source of workplace stress among nurses that was revealed in the study was the death of patients ($M=3.855$, $SD=1.202$). However, the least source of workplace stress among the nurses in the study was a lack of control over their work ($M=2.965$, $SD=1.271$).

Using a modified version of the new UK Health and Safety Executive's (HSE) Management Standards (MS) model of stress, Yeboah, Ansong, Antwi, Yiranbon, Anyan and Gyebil (2014) carried out an empirical analysis on the determinants of workplace stress among healthcare professionals at the Komfo Anokye Teaching Hospital in another study in Ghana. An examination of the relationships between 6 main organisational factors (demand, control, support, relationships, change, and role conditions) and the level of stress among healthcare professionals was carried out in a teaching hospital. A total of 453 health care professionals at the Komfo Anokye Teaching Hospital took part in the study.

Yeboah et al. (2014) found that all 6 elements (thus demand factors, control factors, support factors, relationships factors, change factors and role factors) that were assessed had a

significant impact on the stress levels of employees. However, their impact on the health professionals was not in the same way. Specialist physicians, general practitioners or family physicians, and registered nurses, with the exception of nurse supervisors and nurse managers, had a higher risk of work stress that was relative to that of other health care providers.

In the southern region of Brazil, Urbanetto, Silva, Hoffmeister, Negri, da Costa and de Figueiredo (2011) carried out a cross-sectional study on workplace stress among nursing staff using the Demand-Control Model. However, the model does not explain the variations and aspects related to the object of study. The staff comprised of nurses, nurse technicians and nurse auxiliaries. The aim of the study was to identify workplace stress according to the Job Stress Scale and to compare it with socio-demographic and occupational variables of nursing workers. A convenient sample of 388 participants took part in the study.

Out of this, 153 worked the Intensive Care Units (ICUs), 56 worked in Surgical Centres, 91 were from hospitalization units and 88 worked in emergency units. The Job Stress Scale was used as the data collection tool for the study. The nature of work of the nurses was classified into job demand (high and low demand) and job control (high and low control). After that, Demand - Control quadrants were classified into 'high strain jobs' (indicating increased psychological demand coupled with workplace control); 'active jobs' (indicating increases psychological demand and more control); 'passive jobs' (indicating reduced psychological demand coupled with reduced control) and 'low strain jobs' (indicating reduced psychological demand in addition to increased control). The total number of health professionals who had low psychological demand was found to be significantly ($p < 0.001$) higher. Moreover, the total number of health professionals who had low control was found

to be significantly high ($p=0.006$).

Using non-adjusted logistic regression, findings showed that auxiliary nurses or health technicians, health workers who have had more than 15 years' work experience, and health workers with low social support had positive association with and were more likely to be classified as being in the high strain quadrant. Secondly, health workers who were nursing technician or nurse auxiliaries were more likely to be in the passive job quadrant. However, health workers who have had more than 15 years' work experience were more likely to be in the active job quadrant. Among those with a lower chance of being placed in the active job quadrant were health workers hospitals or those working in the intensive care unit.

2.5 How Nurses Cope with Stress

The extent to which nurses experience occupational stress is determined by the success of stress coping mechanisms adopted by the nurses to be able to cope with stressors related to their job situation (Sveinsdottir et al., 2006). Coping strategies include problem focused coping (which involves the act of confronting or dealing directly with the source of stress); reappraisal (thus reflecting on the import of actions taken to deal with workplace stress); avoidance coping (thus actions taken to avoid or get one distracted from the problem at hand); and then emotional coping (thus actions geared towards addressing or controlling how one responds emotionally to stressful situations). If nurses are able to manage their stress well, they will be able to have a more positive impact on the lives of people around them and the stressors from other persons will have less negative effect on them (Dapaa, 2014).

Spielberger and Vagg (1999) posited that successful identification of the main sources of

stress at one's workplace provides two fold benefits for both employees of an organization and the management of that organization. First of all, it helps to be able to identify certain changes at the work place that are needed to help bring down the level of stress among employees and help increase productivity. Secondly, it promotes the planning and development effective interventions required to lessen the negative effects associated with organizational stress.

Coping has been identified as one of the stabilizing factors that help individuals to be able to psychologically and socially adapt to stressful situations. According to Robin (2002), the way one actually responds to any stressful situation in the environment is as important as the situation itself. Sources of stressors can be social, physiological or it can be from the environment.

The way people cope with stress can be described as positive or negative coping. It can also be described as reactive (that is, how one reacts to his or her thoughts and feelings) or active (that is direct actions taken to address stressful situations or events that one faces). However, active or reactive ways to coping with stress can be either positive or negative and, this depends on the peculiar nature of the situation and the nature of the response to the stressor (Shields, 2001). There exist many ways that people adopt to be able to cope with various stressors. Literature on stress shows that people in general actually adopt more than one approach to dealing with stressful situations in their life rather than resigning to only one way (Lazarus, 1993).

Various techniques that are learned by people and used to relieve tension, reduce stress and to calm down are referred to as positive coping strategies. Examples of these positive coping strategies include deep breathing exercises and relaxation techniques (Fortinash & Holoday-

Worret, 2004). These strategies, if applied appropriately, help people to be able to successfully adapt to stressful situations. These can either be therapeutic and non-therapeutic. Therapeutic coping strategies are the coping strategies that are geared towards assisting the individual in the acquisition of insight, gaining of confidence to face reality, and to mature emotionally (Timby, 2008). Coping strategies adopted in a particular situation depend on individual differences among people, past experiences or the nature of the situation (Heerwagen & Diamond, 1992).

Callaghan, Tak-Ying and Wyatt (2000) found that the most frequently used coping strategy among nurses were venting to, giving and receiving social support. They identified certain harmful coping strategies that nurses adopted. These coping strategies included smoking, the excessive use of drugs or other medicinal substances and the consuming of alcohol. Hope, Kelleher and O'Connor, 1998) also posited that nurses resort to eating of food in order to cope with stress. According to Sullivan (1993), coping strategies that were found to have been adopted by nurses to relief their stress and level of dissatisfaction included, but it was not limited to, problem solving techniques, acceptance of responsibility, having positive thoughts about situations in live and avoiding stressful situations entirely.

In a study entitled “Nursing and Coping with Stress”, Laal and Aliramaie (2010), assessed how Iranian nurses coped with stressful situations (thus with regard to the application of both positive and negative coping strategies) and its relationship with how nurses cope and the health outcome of nurses. In this cross-sectional study, a total of 100 nurses working in the Tohid and Besat Hospitals of Sanandaj City in Iran were selected for the study. The Adolescent Coping Orientation for Problem Experiences (A-COPE) questionnaire was adopted and used in this study to assess coping strategies used by the nurses.

The positive coping strategies found to be used by the Iranian nurses included listening to music, buying of books, cassettes or tapes, going on shopping spree with friends and family, watching of movies at home or at the cinema, spending time to read books, singing or composing songs, having enough rest, going for hiking including other sporting events.

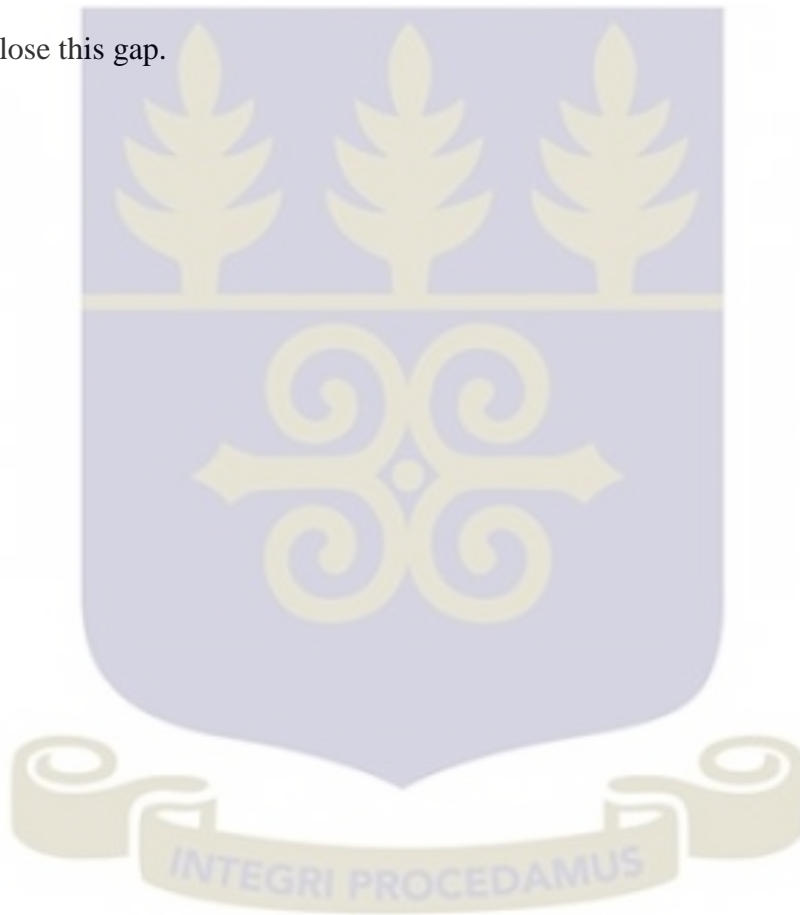
In addition to that, making of table arrangements at work, engaging in repair and some construction works at home, taking part in group games, participating in conferences or attending concerts, going for excursions to parks, mountainous areas in addition to having some quiet time for reflection at a quiet place. Some other activities used to relief stress were spending time to play with pets, praying or meditating and carrying out relaxation exercises, engaging in gardening or painting activities, having a good bath, spending time to chat with friends and colleagues about the problems one is facing, paying visit to family and friends, playing chess or computer games and getting oneself occupied with home chores.

Negative coping strategies that were found among the Iranian nurses included having disputes, engagement in profanity or the use of insults, yelling at others and making of negative speeches about self, taking of tea or coffee in excess, intake of alcohol in excess, smoking, abuse of abuse, having suicidal ideations, impatience, reckless driving, eating too much or not eating enough food, social isolation distancing oneself from others, negative expectations about self, crying spells, nail biting and tossing of objects.

2.6 Summary

The review of literature shows that the nursing profession is indeed a stressful one. However, there are varying degrees of stress and its prevalence among the various studies that have been carried out so far. This may be attributed to the different scales used to assess

stress levels of nurses in the various studies. Various models and stress scales such as the STP model of occupational stress, the NSI scale, the ENSS and the Interpersonal Work Relations Scale. However, none of the studies adopted the stress component of the DASS scale to assess levels of stress among nurses. Furthermore, just a few studies carried out by Dapaa (2014) and Yeboah et al. (2014) in Ghana focused on stress among nurses which suggests limited studies in the area of workplace stress among nurses. This study is therefore needed to close this gap.



CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methods employed in the study. This includes the research design and a description of the setting in which the study was carried out. The chapter also describes how the sample size was determined, the sampling technique, data collection tool and technique, data analysis and ethical issues.

3.1 Study Design

A descriptive cross-sectional design was employed in this study. Descriptive designs describe what actually exists, determine the frequency with which it occurs, and categorizes the information (Burns & Grove, 2005). This design was employed to assess the prevalence of stress among nurses at the Tema General Hospital.

3.2 Study Location

This study was carried out at the Tema General Hospital. The Tema General Hospital is the largest public health institution located in the Tema Metropolis. It serves as the main referral point for all other clinics/ hospitals in the Tema Metropolis. The Hospital has a total of ten (10) wards with a bed capacity of 294. The Tema General Hospital provides a 24 hour specialist and general services on both out-patient and in-patient basis. The services, department and units available are; Internal Medicine, General Surgery, Obstetrics and Gynaecological Care, Paediatrics, Reproductive and Child Health Care/ Family Planning, Accidents and Emergency Services, Theatre, Prevention of Mother-to-Child Transmission (PMTCT)/ Voluntary Counselling and Testing (VCT). The specialist clinics/ units available are; Eye Clinic, Dental Clinic, Diabetic Clinic, Sickle Cell Clinic, Public Health, Weekly

Dermatology Clinic, ENT (ear, nose and throat) Clinic, Chest Clinic, Hypertensive Clinic, Anaesthetic Clinic, Antiretroviral treatment and prevention of mother-to-child transmission (ART/PMTCT) clinic.

In addition, the hospital has the following support services; Laboratory/ Blood Bank, Radiology/ Ultrasound Scan, Pharmacy, Physiotherapy and electrocardiogram E.C.G (electrocardiogram). Other facilities in the hospital are Staff Rest Room, Catering/ Canteen, Mortuary, Laundry/ C.S.S.D (central sterilization service department service), Stores and Supplies and then Estate Department. The location of the Tema General Hospital within the Tema Metropolis is shown in the map below.

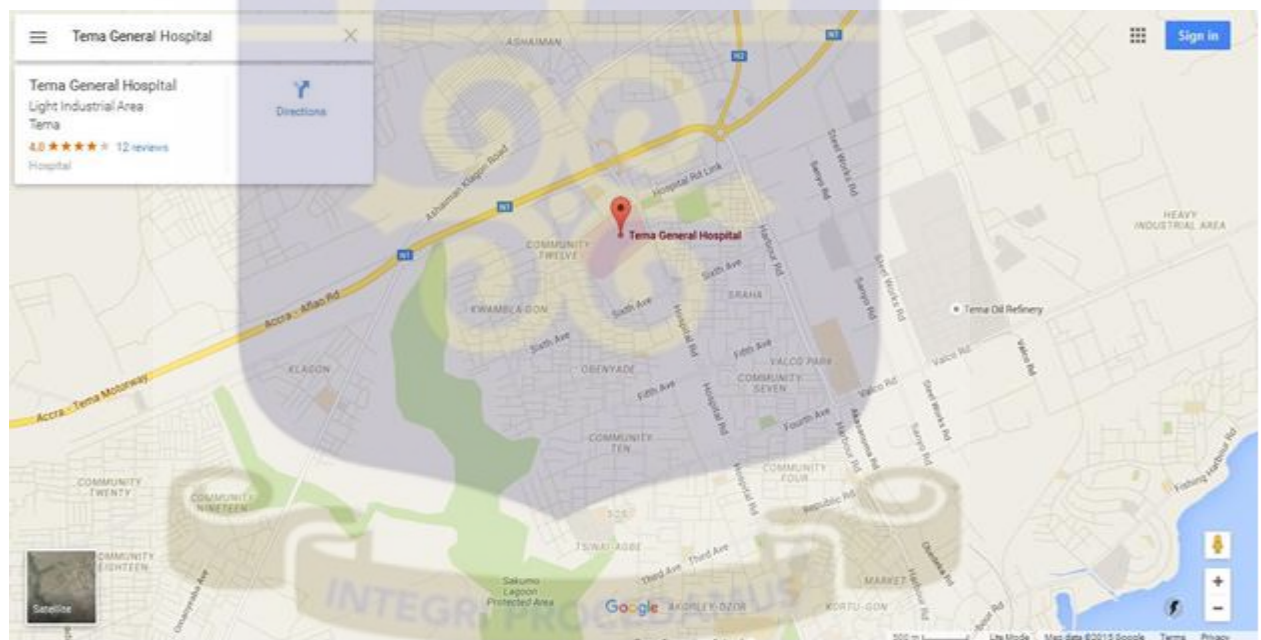


Figure 3.1: Areal map showing the location of Tema General Hospital within the Tema Metropolis

3.3 Study Population

A target population comprises a group of individuals or subjects which serve as the main focus of a scientific query from which a sample is selected for a study (Castillo, 2009). The

target population for this study was nurses working at the Tema General Hospital.

3.3.1 Inclusion Criteria

The criteria for inclusion comprised of all categories of nurses employed at the Tema General Hospital. Nurses who have had at least one year experience in nursing and were willing to participate qualified for inclusion into the study.

3.3.2 Exclusion criteria

Student nurses on affiliation programmes and rotation nurses were excluded from the study. Nurses who had less than one year work experience at their current workplace were also excluded.

3.4 Variables

- i. Dependent variable;
 - a. Stress

- ii. Independent variables are;
 - a. Demographic factors: Age, Sex, Educational status, Marital status, Rank,
 - b. Stress coping strategies
 - c. Work-related demands
 - d. Work-related control
 - e. Work-related support
 - f. Work-related relationship
 - g. Workplace Role
 - h. Change

3.5 Sample Size Calculation

Sample size was calculated using the model proposed by Glen et al. (1992):

$$n = \frac{P[1 - P]}{\frac{A^2}{Z^2} + \frac{P[1 - P]}{N}}$$

Where:

n = Sample size required

N = Total number of nurses at TGH (399)

P = estimated proportion of people with stress (0.5)

A = Precision desired around P to be estimated, (0.05)

Z = Confidence level critical value (1.96 for 95% confidence)

$$n = \frac{0.5[1 - 0.5]}{\frac{0.05^2}{1.96^2} + \frac{0.5[1 - 0.5]}{399}} = 196$$

3.6 Sampling Procedure

Stratified and simple random sampling techniques were used to select participants for the study. The stratified sampling technique is a form of probability sampling technique which involves the stratification of the target population into various cadres out of which individual subjects are then selected. This was carried out by subdividing the nurses based on their rankings, out of which a portion from each group was selected using the simple random

sampling technique.

The simple random sampling technique is a type of sampling involving a selection at random from a list of the population of research interest (Robson, 1996). In applying the simple random sampling technique, ward managers in the hospitals were asked to provide the total number of registered nurses in their wards on each time the researcher visited the wards. The researcher then used the fish bowl technique to select the registered nurses on duty on each of the visits. This technique was to ensure that all the registered nurses in the wards or various cadres had equal chance of being selected for the study.

3.7 Data Collection Tool

A structured questionnaire was used to collect the data. The questionnaire had four main sections. The first section had 7 items on the demographic characteristics of respondents (age, sex, professional rank, educational level, ward/ unit, marital status, and number of years practicing). The second section was a 14 item stress component of the Depression Anxiety and Stress Scale (DASS) with five rankings (normal, mild, moderate, severe and extremely severe stress). This was used to assess the stress levels of the nurses.

Normal stress represents no stress. It is the everyday stress that people generally encounter, but are able to cope with to the extent that it poses no threat to their health. Mild stress represents just a minimal level of stress which poses no danger and usually requires no treatment. Moderate level of stress represents increasing level of stress which may affect one's physical health and, the person may require some form of psychological assistance. Severe stress refers to high levels of stress that threatens one's physical health and requires both physical and psychological treatment. Extremely severe stress represents the highest

level of stress and burnout which is an imminent threat to one's health and requires immediate attention.

Total scores from 0-14 represented normal stress; scores 15-18 represented mild stress; scores 19-25 represented moderate stress; scores 26-33 represented severe stress and; scores 34 and above represented extremely severe stress (DASS).

The third section was a 16 item scale on 6 facility related factors contributing to stress with 5 rankings. Demand, control, support, relationships, role and change all had 2, 3, 5, 2, 2, and 2 items respectively.

The fourth section was a 13 item scale on coping with stress with 5 rankings. Coping strategies include relationship, self-care, social support and cognition had 3, 4, 3 and 3 items respectively.

Recreation involves distraction from stressful events and a form of relief outside work environment. This involves forms of leisure activities and entertainment. Self-care represents healthy activities such as exercise, rest and sleep, good nutrition, avoidance of harmful substances such as illicit drugs and alcohol and the practice of relaxation techniques. Good interpersonal relationship with family and friends, as well as social groups, represents social support. This serves as an avenue for help, comfort and relief. Cognitive coping involves problem solving techniques such as planning, setting of priorities and effective time management.

3.8 Quality Control

Quality control was ensured by carrying out a pre-test of the data collection tool at the Ridge Hospital in Accra to ensure consistency of the findings. Training of two research assistants

was done to provide assistance with the data collection process. Data collection was done by the researcher and the trained assistants to ensure that the process was carried out effectively. All participants were duly informed about the study. All filled questionnaires were cross-checked to ensure that they were complete in order to reduce the number of missing data. Double entry of data was carried out and data cleaning done to minimize errors.

3.9 Pre-Test of the Questionnaire

A pre-test of the questionnaire was carried out at the Ridge Regional Hospital. This was carried out on ten (10) nurses. The questionnaire was then reviewed and necessary amendments done based on the responses before the actual data collection process. This was to help eliminate unnecessary questions and rephrase ambiguous ones to ensure consistency of the findings.

3.10 Data Processing and Analysis

Data collected was analysed using the STATA (Version 13). After initial collection of data, the questionnaire was coded using the STATA and data from each questionnaire entered into the software. All entries made were then edited to eliminate errors after which the data was processed. Descriptive analysis of demographic data was carried out using frequencies, means and standard deviations which were then presented in the form of frequency distribution tables and bar graphs.

Stress level was also analysed descriptively, with the frequencies and percentages illustrated in a bar chart. The Chi-square statistic was used to test association between stress levels of nurses and their demographic data using a P value of ≤ 0.05 as the statistically significant value.

Factors contributing to stress and coping strategies were also analysed descriptively using frequencies, means and standard deviations which were then presented in the form of frequency distribution tables.

Means scores on facility related factors contributing to stress among nurses were calculated by summing up the scores under all the items under each factor (demand, control, support, relationships, role and change) and finding the mean score for each facility related factor for each individual. The average of all the individual means for calculated for each factor for each individual was then calculated to get the mean score on each facility related factor for the entire sample.

3.11 Ethical Consideration

Ethical approval to carry out the study was sought from the Ghana Health Service Ethical Review Board. Permission to conduct the study was obtained from the Tema General Hospital administration by sending an introductory letter to formally introduce the researcher to them. Each participant was also provided a written informed consent to sign to indicate their willingness to participate in the study.

No form of coercion was employed to lure the participants into taking part in this study. The purpose, benefits and potential risks for taking part in this study were duly explained to all the participants. All participants were informed that they can opt out of the study any time they wish without having any negative effect on their status at work.

Anonymity was ensured by assigning numbers to each of the questionnaires filled by the respondents in place of their names. No one was allowed to write his or her name on the questionnaire. The questionnaires were also administered to the participants individually to

ensure privacy. In order to ensure confidentiality, all information provided were kept safety under lock and was only be accessible to the researcher and the supervisor.



CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter presents the results of the study and is divided into sections. The first section reports the demographic characteristics of participants. The rest of the sections present the results according to the objectives of the study.

4.1 Demographic Characteristics of Respondents

Eighty six (43.4%), of the respondents were between 31-40 years and 78 (39.4%) were between 20-30 years. Majority, 158 (79.8%) of the respondents were females. Eighty six (43.4%), of them had diploma and 85 (42.9%), had a bachelor's degree. However, 21 (10.6%) of them had a master's degree. Others, 6 (3.0%), had post basic certificates in various nursing specialties such as critical care, ophthalmic and paediatric nursing. Majority, 105 (53%), of the respondents were married and 86 (43.4%) were single. Majority, 163 (82.3%), of the nurses were registered general nurses, followed by health assistants 11 (5.6%) and midwives 11 (5.6%). The average years of working experience among the participants was 7.7 years ($SD= 5.97$). Detail analysis is shown in table 4.1 below.

Table 4.1: Demographic Characteristics of Respondents

Variable		Frequency (n)	Percent (%)
Age	20-30 years	78	39.4
	31-40 years	86	43.4
	41-50 years	23	11.6
	51-60 years	11	5.6
	Total	198	100
Sex	Male	40	20.2
	Female	158	79.8
	Total	198	100
Educational status	Diploma	86	43.4
	Degree	85	42.9
	Masters	21	10.6
	Other	6	3.0
	Total	198	100
Marital status	Single	86	43.4
	Married	105	53
	Separated	3	1.5
	Widowed	4	2.0
	Total	198	100
Category of Nurse	Community health nurse	1	0.5
	Critical care nurse	2	1
	Health assistant clinical	4	2
	Midwife	11	5.6
	Ophthalmic nurse	11	5.6
	Paediatric nurse	1	0.5
	Public health nurse	5	2.5
	Registered general nurse	163	82.3
	Total	198	100

The respondents comprised 66 (33.3%) nursing officers (NO), 61 (30.8%) staff nurses, 26 (13.1%) senior staff nurses (SSN), 22 (11.1%) senior nursing officers, 20 (10.1) principal nursing officers (PNO) and 3 (1.5%) deputy directors of nursing service (DDNS). This is shown in figure 4.1 below.

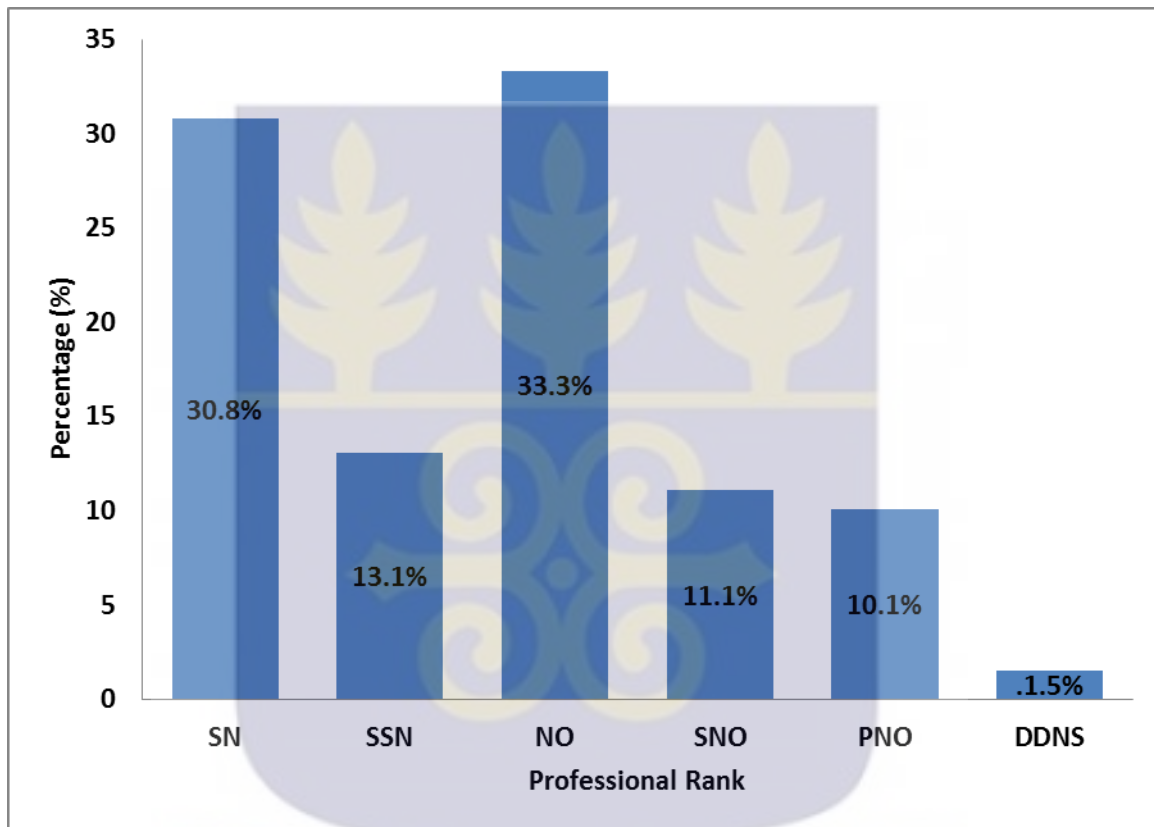


Figure 4.1: Professional rank distribution of respondents

4.2 Prevalence of Stress among Nurses

As shown in Figure 4.2 below, majority, 88 (45%) of the respondents had extremely severe stress, followed by 60 (30%) with severe stress, 40 (20%) with moderate stress and 8 (4%) with mild stress. Only 2 (1%) had normal stress. Thus placing the prevalence rate of stress at 99%.

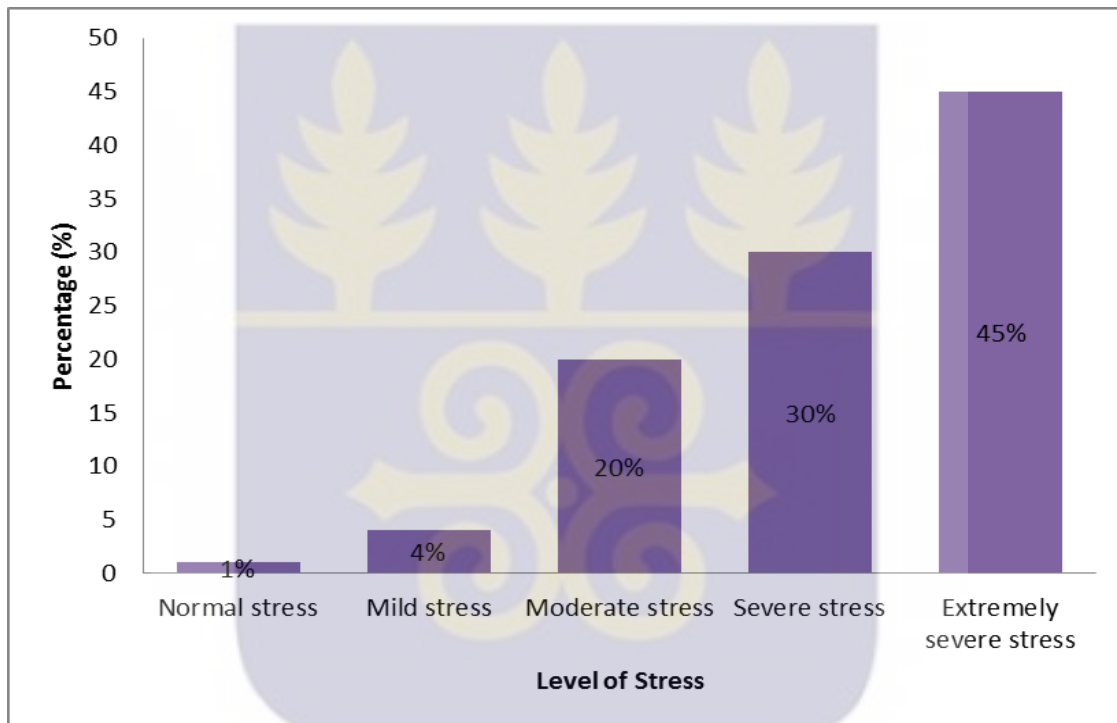


Figure 4.2: Prevalence of stress

4.3 Association between Demographic Characteristics of Nurses and Levels of Stress

Another objective of the study was to assess the association between stress levels and demographic variables (age, sex, rank, marital status, educational status, years of work experience). Years of work experience was categorized into two (1-10 years and More than 10 years).

The Chi-square statistics was used to test the relationship between age and sex category and level of stress among nurses, both of which are categorical variables. The Chi-square statistics shows that there is no statistically significant association between the age category of nurses and their level of stress ($X^2= 17.729, p= 0.139$). This indicated that the level of stress among nurses is not determined by the age category in which they belong.

The Chi-square statistics also showed that there was no statistically significant association between sex and level of stress among nurses ($X^2= 7.845, p= 0.079$). This indicated that the level of stress among nurses was not determined by the age category in which they belonged. Detail analysis is shown in Table 4.2 below.

Table 4.2: Relationship between Age, Sex and level of stress

Variable		Normal n (%)	Mild n (%)	Moderate n (%)	Severe n (%)	Extremely severe n (%)	Chi- square test	P- value
Age	20-30	0 (0%)	4 (50%)	19 (47.5%)	26 (43.3%)	29 (33%)	17.729	0.139
	31-40	1 (50%)	3 (37.5%)	14 (35%)	24 (40%)	40 (50%)		
	41-50	0 (0%)	0 (0%)	7 (17.5%)	6 (10%)	10 (11.4%)		
	51-60	1 (50%)	1 (12.5%)	0 (0%)	4 (6.7%)	5 (5.7%)		
Sex	Male	0 (0%)	0 (0%)	4 (10%)	12 (20%)	24 (27.3%)	7.845	0.097
	Female	2 (100%)	8 (100%)	36 (90%)	48 (80%)	64 (72.7%)		

Levels of stress among nurses were also compared with their professional rank using the Chi-square statistic. The Chi-square statistics showed no statistically significant association between professional rank and level of stress among nurses ($X^2= 19.591$, $p= 0.484$). This meant that the stress level of nurses was not affected by their professional rank. This is shown in Table 4.3 below.

Table 4.3: Relationship between professional rank and level of stress

Rank	Normal n (%)	Mild n (%)	Moderate n (%)	Severe n (%)	Extremely severe n (%)	Chi-square test	P-value
SN	0 (0%)	1 (12.5%)	14 (35%)	21 (35%)	25 (28.4%)	19.591	0.484
SSN	0 (0%)	0 (0%)	3 (7.5%)	8 (13.3%)	15 (17%)		
NO	2 (100%)	3 (37.5%)	12 (30%)	17 (28.3%)	32 (36.4%)		
SNO	0 (0%)	2 (25%)	5 (12.5%)	7 (11.5%)	8 (9.1%)		
PNO	0 (0%)	2 (25%)	6 (15%)	7 (11.7%)	5 (5.7%)		
DDNS	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (3.4%)		

The relationship between education and stress level among nurses was assessed with the Chi-square statistic. No statistically significant association was found between highest level of education and level of stress among nurses ($X^2= 13.999$, $p= 0.599$). This means that the stress level of nurses is not influenced by their highest level of education. This is shown in Table 4.4 below.

Table 4.4: Relationship between educational status and level of stress

Education	Normal n (%)	Mild n (%)	Moderate n (%)	Severe n (%)	Extremely severe n (%)	Chi- square test	P-value
Diploma	0 (0%)	1 (12.5%)	16 (40%)	29 (48.3%)	40 (45.5%)	13.999	0.599
Degree	2 (100%)	6 (75%)	18 (45%)	23 (38.3%)	36 (40.9%)		
Masters	0 (0%)	1 (12.5%)	3 (7.5%)	6 (10%)	11 (12.5%)		
Others	0 (0%)	0 (0%)	3 (7.5%)	2 (3.3%)	1 (1.1%)		

The marital status of nurses and years of work experience were also compared with the level of stress among nurses using the Chi-square statistic. However, there was no statistically significant association between marital status and level of stress among nurses ($X^2= 12.403$, $p= 0.414$). This implies that the marital status of nurses does not influence their level of stress.

Secondly, no statistically significant association was also found between years of work experience and level of stress among nurses ($X^2 =5.186$, $p= 0.269$). This means that the stress level of nurses is not determined by the number of years they have practiced nursing. This is shown in Table 4.5 below.

Table 4.5: Relationship between marital status, years of work experience and level of stress

Variable		Normal n (%)	Mild n (%)	Moderate n (%)	Severe n (%)	Extremely severe n (%)	Chi- square test	P- value
Marital status	Single	0 (0%)	3 (37.5%)	17 (42.5%)	33 (55%)	33 (37.5%)	12.403	0.414
	Married	2 (100%)	5 (62.5%)	22 (55%)	23 (38.3%)	53 (60.2%)		
	Separated	0 (0%)	0 (0%)	1 (2.5%)	2 (3.3%)	0 (0%)		
	Widowed	0 (0%)	0 (0%)	0 (0%)	2 (3.3%)	2 (2.3%)		
Years of work	First 10 years	1 (50%)	7 (87.5%)	27 (67.5%)	49 (81.7%)	72 (81.8%)	5.186	0.269
	More than 10 years	1 (50%)	1 (12.5%)	13 (32.5%)	11 (18.3%)	16 (18.2%)		

4.4 Facility Related Factors Contributing to Stress among Nurses

Facility related factors contributing to stress among nurses that were measured included demands at the workplace, level of control, support, interpersonal relationships, role at work and change at the workplace.

The results showed that interpersonal relationship (mean =3.712, SD =1.052) had the highest mean scores which indicate that poor relationship with others at work was the highest contributing factor to stress among nurses in the hospital compared to others.

Role (mean =3.402, SD =1.067), Control (mean = 3.364, SD =0.984), Change (mean =3.164, SD =0.957), Support (mean =2.869, SD =0.812), had moderate mean scores. This indicated the average contributory effect that these facility related factors had on stress among nurses.

The factor with the lowest mean score was Demand (mean =2.141, SD =0.928). This indicates that the extent to which demands placed on nurses at the work place affect their stress levels is low. Details of the analysis are shown in Table 4.6 below.



Table 4.6: Facility related factors contributing to stress among nurses

Factors	Minimum	Maximum	Mean	SD
Demand (Total score)			2.141	0.928
The workload at work is too much	1	5	2.08	0.958
There is too much pressure at work	1	5	2.20	1.007
Control	1	5	3.364	0.984
I am not involved in any decision making at work	1	5	3.03	1.117
I am not allowed to make decisions on my own at work	1	5	3.36	1.116
I am not recognised as important at work	1	5	3.70	1.134
Support (Total score)			2.869	0.812
There is lack of encouragement from management	1	5	3.10	1.265
There is no sponsorship at work	1	5	3.03	1.272
I lack resources and materials needed to work effectively and efficiently	1	5	2.95	1.134
My salary is not satisfactory	1	5	2.15	1.256
There is no provision of guidance at work	1	5	3.13	1.126
Relationships (Total score)			3.712	1.052
Conflict with colleagues and/ or other health team members	1	5	3.24	1.242
Poor relationship with management and/ or superiors	1	5	3.51	1.121
Role (Total score)			3.402	1.067
I have conflicting roles with colleagues and other members of the health team	1	5	3.33	1.184
I am uncertain about what I am supposed to accomplish in my work	1	5	3.47	1.224
Change (Total score)			3.164	0.957
There is slow pace of change in the organization	1	5	3.17	1.065
Changes in organizational policies and mode of operation are poorly communicated to the staff	1	5	3.11	1.063

A Pearson product-moment correlation was run to determine the relationship between facility related factors contributing to stress and levels of stress among nurses.

Results of Pearson's correlation showed that there was a strong but significant negative correlation between stress and work demand ($r = -0.280, n = 198, p < .001$) and role ($r = -0.283, n = 198, p < .001$). This showed that the lower the demand placed on nurses at work and the less defined their roles are, the more stressed they become.

The test also showed a strong but significant negative correlation between stress and control ($r = -0.158, n = 198, p < .05$) and, relationship ($r = -0.203, n = 198, p < .05$). This implies that the less control nurses have at work and the poorer the relationship they have with other staff at work, the more stressed the nurses become.

Furthermore, there was negative but weak correlation between stress and support ($r = -0.049, n = 198, p > .05$) and change ($r = -0.025, n = 198, p > .05$). This indicates that workplace support and change does not have any significant impact on nurses' level of stress. Details of the analysis are shown in table 4.7 below.

Table 4.7: Relationship between facility related factors contributing to stress and level of stress

Variables	<i>r</i>	Age <i>p</i> -value (2-tailed)
Demand	-0.280	0.000
Control	-0.158	0.026
Support	-0.049	0.493
Relationship	-0.203	0.004
Role	-0.283	0.000
Change	0.025	0.726

4.5 Coping Mechanisms adopted by Nurses to reduce Stress

Coping mechanisms that nurses used to reduce stress were assessed. These included recreation, self-care, social support and cognition.

The results showed that Cognition (mean =2.958, SD =0.889), Recreation (mean =2.662, SD =0.722) and Social support (mean =2.646, SD =0.840) had the highest mean scores in relation to coping mechanisms in stress reduction. This implies that nurses most of the time engage themselves in recreational activities to relax themselves, seek social support in times of difficulty as well as employ cognitive strategies such as planning and avoidance techniques to deal with stressful situations.

The coping mechanism with the lowest mean score was Self-care (mean =1.969, SD =0.568) compared to other coping mechanisms. This means that nurses often neglect themselves without paying much attention to their own health. Detail analysis is shown in Table 4.8 below.



Table 4.8: Stress coping mechanisms

Coping Mechanism	Minimum	Maximum	Mean	SD
Recreation			2.662	0.722
When I need a leave I take one	1	5	2.62	1.091
I am able to do what I want to do in my free time	1	5	2.84	1.078
I hardly watch television	1	5	2.53	0.975
Self-care			1.969	0.568
When I'm relaxing, I frequently think about work	1	5	2.64	1.065
I get regular physical check-ups	1	5	2.31	0.984
I exercise regularly (at least 20mins.,3 times a week)	1	5	2.46	1.152
I practice relaxation techniques	1	5	2.43	1.039
Social support			2.646	0.840
If I need help at work ,I know who to approach	1	5	3.04	1.202
My working environment is not friendly	1	5	2.08	1.306
In times of difficulties there is someone to talk to.	1	5	2.83	1.162
Cognition			2.958	0.889
I can establish priorities for the use of my time	1	5	2.97	1.108
Once they are set, I am able to stick to my priorities	1	5	2.94	1.055
I have techniques to help avoid being distracted	1	5	2.96	1.087

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter presents the discussion of the findings with related literature. The first section is a discussion of the demographic characteristics of the respondents. The subsequent sections comprise a discussion of the results according to the objectives of the study.

5.1 Demographic Data

A total of 198 nurses took part in this study. They were mainly young nurses from 20-40 years old (82.8%) with an average working experience of 7.7 years. This is consistent with the average age of nurses in Ghana which is said to be between 25 to 35 years (GHS annual report, 2013). Nurses within this young age bracket are usually active and may be involved in multiple tasks at work which might place some strain on them. This can be linked to Filha et al. (2013) in Brazil who found that younger staffs below 35 years of age are predominated with work with high strain.

Majority (79.8%) of them were females which suggest that females continue to dominate the nursing profession. This is similar to the findings of Dapaa (2014) who found that female nurses in the Greater Accra Region of Ghana comprised 70.7% of his study sample. Nursing begun as a female oriented profession and still continues to be predominantly dominated by females. This is consistent with the findings by Meadus and Twomey (2011) that although some appreciable numbers of men are entering the nursing profession, the increase in the percentage of men in nursing has not been significant. The gender imbalance in nursing is also perpetuated by the increasing exit of males from the nursing profession compared to their female counterparts (McLaughlin, Muldoon & Moutray, 2010).

The current study found that 87.9% of the respondents were registered general nurses and midwives. Among them 30.8% were staff nurses. More than half of the respondents (57.5%) were nurses in the senior grade (senior staff nurses, nursing officers and senior nursing officers) whilst those in the penultimate grade (principal nursing officers and deputy directors of nursing service) were just a few (11.6%). This explains why majority of them were in the young age bracket. Moreover, staff nurses and nurses in the senior grade are mostly responsible for the day to day activities on the wards or in their various units and are more likely to bare the main physical and psychological burden of workload on the job compared to those in the penultimate grade. However, those in the penultimate grade are also mainly involved in administrative activities and are liable to the stress associated with the day to day nursing administrative activities.

Majority of nurses in Ghana enter the profession at the diploma level with a few entering the profession at the degree level. However, 43.4% of the nurses in this study had diploma and 42.9% had a bachelor's degree in nursing which suggest that most of the nurses with diploma had advanced in the academic ladder of their profession to acquire a degree. This can be linked to the recent proliferation of private universities offering two year regular top up and three years sandwich top up courses for nurses with diploma to acquire a degree in nursing. A few of them remaining had master's degree (10.6%) in nursing which shows that that nurses still continue to climb higher the academic ladder in their profession (The Future of Nursing, 2010). This implies that more Ghanaian nurses are motivated to progress in their carrier which predicts a brighter future for the nursing profession in the country.

5.2 Prevalence of Stress among Nurses

Undoubtedly, the nursing profession is characterized by a variety of stressful situations which makes nursing a stressful occupation (Lambert & Lambert, 2008). According to Shields and Wilkins (2006) job related stress is associated with the day-to-day workplace activities of nurses. The prevalence rate of stress among the nurses in this current study stands at 99% with different percentages at various levels. This is suggestive of the stressful nature of the nursing profession among the respondents. Videbeck (2007) posited that when people face difficulty dealing with difficult and challenging situations, stress develops. It implies that difficult and challenging situations permeate the nursing profession which is a threat to the physical, emotional, and cognitive wellbeing of the nurses. Continuous high prevalence of stress among the study sample also makes them susceptible to burnout (Zaghloul, 2008). This places the nurses in this current study at risk of reduction in their overall performance at work (Shields & Wilkins, 2006).

The findings from this study revealed that 45% and 30% of the nurses had extremely severe and severe stress respectively. It shows that majority of the nurses (75%) recorded high levels of stress thus providing a strong indication of the dangerously stressful nature of the nursing profession. If the severity of the stress level of the nurses persists, the physical and psychological strains that may arise are likely to have adverse behavioural consequences on the nurses (Spielberger et al., 2003).

According to Shields and Wilkins (2006), nurses experiencing higher levels of stress are more likely to experience poor health. This implies that the nurses in this current study are vulnerable to stress related physical and psychological conditions due to the stressful nature

of the profession. Lowe (2006) posited that individuals in health occupations have higher levels of work related stress compared with all other occupations.

Everybody in one way or the other has the capacity to adapt to stress, however, responses to stress among people are never the same (Timby, 2008). Persons with such high level of stress are prone to many types of physical ailments. These include hypertension, various form of heart diseases, peptic ulcer in addition to body discomfort such as headache and bodily pains (Mehta & Chaudhary, 2005). In addition to these physical problems, psychological conditions such as depression (Hammen, 2005) and sleep problems (Harvey et al., 2003) are also associated with increased levels of stress. This highlights the vulnerability of nurses to these stress related conditions.

Twenty percent (20%) of the nurses had moderate stress and 4% had mild stress. However, this is likely to rise to higher stress levels if the work situation remains unchanged. Nurses play a key role in the provision of adequate, timely and quality health care services however, the stress experienced at work affects their output, which is a matter of growing concern (Offei & Quansah, 2009). The danger of stress in the nursing profession within the country calls for multilateral concerted efforts to address the situation in order to save the lives of the life savers. According to Offei and Quansah (2009), the Ministry of Health in Ghana is not unaware about the stressful situation that nurses face at work. However, attempts to provide resources to help nurses cope with stress associated with their work situation have not been fruitful.

5.3 Demographic Characteristics of Nurses and their Relationship with Levels of Stress

The study also investigated the relationship between stress among nurses and their age, sex, rank, marital status, educational status, and years of work experience. Findings from the study showed no statistically significant relationship between the age category of nurses, sex, professional rank, level of education, marital status, years of work experience and level of stress among nurses. This means that no difference was found in the levels of stress among male and female nurses, married and unmarried nurses, junior and senior nurses and nurses with lower and higher academic qualification. This indicates that stress permeates all aspects of the nurses irrespective of ones' rank and years of work experience in the profession in addition to other factors such as sex, age, marital status and level of education. Similar to this finding, Filha et al. (2013) found no statistically significant difference in the stress levels among marital status and level of education of nurses in Brazil.

On the contrary, Milutinović et al. (2012) in their study on stress levels of nurses found significant differences in the levels of stress levels in relation to age, marital status, and education level among critical care nurses. This might be due to the fact that their study was based on a section of nurses – critical care nurses – and not nurses in general.

5.4 Facility Related Factors Contributing to Stress among Nurses

According to Lambert and Lambert (2008), nurses are confronted with a variety of stressors. Demands at the workplace, level of control, support, interpersonal relationships, role at work and change at the workplace are key factors within the workplace environment that influences the level of stress among employees. This can be linked to sources of stress that are encountered in the work environment as indicated by Spielberger et al. (2003) in the STP

model of occupational stress. This is suggestive of the diverse ways, events or circumstances that lead to stress (Manktelow, 2005).

The current study found that the main contributor to stress among nurses at the workplace was poor interpersonal relationship (mean =3.712, SD =1.052). Interpersonal relationship had a strong but significant negative correlation with stress among the nurses ($r = -0.203$, $n = 198$, $p < .05$) which underscored the fact that poor interpersonal relationship at work is a significant contributor to stress among nurses. Similarly, Bratt et al. (2000) found that inter and intra-professional conflict still remains an important source of stress for nurses. With regard to poor workplace relationship factors, inter-professional conflict between nurses and physicians was found to be a major problem at the workplace.

Among nine sub-scales of workplace situations identified by French et al. (2000) to contribute to stress among nurses, conflict with physicians, problems with peers, problems with supervisor and discrimination were four items within the sub-scales that lead to interpersonal relationship at work. In their study in Portugal, Rodrigues and Ferreira (2011) noticed that as the interpersonal relationship at work got worse, stress levels among the nurses rose up to higher levels.

Contrary to the finding of the current study, Rothmann et al. (2006), in their cross-sectional survey in South Africa found that health risks associated with physical contact with patients, lack of recognition for good work done, and shortage of staff were the main factors contributing to stress among nurses at the workplace. However, they also noticed that, to some extent, significantly higher scores on stress were observed among nurses in South Africa due disagreement between nurses and medical practitioners or colleagues concerning the treatment of a patient.

This means that misunderstandings, contentions, and lack of cohesion among nurses abound in the profession leading to strained relations between nurses and their colleagues, superiors and subordinates. The existence of positive interpersonal relationship among nurses and others at the workplace make them spend quality time together and contributes to quality care for their patients. However, strained relations among employees in general make them uncomfortable working with each other. According to Preto and Pedrão (2009), continual exposure of nurses to strained relationships between colleagues, superiors and other health professionals is likely to lead to feelings of irritability, depression and disappointment. It also creates feelings of distress and rejection (Mehta & Chaudhary, 2005). This serves as a great impediment to work and happiness. As a result of this, nurses are likely to feel hurt and unhappy at work. They are unlikely to collaborate well with each other causing more frustration and mental stress at work.

The second group of facility related factors that contributed to stress among the nurses in this current study were; role at work (mean =3.402, SD =1.067), level of control (mean = 3.364, SD =0.984), workplace changes (mean =3.164, SD =0.957) and support at work (mean =2.869, SD =0.812). Role at work includes the level of understanding that employees have about their role in the organisation in addition to how the organisation makes sure there are no conflicting roles among their staff. In this current study, nurses understanding of role at work had a strong but significant negative correlation with stress among nurses ($r = -0.283$, $n = 198$, $p < .001$) which indicates that poorly defined roles and role confusion significantly contributes to stress among nurses. Lambert et al. (2004) posited that in the event of incongruity between expected roles and actual roles being carried by an employee, role stress develops. This is likely to result on frustration and burnout at work which

underscores the need for nurse managers to employ the needed management skills in assigning roles to nurses in various grades and categories in order to avoid role strain.

Secondly, level of control includes the level of autonomy that one has over some aspect of the workplace. This also includes how much employees are recognized in an organization and the extent to which their views or opinions are heard. In this current study, level of control at work had a strong but significant negative correlation with stress among nurses ($r = -0.158, n = 198, p < .05$) which showed that nurses with less control at work become more stressed up. Therefore, lack of control among nurses at the workplace is likely to make them loose their sense of initiative and make them feel unimportant at work which can be stressful. However, in a study in the Greater Accra Region of Ghana, Dapaa (2014) found that nurses' lack of control at the workplace was the least source of workplace stress among the nurses.

Furthermore, the spate of change within the workplace environment can be stressful depending on the rate and level of involvement of the staff in decisions concerning the change process. Sudden changes effected in the work environment of nurses such as redeployment, sudden change in shift and frequent reshuffling of nurses to other wards, units of department can be stressful.

Support involves the provision of necessary resources needed to make work easy and comfortable (Sanders, 2013). It also involves assistance from both management and staff (Zhang & Zhu, 2008). Lack of support at work increased the level of stress among the nurses. This finding confirms that of Filha et al. (2013) in Brazil where low social support among nurses contributed to increased levels of stress.

Although nursing is known as a generally demanding profession (Zaghloul, 2008), the nurses perceived demand as the least facility related factor that contributes to workplace stress (mean =2.141, SD =0.928). This might be an indication that the nurses have become used to the stressful routine at work and did not consider it as a stressor anymore. However, a comparison between workplace demand and the stress level of the nurses showed a strong but significant negative correlation between stress and work demand ($r = -0.280, n = 198, p < .001$). This can be linked to Ruggiero (2003) who found that workplace stress among nurses could be related to variables of shift work that are physically and mentally demanding. The Demand-Control Model explains that greater demands placed on individuals at the workplace makes them have less control over their work which places them at a higher risk of becoming physically or psychologically stressed (Karasek & Theorell, 1990).

5.5 Coping Mechanisms adopted by Nurses to reduce Stress

With regard to coping mechanisms employed by nurses to reduce stress, cognition, recreation and social support emerged as the main forms of coping mechanisms the nurses used to deal with the stressful situations at work. This suggests the various ways that the nurses adopt to help relieve the stress experienced at work. This confirms the findings by Lazarus (1993) that people tend to use a number of different coping approaches rather than just one. Sveinsdottir et al. (2006) posited that the extent to which each nurse copes with the stress experienced at work is a main indicator of occupational stress in nursing. However, Kalliath and Morris (2002) highlighted the existence of some imbalance between the provision of high quality care and the way nurses cope with stressful situation in their working environment.

In the current study, the nurses engaged themselves in recreational activities to relax themselves, seek social support in times of difficulty as well as employ cognitive strategies such as planning and avoidance techniques to deal with stressful situations. Social support involves accessing and receiving support and encouragement from friends and family. This can be linked to Callaghan et al. (2000) who found that giving and receiving social support were the most frequently used coping strategy among nurses. Similarly, Laal and Aliramaie (2010) reported positive coping strategies among nurses where recreational activities, seeking social support from friends and family among others were reported in Iran.

Better stress coping strategies make nurses to positively affect people around them whereas poor coping strategies makes nurses to negatively affect people around them (Dapaa, 2014). Effective stress management practices among nurse promotes punctuality at work, effective handling of demands at work, facilitates healthier and longer life, increases the quality of productivity and promotes healthier and longer life among nurses.

However, the least coping mechanism employed by the nurses in this study was self-care. The use of self-care involves activities such as good nutrition, regular exercise, routine medical review to mention but a few. This means that nurses often neglect themselves without paying much attention to their own health.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter focuses on conclusions of the study, implications of the finding for research, policy, practice and education. Also included in this chapter are the limitations of the study and recommendations based on the findings of the study.

6.1 Conclusion

Conclusively, stress and burnout are well documented to affect work output and quality of work among employees. The findings from the study on the prevalence of stress revealed a high (99%) prevalence of stress among the nurses at the Tema General Hospital. This suggests the need for multilateral concerted efforts to address stress associated with the nursing profession. Analysis of the relationship between stress among nurses and their demographic characteristics showed no significant differences in the age category of nurses, their sex, professional rank, level of education, marital status, years of work experience and nurses' level of stress. However, these differences were evident in other studies.

Facility related factors contributing to stress among nurses were poor interpersonal relationship, poorly defined roles at work, workplace demand and low level of control. These factors confirm the findings from previous studies. This gives a strong indication of the need for improvement in nursing management and leadership practices.

General coping mechanisms adopted by the nurses to manage their stress included cognitive actions involving effective planning and priority setting, engaging in recreational activities and seeking social support which were positive. However, the neglect of self-care among the nurses is a matter of concern.

6.2 Implications of the Study

The findings of this study have implications for the occupational safety among nurses and health care management in general. The implications are grouped into practice and management, policy making, education and research.

6.2.1 Implications for Research

The findings from the study on facility related factors contributing to stress among nurses is a strong indication of poor nurse management practices. This implies that nursing research in Ghana needs to pay more attention on nurse management and leadership styles among nurses. Understanding more about the nurse management practices and leadership styles among Ghanaian nurses through research will help determine any flaws in nurse management practices and any areas in nursing management and leadership that need to be improved.

6.2.2 Implications for Policy Making

This study has significant implications for policy making in the area of health care services for nurses and health workers in general. The high prevalence of stress among the nurses shows that most of the nurses are not aware about their condition. This implies that majority of the nurses have not had any stress screening exercise for some time. These nurses are likely to end up suffering from stress related chronic conditions that will eventually affect their work output and quality of service delivery. The Ghana Health Service makes provision for health facilities to provide medical screening for their staff. However, psychological screening is most often than not left out. An innovative policy intervention is thus needed to ensure regular psychological screening of all Ghana Health Service staff,

especially nurses and midwives, in addition to training and employment of clinical psychologists in all hospitals and polyclinics in the country to provide psychological services for the staff.

6.2.3 Implications for Practice and Management

The study found that poor interpersonal relationship among nurses at work was a major facility related factor contributing to stress among nurses. This implies that nurse managers might not have sufficient knowledge and competence to improve communication among their staff and provide a conducive work environment for addressing interpersonal issues among their staff and to foster good interpersonal relations among their staff. This provides a strong indication of the need for training of current and future nurse managers on nurse management practices to promote conducive work environment for their staff.

6.2.4 Implications for Education

Findings from the study on the high prevalence of stress among nurses indicate that nursing is a stressful profession especially in Ghana. This implies that the training of nurses and midwives in both health training schools and universities should include substantial information on stress and stress management practices. There is therefore the need for curriculum review to ensure that stress and stress management be treated as a major course in the training of nurses and midwives.

6.3 Limitations of the Study

Research studies in general, aim to produce findings that can be applied in other settings. However, no study can provide findings that are universally generalizable (Khan, 2012).

This study was conducted in one general hospital in only one region in Ghana to determine the prevalence of stress among nurses and the facility related factors contributing to their stress. However, this may not necessarily represent the holistic situation among nurses in Ghana.

As part of some limitations associated with using a self-administered questionnaire, the tendency for nurses to miss out on reporting their real life or lived experiences at their work place cannot be ruled out.

6.4 Recommendations

Based on the findings of the study, the following recommendations were made;

1. Due to the high prevalence of stress among the nurses, management of the Tema General Hospital should, as a matter of urgency, carry out medical screening on all their nurses for stress related physical conditions for early detection and treatment. The hospital authorities also need to engage the services of a clinical psychologist to provide stress relief intervention and counselling for their nurses.
2. There is the need for health service administrators, medical directors and nurse managers to organize periodic medical and psychological health screening for their staff, especially nurses. This will help with early detection and treatment of stress and stress related medical conditions that may affect the health and work output of their staff.
3. Poor interpersonal relationship at work emerged as a major contributing factor to stress among nurses. Nurse managers need to take the necessary steps to resolve issues and improve upon interpersonal relations among their staff in order to provide

a serene and conducive work environment that is free of tensions among nurses and their colleagues. This will help eliminate, if not possible, reduce to the barest minimum the stress associated with poor interpersonal relationship at the workplace.

4. Nurse managers should make concerted efforts to assign staff to roles that they are able to do best, allow their staff to have some level of control or autonomy, involve their staff in decisions regarding changes at the workplace and provide them with the necessary support and encouragement at work.
5. The study revealed that nurses neglect self-care practices at the expense of their own health. Nurses need to promote their self-care by making time for themselves to implement the positive lifestyle practices such as regular exercise and good nutrition, that they educate their patients on.
6. The Ghana Health Service in collaboration with health service administrators and directors should organize periodic workshop for their staff on stress and stress management practices. This will help update their knowledge on current stress and stress management practices to help them deal the stress associated with their work.
7. Future researchers in the field of occupational health should replicate this study all the regional hospitals in Ghana in order to provide holistic view of the subject.

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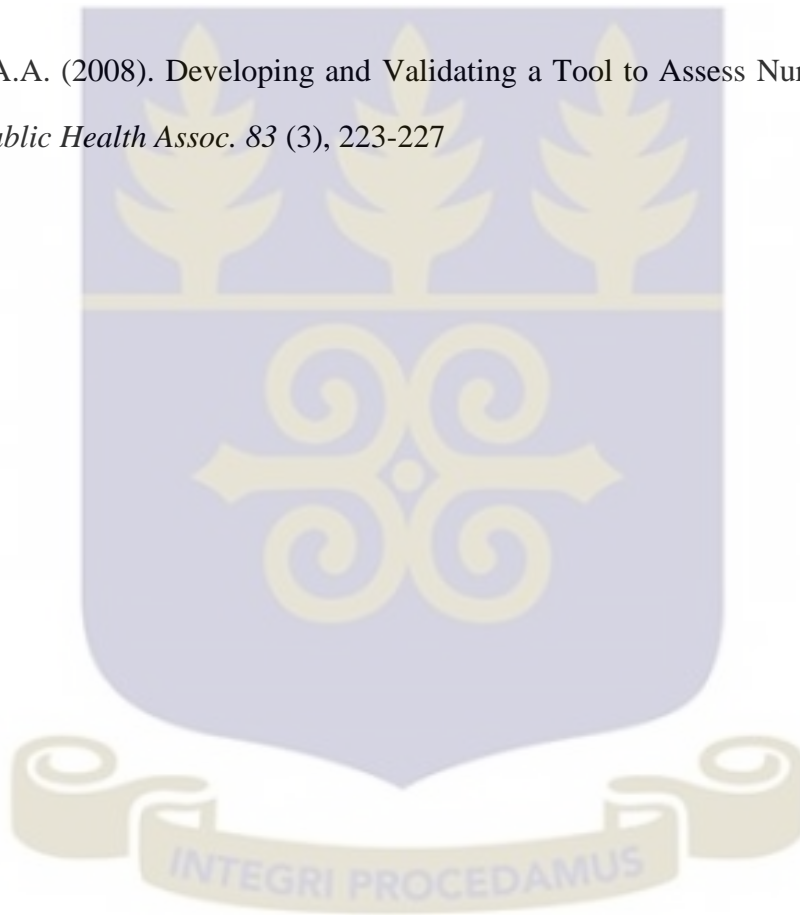
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Section B: Level of stress

Please read each statement and circle a number, 0, 1, 2 or 3, to indicate how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows: **0**- Did not apply to me at all; **1**- Applied to me to some degree, or some of the time; **2**- Applied to me to a considerable degree, or a good part of time; **3**- Applied to me very much, or most of the time.

	Stress	0	1	2	3
9.	I found myself getting upset by quite trivial things	0	1	2	3
10.	I tended to over - react to situations	0	1	2	3
11.	I found it difficult to relax	0	1	2	3
12.	I found myself getting upset rather easily	0	1	2	3
13.	I felt that I was using a lot of nervous energy	0	1	2	3
14.	I found myself getting impatient when I was delayed in any way (e.g. Traffic, being kept waiting)	0	1	2	3
15.	I felt that I was rather easily offended	0	1	2	3
16.	I found it hard to wind down	0	1	2	3
17.	I found that I was very irritable	0	1	2	3
18.	I found it hard to calm down after something upset me	0	1	2	3
19.	I found it difficult to tolerate interruptions to what I do	0	1	2	3
20.	I was intolerant to anything that kept me from getting on with what I was doing	0	1	2	3
21.	I could see nothing in the future to be hopeful about	0	1	2	3
22.	I was worried about situations in which I might panic and make a fool out of myself	0	1	2	3
	TOTAL				
	GRAND TOTAL				

Section C: Factors contributing to stress

Please indicate in the table below how often you experience the following stressful situations at work. Please read the statements carefully and tick [√] the answer from the corresponding box that best describes your choice of response. The rating scale is as follows: **1** – Never; **2** – Rarely; **3** – Sometimes; **4** – Often; **5** – Always.

Sources		5	4	3	2	1
Demand						
23.	The workload at work is too much					
24.	There is too much pressure at work					
Control						
25.	I am not involved in any decision making at work					
26.	I am not allowed to make decisions on my own at work					
27.	I am not recognised as important at work					
Support						
28.	There is lack of encouragement from management					
29.	There is no sponsorship at work					
30.	I lack resources and materials needed to work effectively and efficiently					
31.	My salary is not satisfactory					
32.	There is no provision of guidance at work					

Relationships						
33.	Conflict with colleagues and/ or other health team members					
34.	Poor relationship with management and/ or superiors					
Role						
35.	I have conflicting roles with colleagues and other members of the health team					
36.	I am uncertain about what I am supposed to accomplish in my work					
Change						
37.	There is slow pace of change in the organization					
38.	Changes in organizational policies and mode of operation are poorly communicated to the staff					



Section D: Coping with stress

Please indicate in the table below what you do to manage stress

	Never True	Occasionally True	Often True	Usually True	Most Of The Time True
	1	2	3	4	5
Recreation					
39. When I need a leave I take one					
40. I am able to do what I want to do in my free time					
41. I hardly watch television					
Self					
42. When I'm relaxing ,I frequently think about work					
43. I get regular physical check-ups					
44. I exercise regularly (at least 20mins.,3 times a week)					
45. I practice relaxation techniques					
Social support					
46. If I need help at work ,I know who to approach					
47. My working environment is not friendly.					
48. In times of difficulties there is someone to talk to.					
Cognition					
49. . I can establish priorities for the use of my time					
50. Once they are set, I am able to stick to my priorities					
51. I have techniques to help avoid being distracted					

THANK YOU!!!

APPENDIX B: CONSENT FORM

Title: DETERMINANTS OF WORKPLACE STRESS IN THE HEALTH SECTOR: A
CASE STUDY OF NURSES AT THE TEMA GENERAL HOSPITAL

Principal Investigator: Dorcoo Kwame Christian Jnr

Address: College Of Health Sciences, School Of Public Health, Department of Biological,
Environmental and Occupational Health, University Of Ghana, Legon.

Email: ckdorcoojnr@gmail.com

Telephone: 0244124205/0206617661

**NB: YOU CAN CALL HANNAH FRIMPONG (0507041223) - GHS-ERC
ADMINISTRATOR FOR FURTHER CLARIFICATION IF NEED BE.**

Introduction: The title of this study is “Determinants of workplace stress in the health sector: A case study of nurses at the Tema General Hospital”. *Stress* is the body's way of responding to any form of demand placed on it. This occurs in response to either negative or positive experiences.

According to McVicar (2003), stress is “a subjective phenomenon based on individual perceptions, producing positive (eustress) and negative (distress) perspectives” (p. 640). Stress occurs when a person has difficulty dealing with stressors such as life situations, problems and goals (Videbeck, 2007). The main objective of this study is to determine the prevalence of stress among nurses at TGH.

You are being invited to participate in this study undertaken by Dorcoo Kwame Christian Jnr, a student of University Ghana pursuing an MSc Occupational Hygiene at the School of

Public health. This form is intended to seek your consent to participate in the study. This consent form contains information about the study and in other to ensure your understanding about participating you are being encouraged to read and sign. Prior to conduct of the study, you will be required to furnish us with some information about yourself.

The study poses no risk whatsoever to participant. You are being asked to answer questionnaire which will take about 20 minutes of your time to complete. You may voluntarily decline to answer any question and also decline involvement at any level of the survey. Participant who consents to take part in the study will not be given any monetary compensation. No direct benefit to participant, however, information provided could be used to develop strategies to reduce or handle stress in the healthcare sector which could be beneficial in the future.

Confidentiality

This study has been reviewed and approved by the ethical review committee of Ghana health services. Information provided will be stored in secured place such as locked cabinets. Data will be entered into SPSS for coding and analysed with STATA and electronic files accessible by only Principal investigator and research supervisor. Participant personal identification such as names and address will not be written on questionnaire. However, each questionnaire will be given a unique identification number.

If you have any questions and concerns, we will be more than happy to answer and address then now or later at your convenient time. You may contact me on the telephone number provided and email address.

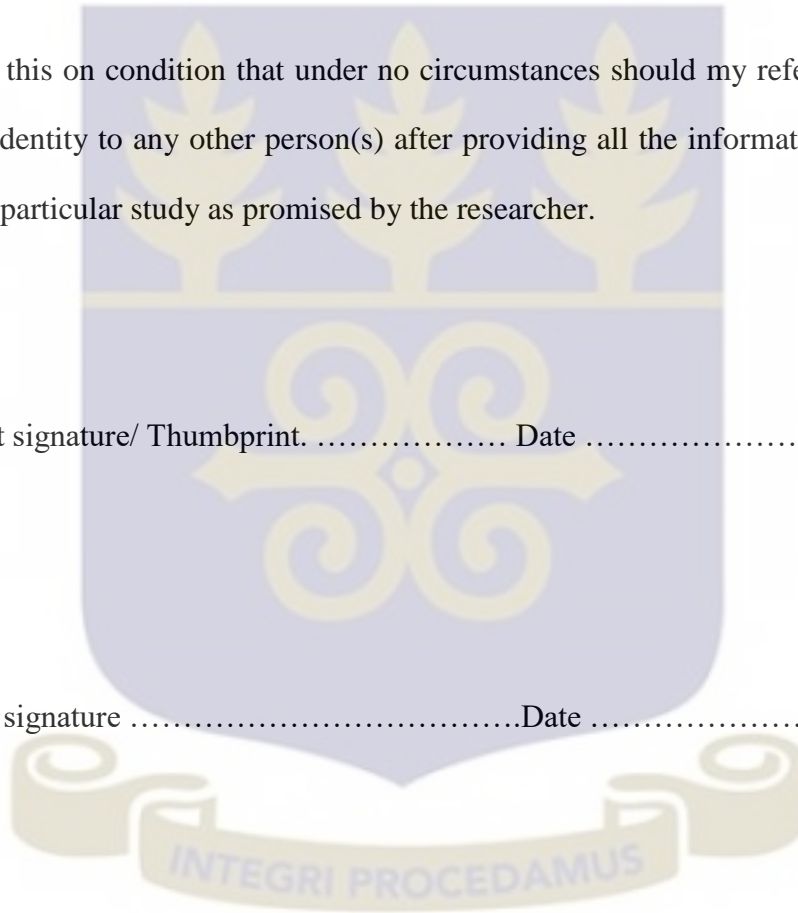
PARTICIPANT CONSENT FORM

I Have been thoroughly briefed on the entire methodology and significant of the ongoing study which is being conducted by Dorcoo Kwame Christian Jnr. On my own free will, I hereby consent to be part of the study, based on my understanding of what the study entails.

I am doing this on condition that under no circumstances should my references be made to my actual identity to any other person(s) after providing all the information requested from me for this particular study as promised by the researcher.

Respondent signature/ Thumbprint. Date

Researcher signatureDate




APPENDIX C: ETHICAL APPROVAL LETTER

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted.

*My Ref. GHS/RDD/ERC/Admin/App/16/02
Your Ref. No.*



Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Tel: +233-302-681109
Fax + 233-302-685424
Email: Hannah.Frimpong@ghsmail.org

3rd February, 2016

Christian Kwame Dorcoo Jnr
University of Ghana
School of Public Health
Legon, Accra

ETHICS APPROVAL - ID NO: GHS-ERC: 44/12/15

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol titled:

“Determinants of Workplace Stress in the Health Sector: A Case Study of Nurses at Tema General Hospital”

This approval requires that you submit yearly review of the protocol to the Committee and a final full review to the Ethics Review Committee (ERC) on completion of the study. The ERC may observe or cause to be observed procedures and records of the study during and after implementation.


Please note that any modification without ERC approval is rendered invalid.

You are also required to report all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.

You are requested to submit a final report on the study to assure the ERC that the project was implemented as per approved protocol. You are also to inform the ERC and your sponsor before any publication of the research findings.

Please note that this approval is given for a period of 12 months, beginning 3rd February, 2016 to 2nd February, 2017. However, you are required to request for renewal of your study if it lasts for more than 12 months.

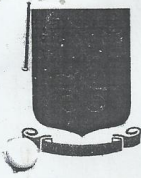
Please always quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra

1

APPENDIX D: INTRODUCTORY LETTER



UNIVERSITY OF GHANA
DEPARTMENT OF BIOLOGICAL, ENVIRONMENTAL
AND OCCUPATIONAL HEALTH
SCHOOL OF PUBLIC HEALTH

BEOH/2016/03

Ref. No.:

February 17, 2016

The Medical Director
Tema General Hospital
Tema.



Dear Sir/Madam,

LETTER OF INTRODUCTION
MR CHRISTIAN K.J. DORCOO (ID No. 10288063)

I am pleased to introduce to you the above-named, an MSc. Occupational Hygiene student in the Department of Biological, Occupational and Environmental Health Sciences in the School of Public Health, University of Ghana, Legon.

As part of the requirement for the award of Master of Science Degree, he is conducting a research on "**Determinants of Workplace Stress in the Health Sector: A Case Study of Nurses at Tema General Hospital.**"

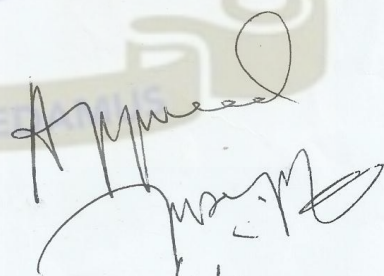
The general objective of the study is to determine the prevalence of stress among nurses at the Tema General hospital.

It is my hope that you will give him the necessary assistance to enable him carry out the research work.

I count on your support and assistance.

Yours faithfully,


Prof. Julius Fobil
(Head of Department)


29/2/16

COLLEGE OF HEALTH SCIENCES

• Telephone: +233 (0) 289 109 002 P. O. Box LG 13, Legon, Accra, Ghana. • Email: sph-beohs@ug.edu.gh • Website: www.publichealth.ug.edu.gh