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PSYCHOLOGICAL CONSEQUENCES OF SECOND VICTIMS AND COPING STRATEGIES IN GHANA

ELIZABETH ADZO TEHODA

2021

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PSYCHOLOGICAL CONSEQUENCES OF SECOND VICTIMS AND COPING STRATEGIES IN GHANA

BY

ELIZABETH ADZO TEHODA

Thesis submitted to the Department of Education and Psychology of the Faculty of Educational Foundations, College of Education Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of Master of Philosophy degree in Clinical Health Psychology

MAY 2021

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: …….. Date: …….

Name: ……..

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature: …… Date: ……..……

Name: …….

Co-Supervisor's Signature: …… Date: ……..……

Name: ……

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ABSTRACT

The study investigated healthcare providers' experiences of adverse events and the coping strategies adopted to deal with these experiences. The study employed the descriptive cross-sectional survey research design in engaging healthcare providers of two hospitals namely, the Ghana Police Hospital and the Holy Family Hospital in Greater Accra and Bono East Regions respectively. In all, 200 healthcare professionals were conveniently sampled from the total population of 423 healthcare professionals who were targeted for the study. Questionnaire was used in gathering data from respondents. Data were analysed using frequencies and percentages, means and standard deviations, multiple regression and one-way ANOVA. It came out that there was a significant relationship between level of patient adverse outcome and their psychological and physical distress. Again, the study found out that second victims used both problem and emotional focused coping mechanism to deal with the effects of adverse patients' outcomes. Social support, more particularly colleagues' support, had a significant impact on the psychological and physical distress of second victims. Finally, coping strategies (problem focused disengagement) significantly impacted the psychological and physical distress of second victims. The study concluded that following an adverse medical outcome, second victims experience both psychological and physical distress and that means of coping has impact on the wellbeing of healthcare providers involved in adverse medical errors. The management of Ghana Police Hospital and Holy Family Hospital are encouraged to provide the necessary environment and training for staff to cope with second victim syndrome.

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KEYWORDS

AE	Adverse Event
HCP	Health Care Provider/Health Care Professionals
PC	Psychological Consequences
PSI	Patient Safety Incidents:
SV	Second Victim

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DEDICATION

To my parents, Mr. and Mrs. Tehoda, my husband, Albert Deku, children, Elikem, Etornam and Edudzi Deku.

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CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

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CHAPTER ONE

INTRODUCTION

Background to the Study

The role of healthcare professionals is critical to improving access and providing quality healthcare delivery to every individual (World Health Organisation [WHO], 2006). Their every day practices lead to the promotion of health, diseases prevention as well as delivery of quality health services to people irrespective of their background. Nevertheless, the delivery of these essential services is not without flaws just like any human institution. For instance, Wilfred (2013) indicated that medical errors and patient safety incidents are inevitably part of the complex healthcare system. Taib, McIntosh, Caponecchia, and Baysari (2011) also noted that healthcare delivery system is vulnerable to varied errors. The WHO (2009) identified 13 significant healthcare practices where patient safety incidents and medical errors may occur. They include "clinical administration, clinical process/procedure, documentation, healthcare-associated infection, medication/IV fluids, blood/blood products, nutrition, oxygen/gas/vapour, medical device/equipment, behaviour, patient accidents, infrastructure/ building/fixtures and resources/organisational management".

Several studies have showed that numerous factors account for patient safety incidents, medical inaccuracies and adverse events in healthcare settings. Chaneliere, Koehler, Morlan, Berra, Colin, Dupie, and Michel (2018) found that communication error among health professionals and/or between patients, lack of attention, stress, anger, fatigue, and illegible handwritten prescriptions are the significant causes of patient safety occurrences and

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adverse occupational outcomes. A systematic appraisal of the literature revealed that factors such as high perceived workload, problems with ward-based equipment, problems with medicines supply and storage, interruptions/distractions during drug administration, and staff health status (fatigue, stress) are the major determinants of medical errors and adverse events (Keers, Williams, Cooke & Ashcroft, 2013). In Ghana, Acheampong, Tetteh and Anto (2016) recounted those probable causes of treatment mistakes relate with healthcare staff factors, patient factors, prescription, and communication problems. Majority of these factors are associated with the practices of the providers of health services.

A survey showed almost 80% of physicians in the secondary care had encountered mistakes or unfavourable events that were fatal which also made them personally or professionally affected (Miira et al., 2015; Harrison, Lawton, and Stewart, 2014). Edrees and Federico (2015) and Seys et al. (2013) pointed out that nearly 50% of the entire population of healthcare professionals commit adverse medical error once in their career. In the United States, Gazoni, Amato, Malik, and Durieux (2012) found that 84% of 1200 anaesthesiologists had experienced at least one unanticipated death or serious event in their career. Another survey in the United Kingdom, reported that 92% of practicing anaesthetists experienced an intraoperative death in their career (Gazoni, Durieux, & Wells, 2008). In Nigeria, Ogunbiyi, Eguma, and Mato (2006) revealed that 86% of anaesthetists had psychological inflictions due to involvement in medical errors.

In Ghana, anecdotal report indicated that medical malpractices are common and a huge number of people unnecessarily die every year. A greater

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percentage of patients are also injured due to medical malpractices. Sadly, there are no accurate records in Ghana on adverse medical events and for that matter a greater proportion of the Ghanaian population are ignorant as to how severe and profound the phenomenon is (Fredua-Kwarteng Ghana Web, January 7, 2006). For example, "following caesarean-section surgery, a woman complained of difficulty in swallowing and excruciating pain in her throat. The doctor mistook the symptoms for a sore throat and administered a sore throat medicine to the patient. The patient died the next day from excessive aspirating vomit". Similarly, Dr. Gabriel Benakuu, the chairman of NGOs in health, revealed that at least 50 cases of alleged medical negligence are recorded every year in Ghana (Myjoyonline.com, April 12, 2018). He cited an example of "*a tragic event at the St. Gregory Catholic Hospital in Kasoa in the Central Region, where a toddler allegedly died after a doctor pull off the oxygen mask aiding his breath because his parents could not afford to pay"*.

Globally, Auraaen Slawomirski and Klazinga (2018) showed that four of 10 patients are adversely affected or injured within a healthcare set and approximately 80% of these errors are preventable. They found out that the harmful errors are as results of wrong diagnoses, prescription and administration of medicine. Approximately, the occurrence of patient safety incidents (PSIs) or medical errors is seen in every one of seven (1/7) cases among patients in the hospitals (Classen et al., 2011). The National Academies of Sciences, Engineering, and Medicine (NASEM) (2018) opined that as many as 134 million adverse events resulting in 2.6 million deaths occurred in hospitals in developing countries. In 2013, it was reported that nearly 42.7 million adverse events occurred worldwide resulting in 23 million Disability

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Adjusted Life Years (DALYs) and two-third of these medical errors occurred in Low-middle-income-countries (LMICs) (Jha, Larizgoitia, Audera-Lopez, Prasopa-Plaizier, Waters, & Bates, 2013). According to the WHO (2019), the provision of precarious and shoddy medical treatments results in the death of millions of patients together with injuries.

Patients and their relatives suffer various physical and psychological harm due to errors that occur in the healthcare system (Pyo, Ock, & Han, 2019). These harms are as a result of therapeutic treatment and management of diseases rather than the disease itself, and potentially lead to prolonged hospitalisation, temporary or permanent disability to patients (Sarhadi, Abdollhyar, Navidian, Sheikh & Sarhadi, 2015; Vincent, 2011). The systematically conducted evaluation of the literature by de Vries, Ramrattan, Smorenburg, Gouma, and Boermeester (2008) found that medical errors may result in cases that have no fatal effects, those that may have temporal negative effects and those that leave lasting effects on patients which may include death. Likewise, Popescu, Currey and Botti (2011) showed that mistakes that are committed by health practitioners when treating patients is widespread and often leads to increased levels of death, disabilities, worsen health conditions, and prolonged stay in the hospital. Additionally, it leads to an increased level of expenses on the health facilities and the health professionals. Adams and Koch (2010) revealed that 26% of medication errors were actually serious with fatal events and affected patients severely. Anderson and Webster (2005) also reported that 38 % of Medication Administration Errors are pervasive while 42 % of them can be prevented. These findings point to the fact that

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adverse medical events are very hazardous and significantly affect the wellbeing of victims as well as their entire family.

Nonetheless, patient safety incidents or unfortunate occurrences do not affect just victims and their households alone, but the medical or nursing professionals and other stakeholders are also negatively impacted. The term *second victim* was initially coined by Wu (2000) in his description of the impact of errors on professionals. Second victims could be defined as healthcare professionals who suffer emotional or psychological difficulties and are unable to cope due to involvement in patient safety incidents (PSI), medical errors or adverse events (Seys et al. 2013; Stewart, Lawton, & Harrison, 2015). Several studies have noted the existence of three different phases of damage that are associated with medical errors or unfavourable occurrences resulting from medical treatments. First, the individual patient and family affected by a medical error are referred to as the *first victims*. Secondly, the healthcare practitioners who are directly linked with the occurrence of an unfortunate event which was not anticipated in the course of providing treatment to patients, and are consequently impacted negatively by such happenings are called the *second victims*. The next phase of the damage concerns with the effect of the fatal medical occurrence on the organisation or entity in which such a happening occurred, and this is called *the third victim* (Scott & McCoig, 2016; Wu, 2000; Wu & Steckelberg, 2012). Additionally, Mayo and Duncan (2004) revealed that medical errors have direct and indirect consequences to the healthcare system. The direct consequences result in patients harm and an increased health cost, on other hand, the indirect includes

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harm to healthcare professionals with respect to their personal identity, expertise and self-esteem.

Second victims have two different experiences following a medical error or unfortunate treatment instance (Wu, 2012). Initially, they experience intense surprise or astonishment which are usually accompanied by continuous episodes of thinking, sleep disturbances, irritability, lack of concentration, and the feeling of guilt, shame, anger. This may last for days or weeks. If these symptoms are not properly dealt with, healthcare workers may progress to the second stage, thus, developing post-traumatic stress disorder. Significant psychological and emotional disturbances experienced by second victims include anxiety, depression and sleep disturbance, Fear and worry which are consistently reported by those involved in adverse events, as well as shame, guilt, loss of self-confidence, and feelings of incompetence and worthlessness (Scott et al., 2009; West, 2006, Wu, 2000). Recent studies have reported that second victims are frequently anxious, fearful, guilty, distressed, frustrated, angry and feel unsatisfied. They are more likely to be exhausted with work and may often consider quitting their jobs (Chan, Khong, & Wang, 2017; Han, 2017; Van Gerven et al., 2016). Robertson and Perry (2010) also found that individuals in the health profession are likely to develop post-traumatic stress disorder (PTSD) after PSI. Another study found out that medical errors, if not handled appropriately, may impact the career of healthcare providers (Wears & Wu, 2002).

Several studies have found out that healthcare providers who are directly or indirectly involved in an adverse event mostly experience psychological effects that disrupt their professional and personal lives, as well

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as their ability to deliver high-quality, safe care (Schwappach, & Boluarte, 2009; Sirriyeh, Lawton, Gardner, & Armitage, 2010; Wu, & Steckelberg, 2012). In the event of adverse events, healthcare providers may loss self-confidence, fear litigation, have their reputation damaged, and suffer guilt, anger and fear (Seys et al., 2013; Decker, 2013). Wears and Wu (2002) found that medical errors, if not handled appropriately, may impact the career of healthcare providers. Conway, Federico, Stewart, and Campbell (2011) reported that adverse events destroy the good name of healthcare providers and lessen the hope patients and colleagues have in healthcare providers. The extent of second victim experiences is largely dependent on the severity of harm caused to patients and the investigation process that an institution may use to evaluate the adverse event (Harrison, Lawton, Perlo, Gardner, Armitage, & Shapiro, 2015). According to Coughlan, Powell and Higgins (2017) the psychological effects of adverse patient events depends on the individual, situational and the organisation dispensation and adversely impact the personal and professional functioning of second victims.

Factors such as negative colleague reaction, nonexistence of support from institutions may serve as a hindrance or impediment to how second victims cope after an adverse event and thus their dignity and professional reputation are affected. Second victims may also refrain from discussing their mistake with colleagues. According to Harrison et al. (2015) second victims mostly preferred helping themselves to recover than to use institutional support services. Chan, Khong, Pei Lin Tan, He, and Wang (2017) agrees with this assertion and further stated that because second victims are not familiar with the support staff and may doubt their usefulness, they may opt to use

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personal resources to cope. Another coping strategy used by second victims is learning lessons that safeguard future mistakes. Plews-Ogan, et al. (2016) indicated that such teachings obtained are mainly due to the psychological disturbances evoked by the error. May and Plews-Ogan (2012) regarded this as an important means of managing the phenomenon since trying to render the effect of the phenomenon meaningless enhances faster recovery from the syndrome itself. Additional coping strategies adopted after an adverse event include voidance (2012., 2018), social support, especially having positive interactive sessions with loved ones and fellow colleagues would offer them significant sustenance both emotionally and informationally (Mankaka, Waeber, & Gachoud, 2014), spirituality and religiosity (Krok, 2014).

Second victims have enormous challenges accessing support after an adverse event, health professionals therefore suffer in silence (Scott, 2015; Pinto, Faiz, Bicknell, & Vincent, 2013; Goldberg, Kuhn, Andrew, & Thomas, 2002). The inability to provide healthcare professionals with the needed emotional backing after experiencing medical errors could potentially have detrimental effect on the quality of care given to patients as well as the entire health service framework. Some studies found that involvement in medical errors makes healthcare professionals extremely careful in patients' care, leading to the elimination of certain required processes or inadequate care to patients, and may also leave the profession earlier than they would (Scott, 2015; Seys et., 2013; Waterman et al., 2007). To be guaranteed that patients are given an improved quality of care and structure programmes that would offer adequate sustenance or backing to healthcare providers subsequent to adverse events or mistakes, there is the necessity to appreciate how adverse

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events affect healthcare providers and their coping strategies. This study aims to explore these experiences among healthcare professionals in Ghana.

Statement of the Problem

Adverse events and medical errors remain a challenge to the healthcare system (Chan et al., 2018). Again, globally, attempts that aim at improving the healthcare system have substantially concentrated mainly on the treatment and caring for ailments responsible for high mortalities and disabilities (Jha et al., 2013). Although these efforts have proven to be important, it only provides a partial solution to the global aim of an improved healthcare system. For instance, Mills, Brugha, Hanson, and McPake (2002) argued that an unsafe medical care where patients' life and health are constantly impaired have both direct and indirectly consequences on the healthcare system and institutions.

Several studies have found a significant repercussion of unfavourable medical events or actions on patients and their family. Such harm on patients results in physical, psychological, prolonged hospital stay, temporary or permanent disability to patients, and even cause the death of some patients (Pyo, Ock, & Han, 2019; Sarhadi, Abdollhyar, Navidian, Sheikh & Sarhadi, 2015; Vincent, 2011; Vries, Ramrattan, Smorenburg, Gouma, and Boermeester, 2008). Thomas and Petersen (2003) emphasised that the detrimental repercussion of hostile medical outcomes on first victims can cause them to lose confidence in the healthcare system. The World Health Organisation (2019) report on patient safety indicated that around the world, millions of patients are severely injured or die due to an unsafe medical practice and sub-standard healthcare. As high as 134 million adverse events and patient safety incidents occur annually resulting in 2.6 million deaths of

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patients accessing the healthcare in the low-and middle-income countries (LMICs) (NASEM, 2018). These findings suggest that a greater proportion of health care practitioners are predisposed to experiencing or committing a medical error during the period of their career. Sadly, the extent to which unanticipated medical errors that health workers commit is problematic as they receive medical treatments from various health centres especially in LMICs such as Ghana, has received less research attention.

In an event of an adverse event, most healthcare organisations have laid down plans that support affected patients and their families with counselling, yet the experiences and how adverse events impact healthcare providers involved are occasionally overlooked (Pinto, Faiz, Bicknell, & Vincent, 2013; Goldberg, Kuhn, Andrew, & Thomas, 2002). In the view of Scott et al. (2010), second victims have endured the pain of not being provided with the needed support in the midst of situations that increase their levels of anxiety and stress from time immemorial. Scott (2015) acknowledged the fact that second victims are faced with the challenge of receiving the required assistance or backing after adverse events and are mostly unaware of the place in an institution where such support can be accessed. Nevertheless, healthcare providers suffer prolonged psychological distress, after a serious medical incident. Ullström, Sachs, Hansson, Øvretveit, and Brommels, (2014) found that one out of four second victims received institutional support after a medical error.

Healthcare professionals develop serious mental health issues for healthcare providers when the situation was not properly dealt with (Edrees, Paine, Feroli, & Wu, 2011; Schelbred & Nord, 2007). Some studies indicated

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that second victims are frequently anxious, fearful, guilty, distressed frustrated, angry and feel unsatisfied. They are more prone to be exhausted with work and may often consider quitting their jobs (Chan, Khong, & Wang, 2017; Han, 2017; Van Gerven et al., 2016). Adverse events engulf second victims such that their expert and personal lives become affected, and they may move to a different health sector or at worst desert the job entirely (Scott, 2015; Seys et., 2013).

In Ghana, the health care system is plaqued with several inadequacies that thwart good quality health delivery (Escribano-Ferrer, Cluzeau, Cutler, Akufo, & Chalkidou, 2016). It is therefore not surprising that Otchi, Bannerman, Lartey, Amoo and Odame (2018) found that unanticipated medical errors are prevalent in Ghana's health settings. Review of literature showed that the trend of studies conducted in Ghana have predominantly focused on the impact and experiences of adverse events on patients, adverse drug reactions, health quality delivery, and patients' satisfaction (Akologo, Abuosi, & Anaba, 2019; Owusu-Ofori, Owusu-Ofori, & Bates, 2017; Owusu-Ofori, Owusu-Ofori, Parry, & Bates, 2013). The psychological experiences of these health care practitioners after their involvement in medical errors (second victims) is relatively scarce. The notable amount of investigations regarding second victims are predominant in developed nations (Chan et al., 2017), hence, creating a wide vacuum in literature as studies in the African nations remain insufficient. To minimise the consequences of adverse events and thus strengthen the healthcare system in Ghana, understanding the effects of patients' adverse medical errors on healthcare professionals involved is essential (Badruddin, Gul, Dias, PirMuhammad, & Roshan, 2018). Lee, Pyo,

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Jang, Choi, and Ock, (2019) reported that the provision of support for second victims is largely dependent on an assessment of the instances or characteristics of the situation at hand and the indications of the victim's experience as well as the assistance they need. Moreover, a thorough inquiry into coping strategies of second victims is warranted. This study therefore explored the psychological experiences of second victims in Ghana and the type of coping strategies adopted.

Purpose of the Study

The main purpose of this study was to investigate healthcare providers' experiences of adverse events and the coping strategies adopted to deal with these experiences.

Aims and Objectives of the Study

Specifically, the study sought to:

1. determine how adverse patient outcome relates to the psychological and physical distress of second victims.
2. identify the coping strategies health care providers as second victims engage in following an adverse event
3. explore the extent to which the forms of support relate to the psychological and physical distress of second victims
4. explore the extent to which coping strategies relate to the psychological and physical distress of second victims

Research Questions

The study was guided by the following research questions:

1. How does the level of adverse patient outcome relate to the psychological and physical distress of second victims?

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2. What coping strategies do health care providers as second victims engage in following an adverse event?
3. How does the forms of support relate to the psychological and physical distress of second victims?
4. How does the forms of coping strategies relate to the psychological and physical distress of second victims?

Significance of the Study

The findings of this study would provide the Ministry of Health, Ghana Health Service, the public and stakeholders an understanding of the experiences of adverse events among healthcare providers. This will guide the enactment of future policies and programmes that seek to address these issues.

The findings of this study would help identify efficient strategies and systems of support needed in mitigating likely unfavourable repercussions of adverse medical errors on both healthcare providers and institutions. Moreover, the study would direct the formulation and implementation of policies that could be adopted by institutions to swiftly respond to adverse medical errors in the health system as and when they occur.

The public may also benefit from the study by understanding the dangers that adverse events have on healthcare providers and their coping strategies adopted. This would perhaps reduce the misconceptions associated with healthcare providers' involvement in adverse events. The study would also add to existing literature on the psychological consequences of second victims and the coping strategies adopted and further serve the intent of guiding prospective scholars who will be interested in this area of study.

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Delimitations

The study was delimited to health care providers in the Police Hospital and the Holy Family Hospital located in Accra and Techiman respectively. They were healthcare providers who were directly involved in patients care and with clinical experience of not less than six months. Individuals who worked in the hospital but are not regarded as healthcare practitioners or experts (e.g., security personnel, housekeepers, administrators, cooks, cleaners, laundry attendants and allied health workers) were exempted. It was also delimited to healthcare providers with professional experience of more than six months. The study also focussed on second victim's psychological experiences and coping strategies adopted aftermath an adverse event.

Limitations

In the present study, the impact of adverse events on patients and their families who are referred to as 'first victims' were not considered.

In addition, questionnaire as a means of data collection may result in single-source bias. Additionally, the self-report nature of data collection was also subject to multiple recall biases from participants. To mitigate the effect of these limitations on the study, a discussion was held with participants to educate them on the importance of the study and why their candid response is needed.

Lastly, the COVID-19 also impacted data collection because most participants were unavailable. This challenge was curbed by contacting majority of participants based on their convenient time.

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Operational Definition of Key Terms

Second Victim: A health care provider who eventually becomes victimised by experiencing trauma after getting involved in an unforeseen adverse patient event, medical error and/or a patient-related harm or damage.

Health Care Provider/Health Care Professionals: An individual who has acquired the needed skills and training and is recognised by law to provide health related services to patients in a health care setting.

Psychological Consequences: The experiences of psychological distress after involvement in an adverse event.

Adverse Event: An event that results in unintended harm to the patient, and is related to the care and/or services provided to the patient.

Patient Safety Incidents: An event that could have resulted or caused unnecessary harm to a patient.

Organisation of the Study

The study has been structured in five chapters. The first chapter gives insight into the background of the study, the problem statement, reasons for undertaking this research, objectives and related questions, significance of the study, delimitations and limitations, definition of some terms used and how the research is structured. Chapter Two focused on relevant literature related to the concept of second victim experiences and coping strategies adopted by healthcare providers. The conceptual framework, theoretical frameworks, and empirical review of the study were also be discussed in this chapter.

Chapter Three described the research methodology used, thus the research design, the population, sample and sampling procedures for the study, as well as the research instrument, pilot-testing procedure, procedures in

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collecting and analysing data. Chapter Four presented the research results and discussion of the findings in line with the reviewed literature. Lastly, Chapter Five summarised the study, provides relevant conclusions and recommendations based on the research findings.

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CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter presents the review of literature relevant to the present study. The concepts second victim, psychological consequences and coping strategies are discussed. The theoretical framework that governs the study, as well as empirical review of related studies are also discussed. A summary of the reviewed literature is also provided.

Conceptual Review

Second Victim Experiences

In the words of Burlison et al. (2017), second victim refers to *"Health care provider involved in an unanticipated adverse patient event, medical error and/or patient-related injury who become victimised in the sense that the provider is traumatised by the event"*. The fallible nature of man and technology usually leads to fatal accidents in the lives of human. These accidents and unexpected outcomes that result from both human and technology failure have been a canker within the medical system. Over the years, medical errors have caused the lives of many and as pointed out by Ozeke et al. (2019), mistakes caused while delivering medical services is the third highest cause of mortality and this poses a greater concern to public health. Caregivers in their quest to save lives sometimes make errors and this leads to fatal accidents and deaths which create emotional and psychological stress on caregivers. Burlison et al. (2017) posited that often, second victims feel they have failed and sometimes end up questioning their knowledge and skills.

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According to Krzan et al. (2015), though second victim experience is usually linked with medication errors, there exist several other scenarios that have an adverse emotional effect on medical professionals and such cases can cause second victim experiences. For instance, medical professionals who have been involved in several trauma incidences that result in negative outcomes turns to have such second victim experiences however, these medical professionals are pushed to cope with such situations and attend to the next patient (Krzan et al., 2015).

According to Wu (2000), there exist many errors within medical routines as well as existing practices and this goes a long way to set up an innocent physician or a caregiver and patient for a tragedy. Though patients are at the receiving end of such tragedies as a result of these existing errors however, medical practitioners have their own share of wounds they experience in such situations. For instance, Vincent (2003) espoused those reactions from patients as well as the family and reaction from other colleagues, supportive or critical has an impact on the physician involved after any medical error especially in cases where the error has severe adverse effects on the patients involved. In such cases physicians who are self-critical go through several emotional and psychological pains.

The truth is, every medical practitioner knows this feeling, and they wrestle about the next action to take whether to tell a colleague and even what to tell the patients as well. Vincent (2003) rightly put it, every medical practitioner knows they have to confess after encountering such mistakes but is alarmed by the possible punishment and the patient's fury. Denham (2007) believes that medical practitioners such as nurses, pharmacists and other

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healthcare practitioners are prone to errors and based on the hospital hierarchy they find it a daunting task to properly deal with their mistakes and are often forced to remain silent as they go about their duty. This makes them Victims as well.

In all, second victim experience is the several emotional and physical burden faced by medical practitioners who in their quest to save lives end up making errors or witness errors which affect the lives of their patients. The experiences are sometimes hard to bear but they are forced to keep mute and muster the courage to return to their normal duties causing more damages to their lives as well. According to the World Health Organisation, medical error refers to any adverse effect of medical care that is preventable and encompasses inaccurate diagnosis or insufficient medical analysis, inaccurately treating a particular ailment, damage or wound, behaviour, disorder or any other contamination (Almoajel, 2016). Almoajel further postulated that medical error also occurs when medical practitioners employ inappropriate care method in delivering their services. The following are some causes of medical errors made that lead to second victim experience among health practitioners as stated by Vincent (2013):

1. Negligence on the part of regulators on matters of safety.
2. Heavy workloads causing fatigue
3. Limited access to essential equipment
4. The reluctance of junior staff in seeking support or assistance
5. Language barriers between patients and health providers

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Psychological Consequences

According to Burlison et al. (2017), witnessing a damage caused to a patient is difficult however, it is an expected experience for any medical practitioner. The damage and shock of any medical error caused to a patient in one way or the other affect the well-being of a medical practitioner. Vincent (2003) also recognises that the repercussions of any adverse event within the medical space has an even greater consequence on the medical practitioner involved especially in cases when the Practitioner is seen as responsible for the situation. In such situations, medical practitioners become weary, feel guilty, go through depression and in the absence of any support system make them abandon direct patient contact after questioning their own skills.

Some medical practitioners have explained that second victim experience has almost similar signs and symptoms just like acute stress disorder (Waterman et al., 2007; Wu & Steckelberg, 2012; Ozeke et al., 2019) and they further believe that medical practitioners who have such experiences should be given psychological emergency care. It is known that medical professionals with second victim experiences depending on the gravity of the error are afflicted with lasting effects which are likened to PTSD. Van et al. (2016) submitted that psychological effect of the second victim syndrome is enormous provided the extent of the damage caused to the victim is profound and in situations where medical practitioners have the impression that they caused the said mishap.

Chan et al. (2017) opined those adverse effects have great impact on individuals which lead to great emotional responses however, there are also some psychological responses pointed out in some scholarly writings and they

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include fear, frustration, guilt, anger, fret, anxiety and having a weird feeling of unsatisfactory life. By extension, second class victim experiences create such psychological responses from medical professionals.

Coping Strategies among Second Victims after an Adverse Events

Medical professionals in their line of duty make errors of which some are severe and life threatening to patients. Usually, the patients are the ones we often sympathise with and forget the repercussions a medical professional involved in the incidence faces. Van Gerven et al. (2016) espoused that experiencing the second victim condition have psychological effects on medical professionals and this sometimes goes a long way to influence their decisions on their work. According to Orzechowska et al. (2013), stressful life experiences and coping with them may expose an individual to several mood disorders and this in turn causes other severe stress. Orzechowska et al. further posit that the gravity of an error caused has a bearing on how second victims cope. "Near miss" or "close calls" are those situations where there could have been adverse effects on the lives of patients but did not and adverse effect are those that cause huge damage to the patient and all these situations shape the extent of the stress second victims go through and how they cope with them (Harrison et al., 2015).

Coping as defined by Jan et al. (2017) is an individual's conscious effort dedicated to deal with or solve personal or interpersonal difficulties. Thus, an individual dedicated and invested effort to tackle a personal problem. There are two major methods of coping and they are: problem-focused method of coping and emotion focused and any of them has a unique way of solving an issue at hand.

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Problem-focused Method of Coping

Problem focused method is a type of coping method where an individual adopts strategies to solve or tackle any stressful situation at hand. Here, the individual undertakes conscious effort to change the stressful situation by adopting practical solutions to tackle the problem (Lazarus & Folkman, 1984; Orzechowska et al., 2013). In an article published by Saul McLeod on stress management, the writer pointed out that problem focused strategies are directed to either reduce or totally remove the problem and some of these strategies include, solving the problem, time management and accessing social support.

Problem focused approach does not work in every situation especially in situations where the individual facing the problem cannot completely solve the main source of the stress, rather, problem-focused method works best when the individual has control over the source of the stress. With problem focused method of copying, health professionals with second victim experience find ways to cope with the problem at hand by adopting strategies to lesser or deal with the stress they face. Since they cannot control the source of the stress, they try as much as possible to cope by adopting strategies to lower the stress.

Emotion-focused Method of Coping

Emotion-focused coping deals with effort aimed at managing emotional distress that is linked with the situation (Lazarus & Folkman, 1984; Orzechowska et al., 2013). Here, an individual attempts to lessen the undesirable emotional reactions related to the stressful events. Such negative responses include but not limited to fear, depression, embarrassment, loss of

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self-confidence. This type of coping mechanism is only effective at an instance where the individual does not have the capacity to exercise total control over the stressful event. Emotion focused method of coping are either positive or negative. Examples of positive emotion focused approach of coping are writing or talking about the emotions an individual is going through and this can be done through therapies, meditation among others. On the other hand, negative emotion focused approach include avoidance, drug use, alcohol use just to avoid the emotion. Negative emotion focused approaches are not helpful in the long run.

According to Esia-Donkoh et al. (2011), problem focused approach of coping dominates when a person believes that practical actions can be taking to curb the solution at hand but Emotion focussed approach dominate when an individual feels nothing can be done and the only alternative left is to endure. This explains why the Joint Commission believes that second victims usually do not seek any support but rather suffers in silence. It should be noted that most people can only cope with short time stress and the effectiveness of any copying mechanisms used largely rests on the situations they are used to. In all, individuals including clinicians vary in terms of copying when they encounter error at the work place (Jan et al., 2017).

Stages of Recovery

Based on a study by Scott et al. (2009), it was evident that every medical personnel have a unique way of coping with second victim experience however, Scott et al. (2009) added that their recovery processes are similar. The six recovery processes pointed out by Scott et al. (2009) are: chaos and

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accident response, intrusive reflections, restoring personal integrity, enduring the inquisition, obtaining emotional first aid and obtaining emotional first aid.

Chaos and accident response

This is the first stage of the recovery process and it starts just after the unexpected error has happened. The clinician is believed to go through several emotions. Here, the clinician becomes confuse and uncertain and begins to probe into what has just happened. Though realising that a great error has occurred and going through both internal and external chaos, the clinician tries to find solutions to the error. All effort to stabilise the patient is done and then the clinician sees the gravity of the error caused.

Intrusive reflections

Replays of the incidence is repeated in the memory of the clinician at this stage. The clinicians try to understand and know what exactly went wrong for the error to occur mentally. Many clinicians isolate themselves from other colleagues and continue to probe several questions on how and what has happened. Medical personnel faced with such errors begin to question their clinical or medical skills at this stage.

Restoring personal integrity

Doubt on the future of their career weighs them in this stage. They always feel people or other colleagues are gossiping about them regarding their clinical skills. They then try to confide in people they trust much. Such individuals can be colleagues, friends, family, members, and religious leaders among others. At this stage too, many clinicians don't know the exact person to confide in.

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Enduring the inquisition

At this stage, the fear of losing one's job, ceasing of licence to operate and other fear of the unknown grips the clinician. Here, there is a realisation that there will be an inquiry or investigation into the error caused and fear of the outcome of those investigation grips the clinician at this stage.

Obtaining emotional first aid

Here, the clinicians seek emotional support from colleagues or any other person they trust. Most second victims at this stage don't know the exact person to turn to. This is so because the second victim may be contemplating whether or not to seek for the assistance from such people.

Moving on—dropping out, surviving or thriving

The final recovery process is the moving on stage. At this stage, second victims admit the error that has occurred and tries to move on in life. At this stage, there are three possible paths that are usually chosen by second victims. They are dropping out of the work or careers, surviving by admitting that errors do occur and find ways to work but still leave with the errors made in memory and the last option is thriving. Clinicians who thrive accept the error and admit that it has been a learning opportunity and grow through it.

According to Van et al. (2016), research proves that coping and recovery from second victim experiences do not just happen in a vacuum rather factors such as situational, individual and organisational factors have a bearing on how coping and recovery processes. Situational factors entail the clinicians' sense of responsibility for the error that has happened. Organisational factors include how institutions will react towards the incident. The existence of support team among other organisational culture has a great

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impact on how a second victim copes and recovers from such experiences. Lastly, Individuals personal coping strategies have a much bigger role. Personal resources that can help an individual mitigate such experiences are vital in coping and recovering from second victim experiences.

Theoretical Framework

Transactional Stress Theory (Larazus & Folkman, 1984)

One of the theoretical underpinnings of this project is the Transactional Stress Theory (TST) propounded by Lazarus and Folkman (1984). Lazarus and Folkman's TST has been applied in broader terms in stress, burden, and coping research. The TST posits that individuals and their immediate surroundings interact and this interaction is done in a unique way. The Transactional model of stress emphasises that stress happens when an individual is faced with environmental demands; and it also suggests that the capability of an individual to effectively manage those stressful demands largely rests on the individuals' cognitive appraisal (Kim, 2017). Here, stress occurs when the interaction between an individual and the environment threatens the individuals' coping resources and burdens his or her physical and psychological well-being.

Velichkovsky (2009) also opines that the main tenets of the transactional model are that stress goes through series of phases. The first stage as identified by Velichkovsky (2009, p. 543) is the "antecedents of the stress process": they involve the individual's personality, the environmental factors and the stressors. The second phase is the cognitive appraisal phase and when the condition at hand as well as the capability of the individual to effectively manage the stressor are appraised, the third phase start. At this

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phase, several coping processes are employed and this encompasses the actual response to the stressor. The fourth phase is the stress outcomes. When faced with a stressor, an individual interprets the demands of the condition at hand and if these interpretations exceed their capability of managing those burdens, they will then give stress response. When threat lurks, an individual will have major and minor evaluations of the impending danger. The transactional model of stress posits three forms of cognitive appraisal namely; primary appraisal, secondary appraisal, and reappraisal (Lazarus & Folkman, 1984; Kim, 2017).

Primary appraisal occurs when the individual appraises the stressor and see it as destructive, threatening, or an impediment (Lazarus & Folkman, 1984). According to Velichkovsky (2009), primary appraisal basically assesses how dreadful a stressor is. Primary appraisal is one's assessment of an event which poses as a threat. At the primary appraisal level, the person focuses largely on the gravity of the stressor (Matthieu & Ivanoff, 2006). On the other hand, the authors further claimed that secondary appraisal is the individuals' evaluation and judgement on whether or not he/she has the ability to control the stressor. This judgement according to Matthieu and Ivanoff is subjective: Which means it solely lies on the individual's judgement on the resources at hand to control the stressor. The individual critically assesses the resources available in managing the stressor. Likewise, Lazarus and Folkman stressed that the individual manages with the strain by indulging in mental and behavioural determinations in controlling the physical and emotional strains that exceed their coping ability.

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The more dreadful a person perceives the stressor; the more unfavourable the response. According to Lazarus and Folkman (1984) as cited by Kim (2017), previous experiences of an individual have a major responsibility in the appraisal procedure and as such these appraisal processes are not conscious. According to Kim, reappraisal can be done if the individual facing a threat is exposed to new information based on an outcome of initial cognitive appraisal; a threat appraisal can be reappraised as irrelevant or it can be reappraised as an obstruction. The transactional model of stress is pivotal in explaining second victim experiences. This is due to the fact that, second victims go through several appraisals in order to cope with the situation they find themselves in. The transactional model reveals that in such situations, second victims will first evaluate the situation at hand which is known as the primary appraisal. Secondly, second victims will assess all the resources at hand that will be needed in managing the stressor and this phase is known as the secondary appraisal. The transaction model further postulates that after the outcome of all the assessment made by a second victim, a third phase known as the reappraisal is undertaken to classify these stressors as relevant or irrelevant and this is likely to cause depression and other health problems.

Depression and other psychological problems associated with second victim experience usually threaten the life or career of medical professionals. The absence of any support system and the conviction that the error created has caused severe harm to the patient drives many second victims to much emotional and psychological stress. As stated by Lazarus and Folkman (1984), psychological stress occurs when the individual encounters specific situations

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that are determined to be demanding beyond the individual's resources thereby creating a risk to the person's physical, mental, or emotional well-being.

Critical Incident Stress Debriefing Model (Jeffrey T. Mitchell, 1974)

Jeffrey T. Mitchell is known as the putative founder of this theory. His work on Critical Incident Stress Debriefing (CISD) has over the years been used by several scholars and practitioners to help individuals facing traumatic experiences. CISD is an aspect of the several crisis mediation methods which are all categorised under Critical Incident Stress Management (CISM) programme. In an instance where a person faces a distressing experience, it is believed that the individual reacts emotionally and this respond have the tendency to affect how the individual functions either at the place of incidence or later in life (Barboza, 2009). In such situations, the individual facing the traumatic condition may be suffering from PTSD and psychological debriefing can be one of the few weapons to manage such experiences just when the traumatic event has occurred.

Mitchell (1974) pointed out that Critical Incident Stress Debriefing should never be used as psychotherapy and its practice should not usurp psychotherapy. Rather, the author believes that that Critical Incident Stress Debriefing should be used to provide support and offer crisis intended discussion when a traumatic experience occurs. In the nutshell, Critical Incident Stress Debriefing should be seen as psycho-educational small-group practice. Barboza (2009) opine that right after traumatic incidence occurs, some individuals experience Acute Stress Disorder (ASD), many individuals also experience PTSD, or sometimes both. In light of this, one of the effective mental health interventions given to individuals' right after facing any

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traumatic situation is CISD. According to Barboza, as a typical crisis management technique, CISD serves as an intervention for providing support to victims to curb and prevent post-traumatic psychopathology.

Mitchell (1974) basically developed the theory to provide an avenue for victims where they will be able to share their pain without fearing that others will be judgemental. The Critical Incident Stress Debriefing was meant to be a safe haven for all victims. They are open and safe and this is crucial to the recovery processes of every victim. By extension, the presence of any supportive colleagues at the workplace where workers aren't judgemental will provide an avenue of all second victims to express themselves in simple and plain words without the fear of losing their jobs or others judging them based on the error that has occurred.

CISD was designed to help in unforeseen situation by providing an opportunity for employees and by extension second victims to process the outcome of the event and reflect on its impact which are all geared towards lessening the trauma and it is usually undertaking at the place of the event. The structure of the Critical Incidence Stress Debriefing follows seven stages. Participants are encouraged not to speak especially on phone to another person however; they are required to open up with the major happenings in the course of the incidence (Mitchell & Everly,1997; p4, p5). Below are the major stages of the CISD processes:

1. **Introduction Stage:** This stage is the first stage of the Critical Incidence Stress Debriefing. It begins with an introduction of a CISD team who are mandated to restore victims back into their normal lives. At this stage, second victims are arranged to meet a CISD team who

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keeps their work confidential and find ways to restore the lives of second victims. The main objectives as well as the expectations are set before the team and the victim at this stage.

2. **Fact Stage:** This phase of critical incidence stress debriefing permits the victim to voice out from their own opinion the occurrence that led to the accident. The victim is allowed to describe the traumatic incidence that has occurred which helps in understanding the Thought stage of the debriefing process.
3. **Thought Stage:** The thought stage gives victims the opportunity to recollect the entire experiences and this helps to change the emotional reactions.
4. **Reaction Stage:** The Reaction Stage helps point out clearly the most traumatic part of the incidence to the victim and helps identify any emotional reaction from the victim. Though not intended, this stage probes emotional reactions of the victim. This stage doesn't call for emotional behaviour, rather it helps in discussing the behaviour to aid recovery. The victim is permitted to vent any feelings he/she has towards the incidence. Venting thought and emotions assist in reduction of stress.
5. **Symptom Stage:** The symptom stage calls for members within the CISD team to define all stress symptoms observed. Identifying these symptoms of distress are one in three phases. The first phase of the symptom stage is assessing those symptoms felt during the accident. The second phase of this stage is assessing the feelings experienced

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after three to five days of the incidence. The last stage of the symptom stage is the symptoms experienced after the debriefing stage.

6. **Teaching Stage:** This phase of the Critical Incidence Stress Debriefing seeks to provide strategies to help reduce stress of the victim. The CISD team bring together ideas geared towards managing grief, improve communication and also suggest ways to help the individual to de-stress.
7. **Re-entry Stage:** At the re-entry stage personnel ask many questions and whatever question they deem fit. The CISD team conclude their processes here. Those who need further assistance are given and people are given to counselling units at this stage. At this stage, the CISD team concludes the whole process.

The Critical Incident Stress Debriefing Model was carefully selected to help understand how caregivers support second victims. The Critical Incident Stress Debriefing Model has unique and simple stages through which caregivers are able to provide effective assistance to help second victims cope in the face of adverse events.

Jean Watson's Theory of Transpersonal Human Caring

The theory of human caring popularly known in literature as Watson's Caring Theory was advocated by Jean Watson in 2008. Watson's Philosophy and Science of Caring mainly concerns itself on "human and nursing paradigm" (Fawcett, as cited in Yeter, 2015). Watson's Theory of Transpersonal Human Caring stresses on the human aspects of nursing they entwine with scientific knowledge and general nursing activities. The theory posits that a human being cannot be healed just like an object. The theory sees

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human as part of the self, the environment the individual finds him/herself and the entire universe. The environment through the lens of this theory is seen as beautiful, peaceful and comfortable. The Theory also posits that caring is morally perfect as it encompasses one's mind, body and soul commitment with each other.

According to Watson (2008), Caring is pivotal to nursing practice. Watson through her works on human caring interventions created and translated the work into the Caritas Processes. The ten carative factors pointed out by Watson are:

1. Formation of humanistic-altruistic value system,
2. Encouraging faith-hope,
3. Encouraging sensitivity to self and others
4. Development of helping-trusting relationship,
5. Expressing feelings,
6. Creative problem solving in every decision making
7. Promotion of transpersonal teaching/learning,
8. Promotion of assistive atmosphere,
9. Ensuring fulfilment of human desires
10. Permitting existential-phenomenological spiritual forces.

The planned or deliberate connection between individuals stems from the transpersonal caring relationship that exists between them. The period of care occurs at the moment a nurse starts interacting with another person. In offering a hand to patients, caring-healing activities or practices encompasses all communicative means that the nursing officer employs in attending to patients. The main emphasis of caritas for nurses and all health providers

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includes carving a path or way in practicing nursing to pause and reflect one's activity before taking further steps.

Watson's (2008) caritas procedures helps in restoring love, having empathy and being sensitive to whiles practicing nursing and this helps create meaningful services towards humanity. The theory's major underpinnings embody 10 carative elements, the transpersonal caring connection, the caring moment as well as the caring-healing modalities.

According to Watson (2008), showing loving kindness and calmness in the midst of stress means practicing loving-kindness toward oneself, patients, families and colleague nurses. Watson proposes that nurses and all health providers should be focused on the task at hand and remain calm, they should not in any way be swayed by distractions because it can lead to adverse events in one's quest to attend to patients. Watson (2008) advocates that all nurses before starting their duty must 'centre' themselves first. Here Watson calls for activities such as washing of hands, taking slow deep breaths or having full concentration on one's breath. Centring according to Watson heals the mind of earlier patients care activities and this helps the nurse to prepare for the new patient. In summary, centring helps bring calmness to nurses in their practices.

Watson's (2008) Caritas Model helps improve the practice of nursing for nurses themselves, patients, families and the entire health facility. An eagle-view through health care facilities will show that nurses who find themselves in an environment where they are cared for enhance their fulfilment with their job and they are less likely to desert their job. According to Nelms, Jones and Treiber (2011), Watson's Caritas centres on how nurses should pause and reflect on their activities and themselves before attending to

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a new patient. Watson's Theory of Transpersonal Human Caring helps nurses to come together to achieve a common objective.

The Watson's (2008) theory of Transpersonal Human Caring was carefully selected to help understand how health practitioners can pause and reflect on every activity undertaking in the course of the duties to prevent adverse effect. Moreover, this theory helps second victims to feel accepted. Second victim experience makes health providers feel lonely and abandoned however, the Theory of Transpersonal Human Caring provides second victims the support from other colleagues and the entire health system.

Empirical Review of Related Studies

Psychological Distress among Healthcare Providers as Second Victims

Busch et al. (2020) undertook a critical appraisal of nine selected electronic databases with no limit to the publication date and language to ascertain the psychological as well as psychosomatic symptoms of second victims. In all, 11,649 health care practitioners faced with unfavourable medical errors were investigated through the nine databases selected. The researchers employed quantitative studies to analyse the dominance of psychological and psychosomatic symptoms of second victims. Moreover, the researchers employed random effects modelling in calculating the entire prevalence rates. These researchers after their study reported that second victims have a high prevalence of psychological symptoms. It was observed that a little over 66% of health providers experienced disturbing memories, faced anxiety, experienced rage, felt remorse, and were distressed.

Van Gerven et al (2016) pointed out that psychological distress among second victims include suffering from loss of self-confidence, the feeling of

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guilt, fear and anger. The researchers pointed out those organisational factors, situational factors and individual traits have a bearing on second victims' psychological responds and how they recover. Van Gerven et al. posit that the psychological impact experienced by second victims are higher in situations where the adverse event occurred is severe. Moreover, in cases where health providers feel responsible for the adverse event that has occurred, the higher the psychological impact they face. Psychological impact of second victim experiences on health care providers is lesser among confident professionals compared to those with low confidence (Kobe, Blouin, Moltzan, & Koul, 2019).

Bryant (2018), in a study, opined that second victims have several ways in responding to adverse event. After facing an adverse event, second victim are usually affected emotionally, behaviourally and cognitively. Bryant postulated that the degree to which the second victim feels leads them to respond psychologically and physically. Some psychological consequences of second victim experience as pointed by Bryant are self-doubt and other sleep disorders. Bryant claimed that the negative experience of second victims do not only confide within the professional space rather, the impact sometimes cuts through an individual's personal life. It is from this background that Rassin, Kanti and Silner (2005) believes that second victims experience near post-traumatic disorders.

Bryant (2018) adopted a quantitative descriptive survey conducted through online with a sample size 1352 of licensed registered nurses in the state of Florida to investigate second victim experience. The nurses that formed the sample size were those who have or currently practicing direct

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patient care. It was observed that about 67% of all second victims feared that there might be a future occurrence of the same incident. It was also observed that about 65% of the sample selected felt embarrassed about the adverse effect that occurred. In all, 63% of respondents revealed that they experienced negative psychological consequences.

Seys et al. (2013) in a systematic review concluded that second victims usually have the feelings of shame, worthlessness, feel guilty and have fear towards caring for other patients and this psychological effect heightens the chance of further adverse effect. As can be seen, several investigations have been undertaken to investigate second victim experiences and their psychological responds. It was observed that second victims experience doubt in their future work, feel worthlessness, guilt and this further leads to several adverse effect. Below are some other psychological feelings seen in literatures that are felt by second victims:

1. Eating Disorders
2. Depression / Mood disorders
3. Personality Disorder
4. Post-Traumatic Stress Disorder
5. Psychotic Disorders
6. Anxiety Disorders
7. Nausea and tachycardia

It must be noted that the degree to these psychological effects experienced by second victims hugely rest on factors such as support from a team, the gravity of the harm caused, personality trait among others. Chan et al. (2018) sought to investigate the psychological reactions, coping strategies,

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and assistance needed by second victim nurses within Singapore. The researchers employed a descriptive qualitative study. The researchers involved 6 females and 2 males who had encountered adverse events in their course of work. The researchers sought data through the use of interview and audio recording instruments. The researchers in analysing the data employed thematic analysis. After the research, Chan et al. pointed out that the nurses experienced psychological suffering which even affected their clinical performance. Such negative emotions are usually experienced after encountering adverse events. However, as shown by Critical Incident Stress Debriefing Model, a functioning support team has the capacity to lessen the psychological burden for such victims. Moreover, the researchers pointed out seven themes that were predominant in the aftermath of the adverse event. They are:

1. Feeling others' prejudice on the accident caused.
2. Having disturbing thoughts that can lead to sleep disorders.
3. Learning worthy lessons from the incidence.
4. Adopting management strategies to pull through after the incidence.
5. Admitting and taking obligation for the accident.
6. Finding self- identity. (Schrøder, Jørgensen, Lamont, & Hvidt, 2016 pp735-745).

Available Support for Second Victims (Health Care Providers) after an Adverse Event

Whenever a fatal medical error occurs at any health facility, many people are affected as a result of the incidence; the patient, the entire household and the health care experts are usually those affected by such

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events. In such times, the patient and the family needs are prioritised by the managers of the health facility. Attention does not usually go to the health personnel who become the second victim of the adverse event. Such event has a lasting effect on the personnel and if proper care is not given to the personnel, he/she may not be healed from the effect.

According to Marmon and Heiss (2015), adverse events affect patients, families and caregivers especially surgeons, however, there are little support for the second victim who goes through several emotional and psychological challenges at the aftermath of the adverse event. Marmon and Heiss believe that the following are some of the best practices that can be provided at the workplace to help support second victims: Mindful effort to promote healthcare culture, the availability of personnel support systems and institutional support systems. These measures when put in place can help in improving the quality of treatment given to patients at health setups and personnel can enjoy productive professional career. Marmon and Heiss point out how health institutions can manage the phenomenon of second victim.

Table 1- Support for Second Victims

Prevention	Reduce incidence of medical errors Promote physician physical and emotional health "Just Culture" professional and teaching environment
Mitigation	Institutional "acute response teams" Immediate emotional "first aid" Break from professional responsibilities
Support	"No Blame" institutional support programme Customised long-term counselling Strict confidentiality

Source: Marmon and Heiss (2015)

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A look at the table above will reveal that after any adverse event, managers of health facilities should not start a blame game rather should provide a responds team, emotional first aid assistance to the second victim, the personnel must be permitted to break away from responsibilities. It is also advisable that second victims are given counselling support to help control the effect of the adverse event on their physical and psychological wellbeing. The presence of support systems in health institutions is a practical step to support second victims. However, there are few such systems around the globe (White et al., 2015) which includes Medically Induced Trauma Support Services (MITSS) in Boston and "*for YOU"* programme at the University of Missouri Health Care. According to Scott (2014), the "for You" team is a complete support procedure created at the University of Missouri Health Care to cater for the needs of all health care clinicians who experience adverse events. Specifically, as pointed out the team was created to *"increase awareness of the second victim phenomenon within the organisation, to 'normalise' the psychosocial and physical impact for the individual second victim, to provide continual surveillance within the health care environment for prompt detection of possible second victims, and to render immediate emotional support once a clinician has been identified as a potential second victim"* (Paparella, as cited in Scott, 2014, pp.325-p330).

The absence of such comprehensive support system makes second victims prone to negative consequences of adverse events. There should be such support systems targeted at clinicians and must be in position to support and motivate second victims. Van Gerven et al. (2016) sought to investigate the individual, situational and organisational parts that affect psychological

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impact and recovery of a patient safety incident on second victims. As part of their objectives, the researchers sought to analyse the support system available for clinicians and midwifes. By employing 33 Belgian hospitals, the researchers found out that only 11 had a support system for second victim's whiles 14 hospitals stated that they have in place support procedures to support second victims. Moreover, the researchers found out that organisational support and culture are pivotal on the psychological impact of the adverse event on the clinician.

Scott (2014) revealed there are few known strategies employed by institutions and health professionals to help control the emotions faced after an adverse event. Lack of formal strategies and procedures to support clinicians in such adverse events have over the years called for health professionals to adopt debilitating methods to suppress those negative emotions. Some of the dysfunctional ways adopted by clinicians to support them in handling second victim experiences include but not limited to excessive drinking of alcohol, smoking and other substance abuse. Many health institutions have a way of supporting second victims, scholars like Denham (2007) believes that a formal procedure that responds automatically to all clinicians will be helpful.

Age, Gender, Marital Status, Duration of Working Experience, Category of Health profession and Psychological Effects Experience

According to Van Gerven et al. (2016), many factors account for the extent of psychological and emotional repercussion of the medical error on clinicians. When clinicians feel guilty and accountable for the adverse event, the impact of the accident is much higher compared to situations out of his/her reach. Van Gerven et al. also posit that female health professionals turn to

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suffer more emotionally and psychologically in times of adverse events. Clinicians who are very optimistic and confident are believed to handle adverse events properly and are not greatly affected by such accidents compared to low confident clinicians. Moreover, as days go by, the detrimental effect of medical errors or mistakes on clinicians significantly diminish.

Chan et al. (2018) researched on second victim phenomenon with nurses in Singapore as the case study. Having adopted cross- sectional studies to analyse the impact of second victim experiences on nurses and their psychological responds, the researchers concluded that many second victims experience negative psychological responds but these responds are usually influenced by factors such as sex, profession, and the assistance available.

Types of Support Desired by Second Victims after an Adverse Event

Second victim experience takes a significant toll on clinicians; personal level and career level. The consequences are sometimes too harsh that it cripples the career of clinicians. To avoid such consequences, clinicians who make mistakes should be given the needed support. The support may originate from diverse points including colleagues at the workplace and from the institution they work. Organisations need to undertake research to bring on board appropriate procedure geared towards minimising the effect of such experiences on clinicians (Jones & Treiber, 2012). The absence of institutional support to assist clinicians in times of adverse events cripples their career growth. According to Jones and Treiber, a survey at the University of Missouri with 898 clinicians pointed out that clinicians needed a departmental based support system and team that could release them of patient care activities,

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provide peer support, review and provide experts in safety. Moreover, the research found out clinicians wanted rapid crisis respond team. From this background, the University of Missouri Health care created three-tiered support programmes for clinicians to serve as support team.

The first support system includes mainly of departmental based support by other colleagues who are experienced and trained in basic response training. The second support system encompasses trained peer support clinicians to observe closely other staff for second victim responses and give speedy intervention to second victims "with one-on-one support, trigger debriefings, and access to other organisational resources such as patient safety or risk management leaders". The last tier provides professional; counselling to second victims. Health institutions can adopt several strategies and systems to support second victims. A system where second victims feel free to air out their errors will eventually help health institutions to provide education and train staffs to help curb such adverse events. Scott (2014) believes that health care providers should create crisis management procedures that seek to provide vital support to clinicians even before they face any adverse events. The establishment of educational programme to teach and explain how errors are bound to happen within today's complex health care system are greatly recommended. This will inform clinicians about the different support networks available to second victims, and they will gladly accept them in their practice. The fact that formal procedures and systems are known by all clinicians will make them embrace peers support and will them to explain vividly the cause of the adverse event.

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One of the main effective recovery plans throughout the literature points to the existence of a system that seeks to provide support and help second victims. This system should be carefully designed to show their support and readiness in providing help to second victims. These systems do not have to wait for adverse events to occur before providing help rather provide education to all health professionals to manage patients and how best to minimise errors in the course of their duty. There should be swift responds with necessary support to health personnel once adverse events occur. To achieve this, Scott (2014) believes that there should be formalised structures in the health settings to cater for student, clinicians and other health personnel. This formalised system must endeavor to monitor and examine health professionals for second victim responds.

Seys et al. (2013) examined the influence of second victim experience on clinicians and co-workers. Seys et al. concluded that the impact of second victim situation is broad and it has a toll on the health personnel involved, co-workers and even other subsequent patients. In wake of such impacts, Seys et al. opine that there should be massive support systems that focus on both the patient involved and the health professional. This they believe will help lessen the influence of such medical mistakes on both the first and the second victims.

Chan et al. (2018) observed that nurses who have ever experienced the second victim situation were also facing many undesirable emotions that impacted their expert and private lives. According to Chan et al., in their quest to gain confidence and restoring sense of identity, nurses struggled and this can be attributed to inadequate care and support giving to second victims.

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Watson's (2008) Theory of Transpersonal Human Caring points out caring for the lives of others especially patients and colleagues as one of the essential acts that should be practiced. It is therefore prudent for colleagues and health institutions to provide support and care for colleagues especially when they encounter adverse events. Chan et al. further posits that better support is required in health institutions to help nurses in such times. Types of support recommended by the researchers include provision of a comprehensive support structure, second victims must be advised to engage in helpful; conversations, and the availability of Peer support groups.

Coping Strategies Adopted among Second Victims after an Adverse Event.

Many institutions have adopted several strategies in assisting second victims. However, it should be noted that individual health personnel in their own ways adopt procedures to curb the negative experiences that comes along with adverse events. Scott (2014) makes it clear that knowing and accepting recognised coping strategies of second victims will be instrumental in meeting the needs of second victims. After examining medical residents facing an adverse event, Mizrahi (1984) pointed out three unique coping strategies employed to respond to these adverse events and they are;

1. Denial that they are the cause of the adverse event.
2. Disregarding the scene in the clinical setting or facility.
3. Personally taking a step away from the scene of the situation as well as the victim involved in the incident.

Research by Busch et al. (2020) aimed at examining the coping strategies used by second victims after adverse events. The researchers

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undertook a systematic review of nine electronic data-bases to October 2018 and reviewed additional sources of data like gray databases. Having retrieved a total of 10,705 records, 111 full-text articles and an additional 14 studies, the researchers concluded that the five most adopted coping strategies were the following:

1. Changing work attitude,
2. Following policies and guidelines more accurately and closely.
3. Paying more attention to detail,
4. Problem-solving/concrete action plan
5. Criticising or lecturing oneself. (Busch et al., 2020 ; pp. 61-74)

Busch et al. (2020) emphasised that these coping mechanisms adopted by second victims can be classified as task- and emotion-oriented coping strategies and avoidance-oriented strategies. A cross country research by Harrison et al. (2015) to investigate emotion and means of managing after adverse event revealed that, though there are negative emotional and psychological responds to adverse events, many health professionals adopt ways to cope and in turn have a positive emotional reaction towards the stress. According to Harrison et al., emotions of guilt, doubting oneself, distress and anxiety were dominant emotions experienced by health professionals after a medical mistake or blunder. Moreover, the researchers discovered that other health professionals felt determined, became very alert and attentive after the occurrence of an adverse event. Such emotional reactions are classified as positive emotions towards the stressor.

Harrison et al. opine that though positive emotional reaction was less observed among the sample selected compared to negative emotional reaction,

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the most positive feeling that was seen led to quick and lively regaining procedure in which people acquire and adopt new ways of being a better health professional. Basically, a health professional who embrace adverse event and try as much as possible to have a positive feeling of the emotions gives a valuable opportunity for the second victim to grow throughout his/her career. As pointed out by Lazarus and Folkman's (1984) in the transactional stress theory, an individual's ability of managing stress largely dwells on that individual's cognitive appraisal. Thus, an individual assesses the situation at hand, how the event will affect his/her life and the individual measures the coping strategies available to him/her. Once there are enough coping mechanisms, the individual turns to respond to those stressors in a positive way. Most health professionals that react positive after adverse event have better coping mechanisms and this explains why their reaction towards the stressor at hand (adverse event) turns to be positive.

Edrees et al. (2011) examined the relevance of a formalised support system for second victim experience with Johns Hopkins Medicine as the survey study. In all 350 personnel were selected to partake in the survey. Both paper-based and online questionnaires were used in gathering data. At the end of the study the researchers admitted that health professionals experience negative emotions after a medical mistake have been committed. In this light, the researchers called for the need of structures to support health professionals. Some of the desired support strategies listed by Edrees et al. include

1. Formal emotional support and informal emotional support
2. Provision of personal legal advice and support
3. Swift debriefing

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4. Presence of crisis intervention stress management

5. Access to counselling, psychological or psychiatric services

6. Open conversation on the adverse event without anyone being judgmental

7. Time to break away from clinical duties

8. Assistance to communicate with the patient and/or family

9. Timely information about the processes that are followed after serious adverse events

10. Direction about the roles you were expected to play in the processes that are followed after serious adverse events

11. Assistance to prepare to participate in the processes that were followed after the serious adverse event safe opportunity to contribute any insights you had into how similar events could be prevented in the future. Edrees et al. 2011; pp.101-108).

Throughout the study, it has been observed that second victim experiences are one of the issues overwhelming the health professionals around the globe. Though there are procedures drafted by firms and organisations to support these health professionals facing adverse events, there must be clear and formalised way of meeting the needs of health professionals in periods of adverse events. However, individual health professionals must try as much as possible to do the following in times of adverse event:

Seeking social support

Seeking social support from colleagues have been known to be one of the best practices necessary to calm emotions down during such times. Formal and informal social support can go a long way to lessen the emotional and psychological impacts of the adverse events on the health professional.

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Instance of social support include sharing one's problems with colleagues, embracing empathy from peers and family (Tausig & Michello,2011).

Accepting responsibility

Acknowledging and accepting one's fault is key to recovery from second victim experiences. Embracing the mistake that has occurred and taking a cue from the event will propel a health worker into higher heights within his/her professional life. After accepting one's fault, there is the need to learn from the experience and vow to do things differently. Moreover, accepting one's responsibility calls for the health personnel to apologize to the patient and the relatives. (Wenzel, Woodyatt, & Hedrick, 2012).

Distancing

This can be one of the best tools to help second victim's recover. Breaking away from duties gives the second victim enough time to process the entire adverse events well and with support helps them to overcome the negative emotions that come with it. Distancing can also mean the individual health professional do not in any way permits the adverse events to overwhelm him/her. They completely distance themselves from the situation at hand. Here health professionals act and behave as if nothing has happened (Eriksson, 2011).

Self-control

In the aftermath of adverse events, healthcare providers need self-control. They must not act and involve their feelings in anything they do. They should try to keep one's feelings under control. This will help the victim to welcome any advice or questions put to them by concerned professionals (Duckworth, 2011).

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Escape-avoidance

In times like these, second victims with the situation never happen and they try to escape reality by indulging themselves in some dysfunctional life. Smoking, excessive intake of alcohol and substance abuse becomes the order of the day all in the name of escaping reality (Fuchs, & McNabb,2012).

Problem solving

What is the next point of action? What can be done to prevent future occurrence? Asking such questions and taking steps to solve the problem at hand helps a professional to recover for second victim experiences (Sternberg & Frensch, 2014).

Second Victims Ethical Responds to Adverse Events

The consequences of adverse events likely cause a feeling of guilt, shame and severe emotional distress to second victims. Essentially, existence of blame culture, lack of support systems and procedures to help second victims likely force them to lie about the cause of the adverse event. These reasons among others makes it hard for health professionals to open up and properly deal with the issue and also find ways to control all negative reactions that comes with second victim experience. It should be noted that the absence of such systems has over the years caused the repetition of similar problems within health facilities along the globe. It is from this background that Kirby (2014) outlines ways that can help health professionals and institutions to cope with such experiences.

First as identified by Kirby (2014), absolute honesty about the adverse event and what actions caused it is needed. After encountering such incidence, it is very worrying for health professionals to open up on what exactly caused

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the incidence. The fear of being Criticised or blame for the occurrence strikes fear in health professionals and they try as much as possible to conceal the truth surrounding the whole incidence. Concealing the truth to be accepted does not benefit the patient as well as the health professional. At this stage, it is ethical for health professionals to willingly present all fact and actions that led to the adverse event. Being honest in presenting statement must be practiced to ensure that the truth is known. Second victims presenting their statement should try as much as possible not to blame themselves so hard after all they are humans and to err is human. They should know that they aren't the first health professionals to encounter such experience and as such must pull themselves together to ensure that the presentation of the statement is accurate devoid of any form of adjustment.

Secondly, Kirby (2014) believes the next step after a health professional has giving his/her honest opinion on the statement is to provide an apology to the patient and relatives. At this stage, authorities must lead to offer their sincere apology to the patient and they should explain the damage caused. Though very hard to explain the damaged caused to patients, they have the right to know. The relatives are also contacted and an unbiased apology is rendered to them. Moreover, this stage calls for a comprehensive investigation into the event and delve into the main cause of the adverse event. Investigation into the matter should be undertaking by an unbiased third party.

The third stage identified by Kirby (2014) is the learning stage. At this stage, through the sharing of experiences by the health professionals and the findings from the investigations, the second victim as well as the entire health professionals takes the chance to learn. Learning through shared experiences

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helps lessen the feeling of guilt and shame. At this stage, it is advisable that all experiences shared and the findings from the investigation should be carefully taught in order not to sound judgemental.

Chapter Summary

This chapter delved into existing literature to know the views of other scholarly writings on the topic understudy. The various variables namely Second Victim Experience, Coping Strategies and Psychological consequences of second victim experience were defined and examined from other existing literature and scholarly works to know and ascertain the psychological consequences of second victim experience and coping strategies among healthcare providers.

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CHAPTER THREE

RESEARCH METHODS

Introduction

The study aimed at exploring the psychological consequences of second victims' experiences and coping strategies adopted. This chapter focused on the procedures adopted in conducting the study. These include the research design, study area, population, inclusion and exclusion criteria, sampling procedure, and instruments for collecting data. The validation of instrument, pilot testing of the instrument, ethical consideration, data collection procedures, data processing and analysis procedures were also considered.

Research Design

A research design is a strategy adopted to achieve expected results in a study. In the perspective of Saunders, Lewis and Thornhill (2007), a research design is the overall framework that an investigator seeks to implement in finding solutions to problem that have been identified in the form of research questions or testing identified hypotheses. They further stated that it contains clear objectives derived from the research questions or hypotheses that specify the source, from which data will be collected, consider the constraints as well as discusses ethical issues. The descriptive survey method was used. This method is more focused on the relationship among the variables than the cause of associations (Bhatt, 2018). According to Avella (2016), a study's design governs the type of data to be obtained, the participants from whom information would be gathered, and the process and analytical method to arrive at accurate results.

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Specifically, the cross-sectional survey method was used in conducting the study. In a cross-sectional study, the researcher evaluates and describes the distribution of the phenomenon as they occur in the population over a particular time period (Wang & Cheng, 2020). With this method, data is gathered from a set of population or its sample within a specified time. According to Omair (2016), a cross-sectional survey method compares the association between the explanatory and outcome variables of a study. Remarkably, survey method usually chooses a sample to represent the overall population and generalises the results obtained from the representative sample to the entire universal set. In a cross-sectional survey, a researcher is able to determine the prevalence of both the dependent and independent variable. It is relatively easy and faster to conduct a study using this method (Setia, 2016). This survey method was chosen because the study focused on understanding the association, impact and interrelatedness among adverse medical outcome psychological distress, physical distress, coping, and social support. The method enabled me to determine the association among the variables.

Study Area

The study was conducted in two hospitals located in the Greater-Accra and the Bono East Regions. The first was the Ghana Police Hospital in Accra, the Capital city of Ghana. The hospital was established in 1976 to provide quality healthcare to the staff of the Ghana Police Service together with their families as well as the general public. Currently, the hospital operates under nine departments and units namely Intensive Care Unit (ICU), records department, out-patients' department, X-ray laboratory department, anaesthesia department, public health department, physiotherapy department,

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E. N. T and dental clinic, and the Dialysis centre. In all, Ghana Police Hospital has six wards. These are the executive, male, female, maternity, children's and OPD wards that need urgent attention in order to stabilise or monitor patients closely.

The Holy Family Hospital is situated in the commercial city of Techiman in the Bono East Region of Ghana. It is a Catholic Institution and operates within the National Catholic Health Service. The hospital was established in 1954 by the Medical Mission Sisters. It serves as a referral centre for hospitals and clinics in eight districts. These include, Atebubu, Tain, Pru, Nkoranza South, Wenchi, Kintampo South and North. Techiman is a commercial town having one of the biggest food markets in Africa. Its centrality at the cross-section of the trunk road linking the south to the three Northern regions of the country, trans-National Road from Cote D'Ivoire to Burkina Faso, Mali and Niger, the hospital is highly accessible and safe sanctuary to numerous patrons and travellers who might need care along this important international road.

The Holy Family Hospital delivers general and Specialised services which include: General and Specialised OPD, In-patient Services (Specialised areas are; Paediatrics, Ophthalmology, O&G), Internal Medicine and Surgery, Reproductive and Child Health (RHC) services, Physiotherapy, TB control programmes, pharmaceutical service, HIV/AIDS programmes and Art services, Diagnostic sev-Laboratory, X-ray, Ultras and CT scan. Specialist Services, General surgery, Internal medicine, Paediatrics specialist, Urology (General Paediatrics), Obstetrics and Gynaecology, Emergency Medicine, Ophthalmology, Endoscopy, Laparoscopy, Mental Health services, Dental

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services, Ear, Nose and Throat (ENT), Radiology and a 24-hour Emergency and Ambulance service.

The study's target population comprised the set of healthcare providers of the Ghana Police Hospital, Accra and the Holy Family Hospital, Techiman. These health facilities were selected because they serve as a referral centre for most cases of chronic diseases and emergency cases. The hospitals also provide healthcare services for persons with different, ethnic, economic, and social background in Ghana and beyond. These rich experiences of healthcare providers in dealing with a wide range of people is seen as plus for the purpose of this study. Again, the facilities have many health care professionals and specialist who are engaged in the operations of the hospital and the general management of patients.

Population

According to Popoola (2011), population is the totality of the items or objects under the universe of study. It often connotes all the members of the target of the study as defined by the aims and objectives of the study. Adeniyi, Oyekanmi and Tijani (2011) perceived population as the total number of large habitations of people in one geographical area, for example, the population of a country. It is the whole body of items, objects, materials or people that fall within the geographical setting and characteristics in which a researcher intends to investigate for his study.

The targeted population for the study was 423 healthcare professionals (Doctors, Nurses, Pharmacists, Lab technicians and Anaesthetist) from the two selected hospitals. The breakdown is given in Table 2.

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Table 2 – Breakdown of Total Population

Health Professionals	Police Hospital	Holy family Hospital	Overall Total
Doctors	35	58	**93**
Nurses	107	127	**234**
Pharmacists	13	15	**28**
Lab technicians	38	18	**56**
Anaesthetists	2	10	**25**
Total	**195**	**228**	**423**

Source: Data and Statistics Department of Selected Hospitals

Inclusion and Exclusion Criteria

The participants were recognised healthcare providers who were directly involved in the management of patients at the two selected hospitals and have acquired not less than six months of clinical practices or experiences. The idea is to involve persons in clinical support roles who can provide a clear and concrete narrative of the occurrence of the experience which are at a full glare of their sight whilst providing the clinical support.

Individuals who worked in the hospital but are not regarded as healthcare practitioners or experts (e.g., security personnel, housekeepers, administrators, cooks, cleaners, laundry attendants and allied health workers) were exempted. This is because such individuals do not provide direct clinical support to patients and would not be in a better position to make decisions regarding the caring of patients. Exempting them was also not based on the fact that they would not encounter medical errors or mistakes in their line of work.

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Sampling Procedure

A sample denotes a small and representative proportion of the population. According to Amedahe (2004), sampling involves the process of selecting a portion of the population to represent the entire population. Given a population size of 423 healthcare providers comprising 197 from the Ghana Police Hospital and 223 from the Holy Family Hospital, a sample size of 200 participants were involved in the study. This is based on Gill, Johnson, and Clark (2010) sampling size determination table. The assumptions of this sample size determination table include a 95% confidence level, 5% margin error, and a 50% variance of the population. The population of the study was stratified into the five different groups of health professionals selected for the research. Convenience sampling techniques was used to acquire the estimated require sample from each category of the health professionals, this is because during the wake of the COVID-19 pandemic, most health professionals were unavailable and unwilling to participant in the study. The data collection therefore focused on those individuals readily available and willing to be engaged in the study.

Data Collection Instruments

Data was gathered using a questionnaire with five sections.

SECTION A: Demographic Characteristics

The first section gathered data on the demographic characteristics of participants namely gender, age, marital status, years of working experience, and category of health profession.

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SECTION B: Experiences of Adverse Medical Outcome

Section B assessed the severity of adverse patients' outcome, its frequencies of occurrence, and the types of adverse medical errors committed by health professionals who were engaged. Participants were directed to rate the severity or level of the errors they were involved on a 5-Likert scale type (0 = No adverse outcome, 1 = Minor adverse outcome, 2 = Moderate adverse outcome, 3 = Serious adverse outcome, and 4 = Death.

With the frequencies of occurrence, participants were given 6 ranges to indicate categorically the number of times they had committed adverse patient outcome during their career. The options are 0, 1-5, 6-10, 11-15, 16-20, and above 20. Lastly, ten (10) items were enlisted for health professionals to indicate the type(s) of medical errors they committed. The ten items are *"communication error, laboratory test error, Diagnosis error, Medication Error, Treatment Error, Records Error, Administration Error, Surgical Error, Blood Transfusion Error,* and *Negligence in handling Patients"*. Participants were asked to indicate as many as apply to their situation.

SECTION C and D: Second Victim Experience and Support Tool (SVEST)

The third and fourth sections of the instrument measured healthcare providers' experiences of psychological and physical symptoms with regards to adverse events. The SVEST developed by Burlison, Scott, Browne, Thompson and Hoffman (2017) were adapted for the study. SVEST is a 36-item which provide scores for ten (10) dimensions: Psychological Distress, Physical Distress, Colleague Support, My Supervisor, Institutional Support, Non-Work-Related Support, Professional Self-Efficacy, Turnover Intentions,

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absenteeism and Desired Forms of Support. The items are on a Likert scale of disagreement and agreement, ranging from one to five. An alpha Cronbach's reliability of 0.89 was reported for the scale.

For the purposes of this research, seven sub-scales of the SVEST were adopted to assess health care providers' experiences of adverse events. They include Psychological Distress, Physical Distress, Colleague Support, My Supervisor, Institutional Support, Non-Work-Related Support and Desired Forms of Support. A total of 28 items will be used based on this alteration. The first two subscales were under *SECTION C,* while the remaining sub-dimensions assessed social support required by health professionals following an adverse event and were classified under *SECTION D.*

SECTION E: Coping Strategies Inventory – Short Form (CSI-SF)

The fifth section assessed participants coping style using the CSI developed by Tobin, Holroyd, Reynolds, and Wigal (1989). This scale was adopted to assess the management practices used by health professional to cope following an adverse patient's outcome. The scale consists of 16 items comprising of four (4) subscales (Problem-focused Engagement, Problem-Focused Disengagement, Emotion-focused Engagement, and Emotion-focused Disengagement). The items are measured on a 1-Likert scale ranging from 1(Never) to 4 (Almost Always). According to Addison et al. (2007), the CSI has a reliability coefficient ranging 0.58 – 0.72.

Validation of instrument

The content related evidence of validity of the questionnaire were established by submitting the questionnaire to my supervisor for his scrutiny

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and critique. Suggestions made by him were used to address the weaknesses of the questions thereby improving the content validity of the questionnaire.

Pilot testing

The questionnaires and interview questions were pilot tested at the 37 Military Hospital to ascertain the reliability and validity of the scale. The hospital was chosen because of availability of variety of ethnicity, cultural and socio-economic backgrounds within the Accra Metropolis and similar to that of Police Hospital and Holy Family Hospital where the study was conducted. Forty (40) people were employed in the pilot testing study.

Ethical consideration

An introductory letter from the Department of Education and Psychology and an ethical clearance form was taken from Institutional Review Board of the University of Cape Coast (IRB UCC) to seek permission from the Directors of the Police Hospital and the Holy Family Hospital. The form spelt out the purpose of the study, the need for individual participation, anonymity as well as confidentiality of respondents' responses.

The roles and expectations of respondents were exclusively indicated. Written informed consent was made available for respondents to sign. The consent of participants was sought before administering of the questionnaires. Anonymity of respondents was highly considered in the study. This made it possible for concealing the identity of respondents. No information that reveals the identity of respondents were gathered.

Responses as provided by the respondents were treated with the greatest magnitude of confidentiality. They were given the assurance by word of mouth and on the questionnaire that their responses will not be made public

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but for the purpose of the study only. No one either than the investigator will have access to their data.

Data Collection Procedures

An authorisation for the conduct of the study was sought from the Ghana Police Hospital and the Holy Family Hospital with an introductory letter from the Department of Education and Psychology and an ethical clearance from the IRB UCC. Upon approval, data collection took place on the hospitals' premises. An informed consent and a participation leaflet, detailing the study's intent and assurance of confidentiality and anonymity were also provided to respondents. A total of 200 structured questionnaires were administered to willing and available participants to complete. This composed of 83 from the Ghana Police Hospital and 110 from the Holy Family Hospital. The participants who needed assistance were guided as to how to respond to the questionnaires. Approximately 6 months was used for the data collection.

Data Processing and Analysis

Generally, data gathered was analysed statistically. The responses to the questionnaires were edited, coded and scored. The editing procedure was done to ascertain errors in the responses of respondents and to exclude incomplete questionnaires. As a quick way of identifying the questionnaires in case of any mistake during data analysis, they were provided with serial numbers.

Section 'A' which is on demographic data of the respondents was analysed descriptively using frequencies and percentages. Section B which assessed Patient adverse outcome experiences, Occurances of patient adverse events and Categories of errors of adverse patients were analysed using

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frequencies and percentages. This statistical tool was deemed appropriate because the aim was to estimate the number and percentage of health professionals involved in adverse medical outcomes in the selected hospitals.

Research question 1, 3, and 4 were answered using multiple regression analysis. It was the purposes of these research questions to estimate the relationships and impact of the variables (adverse patients' outcome, psychological distress, physical distress, coping strategies, and social support) under study. This statistical tool is used when we want to predict the value of a variable based on the value of two or more other variables. The variable we want to predict is called the dependent variable (or sometimes, the outcome, target or criterion variable). For instance, in analysing research question one, Adverse Patient Outcomes were the independent variables, while psychological distress and physical distress of second victims were the dependent variables.

In research question 1, one-way analysis of variances (*ANOVA*) was used to estimate significance of the relationship between adverse patient outcome psychological distress and physical distress. Lastly research question 2 determined the most significance coping mechanism employed by second victims after an adverse medical outcome. Analysis was estimated using means and standard deviation. The statistical tool was used to rank the means of the four dimensions of coping strategies in order of their importance according to the scores of participants.

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CHAPTER FOUR

RESULTS AND DISCUSSIONS

Introduction

This chapter outlines the analysis and interpretation of data gathered through a quantitative survey approach. The study was aimed at assessing the psychological experience and coping strategies of healthcare professionals involved in adverse medical errors in the Ghana Police Hospital and the Holy Family Hospital both located in the Greater-Accra and the Bono East Regions respectively. The study was guided by the following research questions.

1. How does the level of adverse patient outcome relate to the psychological and physical distress of second victims?
2. What coping strategies do health care providers as second victims engage in following an adverse event?
3. How do the forms of support relate to the psychological and physical distress of second victims?
4. How do the forms of coping strategies relate to the psychological and physical distress of second victims?

The first part of the results section presents the respondents' background characteristics. The next portion presents the level of patient adverse outcome, categories of errors that led to patient outcome, second victim experience with adverse outcome (psychological distress experience), and coping strategies adopted following a medical error. A discussion of findings is presented in the last section of this chapter. Data were analysed using of descriptive and inferential statistical tools.

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Demographic Characteristics of the Respondents

The responses of the participants on their demographics are presented in Table 3. These include gender, age, years of work experience, marital status and category of health profession.

Table 3– Distribution of Demographic Characteristics of Respondents (N = 193)

Item	Frequency	Percentage (%)
Age (Years)		
18 - 33	136	68
34 - 49	50	25
50 - 65	7	3.5
66 and above	-	-
Missing	7	3.5
Gender		
Males	89	46.1
Females	104	53.9
Missing	7	3.5
Years of Work Experiences		
1 – 5	112	58.0
6 – 10	51	26.4
11 – 15	15	7.8
16 – 20	10	5.2
20+	5	2.6
Missing	7	3.5
Marital Status		
Single	96	49.7
Married	96	49.7
Widowed	1	0.5
Divorced	-	-
Missing	7	3.5

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Table 3, *Continued*

Category of Health Profession		
Doctor	27	14.0
Nurse	123	63.7
Pharmacist	13	6.7
Lab Technician	18	9.2
Anesthetist	12	6.2
Missing	7	3.5

Source: Field Survey (2020)

The study revealed that respondents falling within the ages of 18-33 were 136 in number representing 70.5%, respondents falling within the ages of 34-49 were 50 representing 25.9% and respondents falling within the ages of 50-65 were 7 representing 3.6%. The study had no respondents for ages from 66 and above. In relation to gender, 89 (46.1%) of participants were males while females were 104 representing 53.9%.

In terms of years of working experience, respondents falling within the years of 1-5 were 112 (58%), respondents falling within the years of 6-10 were 51(26.4%), 15 (7.8%) respondents were falling within the years of 11-15, respondents falling within 16-20 years were 10 (5.2%) and 5 (2.6%) respondents were falling within the 20+ or 20 and above years. Respondents of 96 (49.7%) were single, 96 (49.7%) were married and 1 (0.5%) was a widow. There was divorced respondent. Concerning the category of health profession, majority of respondents were nurses which is 123 (63.7%), 27 (14%) of the respondents were Doctors, 13 (6.7%) of the respondents were

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pharmacists, 18 (9.3%) were lab technicians and 12(6.2%) of the respondents were anaesthetist.

Distribution of Patient Adverse Outcome Experienced by Respondents

Table 4 presents the statistical results of the outcome of adverse medical errors among health professions.

Table 4– Distribution of Patient Adverse Outcome Experienced by Respondents (n = 193)

Variable	Frequency	Percent
No Adverse Outcome	25	13.0
Minor Adverse Outcome (non-serious effect, not requiring treatment)	96	49.7
Moderate adverse outcome (significant effect, requiring treatment)	49	25.4
Serious adverse outcome (permanent adverse effects)	16	8.3
Death	7	3.6

Source: Field Survey, 2020.

Table 4 represents patient adverse outcome experienced by respondents. Twenty-five representing 13% of the respondents had experienced no adverse outcome, concerning minor adverse outcome (non-serious effect, not requiring treatment) 96 (49.7%) majority of respondents had experienced such outcome, 49 (25.4%) of respondents had experienced moderate adverse outcome (significant effect, requiring treatment), 16 (8.3%) of respondents had experienced serious adverse outcome (permanent adverse effects) and 7 (3.6%) of respondents had experienced death.

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Distribution of Occurances of Patient Adverse Experienced by Respondents

Table 5 presents the statistical results of the occurrence of adverse medical errors among health professions.

Table 5– Distribution of Patient Adverse Outcome Experienced by Respondents (n = 193)

Experienced adverse patient outcome occurrence	Frequency	Percent
0	27	14.0
1-5	131	67.9
6-10	16	8.3
11-15	5	2.6
16-20	2	1.0
Above 20	12	6.2
TOTAL	**193**	**100.0**

Source: Field Survey, 2020.

Table 5 represents occurrence of respondents' experienced patient adverse outcome. The results indicated that 166 (86.4%) of respondents had ever encountered adverse medical errors or mistakes in their career as health professionals. The findings indicated that 27 (14%) of respondents had not experienced patient adverse outcome in their career. Majority of the respondents 131 (67.9%) had experienced adverse patient outcome within 1-5 times. Sixteen (8.3%) of respondents had experienced adverse patient outcome within 6-10 times. while 5 (2.6%) of respondents had experienced such adverse patient outcome for 11-15 times, two (1%) of the respondents had

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experienced 16-20 times of adverse patient outcome, and over 20 times. 12 (6.2%) of respondents had experience such adverse patient outcome.

Distribution of Categories of Errors of Adverse Patient Outcome

Table 6 presents the results of errors that led to adverse patient outcome

Table 6- Categories of Errors of Adverse Patient Outcome

Categories of errors	Frequency	Percentage
Communication error	Yes 111	57.5
Laboratory error	Yes 58	30.1
Diagnosis error	Yes 45	23.3
Medication error	Yes 79	40.9
Treatment error	Yes 45	23.3
Records error	Yes 56	29.0
Administrative error	Yes 35	18.1
Surgical error	Yes 48	24.9
Blood Transfusion error	Yes 37	19.2
Negligence in handling error	Yes 44	22.8

Source: Field Survey, 2020.

Table 6 represents the categories of errors committed by participants that led to adverse patient outcome. YES, indicating participant response to committing such error and No indicating participants' response to not committing such error. One Hundred and Eleven respondents 57.50% committed communication error. Concerning laboratory test error 58 (30.1%) respondents committed that error. Forty-five (23.3%) and 79 (40.9%) respondents had committed diagnosis error and medication error respectively. Concerning treatment error and records error, 45 (23.3%) and 56 (29%)

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committed such error respectively. Administrative error and surgical error were committed by 35 (18.1%) and 48 (24.9%) respondents respectively. Thirty-seven (19.2%) and 44 (22.8%) respondents committed blood transfusion error and negligence in handling error respectively.

Results of Analyses of Research Questions

Research Question 1

How does the level of adverse patient outcome relate to the psychological and physical distress of second victim?

The goal of the first objective was to determine the extent to which levels of adverse medical errors on patients are associated with psychological wellbeing of health professionals. Table 7 presents how the level of adverse patient outcome relates to the psychological and physical distress. The results indicates that second victim adverse outcomes increase as psychological distress and physical distress increases comparing their means of 8.5 and 7.7 respectively to the means of level of the items of the level of patient adverse outcome.

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Table 7– Results of Descriptive Analysis of Adverse Patient Outcome in Relation to Psychological Distress and Physical Distress of Second Victim

		N	Mean	Std. Deviation	Std. Error
Psychological distress	No Adverse Outcome	25	7.40	3.279	.656
	Minor Adverse Outcome	96	8.59	2.721	.278
	Moderate Adverse Outcome	49	8.51	2.493	.356
	Serious Adverse Outcome	16	9.38	3.613	.903
	Death	7	9.14	1.464	.553
	Total	**193**	**8.50**	**2.808**	**.202**
Physical distress	No Adverse Outcome	25	7.04	2.590	.518
	Minor Adverse Outcome	96	7.43	2.759	.282
	Moderate Adverse Outcome	49	8.45	2.858	.408
	Serious Adverse Outcome	16	8.31	4.029	1.007
	Death	7	9.43	2.879	1.088
	Total	**193**	**7.782**	**2.923**	**.210**

Source: Field Survey, 2020

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Results in Table 7 indicates that second victims who experienced no adverse outcome (M = 7.40, SD = 3.279) had low level of psychological distress compared to the mean score of minor adverse outcome (M = 8.59, SD = 2.721). The results also indicate that second victims experienced high level of psychological distress in terms of minor adverse outcome than moderate adverse outcome. Psychological distress of second victims were considerably high when adverse outcome led to serious adverse outcome (M = 9.38, SD = 3.612) and the death (M = 9.14, SD = 1.464) of patients involved compared to the mean score 8.59 and 8.5.

Furthermore, results indicate that second victims who experienced no adverse outcome had low level physical distress (M = 7.04, SD = 2.590) compared to the mean score of the other adverse outcome. Concerning minor adverse outcome (M = 7.42, SD = 2.759), results indicate that second victims experienced low level of physical distress when compared to moderate adverse outcome. Second victims experienced high level of physical distress in terms of moderate adverse outcome (M = 8.45, SD = 2.858), serious adverse outcome (M = 8.31, SD = 4.023) and death (M = 9.4, SD = 2.878).

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Graphical Representation of How the Level of Patient's Adverse Outcome Relate with Psychological Distress and Physical distress

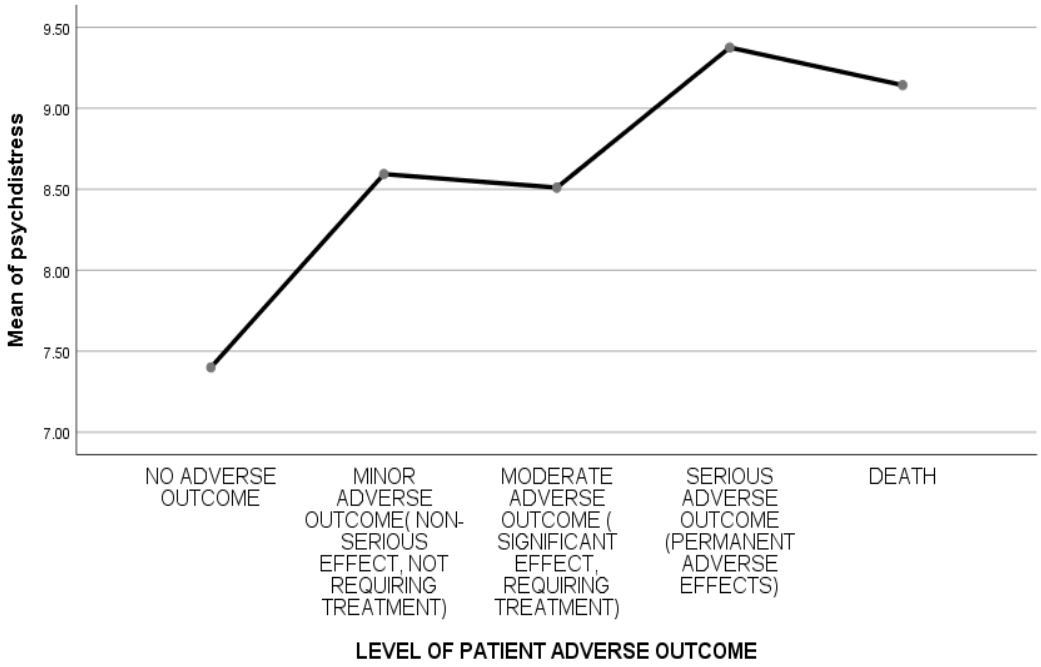

Figure 1- The graphical presentation shows how the level of patient adverse outcome increases as psychological distress increases

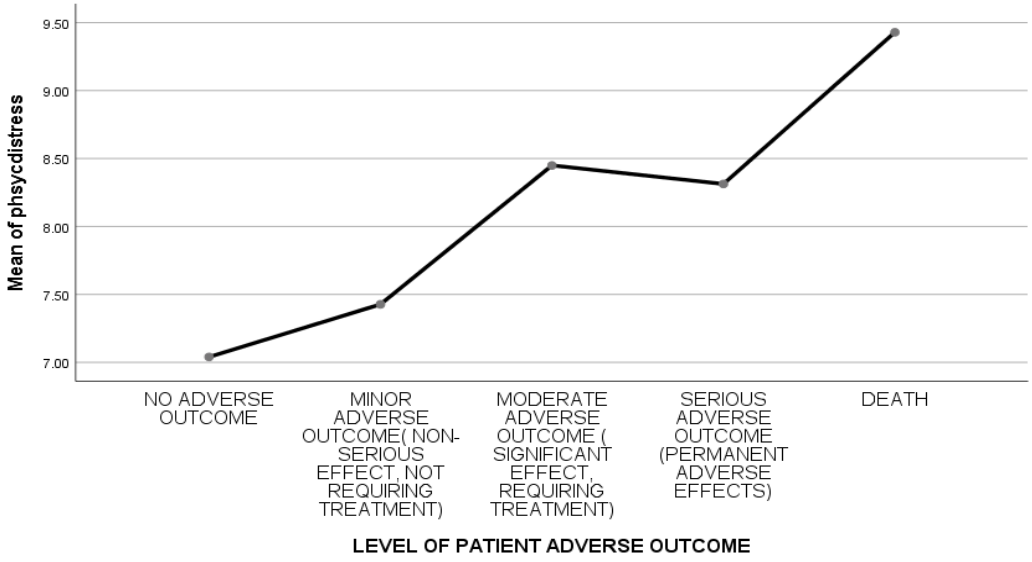

Figure 2- The graphical presentation shows how the level of patient adverse outcome increases as physical distress increases

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It could be asserted that the severity of the adverse medical outcome determines the levels of second victims' psychological distress and physical health. Obvious from the results, as the severity of the adverse medical outcome increases, the more psychological distress and physical health of second victims increases. This assertion could also be observed in Figure 1 and 2 which shows a graphical analysis of the relationship among adverse medical outcome and distresses of second victims.

Further analysis was done to estimate the significance of the relationship between adverse patient outcome, psychological distress and physical distress. Analysis was done using one-way ANOVA. The results are outlined in Table 8.

Table 8 – Results of ANOVA of the Relationship among Adverse Patient Outcome, Psychological Distress, and Physical Distress of Second Victim

		Sum of Squares	df	Mean Square	F	Sig.
Psychological distress	Between Groups	46.240	4	11.560	1.480	.210
	Within Groups	1468.008	188	7.809		
	Total	1514.249	192			
Physical distress	Between Groups	71.136	4	17.784	2.130	.079
	Within Groups	1569.724	188	8.350		
	Total	1640.860	192			

Source: Field Survey (2020)

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The analysis indicated that there was no statistically significant relationship between level of patient adverse outcome and psychological distress, $F_{(4, 188)} = 1.480$, $p = .210$). Similarly, there was no statistically significant relationship between level of patient adverse outcome and physical distress, F (4, 188) = 2.130, $p = .079$).

Research Question 2

What coping strategies do health care providers as second victims engage in following an adverse event?

The aim of this research question was to ascertain the most significance coping mechanism employed by second victims after an adverse medical outcome. Analyses was estimated using means and standard deviation. The intent was to rank in order of the most preferred coping strategies. Table 9 presents the results.

Table 9 – Means and Standard Deviation of Coping Strategies of Second Victims

	Mean	Std. Deviation
Problem Focused Engagement	2.5637	.59663
Problem Focused Disengagement	2.4041	.73413
Emotional Focused Engagement	2.3765	.69379
Emotional Focused Disengagement	1.0665	.34784

Source: Field Survey, 2020.

Table 9 represents the coping strategies that second victims adopt following a medical error. Comparing the means from the results in the table, second victim mostly engaged in problem focused engagement (PFE) coping strategies following patient adverse outcome with the mean of (M = 2.56),

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followed by emotion focused disengagement (EFD) (M =2.4) which is the second coping strategy second victims engaged in, emotion focused engagement (EFE) (M =2.3) is the third coping strategy second victims engage in and problem focused disengagement (PFD) (M =1.06) is the last coping strategy. Second victims seldom engaged in emotion focused engagement coping strategies comparing its means to the remaining coping strategies in the Table 9. The results showed that second victims adopt coping strategies to deal with the effects of adverse patients' outcomes.

Research Question 3

How do the forms of support relate to the psychological and physical distress of second victims?

Table 10– Multiple Regression Analysis of the Relationship among Support Psychological Distress of second victim

		Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	4.139	.975		4.247	.000		
	Colleague support	.215	.094	.195	2.287	.023	.645	1.551
	Supervisors support	.139	.092	.132	1.516	.131	.623	1.606
	Institutional support	.002	.136	.001	.017	.986	.641	1.560
	Non-work-related support	.137	.136	.085	1.005	.316	.663	1.509

a. Dependent Variable: Psychological distress R= .340, R^2=.115, F (4, 188) = 6.13, p< .001.

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Table 10 shows results on the test of multiple regression on how forms of support which are colleague support, supervisor's support, institutional support and non-work-related support relate with psychological distress. The entire model was statistically significant, F (4, 188) = 6.13, p <.001. The model accounted for 11.5% of the variations in psychological distress (R^2 = .115). From the results, only colleague support significantly predicted psychological distress (β = .20, p = .023). Colleagues' support had a positive relationship with psychological distress. However, there were no significant predictions relating to supervisor's support (β = .13, p = .131), institutional support (β = .001, p = .986) and non-work-related support (β = .09, p = .316). Additionally, Table 11 presents results on physical distress.

Table 11– Multiple Regression Analysis of the Relationship among Support and Physical Distress of Second Victim

	Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
Model	**B**	**Std. Error**	**Beta**	**T**	**Sig.**	**Tolerance**	**VIF**
1 Constant	3.581	1.022		3.503	.001		
Colleague support	.303	.099	.264	3.071	.002	.645	1.551
Supervisors support	.054	.096	.049	.557	.578	.623	1.606
Institutional support	.128	.143	.078	.899	.370	.641	1.560
Non work-related support	-.063	.143	-.038	-.443	.658	.663	1.509

a. Dependent Variable: Physical distress, R= .319, R^2=.102, F (4, 188) = 5.34, p< .001

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Table 11 shows results on the test of multiple regression on how forms of support which are colleague support, supervisor's support, institutional support and non-work-related support relate with physical distress. The overall model which was statistically significant, F (4, 188) = 5.34, p <.001; accounted for 10.2% of the variations in physical distress (R^2 = .102). The results further showed that only colleague support had a significant relationship with physical distress (β = .26, p = .002). This relationship was positive in nature. However, there were no significant predictions relating to supervisor's support (β = .05, p = .578), institutional support (β = .08, p = .370), and non-work-related support (β = -.44, p = .658).

Research Question 4

How do the forms of coping strategies relate to the psychological and physical distress of second victims?

Table 12 shows results on the test of multiple regression on how forms of coping strategies which is problem focused engagement, problem focused disengagement, emotion focused engagement and emotion focused disengagement relate with psychological distress.

Table 12– Multiple Regression Analysis of the Relationship among Coping Strategies and Psychological Distress of Second Victim.

Model		Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	6.026	.992		6.078	.000		
	PFE	.154	.389	.033	.395	.693	.733	1.365
	PFD	1.775	.702	.220	2.528	.012	.660	1.515
	EFE	-.010	.328	-.003	-.031	.975	.762	1.313
	EFD	.089	.331	.023	.269	.788	.668	1.498

a. Dependent Variable: Psychological distress

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From the results in Table 12, only problem focused disengagement made positive significant predictions relating to psychological distress (β = .22, p = .012). this implies that 1 standard deviations unit increase in problem focused disengagement leads to .22 standard deviation units increase in psychological distress. However, there were no significant predictions relating to problem focused engagement (β = .03, p = .693), emotion focused engagement (β = -.003, p = .975), and emotion focused disengagement (β = .02, p = .788). Table 13 shows results on the test of multiple regression physical distress.

Table 13– Coefficient Results of the Relationship among Coping Strategies and Physical Distress of Second Victim

	Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Toler.	VIF
(Constant)	6.417	1.043		6.155	.000		
PFE	-.426	.409	-.087	-1.041	.299	.733	1.365
PFD	1.587	.738	.189	2.149	.033	.660	1.515
EFE	.366	.345	.087	1.063	.289	.762	1.313
EFD	-.044	.348	-.011	-.128	.899	.668	1.498

The model containing the predictor variables was statistically significant, explaining 10.2% of the variations in psychological distress, R^2=.102, F (4,188) = 5.34, p < .001. From the results, as shown in Table 13, only problem focused disengagement made positive significant prediction (β =

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.19, p = .033), which means a standard deviation unit increase in problem focused disengagement leads to .19 standard deviation units increase in physical distress. However, problem focused engagement (β = -.08, p = .299), emotion focused engagement (β = .08, p = .289), and emotion focused disengagement β = -.01, p = .899) did not relate with physical distress.

Discussion of Findings

The study was aimed at examining some effects (psychological and physical distresses) experienced by second victims, the coping strategies adopted, and the role of social support. Preliminary investigations indicated that health professionals acknowledged that adverse medical events they commit leave a devastating imprint on patients. The result implies that medical errors in the health settings predisposes patients to other adverse serious medical conditions. This result is supported by Pyo, Ock and Han (2019). According to their findings patients and their family suffer both physical and psychological harm due to medical mistakes or errors that are committed by health professionals whilst treating patients in health settings. Similarly, Sarhadi, Abdollhyar, Navidian, Sheikh and Sarhadi, (2015), on repercussions of adverse medical outcomes or mistakes on patients, discovered that the harms patients sustained during the treatment of their diseases rather than the disease itself, and potentially lead to prolonged hospitalisation, temporary or permanent disability to patients. This assertion by Sarhadi et al. is supported by Vincent (2011). Likewise, Popescu, Currey and Botti (2011) who found that the impact of medication errors on patients may lead to death, disabilities, prolonged hospital stay or additional medical conditions.

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De Vries, Ramrattan, Smorenburg, Gouma, and Boermeester (2008) in cases that may present no damage to the victim, or cases that may present temporal damage to the victim or one that may last forever or even result in the death of the victim. Compared to the results of this study, medical errors had led to various types of injuries ranging from non-serious effects which did not require treatment to serious effects which even resulted in the death of patients. However, majority of the errors had minor to moderate effects. Equally, some studies (Adams & Koch, 2010; Anderson & Webster, 2005) revealed that 20% to 40% of medical errors resulted in potentially fatal events and affected patients severely. Surprisingly, 42% of the medical errors were preventable. These findings from literature and that of the current study point to the fact that adverse medical events are very hazardous and significantly affect the wellbeing of patients and their family.

It was also discovered that most health professionals have ever encountered medical blunders during their career. The results support the assertion that medical errors are inevitably part of the work of health professionals and the healthcare system (Wilfred, 2013). It was found in this study that approximately 87% (166 out of 193) of health professionals had committed medical errors during the discharge of their duties in the health settings. In other related studies, it was reported that 80% of physicians have ever encountered an adverse events or a near miss and were also personally or professionally affected (Miira et al., 2015; Harrison, Lawton, & Stewart, 2014).

Similarly, Edrees and Federico (2015) and Seys et al. (2013) found that nearly 50% of the entire population of health care professionals commit

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adverse medical error once in their career. Another study conducted in the USA by Gazoni, Amato, Malik, and Durieux (2012) found that 84% of 1200 anaesthesiologists had experienced at least one unanticipated death or serious event in their career. Another survey in the United Kingdom, reported that 92% of practicing anaesthetists experienced an intraoperative death in their career (Gazoni, Durieux, & Wells, 2008). In Nigeria, Ogunbiyi, Eguma, and Mato (2006) revealed that 86% of anaesthetists had psychological inflictions due to involvement in medical errors.

The results showed that health professionals usually make mistakes as they care, treat and mange patients. This also mean that many patients who visit the hospital for treatment and management of their peculiar conditions end up being injured, harmed or are sent to their early grave due to errors committed by health professionals. This result also, point to the fact that interventions and policies are needed to reduce adverse medical events in the hospital, and to protect the wellbeing of patients.

Results from the study also indicated the various forms of medical errors in the medical settings. Findings indicated that health professionals had been committed several adverse medical errors such as laboratory, treatment, blood transfusion, the most frequent adverse patient outcome is related to communication and medication errors. The study revealed that miscommunication among clinicians as a team, and between clinicians and individuals receiving treatment contributed to adverse patients' outcome. Again, medicine related errors such as wrong prescription (wrong medication, overdose and under dose) are also rampant in the health care setting where the study was conducted.

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A previous study in Ghana, discovered that most probable causes of errors of dispensing medicines are related to healthcare staff factors, patient factors, prescription, and communication problems. Accoridng to Chaneliere, Koehler, Morlan, Berra, Colin, Dupie, and Michel (2018), some factors such as communication error among healthcare professionals and/or between patients, lack of attention, stress, anger, fatigue, and illegible handwritten prescriptions are the significant causes of PSIs and adverse outcomes. Keers, Williams, Cooke and Ashcroft (2013) also found that factors such as high perceived workload, problems with ward-based equipment, problems with medicines supply and storage, interruptions/distractions during drug administration, and staff health status (fatigue, stress) are the major determinants of medical blunders and unfavourable medical incidents. Majority of these factors are linked with the practices of clinicians or providers of health care. Although there are similarities and differences regarding the outcomes of this study and that of the reviewed studies, it could be deduced that varied factors contribute to the errors committed by health care professionals. The differences in the findings could be the different aims and interests of the researchers. However, the finding is expedient for addressing adverse medical event amongst health care professionals.

Relationship among Adverse Patient Outcome, Psychological Distress and Physical Distress

The goal of research question one was to ascertain whether levels of adverse medical errors on patients are associated with psychological and physical distresses among healthcare professionals. The findings of the current study disclosed that following an adverse medical and patient's events, health

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care professionals or second victims suffer both psychological and physical distresses. The findings indicated that second victims who experienced no adverse outcome have low level of psychological and physical distresses. The findings also revealed that second victims experienced high level of psychological distress following a minor to serious adverse outcome. In the study, physical and psychological distresses of second victims were considerably high when adverse outcome led to serious adverse effects such as death of patients involved.

It was noted that adverse medical outcomes potentially affect the wellbeing of health care providers or clinicians who make serious mistakes when treating patients. Again, the seriousness of an adverse medical outcome usually determines the levels of second victims' psychological and physical distresses. It was obvious from the study that as adverse medical outcome increases, it results in a corresponding decline in the psychological and physical health of second victims. Generally, the study revealed that adverse patient outcome relates with psychological and physical distress among second victims. The finding from the current study agrees with findings of other previous investigations (Busch et al., 2020; Seys et al. 2013; Orzechowska et al., 2013; Harrison et al., 2015; Harrison, Lawton, & Stewart, 2014).

Busch et al. (2020) reported that Second Victims of Adverse events have a high prevalence of psychological symptoms. It was also noted from the works of Busch et al. that a little over 66% of healthcare providers experienced disturbing memories, faced anxiety, experienced rage, felt remorse, and were distressed.

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Similarly, Seys et al. (2013) concluded that second victims' usually have the feelings of shame, worthlessness, feel guilty and have fear towards caring for other patients and this psychological effect heightens the chance of further adverse effect. It was also revealed that the gravity of the physical and psychological effect experienced by healthcare practitioners is influenced greatly by the level of the harm caused. According to Orzechowska et al. (2013), stressful life experiences and coping with them may expose an individual to several mood disorders and this in turn causes other severe stresses. Orzechowska et al. further posited that the gravity of an error caused has a bearing on how second victims' cope. "Near miss" or "close calls" are those situations where there could have been an adverse effect on the lives of patients but did not and adverse effect are those that causes huge damage to the patient and all these situations shape the extent of the stress second victims go through and how they cope with them (Harrison et al., 2015).

Relatedly, Harrison et al. (2014) observed that second victims' professional and personal life are seriously affected following adverse events. Harrison et al. further claimed that physicians mostly experience higher levels of stress, anxiety, insomnia, and lower confidence in their professional capabilities. Participants in the study became worried over future occurrences of adverse events. Another report revealed that physicians who had experienced an adverse event were also personally or professionally affected (Miira et al., 2015).

Quillivan, Burlison, Browne, Scott and Hoffman, (2016) assessed the influence of patient safety culture on second victim-related distress. The patient safety culture survey dimension (i.e., nonpunitive response to error)

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was significantly associated with reductions in the second victim survey dimensions (psychological, physical, and professional outcomes). The researcher argued that punitive safety cultures may contribute to self-reported perceptions of second victim-related psychological, physical, and professional distress.

Similarly, Chan et al. (2017) found that the involvement in adverse events elicit significant episodes of psychological reactions in second victims. The study concluded that instituting adequate frameworks that provide the needed assistance for second victims or clinicians who encounter medical blunders in the organisations is warranted.

Gallagher, Waterman, Ebers, Fraser and Levinson (2003) found that for some physicians, the emotional disturbance following an error led to sleeplessness, difficulty concentrating, disorientation, and anxiety. The study recommended that institutions that provide health care services should endeavour to fortify the systems of support they give to their nursing and medical staff to manage their emotions whenever they make medical errors.

Waterman et al. (2007) also reported consequences of errors included anxiety about future errors, loss of confidence, sleeping difficulties, reduced job satisfaction, and feeling that one's reputation was harmed. Waterman et al. recommended that organisational resources to assist physicians subsequent to the occurrence of medical mistakes need to be enhanced. Another study by Kobe, Blouin, Moltzan and Koul (2019) confirmed that Canadian radiation therapists who have been involved in health care-related incidents did experience emotional and physical reactions.

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Relatedly, Zhang, Li, Guo and Lee (2019) found that about half (45.3%) of nurses experienced psychological distress, and 26.6% of the nurses had the thoughts of deserting their job due to medical mistakes.

Coping Strategies Adopted by Second Victims Following an Adverse Event

Research Question Two sought to investigate the coping strategies adopted by health care practitioners after medical blunders. Providers. In effect, the major motive of this research question was to ascertain the coping mechanism employed by second victims after an adverse medical outcome. The findings from the study revealed that second victims engaged in coping strategies such as problem focused engagement (PFE) coping strategies, emotion focused disengagement (EFD), emotion focused engagement (EFE) and problem focused disengagement (PFD). The findings indicated that the most common coping strategy is the problem focused engagement (PFE) coping strategies, followed by emotion focused disengagement (EFD) and then emotion focused engagement (EFE). The last coping strategies adopted was problem focused disengagement (PFD). The frequent use of PFE means that second victims made conscious efforts to reduce the impact of emotional, physiological, and social harm presented by an adverse patient's outcome. The aim of a primary focused coping is to take an action that deactivate the harm of a situation. The finding of the study agrees with the finding of other previous studies (Busch et al., 2020; Chan et al., 2017; Chan et al., 2018; Harrison et al., 2015).

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Chan et al. (2017) found that in coping with the second victim syndrome, individualised coping strategies were adopted by the healthcare professionals.

Also, Busch et al. (2020) found that the five most frequent coping strategies were changing work attitude, following policies and guidelines more accurately and closely, paying more attention to detail (task oriented), problem-solving/concrete action plan (task oriented), and criticising or lecturing oneself (emotion oriented). Busch et al. suggested that to better support second victims and ensure patient safety, coping strategies should be evaluated considering the positive and negative effects on the clinician's personal and professional well-being.

Similarly, Chan et al. (2018) revealed that the coping strategies that were adopted by their research participants were spirituality (i.e., praying or asking for assistance from God or a supreme being), talking to someone about the adverse event, absenting oneself from work as way of avoiding the regular roles or refusing to perform some tasks that may predispose them to committing medical mistakes. Harrison et al. (2015) that respondents favoured using a direct approach or problem-focused coping strategy in handling or managing the effects of a medical mistake.

A possible reason for this finding could be that health care providers at Ghana Police Hospital and Holy Family Hospital prefer personal coping strategies to institutional-based coping strategies after experiencing adverse medical events. This may be because the health care providers have no or little trust in institutional-based coping strategies. It is also possible that the hospitals have difficulties in treating their health care providers' issues

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regarding adverse outcome with patients confidential. Another reason for this finding could be that for the health professionals not to be stigmatised, they would rather cope with the issue personally than to access support services provided by the institution. When these happen, there is a higher possibility that health personnel will not access any support service that the organisation provides.

Relationship among Forms of Support, Psychological Distress and Physical Distress

Research Question 3 sought to examine how the forms of support relate to the psychological and physical distress of second victims. The main aim of this research question was to analyse how forms of support which are colleague support, supervisor's support, institutional support and non-work-related support relate with psychological distress. From the results, only colleague support made positive significant predictions, which means as colleague support increases psychological distress decreases. However, there were no significant predictions relating to supervisor's support, institutional support and non-work-related support. The finding of the study corroborates other few researches (Edrees et al., 2011; Chan et al., 2018).

For example, Edrees et al. (2011) attempted to emphasise the importance of support structures for second victims in the handling of patient adverse events and in building a culture of safety within hospitals using a survey. Edrees et al. found that seeking social support from colleagues was one of the best ways to help a second victim. In a related study, Chan et al. (2018) pointed out that second victims with a functioning support team has the capacity to lessen the psychological burden for such victims.

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Similarly, the finding from this study is consistent with the Critical Incident Stress Debriefing developed by Mitchell (1974) which serves as one of the main theoretical underpinnings of this study. Mitchell basically developed the theory to provide an avenue for victims where they will be able to share their pain without fearing that others will be judgemental. The Critical Incident Stress Debriefing was meant to be a safe haven for all victims. They are open and safe and this is crucial to the recovery processes of every victim. Contrary to the above findings, Harrison et al. (2015). Harrison et al. discovered that second victims mostly preferred helping themselves to recover than to use institutional support services.

Likewise, Chan et al. (2017) found that because second victims are not familiar with the assistance from colleague workers and may doubt their expediency, they may opt to use personal resources to cope.

By extension, the presence of any supportive colleagues at the workplace where workers are not judgemental will provide an avenue of all second victims to express themselves in simple and plain words without the fear of losing their jobs or others judging them based on the error that has occurred. The finding of the study underscores that a functioning support team has the capacity to lessen the psychological and physical burden for second victims. Additionally, the finding from the study pointed out that the presence of a strong support system, especially from colleagues at the workplace helps second victims to adapt to the psychological and physical distress following an adverse event.

A possible explanation for this finding could be that, a person who has committed a medical error may feel comfortable to communicate such an

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occurrence to a close peer than to any other support system. It could be that peers may better appreciate and console the second victims involved than the supervisor or the institution, hence, their decision to prefer colleague support to other forms of support. Another acceptable explanation for this finding could be that the colleagues might have gone through similar experience and may be in a better position to advise other people who are also facing such experiences.

Relationship among Coping Strategies, Psychological Distress and Physical Distress

Research Question 4 examined how the forms of coping strategies relate to the psychological and physical distress of second victims. Basically, the study intended to focus on how forms of coping strategies which are problem focused engagement, problem focused disengagement, emotion focused engagement and emotion focused disengagement relate with psychological distress. The findings from the study revealed that only problem focused disengagement made positive significant predictions relating to psychological distress. This implies that the increase in problem focused disengagement leads to increase in psychological distress. Likewise, a decrease in problem focus disengagement results in a significant reduction in psychological distress. However, there were no significant predictions relating to problem focused engagement, emotion focused engagement and emotion focused disengagement.

As pointed out in the Chapter Two of this study, problem focused approach does not work in every situation especially in situations where the individual facing the problem cannot completely solve the main source of the

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stress rather problem-focused method works best when the individual has control over the source of the stress. With problem focused method of coping, healthcare professionals with second victim experience find ways to cope with the problem at hand by adopting strategies to lessen or deal with the stress they face. Since they cannot control the source of the stress, they try as much as possible to cope by adopting strategies to lower the stress.

A possible reason for this finding could be that since there is no "a one size fit all approach" to dealing with adverse medical outcomes, the health professionals choose the best approach to deal with the situation as and when they come. Another acceptable explanation that could be given to this finding could be as a result of the uniqueness of adverse medical conditions. An adverse medical condition that occurred sometime back may differ from the present condition in many aspects, therefore, employing the same approach that was employed previously may not suffice for the present situation.

Chapter Summary

The study examined the psychological experiences of healthcare professionals and their coping strategies following an adverse patients' errors. Specific objectives were to: i) determine how adverse patient outcome relate to the psychological and physical distress of second victim, ii) identify the coping strategies health care providers as second victims engage in following an adverse event; iii) explore the extent to which the forms of support relate to the psychological and physical distress of second victims, and iv) explore the extent to which coping strategies relate to the psychological and physical distress of second victims.

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The study found that health care professionals or second victims suffer both psychological and physical distresses after an adverse medical and patient's events. The study also found that the mostly engaged coping strategy is the problem focused engagement (PFE) coping strategies. The study also found that, only colleague support made positive significant predictions, which means as colleague support increases psychological distress decreases. Lastly, the study revealed that only problem focused disengagement made positive significant predictions relating to psychological distress.

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CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overview of the Study

The study examined the psychological experiences of healthcare professionals and their coping strategies following an adverse patients' errors. Specific objectives were to: i) determine how adverse patient outcome relate to the psychological and physical distress of second victim, ii) identify the coping strategies health care providers as second victims engage in following an adverse event; iii) explore the extent to which the forms of support relate to the psychological and physical distress of second victims, and iv) explore the extent to which coping strategies relate to the psychological and physical distress of second victims.

The study was conducted in two selected hospitals in the Greater-Accra Region (The Ghana Police Hospital) and Bono East Region (The Holy Family Hospital). Participants were chosen from five major categories of health profession namely Doctors, Nurses, Pharmacists, Lab Technicians, and Anaesthesiologists. A total of one hundred and ninety-three (193) health professionals participated in the study.

Information was solicited quantitatively using a five (5) section instrument which measured participants' demographic characteristics, distribution on adverse patients' outcome, psychological and physical distress as well as coping strategies. Data was analysed quantitatively mainly by frequency distributions, means and standard deviation, one-way ANOVA, linear and multiple regression analyses. The tests were conducted for significant differences at a significance level of 0.05.

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Summary of Key Findings

The study discovered the following issues regarding the psychological consequences of patients' adverse outcome and the coping strategies used by second victims.

1. According to the findings, there were significant relationship between level of patient adverse outcome and their psychological and physical distresses. In other words, adverse medical outcomes amongst healthcare professionals are related to psychological and physical distresses.
2. Second victims used both problem and emotional focused coping mechanism to deal with the effects of adverse patients' outcomes.
3. Additionally, findings indicated that social support, more particularly colleagues' support, had a significant impact on the psychological and physical distress of second victims.
4. Coping strategies (problem focused disengagement) significantly impact the psychological and physical distress of second victims.

Conclusions

Conclusions made based on the findings of the study:

Adverse medical errors are inevitably part of the work of healthcare providers and result in significant harm among patients.

Medical errors differ across different circumstances in the healthcare settings.

Following an adverse medical outcome, second victims experience both psychological and physical distresses. The results connote that healthcare providers who are involved in adverse medical errors suffer a great deal.

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It could be asserted that the severity of the adverse medical outcome determines the levels of second victims' psychological distress and physical health. The results also showed that second victims adopt coping strategies to deal with the effects of adverse patients' outcomes.

Social support from colleagues at the workplace aids second victims to overcome the consequences of adverse patients' outcome (psychological and physical distresses).

Means of coping has an impact on the wellbeing of health care workers involved in adverse medical errors.

Recommendations

The study discovered significance findings which can be utilised to enhance the wellbeing of health professionals and their patients as well as the image of health care settings. Similarly, the results of the study are relevant for interventions and policies to protect patients and second victims from the potential effects of adverse medical events. Grounded on the relevance of the findings the following recommendations are given:

1. As results of the impacts and inevitable nature of adverse medical outcomes, healthcare providers are entreated to adopt professional and efficient ways that would ensure that the safety of patients during treatment becomes prime importance. This would drastically reduce the number and frequencies of adverse medical outcomes on patients., Stakeholders such as the Ministry of Health, Ghana Health Service, and health professionals' organisations should regularly organise training sessions to educate healthcare professionals on the extent of impact of adverse medical outcomes on patients, prevention/ reduction

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mechanisms, and channels to report and address medical errors as they occur.

2. The Ministry of Health, Ghana Health Service, and directors of healthcare facilities should understand that adverse medical errors have devastating effects on healthcare providers. Armed with this knowledge, appropriate interventions that would ensure excellence coping with the effects of medical errors on healthcare providers should be enacted. With these interventions, second victims would be aided to overcome the effects of adverse medical errors, learn from their mistakes and be adequately prepared to properly handle future medical issues. Similarly, the public must also be sensitised on the effects of adverse medical outcome on healthcare professionals to eradicate the misconceptions that health care professionals are not perturbed when they caused serious medical errors to patients. The sensitisation would enable the public to show empathy, understanding and support to health care professionals in times of such occasions.
3. The management of Ghana Police Hospital and Holy Family Hospital should endeavour to provide the appropriate supportive environment (e.g., mentorship programmes) for their healthcare providers in order for them to heal effectively from second victim syndrome after experiencing adverse medical events. This will help eliminate all psychological and physical distress that come with that experience.
4. The Management of Ghana Police Hospital and Holy Family Hospital should empower their health care providers to develop their personal coping abilities after experiencing adverse medical outcomes. This

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could be done through organising in-service education programmes from time to time. This will help reduce the negative impact of the adverse medical outcome on the healthcare providers, which would in turn reduce turnover intentions and improve productivity. They should also continuously support and encourage healthcare providers about the importance of belonging to a peer support network, as this has been found to significantly reduce the detrimental impact of an adverse medical outcome.

Suggestions for Further Research

The following are suggestions for future research:

1. Future studies should consider examining the current policies and interventions adopted by healthcare facilities for healthcare providers involved in adverse medical outcome.
2. The relationship and impact among job satisfaction, work-family conflict, quality of life, and adverse medical outcomes among healthcare providers should also be considered.
3. Only scales were used to collect information from participants. Thus, using alternative data collection methods such as qualitative sources and clinical observations in future will be worthwhile.

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APPENDICES

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APPENDIX A

QUESTIONNAIRE

This questionnaire is part of a study exploring the PSYCHOLOGICAL EXPERIENCES COPING STRATEGIES OF HEALTHCARE PROFESSIONALS INVOLVED IN ADVERSE MEDICAL ERRORS. The results of this research, based on your responses will be presented to the School of Graduate Studies, University of Cape Coast. This exercise is mainly for academic purpose and your anonymity and confidentiality is strictly assured. You will be contributing immensely towards the success of the research and knowledge if you answer these questions as frankly as possible. Thank you for your assistance.

SECTION A: ***DEMOGRAPHIC DATA***

Please tick (√) the correct answer to the following questions as they apply to you.

1. Gender: Male [ ] Female [ ]

2. Age: 18 – 33 years [ ] 34 – 49 years [ ]

50 – **65** years [ ] 66 years and above [ ]

3. **Marital status:** Single [ ] Married [ ] Divorced [ ] Widow [ ]

4. **Years of work experience:** Less than a year [ ] 1 – 5 years [ ]

5 – 10 years [ ] 16 – 20 years [ ] 20+ years [ ]

5. Category of health profession:

Doctor [ ] Nurse [ ] Pharmacist [ ] Lab Technician [ ]

Anesthesiologist [ ]

Other [ ]: (please specify): ……

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SECTION B: Adverse Medical Patient Outcome

1. Please indicate level of patient adverse outcome you have ever experienced in your healthcare practice, using the scale:

[ ] 0 = No adverse outcome

[ ] 1 = Minor adverse outcome (non-serious effect, not requiring treatment)

[ ] 2 = Moderate adverse outcome (significant effect, requiring treatment)

[ ] 3 = Serious adverse outcome (permanent adverse effects)

[ ] 4 = Death

2. How many times have you experienced patient adverse outcome in your career? 0 [ ] 1-5 [ ] 6-10 [ ] 11-15 [ ] 16-20 [ ] above 20 [ ]

3. Type of Error (Patient Outcome encountered)

Please check one or more of the following categories to identify the primary thing you believe went wrong in the patient outcome case you referred above.

Categories of errors that led to adverse patient outcome	**Please tick all that apply**
Communication error	
Laboratory test error	
Diagnosis error	
Medication error	
Treatment error	
Records error	
Administration error	
Surgical error	
Blood transfusion error	
Negligence in handling patients	

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SECTION C: Second Victim Experience and Support Tool (SVEST)

The following survey will evaluate your experiences with adverse patient safety events. These incidents may or may not have been due to error. They also may or may not include circumstances that resulted in patient harm or nearly reached the patient (i.e., near-miss patient safety events). Please indicate how much you agree with the following statements as they pertain to yourself and your own experiences. Please tick in the box under the column that is descriptive the extent to which you agree or disagree the following statements using the following scale:

1= Strongly Disagree; 2= Disagree; 3 = Agree; 4 = Strongly Agree

	ITEMS	RATINGS			
1.	I have experienced embarrassment from these instances.	**1**	**2**	**3**	**4**
2.	My involvement in these types of instances has made me fearful of future occurrences	**1**	**2**	**3**	**4**
3.	My experiences have made me feel miserable.	**1**	**2**	**3**	**4**
4.	I feel deep remorse for my past involvements in these types of events.	**1**	**2**	**3**	**4**
5.	The mental weight of my experience is exhausting.	**1**	**2**	**3**	**4**
6.	My experience with these events can make it hard to sleep regularly.	**1**	**2**	**3**	**4**
7.	The stress from these events has made me feel queasy or nauseous.	**1**	**2**	**3**	**4**

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8.	Thinking about these events can make it difficult to have an appetite.	**1**	**2**	**3**	**4**
9.	I appreciate my co-workers' attempts to console me, but their efforts can come at the wrong time.	**1**	**2**	**3**	**4**
10.	Discussing what happened with my colleagues provides me with a sense of relief.	**1**	**2**	**3**	**4**
11.	My colleagues can be indifferent to the impact these events have had on me.	**1**	**2**	**3**	**4**
12.	My colleagues help me feel that I am still a good healthcare provider despite any mistakes I have made.	**1**	**2**	**3**	**4**
13.	I feel that my supervisor treats me appropriately after these events.	**1**	**2**	**3**	**4**
14.	My supervisor's responses are fair.	**1**	**2**	**3**	**4**
15.	My supervisor blames individuals when these events occur.	**1**	**2**	**3**	**4**
16.	I feel that my supervisor evaluates these events in a manner that considers the complexity of patient care practices.	**1**	**2**	**3**	**4**
17.	My organisation understands that those involved in these events may need help to process and resolve any effects they may have on care providers.	**1**	**2**	**3**	**4**

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18.	My organisation offers a variety of resources to help me get over the effects of involvement with these events.	**1**	**2**	**3**	**4**
19.	The concept of concern for the well-being of those involved in these events is not strong at my organisation.	**1**	**2**	**3**	**4**
20.	I look to close friends and family for emotional support after one of these events happens.	**1**	**2**	**3**	**4**
21.	The love from my closest friends and family helps me get over these events.	**1**	**2**	**3**	**4**

SECTION D

Please tick in the box under the column that is descriptive the extent to which you agree or disagree the following statements using the following scale:

1= Very Desired; 2= Desired; 3 = Undesired; 4 = Very Undesired

22.	The ability to immediately take time away from my unit for a short while.	**1**	**2**	**3**	**4**
23.	A specified peaceful location that is available to recover and recompose after one of these types of events.	**1**	**2**	**3**	**4**
24.	A respected peer to discuss the details of what happened.	**1**	**2**	**3**	**4**
25.	An employee assistance programme that can provide free counselling to employees outside of	**1**	**2**	**3**	**4**

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	work.				
26.	A discussion with my manager or supervisor about the event.	**1**	**2**	**3**	**4**
27.	The opportunity to schedule a time with a counsellor at my hospital to discuss the event.	**1**	**2**	**3**	**4**
28.	A confidential way to get in touch with someone 24 hours a day to discuss how my experience may be affecting me.	**1**	**2**	**3**	**4**

SECTION E

The following section is about Coping Strategies adopted following a medical error. Please read the following questions carefully and indicate your responses as honest as possible, using the scale provided. ***1 = seldom; 2 = sometimes; 3 = often; 4 = almost always***

ITEMS		**RATINGS**			
1	I make a plan of action and follow it	1	2	3	4
2	I look for the silver lining or try to look on the bright side of things	1	2	3	4
3	I try to spend time alone	1	2	3	4
4	I hope the problem will take care of itself	1	2	3	4
5	I try to let my emotions out	1	2	3	4
6	I try to talk about it with a friend or family	1	2	3	4
7	I try to put the problem out of my mind	1	2	3	4
8	I tackle the problem head on	1	2	3	4

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9	I step back from the situation and try to put things into perspective	1	2	3	4
10	I tend to blame myself	1	2	3	4
11	I let my feelings out to reduce the stress	1	2	3	4
12	I hope for a miracle	1	2	3	4
13	I ask close friend or relative that I respect for help or advice	1	2	3	4
14	I try not to think about the problem	1	2	3	4
15	I tend to Criticise myself	1	2	3	4
16	I keep my thoughts and feelings to myself	1	2	3	4

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APPENDIX B

INTRODUCTORY LETTER

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF EDUCATIONAL FOUNDATIONS
DEPARTMENT OF EDUCATION AND PSYCHOLOGY

Telephone: 233-3321-32440/4 & 32480/3
Direct: 033 20 91697
Fax: 03321-30184
Telex: 2552, UCC, GH.
Telegram & Cables: University, Cape Coast
Email: edufound@ucc.edu.gh

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref:

Your Ref:

16th June, 2020

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

THESIS WORK
LETTER OF INTRODUCTION: MS. ELIZABETH ADZO TEHODA

We introduce to you **Ms. Tehoda**, a student from the Department of Education and Psychology, University of Cape Coast. She is pursuing Master of Philosophy Degree in Clinical Health Psychology and she is currently at the thesis stage.

Ms. Tehoda is researching on the topic: **"PSYCHOLOGICAL CONSEQUENCES OF SECOND VICTIMS EXPERIENCE AND COPING STRATEGIES AMONG HEALTH CARE WORKERS."**

She has opted to collect data at your institution/establishment for her Thesis work.

We would be most grateful if you could provide her the opportunity and assistance for the study.

Any information provided would be treated strictly as confidential.

We sincerely appreciate your co-operation and assistance in this direction.

Thank you.

Yours faithfully,

Theophilus A. Fiadzomor (Mr.)
Principal Administrative Assistant
For: **HEAD**

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APPENDIX C

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: CES-ERB/ucc.edu/v4/20-46

Your Ref: ....

Date: 6th July, 2020

Chairman, CES-ERB
Prof. J. A. Omotosho
jomotosho@ucc.edu.gh
0243784739

Vice-Chairman, CES-ERB
Prof. K. Edjah
kedjah@ucc.edu.gh
0244742357

Secretary, CES-ERB
Prof. Linda Dzama Forde
lforde@ucc.edu.gh
0244786680

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

The bearer, Elizabeth Adza Tetteh, Reg. No. EF/[illegible] is an M.Phil. / ~~Ph.D.~~ student in the Department of Education and Psychology in the College of Education Studies, University of Cape Coast, Cape Coast, Ghana. He / She wishes to undertake a research study on the topic:

Psychological consequences of sexual violence experience of adverse [illegible] and coping strategies

The Ethical Review Board (ERB) of the College of Education Studies (CES) has assessed ~~his~~/her proposal and confirm that the proposal satisfies the College's ethical requirements for the conduct of the study.

In view of the above, the researcher has been cleared and given approval to commence ~~his~~/her study. The ERB would be grateful if you would give ~~him~~/her the necessary assistance to facilitate the conduct of the said research.

Thank you.
Yours faithfully,

Prof. Linda Dzama Forde
(Secretary, CES-ERB)

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