UNIVERSITY OF GHANA, LEGON
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EXPERIENCES OF NURSES MANAGING PATIENTS WITH SPINAL CORD INJURY AT KORLE-BU TEACHING HOSPITAL.

BY

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DECLARATION

I hereby declare that except for references to other people's work which has been duly acknowledged, this thesis is the original work of Benjamin Twiri Ampah and produced under supervision. None of the materials in this write-up has been presented either in whole or in part to any other institution for the award of any degree or certificate.

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The undersigned hereby certify that this thesis was duly supervised in accordance with procedures laid down by the University of Ghana, Legon.

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ABSTRACT

Nurses encounter several challenges in managing patients with spinal cord injury. However, little is known about this area of nursing care. Thus the purpose of this study was to explore the experiences of nurses managing patients with spinal cord injury at Korle-Bu Teaching Hospital. An exploratory descriptive qualitative design was employed for this study. A purposive sampling method was used to recruit sixteen (16) nurses who were eligible for the study. The purpose, benefits and risks of the study were explained to participants to obtain their consent. Respondents were interviewed face-to-face and their accounts audio-taped. A semi structured interview guide was designed based on the research objectives and the ABCX family stress model (Lavee et al. 2011; Jones & Passey, 2012). Data were analysed using thematic content analysis. The study concluded that the experience of nurses' span from physical injury to delayed care activities, verbal abuse, emotional stress, empathy, limited logistics and social isolation. Again, the study revealed certain coping strategies that nurses at Korle-Bu Teaching Hospital employed in adjusting with the stressors of the care. Some of the coping strategies included obtaining patient/family cooperation, teamwork and fellow nurses' contribution, and maintaining good health practices. The study therefore recommends that considering the wide experience of occupational hazards and negative experiences expressed by nurses', measures should be instituted to minimize negative experiences and health complications occurring among nurses.

Keywords: *spinal cord, injury, manage, nurse, experience,*

DEDICATION

This write-up is dedicated to God Almighty for His grace, favour and wisdom gifted me to successfully complete this work.

I also dedicate this work to my dear wife Joyce Twiri Ampah (Mrs) and my lovely son Kwame Anim Twiri Ampah.

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LIST OF ABBREVIATIONS

ABCX	A (the crisis-precipitating event/stressor) interacting with B (the family's crisis-meeting resources) interacting with C (the definition the family makes of the event) and produces X (the crisis)
AIDS	Acquired Immune Deficiency Syndrome
GHS	Ghana Health Service
H1N1	Hemagglutinin and neuraminidase
KBTH	Korle-Bu Teaching Hospital
MoH	Ministry of Health
NHIS	National Health Insurance Scheme
NMC	Nurses and Midwives Council
OH	Occupational Health
OSH	Occupational Safety Health
SCI	Spinal Cord Injury
US$	United States Dollars
WHO	World Health Organisation

CHAPTER ONE

INTRODUCTION

This chapter covers the background of the study, statement of the problem, the purpose of the study, objectives of the study, significance of the study and operational definitions of the study.

1.1Background to the Study

Nurses' efforts to avoid occupational risks associated with working in a health facility leads to the experience of several occupational injuries (Klein et al., 2010). Most current estimates from research reveal close to 2.3 million workers die from accidents in connection with work and diseases. Again, more than 474 million people experience occupational hazards causing an additional economic cost of more than US$2.8 trillion (Pillay, 2015). For instance, body fluids, injuries from the exposure of sharp implements from patients may also result in occupational infections among healthcare workers (Quinn et al., 2015). This is particularly prevalent among nurses managing spinal cord cases, considering that persons with spinal cord injuries may also have other infectious diseases.

The availability and use of personal protective equipment/apparel is limited among healthcare providers (Wilburn & Eijkemans, 2004). Among other causes, Tracey and Sunley, (2001) found that more than half of occupational injuries in the work environment are due to physical hazards like wet floors and improperly guarded machines. Similarly, threat-avoidant vigilance (Cheung & Yip, 2017) as well as occupational asthma has also been attributed to limited ventilation within the hospital environment (Omar, Nazli, & Karuppannan, 2012).

Additionally, preliminary data suggest that nurses are exposed to work place violence (Jahangiri et al., 2016), physical injury (Kim, Park, & Park, 2016), emotional stress (Rahman, Abdul-mumin, & Naing, 2017), psychological depression (Cheung & Yip, 2017), and social harassment (Mazitova et al., 2015). While in Canada, it has been reported that almost one third (29 %) of nurses working in emergency and spinal cord wards or long term care facilities reported a physical assault by a patient in the last 12 months (Stevenson et al., 2015). Furthermore, results from earlier surveys also suggest that aside hearing challenges among nurses (Viotti & Converso, 2016), noise exposure may be an important risk factor for acute myocardial infarction in a hospital environment (Davies et al., 2005).

In countries like Ethiopia, research suggests that nurses experience conditions such as disability, chronic pain, and muscle tension, loss of sleep, frustration, and anxiety (Tiruneh et al., 2016). More specifically, research conducted by Nouetchognou and colleagues, in Cameroon, indicates that nurses, especially those in charge of chronic health conditions are burdened with workload, tight schedule and psychological trauma (Nouetchognou et al., 2016). Preliminary literature suggests that nurses working at the spinal cord units routinely perform activities that require lifting heavy loads, lifting patients, working in awkward postures, and transferring patients out of bed and from the floor (Tinubu et al., 2010). These work tasks put nurses at high risk for acute and cumulative health complications (Twerefoo, 2015).

Meanwhile, other researchers have indicated that low adherence to safety practices within the health sector promotes vulnerability to different hazards that are capable of predisposing nurses to various forms of health problems (Konlan, Aarah-bapuah, Kombat, & Wuffele, 2017). Other surveys in Ghana have in several studies revealed that the cause of stress and its occurrence is due to overwork (Godwin, Suuk, & Selorm, 2016). For

instance, nurses' work in Ghana includes frequent changing of the position of immobilized or bedridden patients, which predisposes workers and especially nurses to back injury (Ghana Health Service, 2010). However, extra duty, an outrageous work load, verbal abuse from aggrieved clients, frustrations, dubious work interactions due to inadequate resources, poor/delayed salaries among others, subject Ghanaian nurses to psychological dangers like stress, depression and a burnout syndrome (Annan, Addai, & Tulashie, 2015).

1.2 Problem Statement

The Korle-Bu Teaching Hospital (KBTH) is the national referral centre in Ghana. It serves as a referral centre for most patients with spinal cord injuries (SCI) in the country (Ametepe et al, 2016). Nurses' work in Ghana includes frequent changing of position of immobilized or bedridden patients, which predisposes workers especially nurses to back injury (Ghana Health Service, 2010). As a result of the heavy workload of nurses, nurses go through physical, psychological and emotional experiences in order to meet the holistic needs of patients under their care and hence most patients admitted to the Korle-Bu Teaching Hospital with spinal cord injuries receive sub-optimal care (Ametepe et al, 2016).

Moreover, nurses tend to develop an attachment to their patients as managing patients with spinal cord injury is viewed to be exceptional because the occurrence of the event itself is unpredictable and the patients are not ready to face it (Alzghoul, 2014; Bostrom, Magnusson & Engstrom, 2012). This experience by nurses awakens emotions of grief, helplessness and sadness when dealing with patients with spinal cord injury (Alzghoul, 2014). Again, they hide these emotions in order to keep focus on their professionalism (Bostrom, Magnusson & Engstrom, 2012).

Furthermore, there is a deficit of knowledge on the experiences of nurses managing patients with spinal cord injury in Ghana, Africa and the world at large; findings from this study will add on to knowledge on this field of nursing. Furthermore, no study has been carried out to assess the experiences of nurses managing patients with spinal cord injury at the Korle-Bu Teaching Hospital. This study, therefore sought to explore and document the experiences of nurses managing patients with spinal cord injury (SCI) at the KBTH, Ghana.

1.3 Main Objective

The objective of the study was to explore and document the experiences of nurses managing patients with spinal cord injury (SCI) at Korle-Bu Teaching Hospital.

1.4 Specific Objectives

The objectives were to:

1. Identify the physical experiences (stressors) of nurses managing patients with SCI
2. Explore the psychological experiences (stressors) of nurses managing patients with spinal cord injury.
3. Explore the views of nurses managing patients with SCI on the extent managing patients interferes with their social lives (stressors).
4. To explore the coping strategies adopted by nurses managing patients with SCI.

1.5 Research Questions

1. What physical experiences (stressors) do nurses go through in managing patients with SCI?

2. What are the psychological experiences (stressors) of nurses managing patients with SCI?

3. What are the views of nurses on the extent managing patients interferes with their social life (stressors)?

4. What coping strategies do nurses adopt in managing patients with SCI?

1.6 Significance of the Study

The study may contribute to the body of knowledge on especially nurses managing patients with spinal cord injury. Again, findings from the study may equip novice nurses to better the care they render to patients. It may as well equip experienced nurses to keep up with modern trends of management and to advocate for required logistics to meet standard care. This study may help provide quality care to patients with spinal cord injuries, a reduction in hospital stay, cost of care and improvement in the quality of life of patients with spinal cord injuries in Ghana. Recommendations from the study would provide direction for more future research in the area of nursing care of spinal cord injuries in Ghana and the world.

1.7 Operational Definitions of Terms

1. **Tetraplegics:** also known as quadriplegics, are people living with paralysis as a result of illness or injury that leads to partial or total loss of power all four limbs.
2. **ASIA:** refers American Spinal Injury Association.
3. **Neurologic:** relating to or affecting the nervous system.
4. **Traumatic:** relating to an injury (such as a wound) to living tissue caused by an extrinsic agent.
5. **Person with SCI:** an individual with paralysis in the upper and lower limb due to trauma to the spine.
6. **Manage:** to be in charge of patients' care
7. **Physical experience:** to suffer or be exposed to health hazards caused by unsafe working conditions.

8. **Coping Strategies:** Coping strategies are mechanism and ways adapted by nurses to ensure that the impact of nursing practice and occupational hazards are reduced or completely prevented
9. **Psychological experience:** is explained as any exposure that results into psychological or emotional instability of an individual or a group of people.
10. **Social life:** Social life as defined by this study refers to personal activities performed or expected to be performed by nurses outside the hospital ward, including home activities, family life, church functions, education and other social gathering.

1.8 Summary

This chapter provided information to the study on experiences of nurses managing patients with spinal cord injury at accident centre and neurosurgical units of KBTH. A brief presentation of the background to the research problem was given. National and global challenges faced by nurses were also discussed. The chapter discussed the purpose of the study, objectives and key definitions of concepts used. Some significance of the study was also discussed in order to help improve care of persons with SCI and the need for future research to be done. The next chapter presents a literature review on the theoretical model (ABCX family stress model) and on nurses managing patients with spinal cord injury.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section focusses on and therefore attempts a comprehensive review of previous research work. The review of literature comprises views of other researchers who have conducted research in the area of nurses' experience in managing patients with spinal cord injuries. The literature is presented along the objectives of the study and other literature necessary for the study. The chapter also includes a review of a modified model that has been adapted by the study to ensure a comprehensive review to the field of study.

2.1 Spinal Cord Injury

The occurrence of spinal cord injury (SCI) worldwide is about 750 per million with a yearly prevalence that is found to be increasing (Fehlings et al., 2012). Acute SCI continue to remain a significant source of diseases and death, with about 10,000–12,000 incidents yearly in the United States (Fehlings & Perrin, 2006), with more treatment failures (Tiruneh, Bifftu, Tumebo, & Kelkay, 2016).

Studies enquiring into treatment with the usage of steroids in acute spinal cord injury have accounted for mixed results (Yoon et al., 2007), though a current organized analysis recommended a 1-2% lower risk of death for patients treated with corticosteroids (Czekajlo et al., 2005). Aside treatment failures, people suffering from spinal cord injury are also prone to other health conditions (Kim et al., 2016). For example, in a population-based study of individuals living with SCI in Quebec, Canada, researchers revealed that 56% had suffered a urinary tract infection in the past year, and 28% indicated a decubitus ulcer, respiratory, cardiovascular, and psychosocial issues have also been shown to be widespread (Dryden et al., 2004).

The fundamental means, often causing sudden spinal cord compression is bone displacement from a fracture-dislocation, crashed fracture or cell deformity (Fehlings & Perrin, 2006). As a result, cell transplantation has become a promising therapeutic option for SCI patients (Yoon et al., 2007).

2.2 The ABCX Family Model History

The Truncated Roller Coaster Profile of Adjustment, is a family health and stress adaptation model (Toliver, 2015), other researchers based on prior research, have added on to the ABCX Formula, also referred to as the ABCX Model, to elucidate 'the crisis-proneness and freedom from crisis among families'(Lavee, Mccubbin, & Patterson, 2011; Jones & Passey, 2012). The ABCX Formula is the origin for most family stress models, and was first developed by Reuben Hill in the year 1949 (Rosino, 2016). Although previous writers referred to the fragments of the ABCX Formula (Mcdonald, Ph, & Poertner, 1992), it was not labeled as A, B, C, and X until recently (Broccardo, Luciani, & Chimini, 1999). In later years, there has been the demand to widen the model to examine post-crisis behaviour, external resources, coping strategies, and the pile up of several life stressors (Rosino, 2016).

2.2.1 Explanation of the ABCX Model

A massive amount of research has revealed that the end results of family stress can differ from healthy adaptation to maladaptation as an outcome of varying family responses over a period (Jones & Passey, 2012). The model that has always had as purpose to comprehend family stress is the ABC-X model (Meadows et al., 2015). The ABCX formula centre basically on pre-crisis variables of families: A (the crisis-precipitating event/stressor) interacting with B (the family's crisis-meeting resources) interacting with C (the definition the family makes of the event) and produces X (the crisis) (Hesamzadeh et al., 2015).

In this model, a guardian's possibility to manage/cope with a stressful circumstance is established by the reaction to the stressor (Perry, 2013). The consequence of this interaction is the standard of family adaptation spanning from extreme stress or crisis to successful adaptation (Amfani-Joe, 2012). As early as 1981, researchers used a crisis-aggravating event and stressor to mean ‘a situation for which the family has had little or no prior preparation and must therefore be viewed as problematic’ (McCubbin & Patterson, 1981).

Difference in family environments have also been accompanied with successful family adaptation (Madanian et al., 2013), and support networks beyond the actual family have been found as significant arbiters in parental as well as family stress (Chaney, 2017). Most external support networks that facilitate the management of family crises include work place support and stress management (Mequanint et al,, 2017)

2.2.2 Justification of the Model for this Study

In literature, a number of models have been noted to assess and manage family stress and other forms of occupational hazard experiences. One of such models is the transactional model. This model states that stress can be considered as happening from an alteration between demands and resources or as occurring when pressure exceeds one’s capability to manage. (Mequanint et al., 2017 : Hesamzadeh et al., 2015). This model was not used in this work because not many researchers have used it to explore for the experiences of nurses. Additionally, the second model that could be used for this study is the health realization/innate health model. The model’s is view gives the impression that stress does not really replace the availability of an eventual stressor. Rather, concentrating on the personal evaluation of supposed stressors in comparison with one’s own coping skills (as transactional model does), the health realization model focuses on the nature of thought, stating that it is generally a person’s level of thinking that confirms the reaction to

an outward eventual stressful situation (Pickard & Ingersoll, 2017) and hence could not be considered for this study.

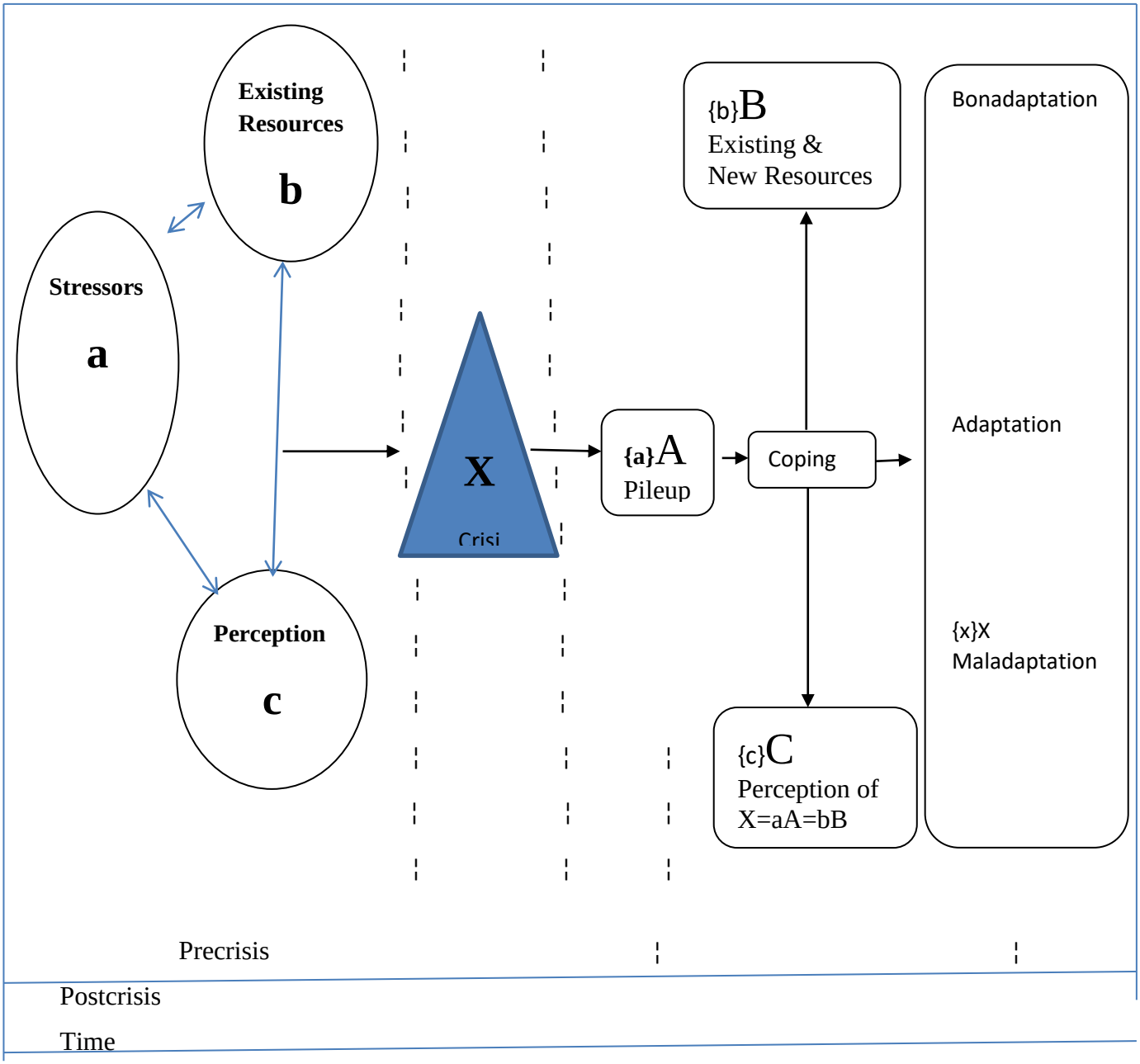
However, the model considered appropriate and that in parts (stressor and coping) could be adopted for this study was the ABCX family stress model. The model can be used to establish a link between family stress and the stress of nurses in a working situation. The model explains family stress to include external stress like occupational stress which develops into a crisis and piles up over a period of time. This model is adopted for this study considering that occupational stress and work related injuries among nurses accumulate as a result of continuous exposure to occupational injury over a period of time (Toliver, 2015). In a study examining workplace violence in Ghana, nine (9) male nurses and fifteen (15) female nurses were drawn from two teaching hospitals, five regional and five district hospitals and the study revealed that nurses are more in danger of emotional abuse, physical abuse (Boafo, 2016), verbal abuse, psychological abuse (Krieger et al., 2008), emotional depression (Hu, Luk, & Smith, 2015), and sexual harassment (Krieger et al., 2008). These stressors as considered components of the model are similar to family stress experienced by nurses. For instance, previous studies have used the model to measure the effect of professional work stress on nurses caring for children with developmental disabilities (Jones & Passey, 2012). More so, nurses experience of physical injuries and emotional trauma has also been investigated using the ABCX model of family stress for both males and females (Lavee et al., 2011).

Other researchers using the ABCX model have indicated that the management of these stressors depends on the resources available to nurses as part of a larger family (Latina et al., 2016). Secondly, from the pre-crisis stage (stressors, existing resources, and perception) until stress piles up to reach the post crisis stage, stresses experienced by nurses as individuals and as family members are similar to those outlined in the model.

Studies by Rosino, (2016) clearly reviewed the coping strategies adopted by family nurses and suggested that most health workers have no knowledge of the model and managing their own stress has become challenging. Additionally, the combination of family responsibilities, family demands, job stress, occupational injury, workload and unfriendly work schedules, as well as sexual harassment both at home and in work environment contributes to the overall stress experience of nurses. Most of such experiences listed above were also assessed using the family model in earlier studies (Pickard & Ingersoll, 2017).

The objectives of the study were derived from the constructs of the model. After a review of the model, the components that formed the stressors (physical, psychological, effects on social life) and coping were adapted to form the objectives of the study. The assumption used in adapting the components of the model to form the objectives of the study was that, the physical, psychological and other effects of work on the social life of nurses accumulatively contribute to the crisis and stress experienced by nurses, which are also components of the model.

Figure 2.1: ABC-X Family Model (Lavee et al.,2011; Jones & Passey, 2012)



2.3 Physical Experience of Nurses managing Patients with Spinal Cord Injury

Hospitals are faced with an unlimited number of health hazards caused by unsafe working conditions such as slippery floors, weak machinery, and excessive exposure to gas, dust, chemicals and other toxic substances (Twerefoo, 2015). Literature has it that the majority of these hazards take place in settings where safety requirements are flawed (Tziaferi et al., 2011). Nurses who work in facilities that do not satisfy safety requirements or standards maybe exposed to injuries caused by physical hazards such as slips, trips, falls, physical strains (Jilcha & Kitaw, 2017) and violence (Eriksen, 2006 ; Darkwa, Newman, Kawkab, & Chowdhury, 2015). The issue of violence against nurses has been widely reported in several health facilities (Shafran-tikva, Zelker, Stern, & Chinitz, 2017 ; Cheung & Yip, 2017 ; Fute et al., 2015). For example, in the USA, about 40 % of all nurses have been exposed to physical violence (Lantta et al., 2016).While in Canada, it has been reported that almost one third (29 %) of nurses working in emergency and spinal cord wards or long term care facilities reported a physical assault by a patient in the last 12 months (Stevenson et al., 2015). Physical hazards are common in healthcare institutions such as clinics and hospitals (Rambabu & Suneetha, 2014).

Again, excessive level of sound (Przysiezny, Tironi, & Przysiezny, 2015), heat and cold temperatures (Kollie, Winslow, Pothier, & Gaede, 2017), rapid movement, electric and magnetic fields (Twerefoo, 2015) are also reported hazards in several health facilities. Information suggests that the majority of healthcare workers, especially nurses are exposed to several working conditions such as close contact with infectious patients which expose them to infections (Cracium et al., 2015). In addition, work overload, psychological stress, physical stress and mental stress are some hospital hazards cited by several studies (Banovcinova & Baskova, 2014 ; Manyisa & Aswegen, 2017; Volquind et

al., 2013). For instance, a study done in Malaysia suggests that 46% and 62% of nurses reported stress related injuries and physical weakness (Subramanian et al., 2017).

Moreover, 56% of clinical nurses in Tanzania, described needle injuries and three (3) of the seven (7) most common infections due to other sharp objects were described as occupational injuries (Lekei, Ngowi, & London, 2014). Aside this, experience of occupational injuries and hospital based infections are cited in literature as an increasing trend among neurological nurses and other clinical staff (Lee, Kim, & Chae, 2015). Additionally, the working conditions such as the wrong ventilation, lighting and the inadequate temperature levels are among the potential work-related stressors (Moustaka & Constantinidis, 2010). Again, several studies support that nurses are especially affected by the risk of physical violence, particularly in the emergency rooms (Kawano, 2008).

Preliminary literature suggests that nurses working at the spinal cord units routinely perform activities that require lifting heavy loads, lifting patients, working in awkward postures, and transferring patients out of bed and from the floor (Tinubu et al., 2010). These work tasks put nurses at high risk for acute and cumulative health complications (Twerefoo, 2015). More importantly, workplace related health impairment like injuries or illness cause greater human suffering and incurs high cost both for employees affected and for the society as a whole (Rambabu & Suneetha, 2014).

Patient violence against healthcare personnel at work is a widespread global concern (Lantta et al., 2016). Specifically, studies conducted during the past 30 years strongly support the idea of a significant connection between the stress experienced by nurses and a multitude of symptoms and syndromes which lead to physical dysfunctions (Cracium et al., 2015). In fact, older research also finds that verbal abuse is apparently one of the most common form of physical violence in healthcare settings (Cheung & Yip,

2017). In addition, recent epidemiological data suggest that 71.9% of nurses in China reported non-physical and 7.8% physical violence in previous years (Darkwa et al., 2015). The short or long-term exposure to any type of physical violence can result in negative outcomes for nurses and organizations (Stevenson et al., 2015).

2.3.1. Ergonomic Challenges and Injuries among Nurses

Ergonomic issues are one part of nurses' occupational injuries that should be considered relevant (Nowrouzi et al., 2015). However, nearly, all establishments regard ergonomics as a pointless luxury rather than a preventive measure (Chaiklieng & Suggaravetsiri, 2015), even though other health institutions consider ergonomic injury a priority (Caraballo-arias, 2015). In Malaysia, ergonomics was at domain of occupational safety and health that nurses showed little understanding for (Lugah et al., 2010). Meanwhile, prolonged sitting, awkward posture, repetitive movements are physical ergonomic factors related to the work of nurses (Chaiklieng & Suggaravetsiri, 2015).

Preliminary research suggest that over half of nurses are affected each year by an ergonomic related condition (Mirmohammadi, Yazdani, & Etemadinejad, 2015) and one-third (29%) of such nurses were working in the neurosurgical and accident centres where patients with spinal cord injuries are treated (Khamisa, Peltzer, Ilic, & Oldenburg, 2016). Most of such ergonomic injuries are reported in literature to include chronic neck and back pains (Schmettow, Vos, & Maarten, 2013), swelling of legs due to static postures (Jahangiri et al., 2016), and lower back pains (Jordan, Nowrouzi-kia, Gohar, & Nowrouzi, 2015). Other ergonomic injuries among nurses managing spinal cord disorders as cited in previous studies are upper limb disorders and shoulder pain (Houtman & Jettinghoff, 2007).

2.3.2 Hospital Hazards among Nurses

The work environment of nurses is associated with work materials, substances, work processes or conditions that may result or predispose nurses to accidents, injuries or diseases or death which are described as hazards (Aluko et al., 2016). Hospital hazards continue to occur on daily bases (Bekele, Gebremariam, Kaso, & Ahmed, 2015b), and is recorded to be 26% greater than other injuries among nurses in the neurosurgical and accident centres (Malkin, Lentz, Topmiller, Hudock, & Niemeier, 2006). Hospital hazards can be defined as the degree of risk posed by activities and conditions at the workplace (Aluko et al., 2016). Hospital hazards are mostly classified into six categories (infection, accidents, radiation, exposure to noxious chemicals (Volquind et al., 2013b), drug addiction and psychic problems, and assaults) (Magboul et al., 2016). However, hospital hazards among nurses managing SCI can further be classified into: physical (noise, vibration, radiation, extremes of temperature, ergonomic), chemical (solid, liquid, vapours), biological (bacteria, fungi, viruses), and psychosocial (psychological and social stressful factors) (Tziaferi et al., 2011).

More specifically, a musculoskeletal injury is more common and is the highest among all nurses caring for patients with spinal cord injury (Orme et al., 2015). Thus in performing statutory duties, workers may be exposed to hazards which significantly impair their health and quality of life (Eo et al., 2014). Thus, workers need protection from workplace hazards through awareness creation (Kim et al., 2016), training (Lugah et al., 2010) and practice of safety measures (Awodele et al., 2014) to enhance occupational safety knowledge.

2.3.3. Experience of Biological Hazards among Nurses

The experience of biological health hazards (OHHs) associated with managing patients with spinal cord injury are on the rise (Davey et al., 2017). Within the health

sector, increasing adequate access to potable water (Nerbass et al., 2017), lack of adequate precautions for protection from blood transmitted illness (Rim & Lim, 2014), lack of germ-free equipment and suitable waste control expose nurses to fungi like yeast (Lucio et al., 2017), bacteria, parasites, or blood spread diseases such as HIV and hepatitis (Rim & Lim, 2014) as well as communicable diseases, including tuberculosis (Liautaud et al., 2017), and swine bug (Oh et al., 2017). In addition, needle stick injuries are the most common form of exposure to Hepatitis B and HIV infections among nurses caring for patients with spinal cord injury (Ansa, Udoma, Umoh, & Anah, 2002). For instance, in Ethiopia, nurses have a 29% and 31% lifetime hazard of dangerous contact to needle sticks and blood, respectively (Reda, Fisseha, Mengistie, & Vandeweerd, 2010). Also, in 2015, nine (9) Ugandan nurses died from exposure to viral infections while taking care of patients with spinal cord injury (Ndejjo et al., 2015).

Insufficient supply of gloves and the continued use of used gloves and disinfectants has predisposed health professionals to hand dermatitis, contact dermatitis, contact urticaria, and allergic dermatitis (Fasunloro & Owotabe, 2004). Health care workers (HCWs) are potentially exposed to occupational HIV infections (Mashoto, Mubyazi, & Mushi, 2015) through injuries/accidents from sharp objects such as needle stick, scissors and knives or contact with blood or other infectious body fluids from patients with spinal cord injury who are also infected with other diseases (Konlan, Aarah-bapuah, Kombat, & Wuffele, 2017).

In respect of this, the World Health Organization , estimates show that Botswana lost 17% of its health workforce to AIDS between 1999 and 2005 (WHO, 2006). Each year as a consequence of occupational exposure, an estimated 66,000 Hepatitis B, 20 million hepatitis C and up to 260,000 HIV infections occur globally among all nurses (Nouetchognou et al., 2016).

Providing basic training on OH aimed at the promotion of knowledge and awareness of employees about biological hazards in the working environment is an important component of ensuring occupational safety practice (Jahangiri et al., 2016).

2.3.4. Experience of Chemical Hazards among Nurses

Work-related hazards among nurses managing spinal cord injury are determined to some extent by an unequal exposure to chemical and biological risk factors (Montano, 2014). The incidence of such hazards can be as high as 10.7%, and they account for up to 30% of all burn deaths among nurses (Chou, Chiao, Wang, & Tzeng, 2015). The source of these hazards is the work environment (Reddy et al., 2015) and hazardous chemicals such as peroxide, lead, tough detergents, flammable diluters, noxious fumes, allergens and active substances are commonly found in health facilities (Mequanint et al., 2017). Recently international chemical ideals have improved to protect workers, but enforcement lags behind in developing nations (Agbana et al., 2016). Recent efforts have been made towards providing and ensuring the use of personal protective equipment when caring for patients with spinal cord injury (Atombo et al., 2017 ; Lugah et al., 2010), especially under the use of certain drugs and chemicals (Volquind et al., 2013a).

The other chemical hazards present in healthcare facilities like ethylene oxide (Rim, 2017), and hexachlorophene formaldehyde (Quinn et al., 2015), are known human carcinogens which significantly contribute to hazards among workers as well as nurses. Elements, examples of which are animal protein and antibiotics, especially, the penicillin group (Mohammad et al., 2013) are well recognized sensitized agents which may not cause only asthma (Walters, Soundy, Robertson, Burge, & Ayres, 2015) but also dermatitis and conjunctivitis among nurses (Zaramba, 2008).

2.4 Psychological Experiences of Nurses managing Patients with Spinal Cord Injury

Human resources for health are one of six building blocks of a health system (Darkwa et al., 2015). Yet the world is facing a shortage of approximately 4.2 million healthcare workers due to job stress and psychological abuse (Stevenson et al., 2015). Job stress which is one of the key causes of psychological hazard is usually associated with nurses (Alosaimi et al., 2016).

In most cases, problematic work relationships, frustrations due to limited resources, poor remuneration are cited psychological causes of job stress (GHS, 2010). In addition, the work schedule and daily activities of a nurse is compounded with quite a lot of extended working hours and these leave them frustrated (Ruitenburg, Frings-dresen, & Sluiter, 2016) . All these factors are very important and known contributors to psychological stress among nurses, leading to psychological hazards (Kelbitsch & Kenny, 2003). Prolonged exposure to stress is associated with adverse health effects which might result in effects such as anxiety, mood swings, lethargy and depression (Nouetchognou et al., 2016). More specifically, job related stress may result in loss of compassion for patients and increase incidences of practice errors and therefore is unfavourably associated to quality of care (Sarafis et al., 2016).

In addition, nurses managing spinal cord injuries work in an environment that involves the management of complex pathologies with poor prognosis, medical advances and close encounters with patients who are in pain, distress and approaching death (Gi et al., 2012). According to data from existing studies, these factors have significantly contributed to job dissatisfaction, stress and burnout of nurses managing spinal cord injuries (Mohammad et al., 2013). Psychological stress, up to a certain point, will improve people's performance and quality of life because it is healthy and essential that they should experience challenges within their lives (Moustaka & Constantinidis, 2010), but if

pressure becomes excessive, it loses its beneficial effect and becomes harmful (Arenson-pandikow, Oliviera, Bortolozzo, Petry, & Schuch, 2012). However, it is recognized that negative events do not always trigger psychological distress (Jardien-baboo, Rooyen, Ricks, & Jordan, 2016).

Studies have documented workplace violence as one of the most complex and dangerous occupational hazards facing nurses (Sisawo, Yacine, Ouédraogo, & Huang, 2017). Violent events may also have an impact on nurses' well-being in the form of post-traumatic symptoms (Lantta et al., 2016), fear, work-related stress (Jardien-baboo et al., 2016), anxiety, blame, and the feeling of being insulted (Nouetchognou et al., 2016). Preliminary evidence shows that a less than ideal patient environment, for example over-crowding in emergency hospitals, may increase the risk of violence directed at staff (Patchell et al., 2005). Violence may be subjected to various targets, for example, toward nurses (Kim et al., 2016), other patients or objects (Rutanen et al., 2014).

2.5 Management of Spinal Cord Injury, Effects of Workload and Social Life of Nurses

In order to assist healthcare providers develop effective programmes for persons with SCI, it is important to have a clear understanding of SCI management and the nature and extent of health service utilization (Dryden et al., 2004). The increased understanding of the pathophysiology of acute SCI has led to clinically relevant neuroprotective therapies to attenuate the effects of SCI (Fehlings & Perrin, 2006). However, in the months and years following acute trauma, persons with spinal cord injury (SCI) are at risk of a number of secondary health conditions, which can result in frequent contact with physicians and other health providers and hospitalization (Dryden et al., 2004). Preventing and mitigating these secondary infections is where the opportunity for

neuroprotection lies and where most attempts at therapeutic intervention have been staged (Fehlings et al., 2012).

Hospital admission of patients with spinal cord injury is demanding on the nurses caring for these patients (Gi, Ang, & Devi, 2012). They disrupt work, education, and interpersonal relationships of the carers, and may negatively impact quality of life of both nurses and other patients (Dryden et al., 2004). Although common stressors resulting from caring for patients with spinal cord injury have been identified such cases put all nurses at a greater risk for burnout and emotional exhaustion (e.g., demanding and increasing workloads, loss of autonomy over work, balancing family demands) (Mohammad et al., 2013) opinions on work-life balance and specifically those of female nurses have been clearly stated in literature to be negative (Eo, Kim, & Lee, 2014). For example, the pressure in health domain labour and occupational stress lead most often to burnout phenomenon and even to disrupting the family and social lives of nurses (Cracium et al., 2015). More specifically, nurses caring for patients with spinal cord injury have less time to manage other family challenges (Dryden et al., 2004), care for their children (Park & Kim, 2013) and participate in socially enhancing activities that promote emotional health (Oliveira, Amélia, & Dantas, 2015).

2.5.1 Perceived Effect of Workload on the Health of Nurses

The concern with occupational exposure is a relevant issue due to the potential health risks of exposed professionals (Lucio, Braz, Junior, Braz, & Braz, 2017). Exposure to several work dangers is maximized by chains of activities being performed by nurses caring for spinal cord patients (Moustaka & Constantinidis, 2010). For instance, nurses assess patients' conditions, administer treatments and medications (Fehlings & Perrin, 2006), monitor symptoms and side effects, document nursing care and interventions, educate and provide support to patients and their families (Gi et al., 2012). Hence, the

imbalance between the demand of the workload and the supply of nurses has further predisposed nurses to experience negative outcomes, which negatively affect the quality of care (Mohammad et al., 2013).

Workloads are reported to significantly impact on quality of life, cause lost work time or absenteeism, increase work restriction, and transfer to another job (Tinubu, Mbada, Oyeyemi, & Fabunmi, 2010). Additionally, Fan, He, & Chen, (2015) reported repetitious movement, awkward postures, and high force levels as the three primary risk factors that have been associated with workload. The high job demands and the combination of too many responsibilities and too little authority have been identified as some of the primary sources of occupational stress amid nursing staff due to workload (Sarafis et al., 2016).

2.6 Physical Effects of Workload

Research on the impact of workload on worker' health and well-being demonstrates that workload increases the risk of musculoskeletal injuries, accidents, physical and mental illness (Nowrouzi et al., 2015). Excessive workload has been linked with increased risk for physical and mental health issues, decreased job satisfaction, role conflict, and role stress (Mthewos et al., 2013). Moreover, factors such as stress, depression, job control, and unsatisfactory jobs are associated with poor work ability and work schedule (Edura, Rashid, Sahari, & Omar, 2012). Furthermore, workload and bad work schedule result in a number of conditions, such as neck pain, back pain, shoulder pain, pain in limbs, carpal tunnel syndrome, myofacial dysfunction syndrome, and occupational diseases (Rambabu & Suneetha, 2014). Occupational diseases are not only physical, psychological and social diseases, but also have economic and security impacts when they reach a level of severity that directly affects working capacity, leading to absences and early retirement of nurses (Shin, Oh, & Yi, 2011).

The pain resulting from workload can be attributed to numerous risk factors, including prolonged static postures (Alosaimi, Alghamdi, Aladwani, Kazim, & Almufleh, 2016), repetitive movements, suboptimal lighting, poor positioning (Tziner, Rabenu, Radomski, & Belkin, 2015), genetic predisposition, mental stress, physical conditioning, age and obesity (Shin et al., 2011). For health care organizations and staff, violent events involving patients can bring about medical expenses, potential legal expenditure (Lantta, Anttila, Kontio, Adams, & Välimäki, 2016), sick leave and a high turnover rate (Cho et al., 2015). For all incidence of violence against nurses managing patients with spinal cord injury, the violent parties are usually patients and patients' relatives (Cheung & Yip, 2017).

2.7 Knowledge and Occurrence of Hospital Hazards among Nurses

Knowledge on occupational safety and health (OSH) plays an important role in the prevention of occupational injuries and diseases among nurses in general (Lugah et al., 2010). Specifically, knowledge on occupational safety is said to enhance health practice and ensure safety of nurses managing patients with spinal cord injury (Hamdan & Hamra, 2015). Occupational hazard refers to a risk or danger as a consequence of the nature or working conditions of a particular job (Reddy et al., 2015). It is also referred to as a work, material, substance, process, or difficult situation that predisposes, or itself causes accidents or disease, at a work place (Fasunloro & Owotabe, 2004). The occurrence of hospital hazards within health institutions tends to vary inversely with resources of the institution and knowledge of workers on hospital hazards(Krieger et al., 2008).

Hospitals managing spinal cord injuries and other health care institutions are engaged in essential and intensive efforts to reduce health care associated hazards through safety practices among nurses (Quinn et al., 2015). In spite of this, health service is a work area that can lead to important risks with regard to the health and safety of nurses,

especially at the spinal cord management units (Ulutasdemir, Cirpan, Copur, & Tanir, 2015), and especially among nurses with limited knowledge on work related hazards (Leineweber, Chungkham, Westerlund, & Tishelman, 2014). Meanwhile the occupational health of this significant group has long been neglected both organizationally and by governments (Wilburn & Eijkemans, 2004). There are national and international variations in regard to the events and circumstances of work place related dangers and the worst forms exists in the less developed regions of the world (Lavoie et al., 2010).

For instance, evidence from Sub-Saharan Africa indicates that nurses with limited knowledge on occupational injuries are frequently exposed to chemical, biological, physical, and psychosocial hospital hazards (Ndejjo et al., 2015). Nurses managing spinal cord injuries, in particular, are at higher risk than other professionals as they tend to suffer from injuries and work related musculoskeletal disorders such as low back pain due to static postures during massage therapies for SCI patients (Shieh, Sung, Su, Tsai, & Hsieh, 2016).

Actually, the hospital environment exposes nurses to various occupational health and safety hazards (Magboul et al., 2016), with limited practice of occupational safety among professionals (Cromie, Robertson, & Best, 2001). More extremely, hospital hazards among nurses with limited knowledge can result in important psychic distress, work dissatisfaction and even a burnout syndrome (Oliveira et al., 2015), musculoskeletal diseases, needle stick injuries, carcinogenic agents, latex allergies, violence and stress (Magboul et al., 2016). A high prevalence of hospital hazards may also impair the overall ward climate and erode the quality of spinal cord patient care from nurses (Lantta et al., 2016).

Literature has also indicated that nurses working in the spinal cord care units are exposed to other infection even at the pre-hospital stage (Shepard, 2013). Considering that most pre-hospital healthcare ends with transferring patients to a hospital setting, microorganisms can be carried to the in-hospital environment and eventually lead to infection among nurses caring for these patients (Amiry, 2015). Prevention consists of preventing work related hazards (Murray, 2003), improved health at the workplace, improved knowledge better service conditions (Roger, Kayembe, & Kornblatt, 2017) and provision of available emergency care to nurses at all levels (Rim & Lim, 2014). This is an important area of public health interest in places of work (Bekele, Gebremariam, Kaso, & Ahmed, 2015a).

In Ghana, where the majority of the citizens are engaged in jobs classified as hazardous such as mining and health work, hospital hazards are more prevalent among those with less knowledge on occupational hazards (Amponsah-tawiah & Mensah, 2016). A larger percentage of the Ghanaian nurses are being exposed to workplace physical, chemical, and biological stressors because they are unaware of safety measures (Twerefoo, 2015).

2.7.1. Facility Factors which influence Nurses' Experience

Globally, healthcare facilities employ over 59 million workers (Aluko et al., 2016) and are classified as the most hazardous and high risk work place (Orji et al., 2002). In addition to the usual workplace related exposures, healthcare workers encounter diverse hazards due to their work related activities (Ndejjo et al., 2015). Within the hospital setting, the experience of occupation hazards are more rampant in some departments such as the spinal cord units as compared to others (Agbana et al., 2016) but knowledge seem to vary from department to department and facility to facility (Anozie et al., 2016).

More specifically, research conducted in Nigeria suggests that experience of occupational injuries are more frequent in neurosurgical ward compared to consulting and counseling rooms (Aluko et al., 2016). Conditions such as lower back pains, stress, emotional imbalance, (Mrema & Ngowi, 2015), psychological trauma, and physical abuse of nurses (Adib-Hajbaghery & Lotfi, 2013) are usual experiences of nurses in the neurosurgical and accident centres (Hu et al., 2015). Worthy of note is that the recent increase in highly infectious diseases such as SARS (Nyarko et al., 2015 ; Rim & Lim, 2014) and swine-origin influenza A (H1N1) (Oh et al., 2017), can be hospital acquired infections, even though nurses might be located at the neurosurgical and accident centres (Agbana et al., 2016). In addition, hospitals and wards without safety signs and emergency procedures lead to higher risk of occupational injury among nurses (Omar, Nazli, & Karuppannan, 2012). Data from previous reviews specifically suggest that hospitals with limited ventilation and few access points are considered high infectious zones (Douwes et al., 2003). This is particularly important because, hospitals that are airtight serve as the most conducive environment for multiplication of disease causing pathogens (Quinn et al., 2015). In such environments, transfer of infectious diseases from patients to nurses is commonly observed (Mohammad et al., 2013).

2.7.2 Socio-demographic Factors influencing Nurses' Experience

Preliminary studies indicate that nurses' experience and perception of risk has been influenced by the hospital's department's, years of working experience and level of education (Tziaferi et al., 2011). However, similar studies indicate contrary association between health workers' experience of hospital hazards and their level of education (Tziaferi et al., 2011). Again, the marital status of a health worker has also been cited as a determinant of nurses' experience of occupational injuries/hazards (Yim et al., 2017). This is because couples are known to easily adopt health and safety measures being

practised by their partners (Jafree et al., 2015), as well as they take injury preventive measure that will result in less burden on their spouse (Aluko et al., 2016). However, being married has not been consistently cited as a factor in experiencing occupational hazards among nurses. For example, Oh and colleagues (2017), have argued that most married couples have different professions and their experience of occupational challenges would therefore be different (Oh et al., 2017).

2.8 Coping Strategies adopted by Nurses managing Patients with Spinal Cord Injury.

It has been proposed that the techniques used by nurses to prevent patient violence are limited (Cheung & Yip, 2017) and for dealing with that, more comprehensive methods are needed (Adoba et al., 2015). More recently, less restrictive and coercive measures (Jafree et al., 2015) and safer ward environments have indeed been developed (Tiruneh et al., 2016). A positive environment is thought to be achieved through continuing education and managerial support (Perry et al., 2015), better medical management of patients (Fute et al., 2015), and/or improved handling of interpersonal problems with more flexibility regarding limit-setting (Darkwa et al., 2015).

In Ghana there are regulations that promote occupational health and safety among nurses such as the Labour Act 651 of 2003, the 1992 constitution (Twerefoo, 2015). In addition, work ability and shift rotation are an important construct used by nurses because it takes into consideration the demands of work, human resource maximization and resources available (Oliveira et al., 2015). Specifically, work rotation also known as duty shift results from the interaction of several workplace variables including working conditions (e.g., physical strain and environmental influences), social environment (e.g., relation with supervisors and work colleagues), a worker's training and competencies, and the worker's state of health (Angie et al., 2017). These are the specific things that can help

them as workers in juggling between work and family at the same time (Nowrouzi et al., 2015).

These activities require the collaboration of governmental agencies at the central and local levels (Park et al., 2017). First, the common goal of central governmental agencies should be reinforcement of follow-up measures in general medical examinations and promotion of healthy lifestyles for nurses managing spinal cord injuries (Henrotin et al., 2017). One short-term strategy is to support the establishment of work environments that are appropriate for nurses who have reduced physical capacity as a result of caring of patients with spinal cord injury (Fournier et al., 2016).

Additionally, studies have revealed that approximately 69% of ex-posed nurses immediately clean their wounds and sought professional help when injury occurs (Sisawo et al., 2017). Consequently national guidelines for infection prevention and control have been developed with the objective to protect nurses and patients from occupational infection (Hamdan & Hamra, 2015). These guidelines include creating a culture of prevention and safety at various levels (Ocampo et al., 2017). That is, the setting up of workplace regulations and safety measures which clearly indicate warning signs (Gunnell et al., 2017).

2.8.1 Education and Patient Counseling

Evidence shows that hospitals can overcome challenge in protecting both nurses and the patient population by improving nurses' knowledge of workplace risk exposure and post-exposure management through educational initiatives (Mashoto et al., 2015). The concept of a prevention culture is implicitly based on the concept of a safety culture education at wards (Kim et al., 2016). A safety culture aims to reduce work-related risks

and sometimes can include the closure of hospitals and wards to patients (Hsiao & Stout, 2010) but can also have a component of nurse to patient education (Kim et al., 2016).

However, during recent years, the value and efficacy of using ward closure to control hospital-acquired infection and prevent injury among nurses has been questioned (Peters et al., 2017). As a result, new strategies including counselling of patients and their relatives (Liautaud et al., 2017), restriction of entry at particular times (Gunnell et al., 2017) and education of nurses managing patients with spinal cord injury are being adapted by nurses (Gunnell et al., 2017). Such education and short training sessions for nurses are usually face-to-face models and workplace based projects expected to address identified gaps in occupational health and safety in nursing practice (Liautaud et al., 2017).

Another aspect of occupational injury/hazard prevention is to ensure the education and counselling of relatives of patients with spinal cord injury (Gunnell et al., 2017). This is fundamental because it ensures the provision of safe, affordable and patient-centered care to individuals with spinal cord injury (Singh et al., 2015).

2.8.2 Hazards Training for Nurses

Knowledge on hospital hazards is known to be a vital component of occupational hazard training (Lugah et al., 2010). It contributes significantly to the prevention of occupational injuries especially among nurses and limits exposure to hospital acquired injuries (Magboul et al., 2016). It is suggested that training of nurses should, in minimum, include a general theoretic introduction, workplace instruction, basics on quality of work, chemicals, and ergonomics (Suleiman & Svendsen, 2015).

However, most occupational training and orientations in Ghana have focussed less on the quality of work, chemical exposure and infection preventive measures in hospital

settings (Boyce et al., 2009 ; Nyarko et al., 2015). Given the wide range of potential and/or actual undesired events associated with the myriad of work groups in Ghana (Amponsah-tawiah & Mensah, 2016), there is the need to have a comprehensive provision for OHS standards and practice in the nation with an unflinching national leadership, support, and commitment (Annan et al., 2015).

2.9 Summary and Conclusion

The chapter reviewed literature relevant to the study. In the initial section, brief information was provided about spinal cord injury, various articles on Reuben Hill's ABCX family stress model were reviewed. Evolution of the ABCX model over time, its utilization in some studies and the justification of the model for this study were discussed.

The second section of the chapter elaborated on the literature on management of spinal cord injury and social lives of nurses, knowledge and occurrence of hospital hazards among nurses, hospital hazards among nurses, psychological experiences of nurses managing patients with spinal cord injury, physical challenges of nurses managing patients with spinal cord injury, coping strategies adopted by nurses managing patients with SCI and perceived effect of workload on the general health of nurses.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This section discusses the research methodology used in studying the experiences of nurses managing patients with spinal cord injury at Korle-Bu Teaching Hospital. It includes the following: research design, research setting, target population, inclusion and exclusion criteria, sample size and sample technique, data collection method, data collection procedure, data management, data analysis, methodological rigour and ethical consideration.

3.1 Research Design

The study employed a qualitative research approach to ensure a deeper insight and comprehensive information from a small group of nurses (Lewis, 2015; McCarthy & O'Sullivan, 2008). Again, it offers a thorough understanding of respondents' version of their experiences (Denzin & Lincoln, 2003). This approach was used because the researcher wanted information about the experiences of people from the perspective of those who had the experiences (Hatch, 2003).

According to Smith, (2004) participants in qualitative studies make meaning of their personal and social experiences whereas the researchers make meaning of the information respondents share. Crowe et al., (2015) also add that qualitative studies are done to make sense of peoples' experiences. A qualitative approach was also ideal because of the possibly sensitive and emotional nature of the topic (Padett, 1998).

Again, according to Parahoo, (2006) a qualitative approach is beneficial when a researcher seeks to explore professional experiences or behaviour as these inured to the fundamental concepts in Nursing and Health. The qualitative approach was also chosen

because the researcher intended to understand a social phenomenon which was occurring in its natural context (Lewis, 2015; Nieswiadomy, 2008). Precisely, an exploratory and descriptive qualitative design was used to provide a detailed description of a phenomenon and a comprehensive perspective of the reality of the respondents' experience (Munhall, 2001). This was to also provide a rich account of social processes or experiences, meanings, practices and views of participants (Koch et al., 2014).

3.2 Research Settings

This section provides information about Korle Bu Teaching Hospital and the two units used as research settings.

3.2.1 Description of Korle-Bu Teaching Hospital

The setting of the study is Korle-Bu Teaching Hospital. The Korle-Bu Teaching Hospital is the leading health care facility in Ghana and was established on 9th October, 1923 from an initial 200 bed capacity to 2,000. It is currently the third largest hospital in Africa and the leading national referral centre in Ghana. Korle Bu, which means valley of the Korle Lagoon was established as a General Hospital to address the health needs of indigenous people under Sir Gordon Guggisberg's administration, the then Governor of the Gold Coast. Korle Bu gained teaching hospital status in 1962, when the University of Ghana Medical School (UGMS) was established for the training of medical doctors.

The Hospital has over 2,000 beds and 17 clinical and diagnostic Departments/Units. The Clinical and Diagnostic departments of the Hospital include Medicine, Child Health, Obstetrics and Gynaecology, Pathology, Laboratories, Radiology, Anaesthesia, Surgery, a Polyclinic, an Accident Centre and the Surgical/Medical Emergency as well as Pharmacies. Other departments of the Hospital include Pharmacy, Finance, Engineering, General Administration. The Hospital also provides sophisticated and scientific investigative procedure and specialization in various fields such as Neuro-

surgery, Denistry, Opthalmology, ENT, Renal, Orthopaedics, Oncology, Dermatology, Cardiothoracic, Radiotherapy, Paediatric Surgery and Reconstructive Plastic Surgery and Burns.

The Accident Centre of KBTH is the national referral centre for all accident cases. It manages head injuries, chest trauma, spinal cord injuries, burns and other minor injuries. The Accident Centre is under the Surgical department where the Neurosurgical department is also found. The Neurosurgical ward manages all neurological conditions including spinal cord injuries. It is located on the first floor of the Surgical department of Korle-Bu Teaching Hospital.

3.3 Target Population

The study recruited experienced nurses who had managed patients with spinal cord injury at the accident centre or in the Neurosurgical ward of KBTH for at least five years.

3.3.1 Inclusion Criteria

The study included male and female nurses managing patients with spinal cord injury and with the following requirements:

- A nurse with at least diploma certificate and works at Accident Centre or Neurosurgical ward of Korle-Bu Teaching Hospital.
- A nurse who had managed patients with spinal cord injury for not less than five years.
- Nurses faced with crises as a result of care giving to patients with spinal cord injury
- A nurse who qualified for the criteria and gave consent to participate in the study.

3.3.2 Exclusion Criteria

- Nurses who were not working at the Accident Centre or the Neurosurgical Unit of Korle-Bu Teaching Hospital
- Nurses who had worked less than five (5) years at Accident Centre or the Neurosurgical ward of KBTH
- Nurses who met all the criteria but were not interested in participating in the study

3.4 Sample Size

The research question, saturation and purpose of the study were used to determine the sample size (Elo et al., 2014; Guthrie, Yongvanchi, Ricceri, 2004). Data are said to be saturated when subsequent interviews yield no new theme (Morse, Barrett, Mayan, Olson, & Spiers, 2002; Padgett, 1998). In this study, data saturation was achieved at the 16th interview. The interest behind the study was not based on quantity but on quality, which is the saturation level of data collection (Lewis, 2015; Padgett, 1998).

3.5 Sampling Technique

Non-probability samples are mostly used in qualitative studies as they aim at providing insight on a particular phenomenon (Parahoo, 2006). As a result, a purposive sampling technique was used to select participants for this study. This method was suitable for the study since the researcher wanted to select respondents who could best provide the needed data for the study (Elo et al., 2014; Parahoo, 2006). Nurses who qualified for the inclusion criteria and gave their consent were allowed to take part in the study.

3.6 Procedure for Data Collection

Introductory letters from the School of Nursing, University of Ghana (Appendices B) and copies of ethical approval letter from Noguchi Memorial Institute for Medical Research (NMIMR) (Appendix C) were sent to the institutional review board of Korle-Bu

Teaching Hospital to obtain permission to recruit and collect data. Copies of approval letters from the hospital (Appendix F) were sent to the Deputy Directors of Nursing Services in charge of the Accident Centre and the Neurosurgical ward to gain their cooperation in the recruitment and data collection processes.

The researcher visited frequently and was introduced to nurses who worked at the two units by the DDNS of the two departments. Meeting schedules were made with nurses at the two units. Those who were absent were phoned by the ward in charge and informed about the study and they gave a convenient time to meet the researcher which they did. Detailed information with regards to the purpose and objectives of the study was explained to the respondents by the researcher and the research assistant. Potential benefits and risks of the study were explained to respondents in English since all respondents could express themselves in English and none opted for a different language. Respondents, who met the inclusion criteria and agreed to participate in the study, signed the consent form (Appendix D). Respondents were informed that, participation was voluntary and that their withdrawal from the study after signing the consent form was without any consequences. Anonymity was kept by using identification codes to protect respondents' identity.

Nurses managing patients with spinal cord injury at the Accident and the Neurosurgical units were recruited for the study. Data were collected from respondents through face-to-face interviews. The interviews lasted for about 30-70 minutes and were audiotaped. The time and venue were chosen on the basis of respondents' convenience. Two interviews were conducted in the home and the other fourteen nurses' had their interviews in rooms provided by the hospital. No second interviews were done but clarifications were sought from respondents to counter check information given and also to ensure precision of data collected. The researcher interviewed ten (10) nurses from the

Accident Centre and six (6) nurses from the Neurosurgical unit of Korle-Bu Teaching Hospital.

3.7 Data Collection Tool

A semi-structured interview guide (appendix A) was used to conduct an in-depth interview to allow respondents to comfortably talk about their experiences. The interview guide consisted of two main sections. Section A, consisted of socio-demographic data with the intent of getting some background information to enrich study. Section B included questions based on the research objectives and the ABCX family stress model (Schock-Giordano, 2013).

The interview guide for the study was pretested on two nurses at the Greater Accra Regional Hospital, Accra before the main study to ensure clarity and precision of the questions (Gerrish & Lacey, 2006). However, data from the pilot study were presented separately from the main study.

3.8 Data Management

The purpose of qualitative data management is to "organize and store data for maximal efficiency in retrieval and analysis" (Padgette, 1998). Each of the respondents was assigned an identification number from 1 to 16 in order to ensure easy identification and retrieval of information. Respondents were coded as RP1 to RP16. The transcripts were saved on an external drive to prevent loss of data. Field notes, audio tapes and data back-ups were kept in a safe at the supervisor's office. It will be accessible only to the researcher and the supervisor. These recordings will be stored for five years after which they will be destroyed and burnt.

3.9 Data Analysis

According to Lewis (2015), the onus of data collection and analysis in qualitative studies is usually the sole responsibility of the researcher. The aim of data analysis is to bring out the salient issues in respondents' responses. Data analysis was done manually alongside data collection from the first to the last respondent using thematic content analysis. It is a way of analysing qualitative data with the aim of identifying patterns of concepts from data (Crowe et al., 2015). The technique described by Miles and Huberman, (1994) was used to analyse the data. The technique includes the process of data reduction, data display and drawing conclusions and verifications (Miles & Huberman, 1994).

Each tape recorded interviews were transcribed verbatim. Interviews were done only in English as no respondent opted for a different language. Transcripts were read and re-read line-by-line and brief notes made in the margin where significant ideas were identified. The researcher explored for similar ideas, thoughts and words within the data to make up the codes. Similar codes were put together to form categories. All categories were coded using descriptive subheadings in a file and related categories were clustered to form themes. Themes and categories were examined further for suitability and re-categorization based on the objectives of the study.

All transcripts were managed the same way and emerging categories and themes were added to the file until all scripts had been analysed. The final stage was drawing conclusions and making verifications (Mills & Huber man, 1994). Tentative conclusions were drawn up and assessed for plausibility, as the researcher had several conclusions that were discussed with the supervisor to ensure that conclusions drawn reflected the responses of the respondents. A final report was written on conclusions drawn.

3.10 Methodological Rigour

The concept of validity in qualitative research has undergone various forms of development to make the contributions of qualitative research approach to scientific knowledge more acceptable (Whittmore, Chase, & Mandle, 2001). It was the need to come out with a criteria for assessing and ensuring validity in qualitative research that led Lincoln and Guba, (1985) to interpret "internal validity to credibility, external validity to transferability, reliability to dependability and objectivity to confidentiality" (Whittmore et al., 2001)

3.10.1 Credibility

Credibility refers to the truth and value of the findings of a study (Sharts-Hopko, 2002; Topping, 2006). The researcher ensures credibility by recruiting respondents who meet the inclusion criteria with the purpose of gathering accurate data. The process of summarizing and obtaining feedbacks from the respondents ensures that the stories of respondents are correctly and clearly captured.

Interviews conducted were transcribed verbatim and coded before subsequent ones were done to enable the researcher to identify with the content of the data. Data collected were discussed with the supervisor to ensure accurate analysis of data. The researcher engaged the study participants for 30 to 70 minutes to obtain detailed data from respondents. Respondents' accounts were supported with direct quotes from respondents to ensure credibility (Streubert & Carpenter, 2010).

3.10.2 Dependability

It refers to 'stability of the data over time under different conditions' (Elo et al., 2014). It assesses the extent to which the findings of the study can be replicated if done on a group of respondents with similar characteristics in a similar context. In order to ensure dependability, the researcher ensured consistent use of interview guide and data analysis

procedures and how the data were analysed. Background of respondents, and inclusion and exclusion criteria were clearly outlined. The researcher worked closely with the supervisor and the feedback from discussions was applied to improve subsequent interviews. Lengths of interview as well as sequence of questions were well outlined. Adequate information about age, gender and number of working years of respondents as well as setting of the study was provided to enhance dependability.

3.10.3 Confirmability

Confirmability indicates the representativeness of the information provided by respondents throughout the various stages of data analysis to interpretation of findings (Sharts-Hopko, 2002). It ensures findings are representative of respondent's experience and not the researcher's (Sharts-Hopko, 2002). Audiotapes were transcribed verbatim. Direct quotes of respondents were used to support emerging themes. Probes were used to seek clarification from respondents. Only nurses who met the inclusion criteria were involved so as to obtain accounts from the right respondents. An audit trail containing notes from member check, summaries and field notes was used to provide contextual information to enhance analysis. Beliefs and values of the researcher were taken into consideration during the analysis to prevent biases.

3.10.4 Transferability

It concerns the extent to which the results of the study can be 'generalized' to other settings (Elo et al., 2014). It involves provision of adequate information to readers to detect nuances between the context of the study and their personal experiences (Crowe et al., 2015). The focus of the qualitative researcher is not on generalization but on transferability (Sharts-Hopko, 2002). Background of participants which included age, gender, marital status, educational level, hospital and unit of participant, number of years

worked and rank of participants were provided. Inclusion and exclusion criteria were clearly outlined.

3.11 Ethical Considerations

An ethical approval was sought from the Institutional Review Board of the Noguchi Memorial Institute for Medical Research (NMIMR), an introductory (Appendix B) letter from the School of Nursing and Midwifery, University of Ghana and copies of the ethical approval letter from NMIMR (Appendix C) were obtained. Again, an introductory letter from the School of Nursing and Midwifery was sent to the KBTH-IRB together with a protocol. A Scientific and Technical Approval from KBTH (Appendix E) and Ethical Clearance from KBTH-IRB (Appendix F) were obtained. Copies of approval letters given by the hospital were sent to the heads (Appendix G) Accident Centre and Neurosurgical ward of the Korle-Bu Teaching Hospital to gain their cooperation.

The purpose, objectives, potential benefits and risks of the study were explained to participants. Participants who met the inclusion and exclusion criteria and who also agreed to partake in the study were asked to sign a consent form (Appendix D). Participants were informed that their refusal to participate or withdraw from the study was without any consequences. Anonymity was ensured by using identification codes.

Confidentiality was also been ensured at all stages of the study. Participants were informed that audiotapes, field notes, consent forms and audit trails would be kept in a security safe and locked with password known to researcher and supervisor only. Also, identifiable information was separated from transcripts and kept under lock and key. The study was self-funded.

3.12 Summary

This chapter the provided rational for researcher's choice of research design, settings of the study, sampling technique and data collection methods used. It also provided information on data management, data analysis, research rigor and ethical consideration guiding the study. The next chapter focusses on the study findings.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.0. Introduction

This chapter focusses on the presentation of results concerning the experiences of nurses caring for patients with spinal cord injury at the Neurosurgical and Accident centres of the Korle-Bu Teaching Hospital, in the Greater Accra Region of Ghana. The results are presented according to the objectives of the study but are preceded by the background characteristics of respondents.

4.1. Profile of Respondents

The study comprises two (2) pilot studies and Key Informant Interviews of 16 respondents. Overall, 13 female respondents and 3 male respondents were interviewed. Among those interviewed, the majority of them were degree holders with only 2 diploma holders. Only two respondents were not married and one (1) preferred to keep her marital status private. Most of them said Twi was their native language and the highest number of years a nurse had worked at the hospital was 38 years and the minimum was five (5) years.

4.2 Emerged Themes and Sub-Themes

The concepts that emerged were classified into themes and sub-themes to reflect the experiences of respodents. Four (4) themes and thirteen (13) sub-themes were identified following the data analysis. These have been presented in the table below.

Table 4.1: Emerged Themes and Sub Themes

Main theme	Sub-theme
Physical experience	
	- Physical injury - Delayed care activities - Back pain - Tiredness
Psychological experience	
	- Verbal abuse - Feeling of empathy and/or sympathy - Feeling of sadness
Effect on social life	
	- Social isolation - Neglect of family and friends - Decreased religious activities
Coping strategies	
	- Obtaining patients/family cooperation - Team work and contribution among nurses - Maintaining good health practices

4.3 Physical Experience of Nurses managing Patients with SCI

One of the main themes identified was physical experience which corresponds with the stressor part of the ABCX model. This theme sought to answer the research question '*What physical experiences (stressors) do nurses go through in managing patients with spinal cord injury?'* The theme had sub themes to describe the responses nurses had concerning their physical experiences.

Physical experience comprises all experiences in the line of duties which can directly affect nurses through direct exposure. This may include any connection with physical injury, delayed care activities, job demand, stress, tiredness, back pain.

4.3.1 Physical Injury

Job demands that leave nurses physically injured also exist. Caring for patients with spinal cord injury is demanding and involves strenuous performance of activities, which leads to physical injuries. In total, nine (9) nurses told about their physical experiences at the Korle-Bu teaching hospital.

Nurses' strain their back and other body parts in turning, bathing and cleaning patients if they soil themselves due to the dependent nature of patients with spinal cord injury.

> *"We have to always be turning them on their side every two hours which is not easy because some of the patients are heavy and like twice the size of the nurse, and you have to use a lot of physical energy to turn them, bath them, clean them when they urinate or poopoo on themselves, and serve them medications at the exact time recommended, and this is real physical stress. You can also break your spine from that you know...."* (RP2)

Similarly, the study also discovered that no matter how you apply the body mechanics you will still end up with some physical injuries.

> *"There's a human case standing, you can apply all the body mechanics you've been taught, the back pain will always be there. It's something that we are all use to anyway..... Others have neck pains, oedema of the legs because they have to stand for long hours and the worse of them is waist pains which are always there."*(RP15)

Again, some respondents sustained physical injuries to their back while turning patients and sometimes find it difficult walking. It was indeed conceded that physical injury is a huge challenge to nurses managing patients with SCI.

> *"... Even me, there was a time I was turning a patient and I heard some sound at my back, It was terrible, I sometimes finds it difficult to even walk and I know a colleague nurse who also had the same problem. So it's not easy, the physical injury on us is a huge challenge."* (RP16)

Additionally, nurses suffered several forms of injuries including sprain or muscle pull during turning of patients from one side to another. This usually happened to the older nurses:

> *"…hmmm. I was once assisting another young nurse to turn a patient because we were the only two on duty. Suddenly, I felt a sharp pain in my knee like that and it quickly radiated to my calf. I nearly fell when it happened but I held on to the side rail of the bed. I had to bandage the leg immediately because the pain was unbearable. So with this I had a muscle pull ooo, meanwhile I'm not an athlete."* (RP13)

Nurses at the Korle-Bu Teaching Hospital experienced a significant number of physical injuries during their care of the patient. Much of such experiences had a direct effect on the physical health of nurses and the majority of such experiences resulted from patients and during nursing care. A number of nurses took measures such as good body mechanics and medical interventions to manage hazardous experiences, even though experiences such as lifting machines and human resource were outside their control.

4.3.2 Delayed Care Activities

Out of nine (9) nurses who expressed their physical experiences, four (4) of them lamented on the issue of limited logistics and human resources which delayed activities of nurses.

Most respondents complained of inadequate number of staff, limited beds and consumables, patients' inability to purchase drugs and essentials for treatment, and neglect by patient's relatives.

Results suggested that most nurses were challenged and mostly had to resort to other sources to support patients.

> *"…You sometimes report for afternoon shift get home by 10:00pm because I live quite far from here and you have to come for morning shift the following day. Such shifts usually happen when there is a shortage. And you report already tired. If you don't take care, you can't do what you need to do."*(RP5)

Turning of patients regularly was a big issue to the nurses as the poor nurse to patient ratio impeded such an important task.

> *"hmmm…as for the challenges, one is; shortage of staff. It's a very big issue here. Because at the ICU, most of our patients are bed-ridden, either unconscious or semi-conscious. And we know that for bed-ridden patients, you need to change their*

> *positions 2-hourly. Sometimes you don't have enough staff …maybe two of you are on duty. Before you …do dressing, feed and do other things, time is past for you to maybe change one patient but you may not even do it."*(RP11)

The challenges faced by nurses managing spinal cord injuries were numerous. Physical experiences were not only limited to human resource issues, but logistics to facilitate health care delivery were also lacking.

> *"We don't have enough ventilators; we don't have anaesthetists on our ward. So a patient is there, you realize that this patient is going to die and there is just nothing you can do. We mostly delay the care due to this and lose most of our patients…"* (RP8)

Participants complained of broken down air conditioners in the ward and in the nurses' rest room and this also slowed down work activities towards management of SCI.

> *"So some of our gadgets and logistics that we are using are not enough and they are not strong too. Also, we the nurses… our room, the air conditioner is not working. When it is 12 to 1pm, I wish you come there to see how we are sweating. We are really sweating. Those who will come in the afternoon are worse. You see human beings; if you keep sweating like that it even reduces your strength and also the work."*(RP9)

The pace of work at the Neurosurgical and Accident units of the Korle-Bu Teaching Hospital is slow. Nurses on duty were usually under pressure to perform their duties with limited logistical and human resources. This resulted in the delay of activities at the unit and the rate and quality of healthcare for patients with spinal cord injury was compromised. Efforts by nurses to ensure the smooth provision of care to patients included using improvised resources such as human strength and shift duties.

4.3.3 Back Pain

Twelve (12) nurses out of the sixteen (16) participants at both the Accident Centre and the Neurosurgical ward had experienced back pain due to the nature of the work. Changing the position of patients with SCI contributed to the back pain. Turning patients

every two hours in a log roll manner had a lot of effects on the back of the nurses managing patients with spinal cord injury.

> *"Like I said, these patients cannot do anything for themselves, it is the changing of position that affects us. Some patients can be very heavy and then every day, we roll them from one point to another. We use the body mechanics alright, but it has…it also has an effect on our spine. Sometimes you have back pain. You have neck pain because you have to be doing all that for the patient."*(RP2)

Aside this, the study revealed that nurses undergo physical experiences as a result of patients' condition. The increased workload led to back pain among the few nurses available.

> *"…Physically, back ache and spondylosis especially when nurses are going on retirement. The main problem with managing spinal injury patient is because of the lifting, changing of diapers, and frequent turning, that's what leads to the back pain here and there."*(RP3)

The issues leading to back pain and other body pains also included prolonged standing to provide care to patients as the condition presents many nursing problems and interventions to be done at a time.

> "*You are always standing to attend to patients because you have a lot of procedures to perform on one patient. This leads to back aches, calf pain, foot pains and others… sometimes you have no other choice than to carry a chair to sit by the patient's bedside in order to reduce the plenty walking and standing."* (RP4)

Again, back pain among nurses managing patients with spinal cord injury were severe to the extent of interrupting with their sleep.

> *"Now I feel pains in my knee and back. I am most times massaged these before I'm able to sleep. When the lift to this place breaks down and it's not repaired I'm always in big trouble… that day I won't climb the stairs because I may find it very difficult. So the young ones do not like to work here."* (RP13)

It is evident from the responses of the participants that most of the nurses experienced back pain due to the dependent nature of the patients. Poor nurse to patient ratio also posed a lot of workload on nurses managing patients with spinal cord injury.

4.3.4 Tiredness

Ten (10) nurses out of sixteen participants expressed tiredness after work as a physical experience in the management of patients with spinal cord injury. Heavy workload on nurses comes with tiredness. The tiredness comes with *pains in thigh, legs and back.*

> *"…hmmm …The workload has affected us because as I said, you get to the house, you realize that you are tired, you are really …tired. Your thighs, your legs, your back ache."* (RP5)

The tiredness associated with the care of patients with spinal cord injury comes with the two (2) hourly turnings. Nurses calculate turning each patient at least 4 times in a shift multiplied by the number of patients under their care.

> *"So if I work for eight hours and I'm to turn the patient every two (2) hours that is four times turning before my shift ends. So multiply by say six patients with spinal cord injury we are talking of about twenty four times of turning patients in one shift. Night nurses work for twelve hours so you can calculate for yourself."* (RP11)

The tiredness among nurses was also associated with faulty beds. Nurses struggled to put in extra energy to turn patients frequently on faulty beds.

> *"It's not easy …, turning the patient, you bend, you know, especially when you are not getting the correct bed that you have to, you know. So when you are turning it is very tiring and stressful, it is not easy to do that, it really affect you. They have to put in more hands as we are ageing... Because this is when you feel the pain most."* (RP1)

Again, due to the dependent nature of the patients, nurses tend to stand for long hours to deliver care. This is because the kind of care patients with SCI needs is physically demanding.

> *"So you can stand near one patient bath him/her, do oral care, treat pressure areas, change position, serve medications and feed him/her. All this while you will be standing because during some of the procedures you can't sit and even you are in a hurry to finish and move on to the next patient, so their care is really tiresome."* (RP13)

The majority of the nurses expressed their ordeal about tiredness in relation to managing patients with spinal cord injury. Prolonged standing, regular turning on faulty beds and the dependent nature of the patients were some of the pre-disposing factors to tiredness.

4.4 Psychological Experiences of Nurses managing Patients with Spinal Cord Injury

In the quest to answer the second question '*What are the psychological experiences (stressors) of nurses managing patients with SCI?'* One main theme emerged and was consistent with a construct of the model (stressor). The main theme had sub themes to describe participants' response to psychological experiences.

Psychological is explained as any experience that results in psychological or emotional instability of an individual or a group of people. The provision of universally accepted and patient centred care is currently the priority of many healthcare providers. This is particularly important to many nurses, especially those working in the Neurosurgical ward and the Accident Centre of KBTH. However, the provision of care, especially to patients with spinal cord injury comes with its own challenges and experience.

4.4.1 Verbal Abuse/Harassment

In the current study nurses gave their ordeal on verbal abuse from patients and relatives. This was from about four (4) nurses working at the accident centre and neurosurgical ward of the KBTH.

It was revealed that nurses are sometimes ignored by patients and relatives especially if nurses get so busy and are unable to respond to patients' call as expected. This usually happens when the relatives feel not much is being done to help in patients' recovery.

> *"If you standing somewhere you may think they are worrying you. They are calling you all the time and want you to be by them always. Sometimes too, some of the relatives want to do their own thing with the patient and even want him/her to sit up which is not good, but when you talk, they will just ignore you or talk back at you. So it's really challenging…"* (RP1)

When consultants usually break the news of a poor prognosis of a patients' condition to relatives, they display their anger on nurses and they get so petty with the least provocation.

> *"When consultants from the neurosurgical department come to break the outcome of the disease condition most of relatives break into tears and start asking why we didn't tell them earlier. Most do not want to conform with care any longer and start to vent their anger on nurses. Some also become petty and at the least thing they want to use that to mean something else…"* (RP 12)

Nurses are accused of negligence if prognosis is not made known earlier to relations especially when the patient dies. Sudden death without earlier giving them a prognosis poses a challenge of verbal abuse to nurses and to a large extent the hospital and government.

> "*…hmm… Most patients with spinal cord injury are conscious and do talk as expected. If the disease condition or outcome of the disease is not well explained to the relatives and the patient suddenly expires, the family starts to suspect foul play and so blame the health care team for negligence. Sometimes too if the relatives see the problems nurses encounter to give care and yet their patients die, they feel more could have been done and so they blame the hospital and government for it. But entirely, the nurses suffer the most insults as we are those who usually are with the patients…"* (RP 15)

Nurses are faced with verbal abuse in spite of the numerous challenges they encountered in rendering care to their patients. In fact, verbal abuse experienced by nurses was mostly by patients and their relatives.

4.4.2 Feeling of Empathy and Sympathy

These experiences are sometimes psychological and could be expressed as deep feelings of empathy, emotional stress, pity, sadness and frustrations.

In this study for instance, nurses empathise with patients especially with the very young and newly married who are diagnosed with spinal cord injury. The empathy enabled them to give out the best care possible to patients.

> *"……okay this is very very pathetic because at times you see some very young people some even newly married then he gets into this condition when he cannot do anything. It's pathetic but what can you do? You have to encourage them and do the best that you can. You should put yourself in their shoes. Because is not an easy thing…"* (RP1)

Most respondents feared that the circumstances with which patients sustained the injury could also happen to them. They further expressed sorrow over limited resources to help patients come out successfully from such a situation.

> *"It's pathetic...For me, I have been telling my colleagues that whenever a patient comes and the condition is bad, one is an accident, I tell them we are not far from it. It can happen to anyone us. So when I see them, I feel really sorry for them because we don't have enough things to help them. And I hear even outside, sometimes things are so bad, nothing can be done to help them. So if it is a bad injury .....I really feel sad for them. So sometimes, it… There is some depression somewhere."* (RP2)

The feeling of empathy leads to psychological stress among most nurses. This seemed to be universal, especially when patients are in the state of complete paralysis and under the care of nurses.

> "*That's pathetic because they can't move, they can't do anything, and they are in bed… we have to do everything for them. So it's so pathetic and sad to see them in that state. I actually feel sorry for them. Some are totally paralyzed, so that's why I have pity for them and I feel sorry for them because it is not easy for somebody to take care of you from hair to toe. In fact, I really empathise with them a lot…"* (RP6)

The feeling of empathy and sympathy for patients was observed among nurses, and nurses feeling that way helped them have an emotional attachment with their patients in order to provide better patient centred care to them. As a result of this feeling, nurses go to the extent of financially and physically providing for patients and ensuring that they receive the best of health outcome. This feeling even extends to other patients and those

who are discharged from the ward also make available their materials for patients yet to be discharged.

4.4.3 Feeling of Sadness

This emotional and psychological stress among nurses is even more compounded when nurses see patients as relatives with the feeling that this could happen to any of their relations. Even though a few of the nurses are said to be strong hearted, they still get to feel the pain endured by their patients.

Nurses sometimes express emotions no matter how they try to detach themselves from it. During history taking of the happenings that surrounds a patient' injury, this also makes them feel it could happen to one of their family members as well.

> *"…hmm… sometimes it gets to you. When you are taking the history and you get the story how it happened, it gets to you. You have brothers of their age or you have cousins like them so telling them they will not be able to walk again …and it's hard and will get to you no matter how heartless you think a person is, it does get to you. As nurses you are told to be empathetic, put yourself in their shoes not be sympathetic so you detach your emotions from it but definitely it gets to you…"* (RP11)

This notwithstanding, other nurses were not only emotional but sad about the condition of their patients. They expressed how frustrating some patients could be, especially when their expectations are not met.

> *"Clients with spinal cord injury are usually frustrated when referred to Korle Bu Teaching Hospital. They expect that they are coming to regain their feet back to walk but when they come and go back without having their expectations. So as a nurse, I also feel sad about their cases…"* (RP14)

> *"Caring for them is very frustrating to us nurses because the aim of every nurse is to achieve full or near recovery to a patient but this does not usually happen in the care of patients with spinal cord injury. Continuous care for over a period of time without any significant improvement in the patients' condition could be very sad to you the nurse and …."* (RP15)

Again, nurses feel sad for patients especially the young and newly married patients who report with SCI.

> *"I feel very sad for the patients with spinal cord injury especially the young and newly married with the fact that they may not get back on to walk again or even die…"* (RP2)

In addition to empathy, nurses also had a feeling of sadness towards patients. This feeling of sadness was emotional and gave patients the opportunity to receive better health care in a compassionate manner.

4.5. Management of SCI, Effects of Workload and Social Life of Nurses

In response to the third research question: '*What are the views of nurses on the extent managing patients interferes with their social lives (stressors)?'* The theme that emerged was management of SCI, effects of workload and social life of nurses which was also consistent with the stressor part of the ABCX family stress model. The theme had sub themes which described the responses of the nurses in relation to the effect of care on the social life of nurses.

Social life as defined by this study refers to personal activities performed or participated in or expected to be performed or be taken part in by nurses outside the hospital ward, including home activities, family life, church functions, education and other social gathering. The management of SCI is undoubtedly demanding and can have serious consequences on the social life of nurses. Considering that this condition requires constant attention from health personnel, most nurses' cared for patients to the neglect of their families, friends, education and other social gatherings. They also suffered social isolation, decreased religious activities and neglect of family and friends. In total, nine (9) respondents expressed their views on the effects of their work on their social life.

4.5.1 Social Isolation

This sub theme describes whether nurses are left behind in terms of socialisation as a result of the management of patients with spinal cord injury.

Managing patients with spinal cord injury had no effect on social life of most nurses as they only concerned themselves with their routine timetable. Nurses at Korle-Bu Teaching Hospital do not run extra shifts or duty but only their routine duty schedule.

> *"...as for the work, you know you have the hours that you are supposed to come and work. So when I come and it's time for me to close, I hand over and I go home and life continues. I don't maybe stay behind too much because of a patient with spinal injury, no. Unless maybe there is shortage and then you have to change your shift but is just do the normal work. When you come, you do what you can do. When you close, you go home. So, it doesn't really affect my social life with my family, no…"* (RP2)

Additionally, most participants concentrate on the work when at the work place and attend to other personal issues after their shift is ended. Due to this practice the work interfering with social life is not really felt.

> *"…mhmm my social life? …well, when I come to work, I have come to work. So yeah I don't have any…when I come to work, am at work and then that one even when you call me in the house or…you call me and you want to tell me something, let me finish with what I am doing then when am done with my work on the ward, then I can see to you. So I don't, I don't usually have any problem with that…"* (RP6)

Again, the study revealed that respondents spent the number of expected hours to work on the ward and attended to other social issues whenever necessary. So the management of their work did not in any way interfere with their social life.

> *"I don't think it interferes with my social life because when I come on duty for eight (8) hours, I spend eight (8) hours on the ward; when I close, yes, fine I get tired by the time I get home but if I want to go out I do it. So it doesn't interfere in any way with my social life. I come on duty I am here to work as a nurse so my social life is at the back of my mind all I care for is my patients and after my eight hours I leave. If I want to go somewhere, I programme myself."*(RP 14)

On the other hand, other nurses claimed the care puts fear in them to engage in some social activities such as skating and drinking of alcohol.

> *"It has affected me socially because even if I want to socialize at a place where I realize I might be hurt or I will drink and go and get an accident and you know, I won't. Socially, even interactions with certain activities like maybe I would have skated or do vigorous activities like that during maybe exercises or those things. It all puts fears in me and socially too, when, even when I close and there is a lot of traffic, especially during this Christmas when people want to just do rush hour, do things and you know, I really take my time for situations to calm down…"* (RP 3)

Most nurses did not see any effect the management of patients with spinal cord injury had on their social lives while others felt restrained in engaging in certain social activities and even certain means of transportation due to the experience they see people go through each day.

4.5.2 Neglect of Family and Friends

Nurses are said to be so accustomed to the ward such that even on their free days, they do not go anywhere but rather preferred to stay home. Their families and friends are used to the compelling situation and tried to live with it.

> *"One thing is that nurses, our duties and everything interfere with our social life. Weekends you are on duty; holidays you are on duty. If you have family, your husband will even know that you still don't want to go anywhere because now we are used to it. We don't go anywhere; weekends we don't go anywhere unless to a funeral or an outdooring or the wedding of a closer person."* (RP10)

Similarly, respondents did not have any issue about family neglect as their partners were also health workers and so understood the demands of the work. However, this was not the case to friends of nurses who were not health workers.

> *"As for me my husband too is a nurse anaesthetist so to us we know the job already. But to friends and relatives yes. When somebody dies and I think it is not important I won't come and at times too I don't get the time so yes I have a problem with them and they have been saying it. It's like my social life is becoming something else, but there is nothing I can do…"* (RP 5)

In a similar view expressed, some nurses' lamented about not having a social life at all because they spent all their time caring for their patients at the ward. A few nurses had even taken up public education on the issue of spinal cord injury and conducts public education among public drivers.

> *"Do I even have a social life… because I spend all my time at work? I am extra careful because when I am sitting in a car and the driver does anything reckless I scream. I tell them that I will never let you put me in that state because I work at the accident centre and these are some of the cases we see, so be careful and I educate people. Everywhere I pass I talk about it."* (RP7)

Worthy of note was also, the harm management that spinal cord injuries had on the marriage life of nurses. A number of the nurses explained their ordeal to the extent of losing their husbands to other women because of their job schedule and their inability to properly relate with their husbands and children.

> *"If you are married, it poses a danger to your marriage because when your husband needs you, you deny him because of the pain in your back and you start postponing everything which becomes a problem and which ends up in our husbands going in for other women …"* (RP9)

More importantly, nurses may experience broken homes and loose family ties if this continues over time. Again, the benefits of family life are lost, and children of nurses miss out on the intimacy between the parents and child. Aside this, husbands of nurses are at risk of extra marital affair, considering that nurses neglect their partners due to professional commitments.

4.5.3 Decreased Religious Activities

A number of nurses also expressed worry about their religious life. So some nurses rarely attend church services and other religious programmes due to the nature of their duty schedule and also the heavy workload of managing patients with spinal cord injury.

The study revealed that; even if nurses attend church service on Sundays they experience divided attention and are usually in a hurry to leave because of an afternoon duty/shift.

> "*It has really affected us because we are used to the ward. So where will you go? Even Sunday if you are supposed to go to church and you are for afternoon duty at the same time, when the pastor tries to delay small then it is becoming something for you because you know you are coming for afternoon duty so your mind is always on the work."* (RP10)

Again, nurses are unable to attend church service and other functions due to their workload and schedule of duty.

> *"This sometimes makes nurses complain about their social life being affected and also attending of church services, so this really affects social lives of most nurses."* (RP8)

Others had similar social challenges. They explained how they don't get called for any event because people already knew the nature of their job. Meanwhile, social events, especially those of family and friends also helped in relieving the psychological stress of nurses managing spinal cord injury, but this is challenging to achieve.

> *"Hmm well working in Korle-Bu itself you can hardly have a social life, working in Neuro even makes it worse …So people won't invite you to their weddings because they know you won't come. It affects social life; if you don't have much of social life you will enjoy duty. From beginning it was fun because that was all I do, work-home-work-home then when I started school it became worse. Now the whole circle is broadening up. I have work, home and school Saturday you hardly get Saturday off for yourself. So I hardly attend people's programmes."* (RP 16)

Nurses expressed their passion for religious life but were limited by their commitment to care for patients with spinal cord injury. A number of nurses were on duty on Sundays, which was the day dedicated to fulfilling religious duties. This notwithstanding, nurses were committed to their duties and observed Sundays only when they had the chance to do so.

4.6. Coping Strategies adopted by Nurses managing Patients with Spinal Cord Injury

In pursuit to answer the fourth research question '*What coping strategies do nurses adopt in managing patients with SCI?'* The main theme was coping strategies adopted by nurses managing patients with spinal cord injury. This theme is a construct on the ABCX family stress model.

Coping strategies are mechanism and ways adopted by nurses to ensure that the impact of nursing practice and occupational hazards are reduced or completely prevented. In whichever way challenges exist, nurses managing spinal cord injury patients are making efforts to cope with these challenges.

Nurses have adopted strategies including obtaining patient/family cooperation, team work and contribution among nurses, and maintaining good health practices. In total, eight (8) of the respondents indicated strategies they have adopted to help them reduce hazards during work.

4.6.1 Obtaining Patient/Family Cooperation

This is a technique nurses applied in coping with the challenge of verbal abuse, informing patient/relatives on prognosis of condition, financial support from family and to gain their cooperation.

The study revealed that nurses' educating patients and family on disease condition is one of the effective means to gain their cooperation.

> *"And one thing too, the relatives too or those who come around they need education. Because if you don't educate them, the patient will complain unnecessarily, I want to sit, I want to sit, I want this thing. So the patient's relatives too or those who come around it is very …important for them to also understand the condition and the consequences, so it goes beyond the nursing alone."* (RP1)

The involvement of relatives in the nursing care seems to be accepted and practised by most nurses; mostly because nurses are few and it has also equipped relatives to ensure continuation of care after the patient's discharge.

> *"So we try our best even though ...we stress ourselves a lot. So there are days when I have to involve the relations in turning the patient, because we are not enough. Maybe there is just two of us. So I invite the relations to come and help us. This also helps them to know what to do and how to care for the patient even when the nurses are not there, I mean care at home…"* (RP2)

The involvement of patient relatives in the provision of care was predominantly used by nurses at the Korle-Bu Teaching Hospital. This ensured continuity of care after patients are discharged. It also facilitates the speedy recovery of patients and helps patients manage the shocking news of not being able to walk again.

4.6.2 Team Work and Contribution among Nurses

Other nurses have explained how they involved other officials aside the social welfare in dealing with patients' financial burden which is mostly left for the nurses to bear.

Nurses involve department administrator and the social welfare in supporting the financial burden of patients.

> *"Me at times, I will go to my head of department or to the administrator. I am free with them and I say I want you to help okay, because the hospital has nothing. Or one thing, you go and take a pauper's form. Paupers forms are from the social welfare and attach to the folder so the social welfare will take care of the bills."* (RP5)

Again, participants revealed that the social welfare sometimes comes to the aid of patients/relatives to help.

> *"In terms of patients' finance, we help by calling in social welfare or some people come asking to pay bills for people especially children. The social welfare has been able to help a lot. So far so good those for who can't afford, implants have been done for free for them…"* (RP15)

On the issue of limited logistics, a number of the nurses have to endure the conditions. They indicated how committed they are to duty, even though they may not be enjoying the condition.

> *"… I have in mind that if I don't do it, nobody will come and do it so even though I'm not enjoying that condition, I don't have any choice but to do it. So the room should be chilled enough to improve, so that we can work well."* (RP5)

The contribution of nurses to support clients is helpful, considering that a number of the patients can not financially access healthcare and drugs. This practice significantly helps patients to recover fast, knowing that they have the support of the nurses

This passion for work and patient was further confirmed by other nurses, even to the extent of rotating nurses and appealing to discharged patients for left-over drugs and consumables to be used for other patients who cannot afford to pay.

> *"...So despite all these challenges, in fact, sometimes we the nurses we contribute to buy things for them. If they are short of diapers and a relative is not coming. Sometimes if a patient leaves his/her drugs that may not be used again in the ward and a patient is prescribed for same we just pick it up and give it to them. Sometimes you will take 10 cedis from their doctors or nurses to provide for the patients' needs."*

> *"So there is shortage alright but if you realize that there are a lot of spinal injury cases we just move nurses from other less busy ward to come and help in caring for them. Or sometimes if the person is on leave and has not travelled we beg the person to come and help so we give them some days later..."* (RP12)

The study also discovered that nurses also sometimes do to help impoverished patients to also get catered for.

> *"Sometimes we are in the robbing Peter to pay Paul system. You pick somebody's own; give it to somebody else and some of the patient's end up insulting you. It's hard, you have to put a human face into the whole thing, you realize this patient is septic, somebody has been discharged and you tell them 'ooh' we need your medication you're not going to use them anymore..."* (RP14)

Again, a lot of the nurses' resort to using used items by other discharged patients as hospital property to improvise and support others. This is possible, considering that few of the patients are financially capable to purchase their own items including bed sheets.

> *"Mostly, we have to improvise, with the bed sheets. What we do is we have adopted that those who have money when they are leaving some don't take everything with them, most of the patients buy bed sheets in Korle-Bu themselves, some will not take these away, so we pack those ones down, so when people of this nature come and they are facing financial difficulties we use those ones for them and it helps us to also work and help them."* (RP16)

4.6.3 Maintaining good Health Practices

More specifically, a number of the nurses have had health complications as a result of workload and had to undergo series of screening and health check-ups.

> *"The turning of the patient, you are always having backache and as I speak to you now I have a terrible backache. I have done MRI and series of x-rays but it revealed nothing. Sometimes you have neck pain, knee pain. So for my health it has been tampered with and I'm battling with it…"* (RP6).

At the Korle-Bu Neurosurgical and Accident centres, nurses were prone to other health conditions due to workload and limited resources. Apart from physical injuries, nurses mentioned a number of non-communicable diseases they experience because they have limited time to eat due to workload.

> *"I remember so many years back, when the nurses were not as many as we are today and the work was always piled up, I turned a patient, I heard a sound at my back, I started feeling pains. I started physiotherapy, then one doctor told me the way the injury is, if time goes on, it will affect my legs."*
>
> *"The main problem is the back ache, but other things come into play; for instance, food is not eaten on time because you have a lot of work to do, and you may develop hypertension and cholesterol level is always high. So you see, if we have more staff the work burden will reduce."* (RP 9)

Obviously, it appears the problem of workload injuries is universal among nurses. A number of nurses are known to have become patients themselves, mainly because they had to stress themselves through doing extra work.

> *"I have done a CT scan …x-ray of the back because I had this sharp pain because we are mostly few and if you are on duty, then you have to do everything. It was bad, it was really bad. They eventually decided to give me an" epidural ", one of the ways we manage lower back for other patients, so I was almost becoming a patient. I know a number of nurses who have also been admitted or undergone treatment for other conditions."* (RP11)

Ensuring good health practice is an important component of injury prevention. In the current study nurses have had to do several medical check-ups due to the health challenges associated with managing patients with spinal cord injury.

4.7 Summary of Findings

A total of 16 experienced nurses working at the Accident centre and Neurosurgical ward were interviewed in the study. Their ages ranged between 28 to 58 years and the

number of years of working also between five (5) to 38 years. Four main themes emerged during the study including: physical experience, psychological experience, effects on social life and coping strategies which were consistent with the adopted constructs of the ABCX family stress model (stressor and coping).

The physical experiences of nurses managing spinal cord injury were described under the following sub themes: physical injury, delayed care activities, back pain and tiredness. Under physical injury, nurses at Korle Bu Teaching Hospital experienced significant number of injuries during their care to the patient. Nurses on duty usually were under pressure to perform their duties with limited resources due to limited logistics and human resources resulting in the delayed care activities. It was evident from the response of participants that due to the dependent nature of the patients having SCI, most of the experienced nurses had developed back pains. Tiredness was the last sub theme that emerged under physical injury and that was as a result of prolonged standing to deliver holistic care to patients and regular turning of patients on faulty beds.

Psychological experience was also described under the various sub themes including: verbal abuse/harassment, feeling of empathy and sympathy, and feeling of sadness. Verbal abuse was an emerging sub theme under psychological as previous studies discovered under physical. Nurses working at the Accident centre and Neurosurgical ward were faced with verbal abuse in spite of the many challenges they encountered in rendering care to their patients. The feeling of empathy and sympathy was also observed among nurses. This feeling helped them to provide better care to their patients. In addition to empathy, nurses also had a feeling of sadness towards their patients which also gave patients opportunity to enjoy better care from nurses in a compassionate manner.

On the effect of the care regarding the social life of nurses three sub themes

emerged. The sub themes included social isolation, neglect of family and friends, and team work and contribution among nurses. Most nurses did not see any effect on their social life from managing patients with spinal cord injury.

Again under neglect of family and friends, nurses at KBTH explained their ordeal to the extent of losing their husbands to other women because of their inability to relate well with their husbands and children. Nurses expressed their passion for religious life but were limited by their commitment to care for patients with spinal cord injury.

Coping strategies adopted by nurses included obtaining patient/family cooperation, team work and contribution among nurses, and maintaining good health practices. The involvement of patients' relatives seems to be accepted and practised by most nurses and it also equipped them to ensure continuity of care in the home. This was what respondents had to say under obtaining patient/family consent. Nurses included other non-nursing staffs and also contributions for patients- all to better their care. Most nurses also maintained good health practices through regular check-ups and medications.

CHAPTER FIVE

DISCUSSION OF RESULTS

5.0 Introduction

The discussion section is presented by comparing findings of the study to previous studies conducted on the same subject. The aim of the study was to assess the experience of nurses in caring for patients of spinal cord injury in the Korle-Bu Teaching Hospital. Nurses' work at the Neurosurgical unit and Accident centre usually involves constantly providing care for patients including bed bathing, administration of drugs, and hourly turning of patients. All these processes are accompanied with injuries, sometimes leading to permanent disability. Even though occupational injuries among nurses have been conducted elsewhere, very few studies on nurses' experiences with patients with spinal cord injury have been conducted in Ghana, which explains why there is little or no evidence on health and safety regarding neurological nursing.

5.1 Demographic Profile of Participants

The study comprises two (2) pilot studies and Key Informant Interviews of 16 respondents. Overall, 13 female respondents and three (3) male respondents were interviewed. Among those interviewed, the majority of them were degree holders with only two (2) diploma holders. However, similar studies indicate contrary association between health workers' experience of hospital hazards and their level of education (Tziaferi et al., 2011).

The respondent with the least number of working years was five years and highest was 38 years. Respondents were chosen from the Accident centre and Neurosurgical department of KBTH. Preliminary studies indicate that nurses' experience and perception of risk was influenced by hospital's department, years of working experience and level of education (Tziaferi et al., 2011).

Only two respondents were not married and one (1) preferred to keep her marital status private. Again, the marital status of a health worker has also been cited as a determinant of nurses' experience of occupational injuries/hazards (Yim et al., 2017). This is because couples are known to easily adopt health and safety measures being practiced by their partners (Jafree et al., 2015) as well as take injury preventive measure that will result in less burden on their spouse (Aluko et al., 2016). However, being married has not been consistently cited as a factor in experiencing occupational hazards among nurses. For example, Oh and colleagues (2017), have argued that most married couples have different professions and their experience of occupational challenges would be different (Oh et al., 2017)

5.2 Physical experience of nurses managing patients with Spinal Cord Injury

The study defines physical experiences of nurses to include physical injury, tiredness, delayed care activities and back pain. Physical experiences within the work place involve physical harassment, nurses interviewed in Portugal admitted that they were sexually harassed by patients and their relations (Ferrinho et al., 2003). This is contrary to findings of the current study, considering that no nurse at the Korle-Bu teaching hospital reported sexual harassment as an experience. This may be because, in Ghana nurses on duty are paired and entry into wards is mostly not restricted to other workers, and this does not create any privacy between patients and nurses.

From the study results, physical stress as a result of work was another experience among nurses. Almost all respondents expressed how stressful it is to care for patients with spinal cord injury. In similar studies conducted on job stress and motivation among nurses, physical stress was universally experienced by nurses working with patients with spinal cord injury (Khalatbari, Ghorbanshiroudi, & Firouzbakhsh, 2013). This was also observed in a number of studies (Laal, 2013 ; Craiovan, 2014 ; Dolling, Nilsson, &

Lundell, 2017). In addition, job demand and workload were also expressed as physical experience of nurses. This is in agreement with other studies where nurses indicate that their job demand and workload increases as more patients are admitted (Viotti & Converso, 2016 ; Houtman & Jettinghoff, 2007). In health care provision, the amount of work to be done significantly depends on the capacity of the hospital and the number of patients admitted. In Ghana, most health facilities are overwhelmed with patients and that leads to increase in workload among nurses.

In most developing countries like Ghana, human resource and logistic limitations are paramount when considering challenges facing the health sector. In Ghana, this is considered one of the greatest challenges, and serves as a hindrance to work success of nurses. At the Korle-Bu Teaching Hospital, they had limited staff at the Neurosurgical unit and Accident centre and so logistics for nurses to work with were also limited. This concurs with findings from Nigeria (Adeyemo & Smallwood, 2017) and Tanzania (Mrema & Ngowi, 2015). However, contrary findings from studies conducted by Nowrouzi et al., (2015) in Canada suggest that hospitals where patients with spinal injury were managed, were provided with modern logistics and human resource to enable optimum health (Nowrouzi et al., 2015). One would want to believe that resources constraints are usually not a challenge in developed countries and this helps reduce the workload and work time for nurses and reduce stress.

In terms of health, nurses at the Neurosurgical unit and Accident centre of the hospital were experiencing several health complications including back pains. Similarly, a correlation between back pains and nurses work has been reported in previous studies (Mirmohammadi, Yazdani, & Etemadinejad, 2015 ; Giurgiu et al., 2016). In the provision of care for patients with spinal cord injury, activities involve continues standing and

strenuous but static postures. This leads to several health complications as expressed by the nurses.

5.2.1 Perceived Effect the Workload has on the general Health of Nurses

Increasingly, health facilities and occupational health experts will need to acquire and develop the skills and attributes required to deal with a range of new and emerging occupational health challenges in nursing responsibilities, as the neurological field of nursing becomes more diverse (Jager, Nolte, & Temane, 2016). Workload has resulted in several health complications on nurses and other health workers in Ghana. At the Korle-Bu Teaching Hospital, nurses managing cases of spinal cord injury have to deal with several health concerns as a result of workload. Most nurses indicated their experience with back pains, neck pains, spinal deformity and waist pains. Other studies which assessed the experiences of nurses have also stated similar findings as expressed by nurses (Chaiklieng & Suggaravetsiri, 2015 ; Soueid, Oudit, Thiagarajah, & Laitung, 2010 ; Shieh, Sung, Su, Tsai, & Hsieh, 2016). Similar to findings of this study is also a study by Saidane et al., (2017), where spondylosis was reported as a consequence of workload. Workload is detrimental to health, especially among nurses managing spinal cord cases. Conditions such as those mentioned above are common health complications resulting from strenuous work, workload, static postures and manual activities among nurses. The study results also indicate that most nurses admitted being tired and feeling weak after a day's workload due to limited staff nurses. This is also in agreement with earlier studies conducted on health beliefs and behaviour among health care workers, which found that nurses who work eight hours and more, expressed tiredness and stated they usually do not have time to do health screening and check-ups (Walters et al., 2015).

Additionally, general health complications arising from workload among nurses at the Korle-Bu Teaching Hospital include knee pain, a finding similar to that of (Tinubu et

al., 2010). Again, nurses express fear on the development of cardiovascular conditions such as hypertension and high cholesterol levels. Comparatively, studies assessing the psychosocial work stressors, work fatigue, and musculoskeletal disorders, suggest that female nurses re-ported a higher experience of health problems including hypertension, diabetes, high cholesterol, asthma, and migraine (Rahman, Abdul-mumin, & Naing, 2017). Considering that workload for nurses' demands continues sitting and static postures, conditions such as those experienced by nurses are visible challenges with nurses' profession.

5.3 Psychological Experiences of Nurses managing Patients with Spinal Cord Injury

Nurses' experience at the ward is considered an issue of concern at the Korle-Bu Teaching Hospital, especially those working at the neurosurgical unit and accident centres. Results indicate the occurrence of several psychological hazards (sadness, empathy, verbal abuse and feeling of pity) that pose a threat to the well-being of nurses managing spinal cord injury. For instance, almost all nurses expressed the feeling of empathy for patients and are mostly sorry for patients. This finding is similar to other studies conducted elsewhere, which found that most nurses and healthcare providers have empathy towards patients (Sivris & Leka, 2015 ; Kollie, Winslow, Pothier, & Gaede, 2017). Nurses may harbour a feeling of empathy for patients because most patients are considered vulnerable and needs help. However, other studies stated findings contrary to this. In a study conducted on nurses experience of patient violence, nurses expressed a feeling of less empathy for their patients and a number of them added that this affects the quality of service they provide (Stevenson et al., 2015). Reasons such as patient violence and interference from patients' relative in service provision may account for this.

The study results also suggested that at the Korle-Bu Teaching Hospital, nurses are physically and verbally harassed by patients and their relatives. This is similar to studies

conducted by Giurgiu et al., (2016) but disagrees with findings from studies conducted among a similar population in Germany where the relationship between patients, patients' relatives and nurses was described as cordial and friendly (Franz, Zeh, Schablon, Kuhnert, & Nienhaus, 2010). Depending on the attitude of nurses and the orientation given to patients' relatives, patients can become violent and most likely will harass nurses. This impacted negatively on the psychological experiences of nurses at the Korle-Bu Teaching Hospital.

As compared to findings from this study, previous studies conducted suggest that just a few of nurses expressed the feeling of sadness towards the health condition of patients and are mostly not pathetic (Hajjar, Amin, Daleela, Wahid, & Ismail, 2016). This is contrary to findings of this study where a number of selected nurses stated that caring for patients with spinal cord injury is pathetic and they (nurses) usually encourage them to get better. Again, the feeling of depression and sadness towards patients was also observed in this study. This is similar to findings by Fares et al., (2016) in studies conducted in Korea where nurses expressed passion for their profession, love for people, and sympathy or empathy for sick people, but contrary to studies by Kim et al., (2016), where nurses' response to patients commonly included scolding or indifference to the sick patients rather than care and empathy. It is worth noting that health facility policies and working environments are supportive conditions to facilitating nurses' efforts in providing care and their attitude and fealing towards patients could be influenced by such conditions. Among nurses at the Neurosurgical unit and Accident centre of the Korle-Bu Teaching Hospital, the feeling of sympathy for patients with spinal cord injury was almost universal among nurses. Participants expressed the magnitude of sympathy and emotions they attach to their care for patients. In contrary studies conducted in Liberia, few participants expressed sympathy towards the 'chronic' patients with spinal cord injury (Selamu, Thornicroft,

Fekadu, & Hanlon, 2017). This is because differences in study settings and general health policies on patient-nurse relationship can also account for such differences in nurses experience. Nurses experience at the Korle-Bu Teaching Hospiatal was characterized by a feeling of frustration as exppressed by a number of the nurses. In similar qualitative studies, nurses were always frustrated by the behaviour of some patients (Matandela & Matlakala, 2016) and the amount of care required by people with spinal cord injury (Adib-Hajbaghery & Lotfi, 2013). In every health facility, the control mechanisms put in place to regulate patients behaviours towards health service providers is paramount to limiting the frustration nurses face in their line of duty.

5.4 Management of SCI, Effects of Workload and Social Life of Nurses

One challenging experience of nurses, especially those managing patients with spinal cord injury is that, they have difficulty balancing work and family life and this mostly lead to the neglect of family members. The experience of several nurses at the Korle-Bu Teaching Hospital is not different, as most of them expressed their experience of neglecting their children due to work demands. In similar studies conducted on parenting and work life balance among nurses, nurses expressed their difficulty in balancing work demands and family life (Mattessich, Shea, & Whitaker-Worth, 2017). Other findings even suggest that work demands of most nurses have resulted in broken homes and other family challenges (Tziner et al., 2015).

In the same results, some nurses at the Korle-Bu Teaching Hospital were however able to balance their work and family life, even though the work was demanding. This is also similar to other qualitative studies as stated by Viotti et al., (2016).In other observational studies on dimensions of hospital service and patient satisfaction, researchers found that nurses caring for patients with chronic neurological conditions are less likely to socialize with family and friends due to workload and bad work schedule

(Hajjar et al., 2016). This agrees with findings of this study where most nurses express their dissatisfaction with their social live with others outside their working environment. Meanwhile, social interaction is known to relief occupational stress and improves mental health (Giurgiu et al., 2016).

Religiosity is one important attribute of most Africans, especially Ghanaians. Meanwhile, nurses at the neurosurgical and accident centre of the Korle-Bu Teaching Hospital are duty demanding to the neglect of their religious live. Other studies agrees with this findings and states the regrets expressed by nurses who are challenged in balancing religion and profession (Mthewos et al., 2013 ; Hassanbeigi, Askari, Hassanbeigi, & Pourmovahed, 2013). Generally, nurses' work is demanding and the majority of them will have duty days on religious days, leading to the neglect of socially religious engagements.

5.5 Coping Strategies adopted by Nurses managing Patients with Spinal Cord Injury.

As a result of nurses' experience at the hospital, they have adopted a number of strategies to cope with physical, psychological, emotional, logistic challenges. Results suggest that nurses at the Korle-Bu Teaching Hospital nurses initiate counselling for both patients and their relatives. This is similar to studies conducted in Ethiopia where nurses attested that counselling was the most pragmatic stress and violence management strategy (Sivris & Leka, 2015). Contrary to this common practice, counselling was not viewed as the best strategy for managing occupational experiences of nurses, even though it was used (Reda et al., 2010).

Even if health facilities take some actions to limit work place hazards, they usually depend on a number of factors and not just counselling. For instance, some other nurses were of the opinion that the involvement of patients' relatives in the provision of care

helps them reduce work place violence (both verbal and physical). This agrees with studies conducted on health risk screening among nurses managing chronic health conditions, where nurses adopted a patient-relative inclusion mechanism to facilitate care and reduce risk of emotional depression among both nurses and patients (Fournier et al., 2016). Contrary to findings from other qualitative studies, a number of violent cases were recorded in health facilities where patients' relatives were involved in the provision of care (Fares et al., 2016).

Even though the involvement of patients' relatives is considered an important factor in controlling work place violence, a number of strategies are needed to achieve the best of results. Differences in the occurrence of work place hazards could be due to the implementation of several other strategies not limited to only the involvement of patients' relatives. Job demands appear to have a higher impact on psychosomatic complaints than job control and social support. However, the situation at the Korle-Bu Teaching Hospital is different. Considering that most patients with spinal cord injury have challenges with finances, nurses have resorted to involving social support from the Social Welfare Department to pay bills of patients who are financially incapable. Conversely, previous reviews of systematic qualitative studies have provided evidence to suggest that there exists limited social support for patients who belong to the low class of the economy, even though support is intermittent (Campos-serna, Ronda-pérez, Artazcoz, Moen, & Benavides, 2013).

Variations in the level of social support received by patients at different health facilities may depend on acceptable policies and social interventions by stakeholders. In Ghana, labour policies for nurses and most health workers require task rotation among workers (Nyarko et al., 2015). Job rotation inspires nurses to achieve higher performance,

allowing continuous growth at work, extended knowledge and skill, and increasing clinic patient care quality (Mrema & Ngowi, 2015).

Results from this study indicated that human resources (nurses) at the Korle-Bu Teaching Hospital are limited and nurses have adopted task shifting and rotation as part of strategies to reduce work injury and stress. In similar findings, while job rotation was regarded as a practical approach to enrich and expand job assignments, it also improved the health state of most nurses and reduced physical, emotional and psychological stress among nurses (Ho, Chang, & Shih, 2009).

5.6 Summary

This chapter discussed the findings of the study by comparing with existing literature from different cultural settings to indicate agreement and disagreement with extant literature while providing justification for incongruences. The discussion focussed on the major themes of the findings

5.7 Evaluation of the Study Model

The ABCX model (Rosino, 2016) served as a guide to this study. The study objectives were derived from the model. The physical experiences, psychological experiences and effect of care on social life of nurses were considered as the stressors of the model just as some previous studies have done (Lavee et al., 2011; Jones & Passey, 2012). Again, the last objective on coping strategies was also consistent with the construct coping of the ABCX model.

Physical experiences revealed physical injury, reduction in work activities, tiredness and back pain which were all a pile up of stress (Rosino, 2016) in the line of duty of nurses. These sub themes relate to a construct of the model (stressor) hence the study support the model (Toliver, 2015)

Likewise, psychological experiences had sub themes like verbal abuse, feeling of sympathy and empathy and feeling of sadness which are all stressors that nurses go through in the management of patients with spinal cord injury. The psychological experiences as stressors are in consonance with the study model as the various sub themes were all described as stressors of nurses (Hu, Luk, & Smith, 2015; Krieger et al., 2008; Boafo, 2016).

Again, social isolation, neglect of family and friends and reduced religious activities were all stressors as revealed by nurses under the theme effect of care on social life of nurses hence the study supports the model (Jones & Passey, 2012; Lavee et al., 2011).

Coping strategies of nurses included obtaining patient/family cooperation, teamwork and contribution among nurses and maintaining good health practices. These sub themes describes the coping part of the ABCX family stress model.

The study therefore, supports the stressor and coping constructs of the ABCX model.

5.8 Suggestions for Model Modification

The ABCX formula centre's basically on pre-crisis variables of families (Hesamzadeh et al., 2015) and therefore the scope must be expanded beyond only the family to include nurses as well. Apart from physical experiences that have been clearly spelt out construct stressor should focus on psychological and social aspect of the care giver or nurse as this study has done.

CHAPTER SIX

SUMMARY, IMPLICATIONS, LIMITATIONS, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter focusses on the summary of the study including the key findings, its implications on nursing practice, management, education and nursing administration. The chapter further discusses the limitations to the study and conclusions drawn from the study. Finally, this chapter proffers recommendations based on the study.

6.1. Implications for Nursing Practice and Research

The study provides evidence to suggest that in the health sector, nursing practice is limited by several negative experiences of nurses. Comparatively, while developed countries have existing mechanisms and modern logistics in place to facilitate the practice of nursing, challenges of nursing practice in developing countries are quote enormous. The information provided by the study is suggestive that nursing care in Ghana, especially at the Korle-Bu Teaching Hospital demands more stakeholder involvement than it is currently being done. The extent of care to be provided by nurses is limited and the best quality of care is not given to patients.

Additionally, health complications among nurses are widely becoming an occupational challenge and would gradually turn nurses into patients themselves. If logistics and human resource were available, patients with spinal cord injuries could receive the best of nursing care. Again, nursing care is more acceptable and appropriately provided when the nursing environment is free of verbal, emotional and physical abuse. Aside this, the issue of confidentiality between nurses and their patients is also a challenge, as indicated by results of the study.

Considering the interference from patients' relatives with the nursing care being provided to patients with spinal cord injury, nurses are unable to discuss private health issues with patient and family, and this creates a gap in ensuring privacy and confidentiality which is recommended in nursing care. However, another aspect of the nursing practice that is recommendable is the involvement of patients' relatives in the provision of care. This is particularly important because it ensures continuity of nursing care from relatives and facilitates patients' recovery.

The rather high level of occupational injury experience among the nurses was indicative that other factors could have been involved which was not detected by this study. Further studies are therefore required to ascertain this fact. The practice of nursing is generally under-researched and data on nursing experience with the provision of care are also limited. This research therefore provided the bases for data to facilitate decision making on nursing care.

6.2. Implications for nursing education

The high prevalence of occupational injury among nurses at the Korle-Bu Teaching Hospital is rather a worrying situation. In part, it suggests that there is an existing gap in the education and training of nurses, both in induction and in-service training. Aside that, a comprehensive educational curriculum is expected to be incorporated into the education of nurses. The resultant effect of such modification in the education and training of nurses is that, nurses will be equipped with skills which enables them manage occupational injuries more prudently. Comparatively, nurses who undergo intensive in-service training on occupational injury prevention and management are in a better position to understand patients' behaviours, physical injuries, psychological hazards

and occupational health hazards, offering nurses a holistic understanding of occupational injury management.

6.3. Implications for Nursing Administration

The results suggest that the Korle-Bu Teaching Hospital and other hospitals need to take pragmatic measures to ensure a uniform distribution of nurses and other health personnel. The study further indicates that the neurosurgical and accident centre of the hospital is under-staffed and only a few nurses are mostly on duty at the ward. This puts pressure on the nurses caring for patients with spinal cord injuries. In addition to unequal distribution of nurses at the hospital, the findings of the study also indicate that the hospital management, Ghana Health Service and Ministry of Health are under-training the number of nurses needed to manage complications such as spinal cord injuries. If agencies responsible for the distribution and allocation of nurses to health centres and wards do not take action, nurses are expected to experience more occupational related injuries and hazards due to availability of few nurses and overwhelming workload.

6.4. Summary

The study assessed the experience of nurses at the Neurosurgical and accident center of the Korle-Bu Teaching Hospital. The study interviewed nurses who were managing patients with spinal cord injuries and reported on their psychological, physical, and emotional experiences. Other issues assessed by the study include adopted strategies to managing experiences, health effects of workload and impact of their work on their social live. Results are presented according to main themes and sub-themes and results are compared with other studies previously conducted.

6.5. Conclusions

In conclusion, the study results show that nurses at the Korle-Bu Teaching Hospital experiences occupational injuries in their line of duty, especially in caring for patients with spinal cord injuries. The experience of nurses spans physical injury, verbal abuse, emotional stress, psychological stress, empathy, emotional abuse, logistical and financial challenges. Similarly, most of the nurses expressed challenges with balancing family life and professional demands.

However, in spite of the negative experiences expressed by nurses, a number of them had deep and emotional attachment to their job and their patients and were not easily distracted by their bad experiences. This notwithstanding, nurses at the neurosurgical and accident centre have adopted a number of strategies to help them manage their experiences in caring for patients with spinal cord injury such as: giving patients and relatives required information, involvement of social welfare department and task rotation of nurses.

6.6. Limitations of the study

The results of this study are limited to some extent. As a qualitative study, no causal relationship and test of association was established among nurses' experience and their health outcomes. Again, respondents' bias could have limited the study findings as information provided could not be verified through a test of association. Similarly, data collection was limited to a single hospital and therefore study findings cannot be generalized.

6.7. Recommendations

Recommendation for management and policy

1. Considering the wide experience of occupational hazards and negative experiences expressed by nurses, the management of Korle-Bu Teaching Hospital should

institute measures to minimize the experiences and health complications occurring among nurses.

2. Due to the health injuries and complications nurses are faced with, an insurance policy should be provided to cover nurses as most nurses at Korle Bu Teaching Hospital are made to foot their medical bills when faced with a health challenge in their line of work.
3. Involvement of government and workers' union in implementing programs, including health insurance for patients with spinal cord injury is recommended to lessen financial burden on nurses who contribute financially to support patients.
4. Stricter restrictions are needed to control patients' relatives who intermittently verbally and physically abuse nurses.
5. Additionally, management should take steps to recruit more nurses and provide adequate logistics for nursing practice, considering that the spinal cord ward lacks nurses and logistics to function effectively.
6. It is also recommended that hospital management should take measures to provide health coverage for nurses who experience physical and emotional injuries as a result of caring for patients with spinal cord injury.
7. The study also recommended nurse directors to organise workshops and provide monitoring of proper body application mechanism during lifting to promote safety and reduce health complications among nurses managing patient's with spinal cord injury.

Recommendation for research

1. It is important to investigate other groups like the part-time nurses and the effect on their experience with patients.

2. More in-depth qualitative and quantitative research is needed to provide solid evidence of adverse impacts of workplace injury exposure.
3. Future research should also consider extending the assessment of nurses' experience to cover other units within and outside the hospital, in order to give a broader view of workers' experience for better policy formulation.

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APPENDICES

Appendix A: Interview Guide

Data Collection Instruments

A. Demographic information

Participants label/ pseudoname……

Age of participant ……

Gender of participant……

Hospital……

Number of years worked……

Marital status of participant……

Educational level of nurse……..

Nationality ……

Language spoken by nurse……

Religious affiliation…….....

Rank of participant……

B. Interview Guide

1. Could you please tell me how you ended up here as a nurse at accident centre/neurosurgical ward of KBTH?
2. How do you feel about the clients' injury?
3. Please tell me what you do as a nurse for a person with SCI
4. Please tell me the challenges you face in providing care to a person with SCI
5. How do you cope with the challenges of managing a patient with SCI?
6. Tell me how managing such patients interferes with your social lives
7. Please tell me how managing such patients affect your general health
8. Is there any other thing you will like me to know?

Appendix B: Introductory letter to KBTH-IRB

UNIVERSITY OF GHANA
SCHOOL OF NURSING

SONM/A.12

Ref. No.:.....

November 22, 2017

The Chairman
Institutional Review Board
Korle-Bu Teaching Hospital
P.O. Box KB 77
Accra.

Dear Sir/Madam,

DEPARTMENTAL APPROVAL LETTER

This is to introduce to you Benjamin Twiri Ampah, an M.Phil student of the above School who is seeking ethical approval from your Institutional Review Board to carry out a study on **"Experiences of Nurses Managing Patients with Spinal Cord Injury at Korle Bu Teaching Hospital"**. The thesis topic was approved by the department of Adult Nursing, School of Nursing and Midwifery.

Counting on your usual co-operation.

Thank you.

Yours faithfully,

Gloria Achempim-Ansong
SUPERVISOR

COLLEGE OF HEALTH SCIENCES
P. O. Box LG 43, Legon, Accra, Ghana.
• Tel: +233 (0) 302 513 250 / 0289 531 213 • Email: son@chs.ug.edu.gh • Website: www.nursing.ug.edu.gh

Appendix C: Ethical Clearance from NMIMR

NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH
Established 1979
A Constituent of the College of Health Sciences
University of Ghana

INSTITUTIONAL REVIEW BOARD

Phone: +233-302-916438 (Direct)
+233-289-522574
Fax: +233-302-502182/513202
E-mail: nirb@noguchi.ug.edu.gh
Telex No: 2556 UGL GH

Post Office Box LG 581
Legon, Accra
Ghana

My Ref. No: DF.22
Your Ref. No:

13th November, 2017

ETHICAL CLEARANCE

FEDERALWIDE ASSURANCE FWA 00001824 **IRB 00001276**

NMIMR-IRB CPN 044/17-18 **IORG 0000908**

On 13th November, 2017, the Noguchi Memorial Institute for Medical Research (NMIMR) Institutional Review Board (IRB) at a full board meeting reviewed and approved your protocol titled:

TITLE OF PROTOCOL : **Experiences of nurses managing patients with spinal cord Injury at Korle-bu teaching hospital.**

PRINCIPAL INVESTIGATOR : **Benjamin Twiri Ampah M.Phil Cand.**

Please note that a final review report must be submitted to the Board at the completion of the study. Your research records may be audited at any time during or after the implementation.

Any modification of this research project must be submitted to the IRB for review and approval prior to implementation.

Please report all serious adverse events related to this study to NMIMR-IRB within seven days verbally and fourteen days in writing.

This certificate is valid till 12th November, 2018. You are to submit annual reports for continuing review.

Signature of Chair: .....
Mrs. Chris Dadzie
(NMIMR – IRB, Chair)

Appendix D: Consent Form

CONSENT FORM

Title: Experiences of nurses managing patients with spinal cord injury at korle-Bu Teaching Hospital.

Principal Investigator: Benjamin Twiri Ampah

Address: School of Nursing, College of Health Sciences, University of Ghana.

General Information about Research

I would like to seek information from you concerning your experiences of nurses managing patients with spinal cord injury at the Korle-Bu Teaching Hospital. The information collected will provide additional information to newly qualified nurses about the care of patients with spinal cord injury. It will also provide awareness for future support from stakeholders. I will engage you in conversation for 40-50 minutes. The conversation will be in English. There will be no right or wrong answer and therefore your experiences are considered to be unique and credible. You are expected to answer questions just as you want to. The interview will concern the challenges you go through in managing patients with spinal cord injury, the resources that aid in coping with the challenges, the effect of the care on your personal and social life and the effect of the care on your general health. You will be asked to sign a consent form before interview begins if you agree to partake in the study. The interview will be tape-recorded for academic study with your consent.

Possible Risks and Discomforts

The study will expose you to no harm. Nonetheless, if you experience any emotional upset in the course of sharing experience, the researcher will direct you to a specialist counselor for emotional support at no cost to you.

Possible Benefits

There will be no direct benefit from the study. However, the information you will provide will add on to knowledge for upcoming nurses and also to create awareness for prospective support.

Confidentiality

The interview will be audiotaped, however, you will be asked not to mention your name in the conversation during recording. Initials will be used instead of your real name. Identifiable data will be separated from non-identifiable data. The information will be locked up in a safe accessible to only the researcher and supervisor who oversees the work.

Compensation

Refreshment will be done at the end of the interview. Participants will be given mineral drink and meat pie after the interview.

Voluntary Participation and Right to Leave the Research

Participation in the study is voluntary. Your willingness or withdrawal from the study is without any consequence.

Contacts for Additional Information

Benjamin Twiri Ampah

School of Nursing, University of Ghana

Phone number: +233246194127

E-mail Address: ogazi2749@gmail.com

Mrs Gloria Achempim-Ansong

School of Nursing, University of Ghan

Phone Number: +233244753872

E-mail Address: gachempim@gmail.com

Your rights as a Participant

This research has been reviewed and approved by the Institutional Review Board of Noguchi Memorial Institute for Medical Research (NMIMR-IRB). If you have any questions about your rights as a research

participant you can contact the IRB Office between the hours of 8am-5pm through the landline 0302916438 or email addresses: nirb@noguchi.ug.edu.gh

VOLUNTEER AGREEMENT

The above document describing the benefits, risks and procedures for the research title "Experiences of nurses managing patients with spinal cord injury at Korle-Bu Teaching Hospital" has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

Date _____ Name and signature or mark of volunteer _____

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

Date _____ Name and signature of witness _____

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

Date _____ Name Signature of Person Who Obtained Consent _____

3

Appendix E: Scientific and Technical Approval from KBTH

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

My Ref. No. KBTH/MS/03/18

Your Ref. No......

KORLE BU TEACHING HOSPI
P. O. BOX KB 77,
KORLE BU, ACCRA.

Tel: +233 302 667759/673034-6
Fax: +233 302 667759
Email: Info@kbth.gov.gh
pr@kbth.gov.gh
Website: www.kbth.gov.gh

12th March, 2018

BENJAMIN TWIRI AMPAH
SCHOOL OF NURSING AND MIDWIFERY
UNIVERSITY OF GHANA.

SCIENTIFIC AND TECHNICAL COMMITTEE APPROVAL
PROTOCOL IDENTIFICATION NUMBER: **KBTH-STC 00095/2017**

The Korle Bu Teaching Hospital Scientific and Technical Committee (KBTH-STC), on 12th March, 2018 approved your submitted study protocol.

TITLE OF PROTOCOL: **"Experiences of nurses managing patients with spinal cord injury at Korle Bu Teaching Hospital"**

PRINCIPAL INVESTIGATOR: Benjamin Twiri Ampah

This approval requires that you **forward your approved document to Korle Bu Teaching Hospital – Institutional Review Board (KBTH-IRB) for the ethical aspect of the proposal to be assessed before the project can be initiated.**

This STC approval is valid till 31st October, 2018
You may, however, request extension of the approval period, or renewal as the case may be, should the study extend beyond the stated period.

Upon completion, you are required to submit a final report on the study to the STC. This is to enable the STC ensure among others that, the project has been implemented as per the approved protocol.

You are also required to inform the KBTH-STC and Research Directorate of any publications that may emanate from the research findings.

Kindly note that, should the need arise, the KBTH-STC or IRB may institute appropriate measures to satisfy itself that study is being conducted according to the highest scientific and ethical standards.

Please note that any modification to the study protocol without Scientific Technical Committee (STC) approval renders this approval invalid.

Sincere regards,

Prof. G. Obeng Adjei
Chairman, KBTH-STC

Cc: The Chairman, KBTH-IRB

Appendix F: Ethical Clearance from KBTH-IRB

MEDICAL DIRECTORATE
KORLE BU TEACHING HOSPITAL

25th April, 2018

BENJAMIN TWIRI AMPAH
SCHOOL OF NURSING AND MIDWIFERY
UNIVERSITY OF GHANA, LEGON

INSTITUTIONAL APPROVAL: KORLE BU TEACHING HOSPITAL-SCIENTIFIC AND TECHNICAL COMMITTEE/INSTITUTIONAL REVIEW BOARD (KBTH-STC/IRB/00095/2017

Following approval of your study entitled "Experience of nurses managing patients with spinal cord injury in KBTH: A study at the Korle Bu Teaching Hospital" by the Korle Bu Teaching Hospital-Scientific and Technical Committee/Institutional Review Board. I am pleased to inform you that institutional approval has been granted for the conduct of your study in Korle Bu Teaching Hospital.

Please contact the Heads of Departments to discuss the commencement date of the study.

Please note that, this institutional approval is rendered invalid if the terms of the Institutional Reviewed Board/Scientific and Technical Committee approval are violated.

Sincere regards,

Dr. Samuel Asiamah
Director of Medical Affairs
For: Chief Executive Officer

Appendix G: Letters to Heads of Neurosurgical and Accident Centre

MEDICAL DIRECTORATE
KORLE BU TEACHING HOSPITAL

25th April, 2018

LETTER OF INTRODUCTION – BENJAMIN TWIRI AMPAH
"EXPERIENCE OF NURSES MANAGING PATIENTS WITH SPINAL CORD INJUR IN KORLE TEACHING HOSPITAL"

I have the pleasure to introduce to you the above named Investigator from the School of Nursing and Midwifery, University of Ghana, Legon. Benjamin Twiri Ampah sought and has been granted approval to conduct a study entitled "Experience of nurses managing patients with spinal cord injury in Korle Bu Teaching Hospital" in your Department.

He is to contact you to discuss the commencement date of the study.

Kindly accord him the needed assistance.

Attached is the Scientific and Technical Committee and Institutional Review Board approval which specifies the terms.

Sincere regards,

Dr. Samuel Asiamah
Director of Medical Affairs
For: Chief Executive

DISTRIBUTION

THE HEAD OF ACCIDENT CENTRE, KBTH

THE HEAD OF SURGERY, KBTH

Appendix H: Demographic Characteristics of Respondents

Participant's code	Age	Gender	Educational level	Marital status	Years of service	Languages spoken	Department
RP1	58	Female	Diploma	No response	38 years	Twi, Ga and English	Accident centre
RP2	37	Female	Degree	Married	13 years	Twi, Ga and English	Accident centre
RP3	37	Female	Degree	Married	14 years	Twi, and English	Accident centre
RP4	46	Female	Degree	Married	10 years	Ga, Twi, Nzema and English	Accident centre
RP5	37	Female	Degree	Married	10 years	Twi, Ga and English	Accident centre
RP6	41	Female	Degree	Married	17 years	Twi, Ga and English	Accident centre
RP7	56	Female	Degree	Married	30 years	Ga, Twi and English	Accident centre
RP8	33	Female	Diploma	Married	7 years	Ga, Twi and English	Accident centre
RP9	52	Female	Degree	Married	28 Years	Ga, Twi and English	Neurosurgical ward
RP10	34	Female	Degree	Married	8 years	Twi, Ga and English	Neurosurgical ward
RP11	32	Female	Degree	Single	7 years	Twi, Ga and English	Neurosurgical ward
RP12	31	Female	Degree	Single	6 years	Ewe, Twi, Ga and English	Neurosurgical ward
RP13	57	Female	Degree	Married	27 years	Twi, Ga, Ewe and English	Neurosurgical ward
RP14	36	Male	Degree	Married	5 years	Twi, Ga and English	Accident centre
RP15	43	Male	Degree	Married	14 years	Twi, Guan and English	Accident centre
RP16	28	Male	Degree	Married	5 years	Kusal, Twi and English	Neurosurgical ward