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DEPRESSION, ANXIETY AND STRESS AMONG PAEDIATRIC HEALTHCARE WORKERS IN ACCRA

BY

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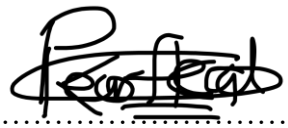
DECLARATION

I, PERFECT KOKA, hereby declare that apart from specific references made which have been duly acknowledged, this research proposal is my independent work undertaken under the supervision of DR. ABIGAIL SERWAA AKOTO BAWUA. I also declare that no part of this proposal has been submitted for the award of any degree in this University or any University elsewhere.



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(ACADEMIC SUPERVISOR)

DEDICATION

To my son, Ethan-Ira Selikem Aflakpui. The canvas is blank; paint your story.

ACKNOWLEDGMENT

First and foremost, I give all glory and thanks to God, whose grace, guidance, and strength have been my anchor throughout this journey. Without His wisdom and unwavering presence, this work would not have been possible.

I am profoundly grateful to my supervisor, Dr. Serwaa Akoto Bawua, for the invaluable guidance, encouragement, and support throughout the process. Your insight and dedication have not only shaped this research but have also inspired me to grow both academically and personally.

To my beloved husband, Elikem, your endless patience, encouragement, and faith in me have been my greatest source of strength. Thank you for standing beside me through every late night and challenging moment, always lifting my spirits and reminding me of our shared dreams.

I am also deeply thankful to my family and friends, whose support has been a constant source of comfort and motivation. Your belief in my potential and encouragement have carried me through each stage, and I am so blessed to have each of you in my life.

This achievement is as much yours as it is mine. Thank you all for your unwavering support and love.

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
BAI	Beck Anxiety Inventory
BDI	Beck Depression Inventory
ILO	International Labour Organization
PSS	Perceived Stress Scale
SAD	Stress Depression and Anxiety
SPSS	Statistical Package for the Social Sciences
WHO	World Health Organization

DEFINITION OF KEY TERMS

1. Healthcare Workers: Professionals who deliver care and services to patients, including doctors, nurses, aides, technicians, and other support staff in the healthcare industry.
2. Occupational Stress: Stress experienced due to factors related to one's job or occupation, such as workload, work environment, and job responsibilities.
3. Depression: A mental health condition characterized by persistent feelings of sadness, hopelessness, and loss of interest or pleasure in activities.
4. Anxiety: A mental health condition characterized by excessive worry, fear, and apprehension about future events or situations.
5. Paediatric Healthcare Workers: Healthcare professionals specializing in the care of children, including paediatricians, paediatric nurses, and other specialists involved in paediatric care.
6. Coping Strategies: Techniques or methods individuals use to manage stress, anxiety, or other challenging situations.
7. Productivity: The effectiveness and efficiency of individuals or organizations in accomplishing tasks or goals, often measured by output relative to input

ABSTRACT

Background: The healthcare industry is vital for societal well-being, yet healthcare workers often face occupational stress, anxiety, and depression due to demanding work environments. Despite global research on these issues, there is a limited number of studies specifically focused on paediatric healthcare workers in Ghana, particularly within the Accra Metropolitan Assembly. Understanding the prevalence of these mental health challenges and identifying coping strategies among paediatric healthcare workers is crucial for improving their well-being and enhancing healthcare services. Recent studies during the COVID-19 pandemic have further highlighted how complex emergencies exacerbate these mental health challenges among healthcare workers.

Method: This facility-based cross-sectional study assessed depression, anxiety, and stress among paediatric healthcare workers in Accra. Using a multistage sampling technique, 207 respondents were selected from two paediatric hospitals. Data were collected using a structured questionnaire incorporating validated scales such as the Beck Depression Inventory, Beck Anxiety Inventory, and Perceived Stress Scale-10. Data analysis involved descriptive statistics and inferential techniques to explore relationships and patterns, providing a comprehensive understanding of mental health issues among paediatric healthcare workers. Statistical tests included Chi-square, ANOVA, and linear regression, with significance set at $p < 0.05$.

Results and Conclusions: The study found varying levels of depression, anxiety, and stress among paediatric healthcare workers, with minimal to severe symptoms across these areas. Age and gender showed no significant influence on these issues, though those with 6-10 years of experience and nurses reported higher levels of stress, anxiety, and depression (SAD). Psychological factors, hospital conditions, unique work circumstances, and socio-economic status were identified as major contributors to SAD. Additionally, these mental health challenges were shown to decrease productivity, with stress having the most substantial impact.

To cope, paediatric healthcare workers often focus on managing workload, healthy habits, and getting adequate rest, though strategies like seeking social support and delegation were less frequently used. The prevalence of stress was 79.3% (moderate: 35.9%, high: 43.4%), anxiety 52.02% (mild: 42.93%, moderate: 9.09%, severe: 0%) and depression 78.8% (mild: 36.4%, moderate: 12.1%, severe: 30.3%), based on established scale thresholds. Recent studies during the COVID-19 pandemic have further highlighted how complex emergencies exacerbate these mental health challenges among healthcare workers.

CHAPTER ONE

INTRODUCTION

1.1 Background

The healthcare industry stands as one of the largest and most rapidly growing sectors globally, encompassing various subsectors that provide products and services to treat patients through curative, preventative, rehabilitative, and palliative care. This integration and combination of services have positioned the healthcare sector as a vital component of global socioeconomic development (Anyangwe & Mtonga, 2007). Numerous studies confirm significant transformations within the health sector on a global scale (WHO, 2017). As technological advancements continue to evolve, various industries, including healthcare, are adopting new methods to achieve better outcomes. The role of healthcare professionals is integral to the efficient functioning of health systems. The availability, accessibility, acceptability, and quality of healthcare workers are crucial for realizing the right to health and expanding healthcare service coverage (Lai et al., 2020).

Healthcare workers are defined as professionals who provide direct or indirect care to patients. This includes physicians, nurses, laboratory technicians, assistants, and medical waste handlers, among others. Research estimates that there are approximately 59 million healthcare workers worldwide, underscoring their critical role as a primary health resource (Rosa et al., 2022). They are indispensable to the operations of most health systems, contributing significantly to the delivery of care. As Wireko (2019) points out, healthcare workers not only bolster the resilience of communities and health systems in the face of natural or human-made disasters but also help mitigate risks associated with environmental, technological, and biological factors.

Paediatric healthcare workers occupy a unique and demanding position within the health system. In district hospitals, they often face resource limitations such as inadequate paediatric-specific equipment, fewer subspecialty services, and higher patient-to-staff ratios, which can increase workload and stress levels (Afulani et al., 2021; WHO, 2017). In contrast, those working in tertiary hospitals encounter high case complexity, referrals of critically ill children, and intense academic or research demands in addition to clinical duties (Buckley et al., 2022). These differences in work environment influence not only the type and severity of stressors but also the coping mechanisms available to staff.

It is well established that no job is completely free of stress, and the healthcare sector is no exception (Ofei et al., 2020; Matyushkina et al., 2020). Paediatric care in particular requires constant vigilance, strong emotional engagement, and highly specialized skills to meet the developmental, emotional, and medical needs of children (Cassidy et al., 2023).

Beyond individual workload, structural and environmental conditions in paediatric facilities contribute substantially to mental health outcomes among staff. Chronic staffing shortages, high patient volumes, limited physical infrastructure, and frequent shortages of essential supplies create a persistent pressure that undermines morale and increases the risk of stress, anxiety, and depression (Kyei et al., 2016; Almutairi et al., 2020). Policy gaps, inconsistent supervisory support, and insufficient access to mental health services further exacerbate these challenges, underscoring the need for targeted interventions within paediatric care settings.

Over the years, occupational stress has been widely recognized as a global concern due to its adverse effects on the physical, emotional, and psychological health of employees across different industries (Godifay et al., 2018; Ahmad et al., 2015). Ofei et al. (2020) characterize stress as a widespread epidemic, echoing the World Health Organization's recognition of stress as a major global issue of the 21st century. Likewise, Al-Makhaita et al. (2014) emphasize that

stress is a common and persistent element in the modern workplace. While occupational stress affects all professions, Dagget et al. (2016) argue that it is particularly prominent within the healthcare sector. The increasing complexity of healthcare services, characterized by heavy workloads, staff shortages, limited resources, and expanding responsibilities, has a substantial adverse effect on the work environment of health professionals and significantly elevates job-related stress levels (Jones et al., 2015).

Stress affects more than just productivity; it takes a toll on healthcare workers' physical and mental well-being, ultimately diminishing their overall quality of life. Stressed employees are more prone to illness, decreased motivation, and diminished effectiveness at work, which negatively affects organizational success, especially in competitive markets. Persistent stress can also lead to burnout and frequent depressive episodes, further impairing the ability of healthcare professionals to deliver high-quality patient care.

Depression and anxiety are among the most prevalent mental health disorders impacting healthcare workers globally, as highlighted in various studies (Pfefferbaum & North, 2020; Shaukat et al., 2020; Mokhtari et al., 2020). The demanding nature of their work, combined with limited resources, heightens their vulnerability to conditions like anxiety, depression, and sleep disturbances. The WHO (2017) defines depression as a prolonged state of sadness and disinterest in previously enjoyable activities, often triggered by work-related stress, personal struggles, and professional pressures. Globally, depression affects over 300 million people, accounting for 4.4% of the population (Ritchie & Roser, 2018). Common symptoms include ongoing sadness, loss of interest or pleasure, feelings of guilt or low self-worth, changes in sleep or appetite, fatigue, and difficulties with concentration (Nouri, Marchira, & Pratiti, 2017).

Anxiety is another widespread condition, manifesting as fear-based emotions associated with symptoms such as trembling, nervousness, and tension (Wireko, 2018). Anxiety disorders are

the most prevalent mental health condition globally, affecting roughly one in thirteen people (Panigraphy, Jena, & Turuk, 2017). These disorders not only impact emotional and physical well-being but also interfere with daily functioning. In the healthcare profession, anxiety often arises from the pressures associated with managing life-threatening situations. Emergency scenarios, such as pandemics, exacerbate the risks for healthcare workers, who face heightened exposure to challenging conditions and potential trauma while providing essential care. Under such circumstances, extreme stress can lead to secondary trauma, particularly when health professionals worry about contracting infectious diseases in the line of duty (Brooks et al., 2018).

Examining stress, anxiety, and depression among healthcare workers is crucial due to the potential negative consequences these conditions can have on both individuals and healthcare organizations. Numerous studies have explored the effects of these mental health issues on healthcare professionals across various regions (Nouri, 2017; Ofei et al., 2020; Lai et al., 2020; Jones et al., 2015). For example, a study in Greece found that burnout, stress, and anxiety negatively affected the health, job performance, and quality of life of medical staff such as doctors, nurses, and support personnel (Mangoulia et al., 2015). Similarly, research in Iran by Bijari and Abassi (2016) revealed that anxiety during crisis interventions could impair health professionals' abstract thinking, coordination, and concentration. Recent studies during the COVID-19 pandemic have further highlighted how complex emergencies exacerbate these mental health challenges among healthcare workers.

A study in Hong Kong revealed that 35.8% of nurses experienced stress, while 37.3% reported anxiety, and 41.1% showed symptoms of depression (Cheung et al., 2015). In Australia, research highlighted that 17% of midwives experienced anxiety, with 20% reporting symptoms of depression (Creedy et al., 2017). Meanwhile, a study conducted in China found that a

significant number of frontline healthcare workers faced psychological distress (71.5%), anxiety (44.6%), insomnia (34%), and depression (50.4%) (Lai et al., 2020). Additionally, mental health issues in various professional fields have been extensively studied in Vietnam, although research specifically focusing on stress, anxiety, and depression among health professionals remains limited (Proscio, 2011; Tran et al., 2013). The work environment in Vietnamese provincial hospitals is often characterized by excessive workloads, stressful conditions, insufficient medical staff, and inadequate facilities (Jamali et al., 2015; Cheung et al., 2016). Recent studies during the COVID-19 pandemic have further highlighted how complex emergencies exacerbate these mental health challenges among healthcare workers.

In Africa, research indicates a significant occurrence of mental health issues such as stress, anxiety, and depression among healthcare professionals (Ondicho et al., 2016; Dubale et al., 2019). According to Ondicho et al. (2016), healthcare workers are more prone to these mental health challenges than the general population, with nurses frequently affected by high levels of stress, anxiety, and depression. These mental health conditions have well-documented effects on both individuals and organizations within the African context. Additionally, compromised mental health among healthcare workers may threaten patient safety, satisfaction, and the quality of care, leading to reduced clinical effectiveness and productivity (Dubale et al., 2019).

In northeastern Nigeria, studies indicate that between 20% and 40% of the population suffers from depression at any given time (Pindar et al., 2015). The research also highlights the prevalence of psychological disorders, including anxiety and depression, as well as occupational stress and job dissatisfaction among Nigerian healthcare workers. Similarly, a study conducted in Kenya during an infectious disease outbreak found that affected hospitals experienced severe staffing shortages due to health concerns, childcare challenges, quarantine measures, or inability to report to work. These circumstances led to significant psychosocial

trauma among healthcare workers, who were particularly worried about their health and that of their families (Kwobah et al., 2021). In Ethiopia, data show that stress, anxiety, and depression affect 22.9%, 19.2%, and 28.2% of nurses, respectively (Clark & Beck, 2010).

In Ghana, healthcare workers, particularly those involved in pre-hospital care, face heightened risks of depression due to their constant exposure to emotional stressors and traumatic events daily. This elevated stress level stems from frequent encounters with life-and-death situations, accidents, and other emergencies, which can be emotionally draining and mentally exhausting (Almutairi et al., 2020). In addition to the nature of their work, factors such as inadequate staffing, long working hours, lack of necessary resources, and limited access to mental health support services further exacerbate these stress levels.

Also, Kyei et al. (2016) found that healthcare professionals who perceive themselves as undervalued or overwhelmed commonly exhibit symptoms of anxiety, fatigue, irritability, and even physical symptoms like high blood pressure and irregular menstruation. These symptoms are often accompanied by changes in sleep patterns, weight fluctuations, and a general decrease in energy levels. Such manifestations affect the well-being of healthcare workers and contribute to increased absenteeism, reduced work performance, and higher turnover rates within the healthcare sector. The consequences of these mental health challenges extend beyond the individual, impacting the overall quality of healthcare delivery and patient outcomes. When healthcare workers experience burnout, stress, or depression, their ability to provide high-quality, empathetic, and patient-centred care is compromised (Afulani et al., 2021). This can result in a higher likelihood of medical errors, lower patient satisfaction, and decreased treatment adherence. Additionally, the cumulative effect of these stressors on healthcare workers can lead to a cycle of poor health outcomes where the health system struggles to retain

skilled professionals, thereby exacerbating staffing shortages and further overburdening the remaining workforce.

Consequently, even though the topic under discussion has been extensively researched, it appears there has not been any study that looked into the prevalence of depression, anxiety, stress as well as coping strategies among paediatric health workers in the Accra Metropolitan assembly. Hence the need for the current study was indispensable.

1.2 Problem Statement

A plethora of evidence in literature reveals that healthcare workers across the globe are susceptible to stress, anxiety, and depression as far as their profession is concerned (Nisar et al., 2012; Wireku 2019; Hart et al. 2014). Most studies on this topic have been conducted in various parts of the world, with only a limited number conducted in developing countries. As a result, it is challenging to draw universally applicable conclusions. In Ghana, there remains a significant lack of community-based empirical research addressing the prevalence of stress, anxiety, and depression (Wireku, 2019). While existing studies have primarily investigated these mental health concerns among targeted groups such as radiographers (Ashong et al., 2016), nurses (Alhassan and Poku, 2018; Adzakpah, 2017; Dorcoo, 2016; Egungwu, 2015; Dapaah, 2014), and various healthcare professionals (Yeboah et al., 2014; Abdulai, 2011), there appears to be a notable gap in research focusing specifically on paediatric healthcare workers in Ghana. However, after a cursory inspection of the literature, it appears little has been done from the perspective of paediatric healthcare workers in Ghana.

There is a considerable opportunity to enhance the mental well-being of paediatric healthcare professionals within the Accra Metropolitan Assembly. These dedicated workers, who attend to some of the most vulnerable populations in the healthcare system, encounter distinct challenges (Buckley et al., 2022; Cassidy et al., 2023). They are tasked with navigating intricate

family dynamics while delivering specialized care for children. Often, they find themselves caring for critically ill and severely injured patients who face the greatest risk of mortality (Buckley et al., 2022). Reports from various hospitals in the Accra region suggest that many paediatric healthcare professionals' express dissatisfaction with the level of care they can provide. Koinis et al. (2015) highlight persistent difficulties, including unclear job responsibilities, insufficient organisational frameworks, and shortcomings in administrative practices. Furthermore, the lack of support from peers and supervisors, coupled with the constant demands of interacting with patients and their families, often results in frustration, anger, and even embarrassment among these professionals.

Ghana has made significant progress in enhancing mental health services through the implementation of the Mental Health Act of 2012 (Act 846). This legislation facilitates the creation of a community-focused mental health framework designed to effectively meet the diverse mental health requirements of its citizens. Despite these advancements, a pivotal question arises for researchers: do stress, anxiety, and depression contribute substantially to the primary challenges faced by paediatric health workers in Ghana? Additionally, the absence of a consensus regarding effective coping mechanisms to address the widespread issues of stress, anxiety, and depression among healthcare professionals complicates the matter further. Current research indicates a notable gap in studies focused on the prevalence of these mental health challenges specifically among paediatric healthcare workers in the Accra Metropolitan Assembly of Ghana. This lack of information highlights the pressing need to explore the prevalence of depression, anxiety, and stress among paediatric healthcare workers in Accra. By tackling this research gap, the present study seeks to provide valuable insights that can guide policies and interventions aimed at enhancing the mental well-being of paediatric health professionals in the region.

1.3. Justification for the Study

The physical and mental health of healthcare professionals has emerged as a significant area of research interest globally. It has been shown that many healthcare professionals experience stress due to a variety of circumstances, including work overload, discontent with their jobs, the advent of a pandemic, and a lack of resources, among many others (Wireku, 2019). The aforementioned elements affect the mental as well as physical health of healthcare professionals (Nisar et al., 2012). However, the subject matter has not been well articulated from the perspective of paediatric health workers in Ghana. It is essential to assess stress, anxiety, and depression in paediatric healthcare workers, given the sensitive nature of their role in safeguarding human lives. It is undeniable that paediatric healthcare professionals who experience higher levels of stress, anxiety, or depression may experience medical or emotional problems, perform less at work, or behave negatively toward patients or other hospital employees. Additionally, these factors impair an individual's capacity to manage stress, strain personal relationships, and are frequently linked to a heightened risk of suicide (Joules et al., 2014). This study aims to offer evidence-based insights that will enhance paediatric healthcare professionals' comprehension of stress, anxiety, and depression.

This study will also explore the coping mechanisms employed by paediatric healthcare professionals to manage stress, depression, and anxiety. Given the limited research on the prevalence of stress among male and female healthcare workers in paediatrics in Ghana, the results will contribute to understanding whether statistically significant differences exist in levels of stress, depression, and anxiety between male and female paediatric health professionals. The impact of stress, anxiety, and depression on healthcare workers can lead to diminished productivity and subpar job performance, adversely affecting healthcare institutions and the wider economy. The insights gained from this research can inform the

development of strategies to tackle these pressing issues. Additionally, the research will offer insights into Ghanaian healthcare workers' awareness of mental health issues, serving as a foundation for further studies in this area. It could also contribute to the formulation of effective health and safety policies.

1.4 General Objective

The overarching aim of this study was to assess the prevalence of depression, anxiety, and stress among paediatric healthcare workers in Accra and to examine its impact on productivity.

1.4.1 Specific Objectives

Specifically, the study sought to:

1. Assess the prevalence of depression, anxiety, and stress among paediatric healthcare workers in Accra.
2. Assess the prevalence of depression, anxiety, and stress across different demographic factors such as gender, age, professional rank, and work experience among paediatric healthcare workers in Accra.
3. Determine the factors associated with depression, anxiety, and stress among paediatric healthcare workers in Accra.
4. Assess the relationship between depression, anxiety, and stress, and the productivity levels of paediatric healthcare workers in Accra.
5. Determine the coping strategies of paediatric health workers in response to depression, anxiety, and stress.

1.5. Research Questions

The study sought answers to the following research questions.

1. What is the prevalence of depression, anxiety, and stress among paediatric healthcare workers in Accra?
2. What is the prevalence of depression, anxiety, and stress across different demographic factors such as gender, age, professional rank, and work experience among paediatric healthcare workers in Accra?
3. What are the factors associated with depression, anxiety, and stress among paediatric healthcare workers in Accra?
4. What is the relationship between depression, anxiety, stress, and productivity levels of paediatric healthcare workers in Accra?
5. What are the coping strategies of these paediatric health workers in response to depression, stress, and anxiety?

1.6 Conceptual Framework

According to Kivunja (2018), a conceptual framework aids the reader in quickly understanding the study's focus by visually representing the connections between key variables. Figure 1.1 illustrates the conceptual framework proposed for this research, depicting the complex interrelationships among stress, anxiety, and depression (SAD). This framework suggests that depression may function both as a cause and a consequence of psychological stress and anxiety. Extensive research has identified stress as a key driver of anxiety and depression (ILO, 2016; Kinicki & Williams, 2011). For instance, the International Labour Organization (ILO) (2016) reports that elevated stress levels can lead to a range of psychological and behavioural disorders, such as anxiety, depression, burnout, and fatigue. As shown in Figure 1.1, factors contributing to stress, anxiety, and depression are diverse and hospital-specific. These factors include hospital type, work environment, staffing levels, duty hours, access to safety equipment, adherence to protocols, workflow management, work autonomy, and resource

constraints. Also, from the framework, depression, anxiety, and stress among healthcare workers are influenced by special conditions such as; pregnancy, lactating, chronic health conditions, and living with family members. The framework reveals that socio-demographic factors—such as age, gender, and marital status—significantly influence the prevalence of stress, anxiety, and depression among workers. Additionally, the framework indicates that elevated levels of stress, anxiety, and depression often manifest in psychological symptoms, including headaches, fatigue, high blood pressure, irritability, boredom, difficulty concentrating, and insomnia.

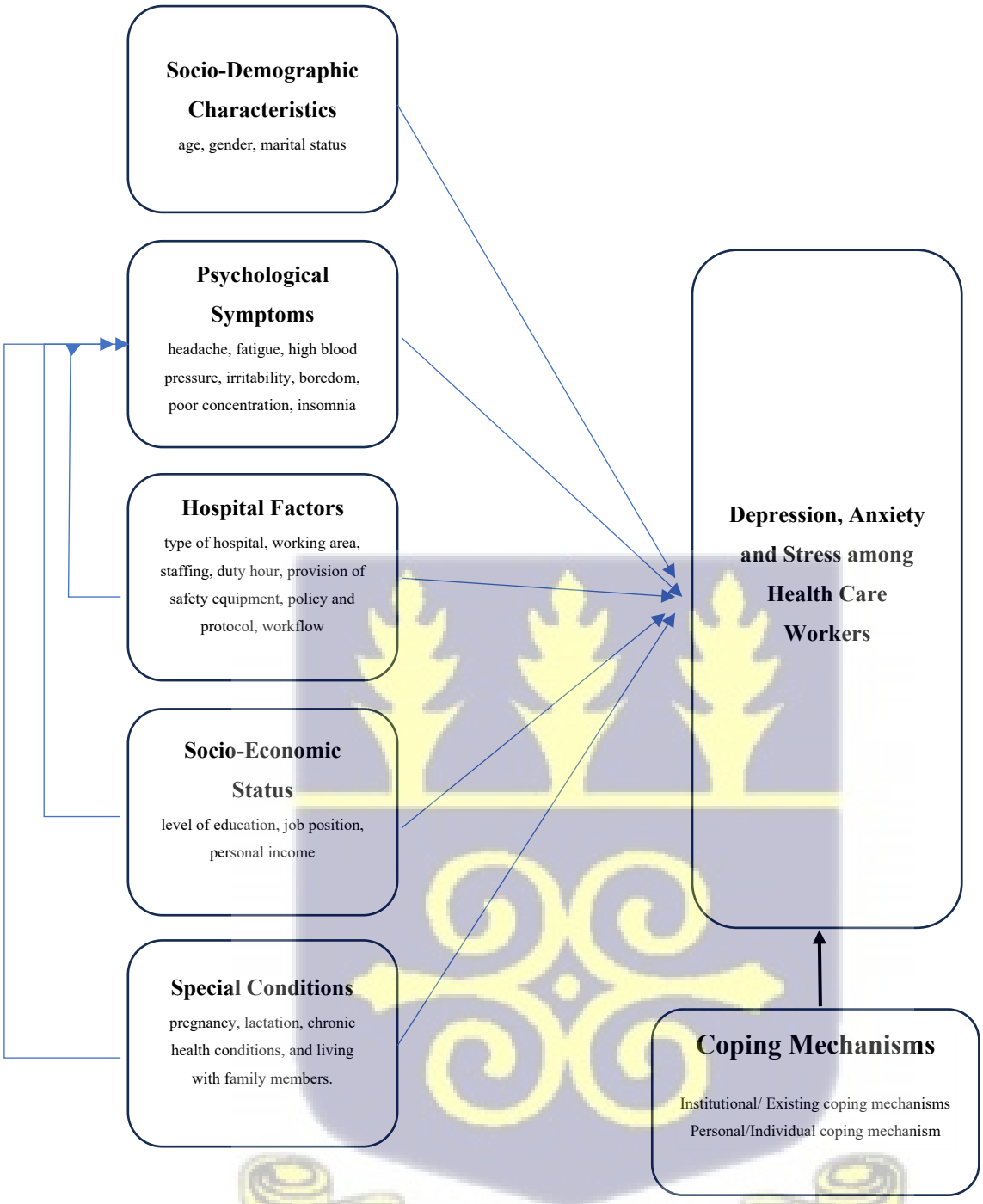

Figure 1.1 - Conceptual Framework on Stress, Anxiety and Depression among the Health Care Workers (developed by the researcher)

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviewed appropriate literature relevant to the study. The section looks at issues about the prevalence of stress, depression, and anxiety among healthcare workers. The literature review was informed by a structured search strategy. Electronic databases searched included PubMed, Google Scholar, Scopus, and African Journals Online. Search terms combined keywords and Boolean operators such as “stress” OR “anxiety” OR “depression” AND “healthcare workers” AND “paediatric” AND “Ghana.” Inclusion criteria were peer-reviewed articles published in English between 2000 and 2024, focusing on healthcare workers’ mental health. Studies were prioritized based on methodological rigor, relevance to the Ghanaian context, and coverage of both prevalence and associated factors.

2.1 Stress

Stress is a frequent experience in human life, persisting across all eras and cultures. Its significance is so profound that it has been extensively portrayed in literature and the arts over the centuries, highlighting its central role in the human condition (Wireko, 2019). Stress arises when the demands placed on an individual exceed their capacity or understanding to cope (Matyushkina et al., 2020). Also, stress is described by Naqvi et al. (2013) as "a condition of physical and psychological mental disturbance that happens in a scenario of pressure, when resources are inadequate to meet an individual's needs." When individuals perceive that their demands exceed their capabilities, they experience stress. Prolonged exposure to stress without adequate breaks can result in behavioural, physical, or psychological issues. However, stress can be beneficial when it motivates a person to achieve their objectives. The heightened energy

and muscle tension that stress generates help enhance concentration and facilitate the pursuit of goals (Matyushkina et al., 2020). Any environmental stimulation that has the potential to emotionally or physically harm a person is referred to be a stressor (Girma et al. 2021). When a stressor is viewed as a danger, anxiety develops and the autonomic nervous system is stimulated. Moreover, if the hazardous circumstances persist, an individual may experience behavioural issues as a result of the stress placed on their body and mind (Raj, 2006).

2.2 Depression

Depression is a common and serious mental health condition marked by a range of symptoms, including persistent feelings of sadness, a loss of interest in previously enjoyable activities, feelings of guilt or low self-worth, disturbances in sleep and appetite, low energy, and difficulty concentrating (WHO, 2017). These symptoms can profoundly disrupt daily functioning, and for many, depression can become a chronic or recurring issue. In its most severe manifestations, depression may lead to suicide, contributing to over 850,000 deaths globally each year. Affecting individuals across all genders, ages, and backgrounds, depression is a complex neurological disorder shaped by a combination of genetic, environmental, psychological, and biological factors. Women are especially at risk, with the onset often occurring between the ages of 15 and 30, and they may also experience postpartum depression after childbirth. Some individuals face seasonal affective disorder during the winter months. Globally, depression affects approximately 121 million people.

Atif et al. (2016) found a strong link between anxiety and depression in their study of doctors in Lahore, Pakistan, indicating that those who experience anxiety are also more likely to suffer from depression, and vice versa. The study reported that 24% of doctors had mild to moderate depression, while 34% experienced mild to moderate anxiety. Despite the widespread nature of psychological and mental health disorders, they are often neglected globally due to the fear

of stigma. Consequently, many people, including healthcare professionals, are reluctant to seek evaluation or treatment for mental health conditions. The nature of the medical profession increases the likelihood of physicians experiencing mental health issues, which can manifest as anxiety and depression (Atif et al., 2016).

2.3 Anxiety

Anxiety is a state of fear that is accompanied by sensations including shaking, worrying, and tension (Shiel, 2018). Our feelings and actions are impacted by these circumstances. According to Gundersen (2015), many health practitioners do not take adequate care of themselves because of stigmatization (real or imagined), overwork, and denial of vulnerability. Despite their expertise, doctors are still susceptible to stress and the challenges they encounter every day. Anxiety-related illnesses are disproportionately prevalent among both the general public and physicians. While not all instances of anxiety are pathological, they do become so when they are severe and persistent. It affects an individual's quality of life as well as their work productivity (Gundersen, 2015).

2.4 Prevalence of Stress, Anxiety, and Depression among Health Care Workers in Ghana

Research has extensively documented the prevalence of stress, anxiety, and depression among healthcare workers in Ghana. For example, studies by Ashong et al. (2016) and others, including Alhassan and Poku (2018), Adzakpah (2017), Dorcoo (2016), Egungwu (2015), and Dapaah (2014), have highlighted the significant mental health challenges encountered by professionals such as nurses, radiologists, and other healthcare practitioners (Abdulai, 2011). These findings underscore the mental health demands in Ghana's healthcare sector, calling attention to the psychological toll on those who provide essential medical care. Yeboah et al. (2014) identified key stressors for healthcare workers, including heavy workloads, task demands, and challenging workplace environments. Similarly, Dorcoo's (2016) study on

nurses found a high prevalence of stress, highlighting the significant mental health risks within the profession. The study also discovered that poor interpersonal relationships, poorly defined job positions, expectations at work, and a lack of control are the top causes of stress in the workplace.

2.4.1 Prevalence of Stress, Anxiety, and Depression Based on Gender

Stress is accounted for and handled differently by men and women (ILO, 2016). Females still tend to do unpaid housework, such as cooking, cleaning, and childcare, in most societies; as a result, when hired, they perform two jobs (ILO, 2012). The stress, depression, and anxiety that result from people juggling their official occupations and family responsibilities are common (WHO, 2011). Studies have shown that women generally report higher levels of stress, anxiety, and depression than men (HSE, 2018; WHO, 2017; Atif et al., 2016). However, research by Dave et al. (2018) and AlFahhad (2018) presents contrasting findings, indicating that men may be more prone to anxiety and depression than women.

2.4.2 Prevalence of Stress, Anxiety, and Depression Based on Professional Rank

According to research by Caplan (1994) conducted in the UK, senior medical professionals experienced significant levels of stress and anxiety, probably at greater rates than was expected. However, according to other research, junior doctors experience greater levels of stress than their older peers. Dave et al. (2018) found that junior doctors tend to experience higher levels of stress compared to their senior counterparts, potentially due to an uneven distribution of workload.

2.4.3 Prevalence of Stress, Anxiety, and Depression Based on Age

The World Health Organization reports that although anxiety prevalence tends to be lower in older age groups, the overall rates do not significantly vary across all age groups (WHO, 2017).

Erdur et al. (2016) revealed a U-shaped correlation between doctors' ages and their susceptibility to anxiety and depression. Specifically, they observed that doctors aged 36 to 45 exhibited lower levels of these mental health issues, while younger doctors (aged 20 to 35) and those over 45 showed higher levels of anxiety and depression. Similarly, Dave et al. (2018) reported a marked increase in depression among doctors aged 30 and older ($p > 0.01$). This trend may reflect the added pressures faced by resident physicians in this age bracket, who often balance rigorous postgraduate studies with marital and family responsibilities. Despite this trend, however, no statistically significant relationship emerged between age and levels of stress and anxiety.

2.4.4 Prevalence of Stress, Anxiety, and Depression Based on Work Experience

Anxiety and depression rates are influenced by a person's length of service. Researchers discovered that as doctors' job experience progressed, their levels of anxiety and depression correspondingly reduced; as a result, doctors with limited work experience have higher than average rates of anxiety and depression (Atif et al., 2016; Erdur et al., 2006).

2.5 Factors that Contribute to Stress, Anxiety and Depression

2.5.1 Workload, Hours, and Autonomy

Yeboah et al. (2014) suggest that stress often arises from emotional and social difficulties in both personal and professional spheres. Heavy workloads, extended working hours, and limited autonomy—such as restricted decision-making in emergencies—are consistently reported as major contributors to workplace stress (Dave et al., 2018; HSE, 2018; Yeboah-Kordee et al., 2018; Abdulai, 2011; Kinicki & Williams, 2011). Clinical specializations, frequent relocations, and inadequate stress management practices can compound these stressors (HSE, 2018). Hassan et al. (2014) identified late-night shifts, workload, tight deadlines, working in isolation,

and diagnostic uncertainty as primary stressors for house officers. In Ghana, low staff-to-patient ratios and limited professional resources further intensify workload-related stress (Abdulai, 2011).

Although anxiety may not be viewed as a purely personal issue, it is inherent in medical professionals' therapeutic and professional responsibilities. “Moral overtones” related to failing to fulfil important social obligations can contribute to doctors’ anxiety. Medical professionals encounter daily uncertainty, largely due to patients' high expectations regarding diagnosis, treatment, and care (Gundersen, 2015). Stressors such as insufficient rest periods (Al Hosis et al., 2013), low compensation (Erdur et al., 2006), and demanding patient interactions (Khuwaja & Qureshi, 2004) further increase vulnerability to anxiety and depression.

2.5.2 Economic Pressures and Job Security

Economic instability, job cuts, performance pressure, and fears of redundancy increase stress levels among employees (Arandelovic & Illic, 2006). Naqvi et al. (2013) highlight inadequate compensation, long hours, job insecurity, and supervisor harassment as significant stressors. Poor stress management at work can have negative effects on both individuals and organizations.

Job security—defined as the likelihood of involuntary job loss—is a major psychological stressor (Neumark, 2000). It is linked to reduced working hours, layoffs, and changes in job characteristics (Ferrie et al., 2002; Karapinar et al., 2019). Economic rationalization, job restructuring, increases in part-time work, and rising task demands can heighten perceptions of insecurity (Tennant, 2001). Managers are encouraged to foster positive working environments, yet many fail to do so due to excessive workloads (Ahuja & Thatcher, 2005). Toxic work environments can exacerbate stress (Chovwen, 2013), while healthy work environments promote performance (Khan & Zafar, 2013).

2.5.3 Role Conflict and Organizational Structure

Role conflict occurs when fulfilling one expectation makes it difficult to meet another (Koustelios et al., 2004; Conley & Woosley, 2000). Stress may arise when an individual's values differ from those of the group they work with (Chang & Lu, 2007). These conflicts are particularly stressful in healthcare environments with competing demands.

Organizational structure also influences stress levels. Mechanistic structures—with high departmentalization, rigid rules, and strict chains of command—can increase stress, while organic structures—with shared power, participatory decision-making, and informal communication—may reduce it (Conner & Douglas, 2005). Communication styles and legitimacy of leadership directly affect job satisfaction and performance (Ito et al., 2014). Poor communication with superiors is associated with poorer mental health outcomes (Shimizu et al., 2003).

2.5.4 Work–Home Interface

The interaction between professional and domestic responsibilities significantly affects well-being. Work–home conflict, lack of support for job-related issues at home, and inadequate assistance with domestic responsibilities at work can lead to stress and poor performance (Leka, 2003; Edwards, 1999). For dual-income couples, managing family life alongside work commitments is particularly challenging. Relationship strain and family conflicts can undermine workplace performance.

For women, returning to work part-time after childbirth may result in loss of income, benefits, seniority, and job security. Long working hours have been linked to cardiovascular-related deaths in Japan, with data showing many victims were overworked before their deaths (Leka

et al., 2003). Persistent long hours can lead to fatigue, stress, and diminished physical health due to insufficient rest and exercise.

Recent global studies have shown that complex emergencies, particularly the COVID-19 pandemic, have exacerbated mental health challenges among healthcare workers. A systematic review by de Kock et al. (2021) reported significantly increased rates of anxiety, depression, and burnout among healthcare staff during the pandemic, with paediatric workers facing unique pressures related to infection control and parental anxiety. Similar trends were noted in African contexts, where inadequate PPE, redeployment, and service disruptions heightened psychological strain (Afulani et al., 2021; Kola, 2020).

2.6 Effect of Stress, Anxiety, and Depression on Productivity

Shahid and Alwi (2016) underscored the importance of examining the impact of job stress on productivity among frontline employees within a Malaysian shared service centre. Grounded in the Job Stress Model, the study's framework highlighted key factors influencing productivity, including role ambiguity, role conflict, resource inadequacy, and heavy workloads. Using a sample of 113 frontline employees from various departments in the service centre, the findings demonstrated a notable link between job stress and productivity outcomes.

Similarly, Suandiand and Othman (2014) explored the interplay between organizational climate, job stress, and employee productivity. They concluded that while a positive correlation existed between organizational climate and employee productivity, there was a negative correlation between job stress and employee productivity. This suggests that an enhancement in organizational climate tends to bolster employee productivity, whereas heightened job stress tends to diminish it.

Bashir and Ramay (2010) examined how job stress impacts productivity among bank employees within Pakistan's banking sector. Their research underscored that elevated job stress significantly reduced individual productivity, suggesting that cultivating a supportive organizational culture is essential to alleviating workplace stressors. Wallace et al. (2009) expanded on these findings, delving into the complex relationship between several types of stressors and productivity. Their study, which surveyed 215 employees across 61 state agency offices, identified a positive link between challenge stressors and role-specific productivity, while hindrance stressors were negatively associated with productivity. Additionally, the study highlighted the role of organizational support as a buffer, especially in moderating the effects of challenge stressors, thereby stressing the value of supportive structures within organizations to counterbalance stress-related productivity declines.

The success and productivity of any organization significantly depend on having resilient and dependable employees. The healthcare industry is no exception, as it comprises numerous professionals regularly exposed to occupational health risks (Alhassan & Poku, 2018). The idea of occupational health and safety is not new to the world of work, but up until recently, it was only evaluated in the manufacturing and processing sectors since those were thought to pose the highest hazards to employees. Particularly in third-world nations, the attention paid to service sectors like health was completely absent (International Council of Nurses, 2007). However, management procedures and workplace health and safety have lately changed as a result of companies' increased concern for employees' well-being as opposed to only their productivity inside their organizations.

The practice of medicine is negatively impacted in several ways by stress, anxiety, and depression. Physicians' well-being profoundly impacts not only their health but also patient care outcomes (Hassan et al., 2014; Shapiro et al., 2000). Physician stress can lead to various

adverse effects, including absenteeism (ILO, 2016; Shapiro et al., 2000), job dissatisfaction, and diminished quality of care (ILO, 2016; Kinicki & Williams, 2011; Moustaka & Constantinidis, 2010). It also heightens the risk of medication errors, patient complaints, substance abuse, and even suicide (Shapiro et al., 2000). Despite these serious implications, there is a noticeable gap in literature specifically addressing stress, anxiety, and depression among paediatric physicians in Ghana—a gap this study aims to fill.

2.7. Coping strategies for depression, anxiety, and stress among healthcare workers

Coping represents a ubiquitous and integral aspect within models of health, fear, and pain management. As per the World Health Organization (2020), coping strategies encompass both behavioural and cognitive efforts aimed at alleviating the strain induced by stressful events, serving as mental resources to counter potential threats. Coping mechanisms involve a range of behaviours and cognitive processes utilized to navigate external and internal stressors. This fundamental process is essential for survival and adaptation, enabling individuals to recognize, evaluate, confront, and learn from challenging situations. Townsend and Wells (2019) define coping as the capacity to manage challenging or threatening events crucial for one's well-being, encompassing both behavioural and cognitive strategies. According to Chang et al. (2020), coping strategies can be categorized into four primary types: positive appraisal, problem-focused coping, emotion-focused coping, and meaning-focused coping. Positive appraisal involves reframing situations to focus on the positive aspects, while problem-focused coping involves directing efforts toward solving the underlying issue. Emotion-focused coping entails managing emotional distress through cognitive and behavioural means, while meaning-focused coping involves seeking significance in adversity, as proposed by Folkman and Moskowitz.

In healthcare environments, the imperative to address stress, anxiety, and depression among healthcare workers is paramount. Kihara and Mugambi (2018) advocate for proactive measures

from organizational management to raise awareness among employees regarding available stress management strategies. By prioritizing this initiative, organizations can equip their staff with essential coping mechanisms necessary to navigate the challenges inherent in their profession. Key themes such as ensuring adequate work resources, promoting a healthy work-life balance, and implementing effective management practices should be addressed. These efforts align with Lasky's (2005) emphasis on managing external stressors arising from familial and financial pressures that may exacerbate workplace stress.

Furthermore, Russo and Vitaliano (2005) underscore the importance of considering the holistic well-being of healthcare workers, given the interplay between workplace stress and external stressors. Khan (2018) highlights the crucial role of positive leadership attitudes, workload optimization, and fostering cooperative work environments in reducing stress levels among healthcare workers. Additionally, Khan (2018) advocates for providing leisure time for recreational activities and ensuring adequate facilities for relaxation to further enhance stress-coping mechanisms within healthcare settings. These initiatives not only contribute to stress reduction but also foster a culture of holistic well-being, enabling healthcare workers to effectively manage the challenges of stress, anxiety, and depression in their demanding roles.

Additionally, studies have investigated individual factors influencing stress coping and performance outcomes. Dutke and Stober (2001) found that improving individual motivation mitigated the adverse effects of stress on performance, while Katz and Epstein (1991) observed that individuals with constructive thinking tendencies exhibited lower physiological arousal and greater emotional and cognitive positivity under stress. Moreover, coping strategies such as cognitive reframing and perceived social support were associated with reduced stress levels and enhanced performance (Ingledew, Hardy, & Cooper, 2007).

In organizational contexts, management strategies play a crucial role in mitigating stress among employees. Kihara and Mugambi (2018) advocated for creating awareness among employees about available stress management strategies, emphasizing themes such as adequate work resources, work-life balance, and supportive management. Addressing issues such as work-home interface and external stressors like family and financial demands can significantly impact workplace stress levels (Lasky, 2005; Russo & Vitaliano, 2005). Khan (2018) emphasized the importance of positive leadership attitudes, workload optimization based on employee capabilities, cooperative work environments, and provision of leisure activities as effective strategies for stress reduction among employees.

2.8 Summary of Literature Review

The reviewed literature highlights that stress, anxiety, and depression are prevalent among healthcare workers globally, with varying rates across regions and professional groups. While multiple studies have documented associated factors, few have focused exclusively on paediatric healthcare workers in Ghana. Research strengths include consistent use of validated measurement tools and cross-regional comparisons. Weaknesses involve limited longitudinal data, underrepresentation of low- and middle-income country contexts, and insufficient focus on paediatric-specific stressors. The current study addresses these gaps by providing recent prevalence data, examining associated factors in paediatric contexts, and exploring coping strategies within Ghana's health system.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This study explored the incidence of stress, anxiety, and depression among paediatric healthcare workers in the Accra Metropolitan Assembly. The chapter encompassed multiple sections, including research design, study location, target population, sampling methods, data collection tools, data gathering procedures, data analysis, and ethical considerations.

3.1 Research Design

This research employed a facility-based, cross-sectional approach across two hospitals, using a quantitative method to evaluate how depression, anxiety, and stress affect paediatric healthcare providers. Conducting a facility-based study was advantageous, as it enabled direct access to participants within their work environment, providing critical insights into the unique mental health challenges faced by healthcare workers in hospital settings (Geberemariyam, Donka, & Wordofa, 2018). Focusing on two hospitals allowed the study to capture data specific to paediatric healthcare workers without generalizing the findings across unrelated facilities (Azanaw, Gebrehiwot, & Dagne, 2019). The cross-sectional design was well-suited to provide a current view of mental health conditions at a given time, thus identifying immediate trends in depression, anxiety, and stress among participants (Maier et al., 2023). Additionally, this design proved cost-effective and time-efficient—an important consideration in healthcare research, where extended studies can be challenging due to healthcare workers' rigorous schedules. A quantitative approach was appropriate, enabling the precise measurement of mental health variables with standardized tools like the Depression Anxiety Stress Scales (DASS). The quantitative data allowed for statistical analysis, which helped in making broad

conclusions about the prevalence and intensity of mental health issues among paediatric healthcare workers (Savela, 2018; Gürbüz, 2017).

3.2 Study area

The research was conducted in two hospitals located in the Accra Metropolitan area of the Greater Accra Region: the Greater Accra Regional Hospital and the Princess Marie Louise Children's Hospital. These facilities are pivotal healthcare institutions within the region, offering extensive paediatric services and managing a substantial volume of patients. This context is crucial for exploring the mental health challenges faced by paediatric healthcare workers, who often navigate demanding work conditions, confront severe medical cases, and operate in high-pressure environments. By examining these hospitals, the study aims to yield significant insights into the mental well-being of healthcare professionals in similar urban healthcare settings. The geographical location of the study sites is illustrated in Figure 3.1.

Figure 3.1 – Study area map. Source: Adapted from Google Maps (© Google, 2024. Map data ©2024).

3.2.1 Greater Accra Regional Hospital

The Greater Accra Regional Hospital (GARH) is situated in North Ridge, within the Osu-Klottey Sub-Metro of Accra, Ghana's Greater Accra Region (GAR). Spanning approximately 15.65 acres, it serves as the primary healthcare facility for a population of over 4,671,363, as reported by the Ghana Statistical Service in 2020. Although its services are available throughout the entire region, the hospital particularly caters to areas such as Ridge, Nima, Maamobi, Kanda, Accra New Town, Kotobabi, Osu, La, Adabraka, Achimota, Airport Residential Area, and Central Accra. Initially established around 1928 to provide healthcare for European expatriates, the hospital transitioned to a District Hospital after Ghana gained independence in 1957. It was later renamed Ridge Regional Hospital in 1997.

Today, GARH has been transformed into a state-of-the-art facility with a capacity of 470 beds, offering a wide array of specialist services to address the growing healthcare demands of Ghana's rapidly expanding capital city. It has a total staff turnover of approximately 654 employees on its mechanized payroll. In a specific department, such as the Child Health Department, staff strength is ninety-five, including nine specialists, five medical officers, one health service administrator, and seventy-nine nurses. Regarding service delivery hours, the hospital provides 24-hour emergency and inpatient services, making its services available at any time and every day. It oversees annual admission of around 20,366 patients. Daily, the hospital serves over 800 outpatients and accommodates approximately 250 inpatients, with around 29% of these patients facing a shortage of available beds.

The paediatric department within GARH boasts a 97-bed capacity dedicated to providing healthcare services to children from birth to 12 years old. It comprises several subunits, including the Paediatric Emergency Ward, the Paediatric Medical Ward, and the Paediatric Outpatient Department (OPD). The Outpatient Department (OPD) serves as the primary

gateway for patients referred to the facility, comprising an acute care outpatient department and various specialized clinics. These include the Neurodevelopmental Clinic, Asthma Clinic, Diabetes and Endocrine Clinic, Cardiac Clinic, HIV Clinic, Sickle Cell Clinic, and Neonatal Follow-Up Clinic. The Emergency Room is dedicated to stabilizing critically ill children before their admission to the hospital, while the Children's Surgical Ward is specifically designed to accommodate those requiring surgical interventions. Positioned next to the labour ward, the Neonatal Intensive Care Unit (NICU) provides essential care for premature and unwell newborns. Additionally, the Paediatric Oncology Unit (POU) encompasses both an inpatient Paediatric Oncology Ward and an outpatient Paediatric Oncology Day Care Unit, ensuring comprehensive support for young cancer patients (Greater Accra Regional Hospital, n.d.).

3.2.2 Princess Marie Louise Children's Hospital

The Princess Marie Louise Children's Hospital (PML) stands as the inaugural children's hospital situated in the heart of Accra, Ghana, established in 1926 with a mission to deliver quality and accessible healthcare to children. As a prominent institution for childcare services in Ghana, it holds a distinguished reputation within the local community. Collaborating closely with all stakeholders in the healthcare sector, the hospital aims to ensure comprehensive awareness of child health and equitable access to top-tier healthcare services and interventions across the Greater Accra region. As Ghana's largest public hospital dedicated to paediatric care, PML has long been acknowledged for its pioneering work in diagnosing Kwashiorkor and currently operates the most extensive nutritional rehabilitation centre in the country's southern region. Each day, the hospital's Outpatient Department (OPD) and Emergency Room (ER) manage around 152 patient visits, with an average of 2,168 admissions recorded every six months. The Princess Marie Louise Children's Hospital has a total staff strength of about

310 members, including around 250 permanent staff and about 50 non-permanent staff. Among these, there are only four permanent doctors to see approximately 200 children daily.

Regarding delivery hours, the hospital runs an Outpatient Department (OPD) from Monday to Saturday, excluding public holidays, but emergencies are admitted every day. Although PML does not offer maternity services on-site, it frequently accepts referrals from nearby facilities, such as the James Town Maternity Home (Princess Marie Louise Children's Hospital, n.d.).

3.3 Population

According to Saunders et. al., (2009), "population is a set of individuals, cases or objects for which researchers turn to study with the observation of some characteristics". As opined by Polit and Beck (2010), the "target population refers to the entire group of individuals or objects to which researchers are interested in generalizing the conclusions". The accessible population of this study consisted of paediatric healthcare workers (prescribers and nurses) in the Greater Accra Regional Hospital and Princess Marie Louis Children's Hospital (District Hospital), who met all the inclusion criteria of the study.

3.4 Inclusion Criteria/Exclusion Criteria

3.4.1. Inclusion Criteria

The study included all healthcare workers, specifically prescribers and nurses, who are actively working in either the children's hospital or the child health department of the selected hospitals. This group was chosen because prescribers and nurses are directly involved in paediatric care and are most likely to experience stressors related to managing children's health conditions. Their regular interaction with paediatric patients makes them central to understanding the mental health challenges, such as depression, anxiety, and stress, that healthcare workers in

paediatric settings face. By focusing on this population, the study ensures that the data collected is relevant and specific to the paediatric healthcare environment.

3.4.2. Exclusion Criteria

The study excluded hospital staff who do not fit into the above categories, including those who do not work in the children's hospital or the child health department of the selected facilities. This ensured that the study targeted only individuals directly engaged in paediatric care. Furthermore, volunteer workers were excluded to maintain the focus on professional healthcare providers, as volunteers may have different responsibilities and stress levels compared to full-time staff. Additionally, any individual who met the inclusion criteria but was unwilling to participate in the study was excluded. This ensured ethical compliance with voluntary participation, aligning with the principles of informed consent and respect for autonomy in research.

3.5 Variables

3.5.1. Dependent Variable

The dependent variables of this study are stress, anxiety, and depression.

3.5.2. Independent Variables

1. Special conditions: Pregnancy, lactating, chronic health conditions, living with family members
2. Psychological symptoms: Headache, Fatigue, High blood pressure, Irritability, Boredom, poor concentration, insomnia
3. Socio-economic status: level of education, job position, personal income

4. Hospital Factors: Type of hospital, Working area, staffing, duty hours, provision of safety equipment, policy and protocol, workflow management, work autonomy, inadequate resources
5. Socio-demographic characteristics: age, gender, marital status
6. Coping mechanism: Strategies employed by paediatric healthcare workers to cope with stress, anxiety, and depression, which may affect the prevalence of these mental health issues and subsequent productivity.

3.6 Sample Size Determination

The study employed Yamene's (1967) sampling size determination formula to calculate the number of respondents sampled for the study. Yamane sample size determination formula is given as:

$$Sample\ Size\ (n) = \frac{N}{1 + N(e)^2}$$

From the formula above, n = sample size, N = sample frame, and e = margin of error. Using a margin of error of 5%, the sample size is calculated below:

Sample size (n) = $355 \div [1 + 355\ (0.05)^2]$

n = 188

The sample size was 207, including an additional 10% to account for the non-response rate, which was approximately 19.

3.7 Sampling Procedure

Sampling entails selecting a representative portion of the population, with the collected data serving as critical information for research purposes (Saunders et al., 2007). This technique

offers various methods, allowing the researcher to minimize data volume by focusing on insights from a sample rather than gathering information from every individual or element within the entire population. The multistage sampling technique was utilized to select the sample size for the study. Specifically, the sampling was done in four succinct stages. First, purposive sampling, specifically, the homogeneous purposive technique was utilized to select two paediatric hospitals from Accra Metropolitan Assembly due to the limited number of children hospitals within the study area. This sampling technique was the most appropriate since the unit of analysis involves hospitals that offer paediatric services. Secondly, the proportionate sampling technique was used to allocate the number of participants selected from each hospital (Cochran, 1977; Levy & Lemeshow, 2013). A complete staff list was obtained from each hospital to serve as the sampling frame. Each individual was assigned a unique identification number. Participants were then selected using computer-generated random numbers in Microsoft Excel to ensure unbiased selection. In the final stage, simple random sampling, specifically computer-generated random numbers, was used to select respondents who participated in the study (Lohr, 2009; Field, 2013). In total, 207 respondents were selected. Table 3.1 provides a breakdown of the sample size.

a 3.1 – Distribution of Sample Size

Respondents	Population size	Sample Size
Princess Marie Louis Children's Hospital	170	99
Greater Accra Regional Hospital	185	108
Total	355	207

3.8 Data Collection Technique and Tools

The questionnaire was divided into five sections. The first section collected demographic details of participants, such as age, gender, marital status, years of experience, job rank, and highest educational qualification. The second section focused on assessing the prevalence of stress, anxiety, and depression among respondents. To measure depression, the Beck Depression Inventory (BDI) by Beck et al. (1996) was utilized, containing 15 items rated on a 4-point Likert scale: Never (N = 0; did not apply to me), Sometimes (S = 1; applied to me to some degree), Often (O = 2; applied to me to a considerable degree), and almost always (A = 3; applied to me very much). Scores on the BDI in this study ranged from a minimum of zero (0) to a maximum of forty-five (45).

Anxiety was assessed using the Beck Anxiety Inventory (BAI) (Beck, 1988), which included 17 items evaluating anxiety symptoms among healthcare professionals on a similar 4-point Likert scale: Never (N = 0; Not at all), Sometimes (S = 1; but it didn't bother me much), Often (O = 2; it wasn't pleasant at times), and Severe (S = 3; it bothered me a lot). Stress prevalence was measured with the Perceived Stress Scale-10 (PSS), comprising 10 items scored from 0 (Never), 1 (Almost Never), 2 (Sometimes), 3 (Fairly Often), to 4 (Very Often).

Section 'C' of the questionnaire captured statements measuring factors causing depression, anxiety, and stress among paediatric healthcare workers, adapted from Bhatnagar et al. (2011). Additionally, Section 'D' captured statements measuring depression and coping strategies. This section was developed to measure the coping strategies of healthcare workers in dealing with stress, depression, and anxiety. The final segment of the questionnaire was the Staff Productivity Scale, measuring the productivity levels of paediatric healthcare workers in Accra.

3.8.1 Pilot-testing

The research tool (questionnaire) was subjected to a pilot test at Deseret Hospital to evaluate its feasibility, reliability, and clarity. This step was crucial in ensuring that the questions were understandable, appropriately worded, and relevant to the study's objectives. By conducting the pilot test, the research team sought to identify any potential issues, such as ambiguous questions, complex wording, or response difficulties, which could affect the quality of the data collection process. A sample of 20 respondents from Deseret Hospital, who met the inclusion criteria but were not part of the main study, participated in the pilot test. Feedback from these respondents was carefully analyzed to refine the instrument, ensuring that the last version of the questionnaire would be user-friendly and easy to navigate. This process helped to enhance the dependability of the instrument, ensuring that respondents in the main study would be able to provide accurate and meaningful responses without difficulty. Additionally, the pilot test allowed the researchers to estimate the time required to complete the questionnaire and make any necessary adjustments to improve its overall design and functionality.

3.8.2 Validity of Research Instruments

According to Saunders et al. (2009), "validity of an instrument relates to how well an instrument measure a certain notion it is designed to assess." To ensure the validity of the questionnaire used in this study, a thorough review of relevant literature was conducted to confirm that the design of the instrument accurately reflected the concepts of depression, anxiety, stress, and productivity among paediatric healthcare workers. Established and scientifically validated scales, such as the Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), and the Perceived Stress Scale (PSS), were employed to measure these psychological conditions, ensuring that the constructs were accurately captured. Additionally,

these scales have been widely used and validated in various studies, further reinforcing their appropriateness for this research context.

To enhance face and content validity, the questionnaire was submitted to the project supervisor for assessment, approval, and revision. This process involved scrutinizing the questionnaire's structure, content, and alignment with the study's objectives. The supervisor's expert feedback was incorporated into the final version of the questionnaire, ensuring it was both comprehensive and appropriately designed to capture the intended data. Thus, the combination of literature validation, the use of established scales, and expert review contributed to the instrument's overall validity.

The Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), and Perceived Stress Scale (PSS) have been validated in healthcare settings in Ghana and other African countries, demonstrating acceptable psychometric properties (Osei et al., 2015; Oppong Asante et al., 2019; Nyarko et al., 2020). These validations support the cultural and contextual appropriateness of the instruments for use among Ghanaian paediatric healthcare workers.

3.8.3 Reliability of the research instruments

In this study, Cronbach alpha was used to determine the reliability of the instruments. The researcher considered computing reliability for the pilot testing as well as main data collection. During the piloting phase conducted at Deseret Hospital with 20 participants, the reliability of the questionnaire was carefully assessed using Cronbach's alpha to ensure its internal consistency. This stage was crucial for identifying any issues with the questionnaire items and making necessary adjustments before the main data collection.

The individual scales within the questionnaire were evaluated for reliability. The Depression Inventory (BDI) initially had a Cronbach's alpha of 0.78, suggesting acceptable internal

consistency but highlighting areas for improvement. The Beck Anxiety Inventory (BAI) had a Cronbach's alpha of 0.81, demonstrating strong reliability, while the Perceived Stress Scale-10 (PSS) had a slightly lower alpha of 0.76. These values indicated that while the scales were generally reliable, refinements were needed to enhance their effectiveness.

Following the piloting phase, the questionnaire underwent revisions based on feedback and observed issues. In the main data collection phase, the revised questionnaire demonstrated improved reliability. The reliability of individual scales also improved significantly: the BDI's alpha increased to 0.82, indicating better consistency; the BAI's alpha improved to 0.85, demonstrating robust reliability; and the PSS's alpha rose to 0.80, showing an increased level of internal consistency. These improvements highlight the effectiveness of the revisions made after the pilot test, ensuring that the questionnaire reliably measured the prevalence of depression, anxiety, and stress among paediatric healthcare workers.

3.9 Data Processing and Analysis

3.9.1 Data Collection

Before distributing the data collection tools, an introductory letter issued by the School of Public Health, College of Health Sciences, University of Ghana, Legon, was sent to the management of the hospitals chosen for the study. This letter formally introduced the researcher, outlined the study's objectives, and requested the cooperation of the hospital administration. This step was crucial in establishing a working relationship between the researcher and the hospital staff, ensuring smooth communication and facilitating access to the participants. The letter also helped create rapport with the respondents, which was important in gaining their trust and encouraging honest participation.

Once permission was granted by the hospital authorities, data collection commenced. The questionnaires were administered to gather self-reported data on depression, anxiety, stress, and productivity levels among paediatric healthcare workers in Accra. The entire data collection process spanned one month, allowing sufficient time to approach all participants and collect comprehensive data. The respondents were fully informed about the purpose of the study, and their consent was sought before participation. This ethical consideration was important in ensuring voluntary participation and respecting the rights of the participants.

A total of 207 copies of the questionnaire were distributed to the targeted participants. Out of this, 198 questionnaires were retrieved and found valid for analysis, resulting in a high response rate of approximately 95.7%. This high response rate was beneficial as it ensured that the data was representative of the target population, reducing the risk of bias. Such a strong level of engagement from the respondents also enhanced the credibility of the findings and provided a solid foundation for statistical analysis and interpretation. Overall, the process of data collection was well-executed, and the high response rate contributed to the robustness and reliability of the study's outcomes.

3.9.2 Data Entry

Upon collecting the self-reported data from paediatric healthcare workers in Accra using the questionnaire, the systematic data entry process commenced. According to Creswell (2009), self-reported data referred to information that individuals provided about themselves, usually through surveys, questionnaires, interviews, or other means of self-assessment. This data relied on the individuals' memory, perceptions, and willingness to disclose accurate information about their thoughts, feelings, behaviours, or characteristics. It encompassed a wide range of topics, from demographic information to opinions, preferences, experiences, and more. First, each questionnaire response was meticulously entered into a secure database using SPSS (v22)

software, ensuring accuracy and completeness to maintain data integrity. To facilitate efficient analysis, data coding and categorization were implemented, assigning numerical codes to different responses for each variable such as depression, anxiety, stress, and productivity levels. The data was subsequently exported to STATA v15.0 for further analysis. This coding system enabled the seamless organization and retrieval of data, laying the groundwork for insightful analysis aimed at unravelling the prevalence of depression, anxiety, and stress among paediatric healthcare workers in Accra.

3.9.3 Data Cleaning

The data-cleaning process began with a thorough examination of the questionnaire responses to identify any inconsistencies, errors, or missing values (Van den Broeck, Cunningham, Eeckels, & Herbst, 2005). This involved scrutinizing each variable related to depression, anxiety, stress, and productivity levels, ensuring that responses fell within the expected range and format (Hair, Black, Babin, Anderson, & Tatham, 2006). Any outliers or illogical entries were flagged for further investigation or correction (Barnett & Lewis, 1994). Additionally, missing values were addressed through methods such as imputation or exclusion, depending on the extent of their impact on the analysis (Little & Rubin, 2002). Data integrity was ensured by cross-checking responses against established criteria and validating entries where necessary. By meticulously reviewing and rectifying any discrepancies in the dataset, the integrity and reliability of the data were upheld, laying a solid foundation for subsequent analysis and interpretation.

3.9.4 Descriptive Statistics

Descriptive statistics were employed to summarize and present key features of the dataset collected from paediatric healthcare workers in Accra, focusing on variables related to the prevalence of depression, anxiety, stress, and productivity (Gravetter & Wallnau, 2016). Mean

scores provided a measure of central tendency for each variable, offering insight into the average level experienced by participants. Standard deviation complemented the mean by indicating the dispersion of scores around the average, allowing for a better understanding of the variability within the dataset (Field, 2013; Sullivan, 2012).

3.9.5 Prevalence Calculation

In this study, the Beck Depression Inventory (BDI) by Beck et al. (1996) was used to assess depression among paediatric healthcare workers. This instrument comprised 15 items rated on a 4-point Likert scale: Never (N = 0; does not apply to me), Sometimes (S = 1; applies to me to some degree), Often (O = 2; applies to me to a considerable degree), and Almost Always (A = 3; applies to me very much). The total BDI scores ranged from a minimum of zero (0) to a maximum of forty-five (45). According to Kilinc and Torun (2011), a total score of 0-9 indicates minimal depression, 10-16 denotes mild depression, 17-25 signifies moderate depression, and scores above 25 reflect severe depression.

Anxiety prevalence was measured using the Beck Anxiety Inventory (BAI) by Beck (1988), which included 21 items rated on a 4-point Likert scale: Never (N = 0; not at all), Sometimes (S = 1; but it didn't bother me much), Often (O = 2; it wasn't pleasant at times), and Severe (S = 3; it bothered me a lot). The raw scores ranged from 0 to 51. The BAI scores were classified as minimal anxiety (0 to 7), mild anxiety (8 to 15), moderate anxiety (16 to 25), and severe anxiety (26 to 51).

Stress prevalence was assessed using a 5-point Likert scale from 0 (Never) to 4 (Very Often), with a score range of 0 to 40. Higher scores indicated greater stress levels. A score of 13 denoted normal stress levels, with scores from 0–13 indicating low stress, 14–26 suggesting moderate stress, and 27–40 reflecting high perceived stress.

3.9.6 Regression Analysis

Multiple linear regression was employed to examine the relationships between mental health indicators, specifically depression, anxiety, and stress, and productivity outcomes among paediatric healthcare workers in Accra. This method was chosen for its ability to control for multiple predictors simultaneously, quantify their independent associations with each outcome, and determine the strength and significance of these relationships. By interpreting regression coefficients and associated p-values, the analysis identified which mental health indicators exert a notable influence on productivity and to what extent.

Prior to model fitting, the assumptions of linear regression, including normality of residuals, homoscedasticity, absence of multicollinearity, and independence of observations were assessed. Variance Inflation Factors (VIFs) were all below 2.0, indicating no significant multicollinearity. Although the data were collected from multiple hospitals, preliminary intraclass correlation coefficients (ICCs) suggested minimal clustering, and therefore multilevel modelling was not required. This analytical approach provided insights into how variations in depression, anxiety, and stress levels impact productivity, informing the design of targeted interventions to improve both well-being and workplace performance.

3.10 Ethical Issues

This research received ethical clearance from the Ethics Review Committee of the Ghana Health Service, guaranteeing compliance with established ethical standards throughout the study. Moreover, permission was obtained from the management of the chosen hospitals to support the research activities. Key ethical issues were carefully considered before the study began, covering informed consent procedures, the process of obtaining consent, safeguarding participants' anonymity and confidentiality, and ensuring their freedom to participate voluntarily, without any form of coercion.

3.10.1 Access to Study Area

Securing entry to the study site and obtaining participant cooperation is frequently challenging, as noted by Cresswell (2013). In this research, an official letter of introduction was sent to the medical directors of the chosen health facilities to request permission to conduct the study. This letter, issued by the Department of Biological, Environmental, and Occupational Health (BEOH) at the University of Ghana's School of Public Health, facilitated the approval process. Once authorization was granted, the researcher was able to proceed with data collection.

3.10.2 Informed Consent and Consenting Procedure

To guarantee that participants were thoroughly informed before joining the study, the questionnaire offered detailed information about the research. This encompassed an explanation of the study's objectives, background on the researcher, and a description of the procedures in place to protect data confidentiality. Each individual was asked to sign a consent form, affirming their voluntary involvement in the study. Participants were also reassured that their choice to participate was made without any pressure or undue influence, and they retained the right to withdraw at any point without facing any negative repercussions.

3.10.3 Anonymity and Confidentiality

Ensuring the anonymity and confidentiality of participants was paramount in this study. To protect respondents' identities, no personal details, such as names, contact information, or addresses were gathered. All completed questionnaires were securely stored for the entirety of the research period. This strategy safeguarded participants' privacy and strengthened trust in the research, fostering openness and honesty in their responses.

Participants who scored in the severe range for stress, anxiety, or depression were not formally screened for clinical referral as part of this study.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.0 Introduction

This chapter presents the results on the prevalence of depression, anxiety, and stress among paediatric healthcare workers in Accra and examines its impact on productivity. This chapter is divided into two segments. The first segment shows the results on the demographic characteristics of the respondents. The chapter's second section focuses on presenting the main findings to address the research questions. The findings are presented in tables for easy understanding and readability.

Background Information of Respondents

Table 4.1 - Demographic Information of the respondents

Variable	Subscale	Freq.	(%)
Sex	Female	151	76.3
	Male	47	23.7
Age	Below 25 years	9	4.5
	25 -30 years	116	58.6
	31 -35 years	41	20.7
	36 - 40 years	28	14.1
	Above 40 years	4	2.0
Marital	Single	114	57.6
	Married	84	42.4
Highest qualification	Bachelors	149	75.3
	Masters	25	12.6
	Diploma	19	9.6
	Others, such as Certificate	5	2.5
Current Role	Nurse	81	40.9
	Doctor	117	59.1
Work Experience	5 years or less	43	21.7
	6- 10 years	87	43.9
	11-15 years	39	19.7
	More than 15 years	29	14.6

Field survey, 2024.

The demographic analysis as depicted in Table 4.1 shows that 151 (76.3%) of paediatric healthcare workers are female, while 47 (23.7%) are male. The age distribution indicates that the majority of respondents are between 25 and 30 years (N = 116; 58.6%), followed by those between 31 and 35 years (N = 41; 20.7%), and 28 (14.1%) between 36 and 40 years. Additionally, 4.5% of the workers are aged below 25 years, while 2% are over 40 years. The results further show that 114 (57.6%) of respondents are single while 84 (42.4%) are married. Most respondents, 149 (75.3%), hold a bachelor's degree, 25 (12.6%) have a master's degree, 19 (9.6%) have a diploma, and 5 (2.5%) possess other qualifications such as MBChB or certificates. Regarding current roles, 117 (59.1%) of respondents are doctors, while 81 (40.9%) are nurses. In terms of work experience, 87 (43.94%) have between 6 to 10 years of experience, followed by 43 (21.72%) with five years or less, 39 (19.7%) with 11 to 15 years, and 29 (14.65%) with more than 15 years of experience.

4.1 Presentation of findings

Research Question One: What is the prevalence of depression, anxiety, and stress among paediatric healthcare workers in Accra?

Prevalence of Depression

In this study, the Beck et al. (1996) Depression Inventory (BDI) was used to assess depression among paediatric healthcare workers. The instrument consisted of 15 items on a 4-point Likert scale ranging from Never (N = 0), Sometimes (S = 1), Often (O = 2), to Almost always (A = 3). The BDI scores ranged from a minimum of zero (0) to a maximum of forty-five (45). Based on Kilinc and Torun's (2011) categorisation, scores of 0–9 indicate minimal depression, 10–16 mild depression, 17–25 moderate depression, and above 25 severe depression. The data on the prevalence of depression among paediatric healthcare workers are presented in Table 4.2.

Table 4.2 - Prevalence of Depression

Levels of Depression	BDI Score Ranges	Freq.	Percent
Minimal Depression	0–9	42	21.2
Mild Depression	10–16	72	36.4
Moderate Depression	17–25	24	12.1
Severe Depression	Above 25	60	30.3

Source: Field survey, 2024.

Table 4.2 shows that mild depression was most common (72; 36.4%), followed by severe depression (60; 30.3%), minimal depression (42; 21.2%), and moderate depression (24; 12.1%).

The results in Table 4.2 are further visually represented in Figure 4.1 below;

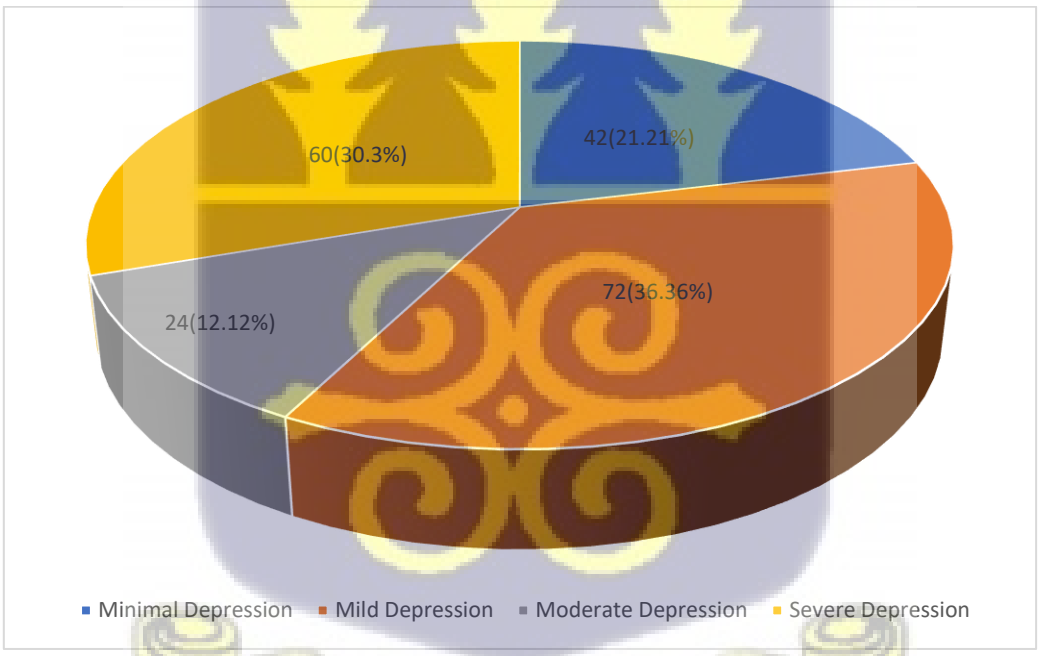

Figure 4.1: Prevalence of depression levels

Prevalence of Anxiety

Data on the prevalence of anxiety were collected using the Beck (1988) Anxiety Inventory (BAI), which consisted of 21 items measured on a 4-point Likert scale: 0 (Never), 1 (Sometimes), 2 (Often), and 3 (Severe). Each respondent's scores across the 21 items were

summed, yielding a raw score between 0 and 51. Based on Broen et al. (2016), scores of 0–7 indicate minimal anxiety, 8–15 mild anxiety, 16–25 moderate anxiety, and 26–51 severe anxiety. The data on the prevalence of anxiety are presented in Table 4.3.

Table 2.3 - Prevalence of Anxiety among Paediatric healthcare workers

Anxiety	Anxiety Score Ranges	Freq.	Percent
Minimal Anxiety	0–7	95	48.98
Mild Anxiety	8–15	85	42.93
Moderate Anxiety	16–25	18	9.09
Severe Anxiety	26-51	-	-

Source: Field survey, 2024.

The results are further visualised in Figure 4.2 below.

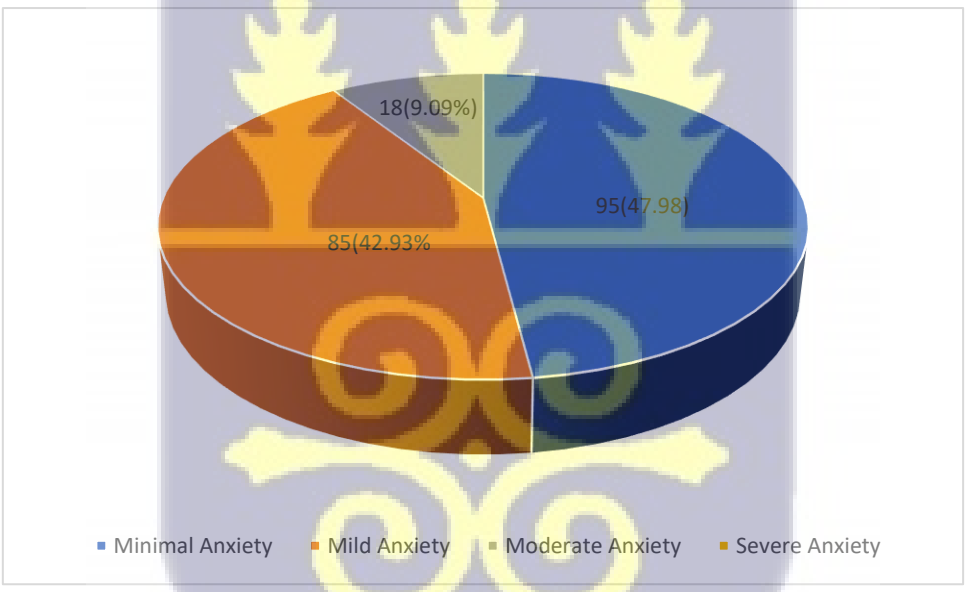

Figure 4.2: Levels of depression among paediatric healthcare workers in selected healthcare facilities in Accra

The study found that 95 (47.98%) of paediatric health workers experienced minimal anxiety, with scores ranging from 0 to 7. Mild anxiety, with scores between 8 and 15, was reported by 85 (42.93%) of respondents. Moderate anxiety, with scores between 16 and 25, was reported by 18 (9.09%) of respondents. No respondents reported severe anxiety, as indicated by the absence of scores in the 26 to 51 range.

Prevalence of stress

Stress prevalence was measured on a 5-point Likert scale ranging from 0 (Never) to 4 (Very Often), producing scores from 0 to 40. Scores of 0–13 indicate low stress, 14–26 indicate moderate stress, and 27–40 indicate high stress.

Table 4.4 - Prevalence of stress

Perceived stress Scale	Stress Ranges	Freq.	Percent
Low stress	0-13	47	20.7
Moderate Stress	14–26	71	35.9
High Stress	27-40	86	43.4

Source: Field survey, 2024

The stress prevalence is also presented in Figure 4.3 to facilitate easy comprehension.

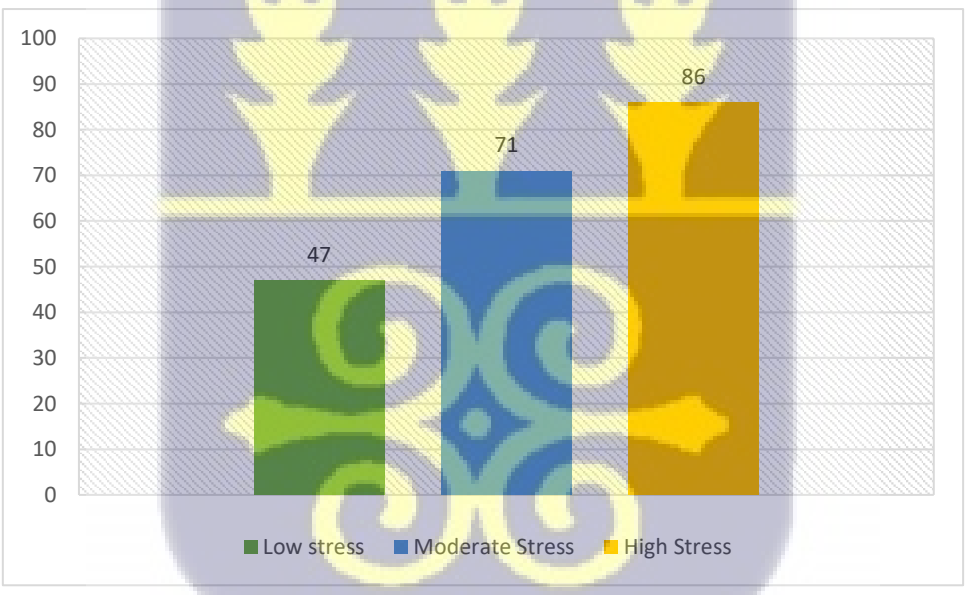

Figure 4.3: Levels of stress among paediatric healthcare workers in selected healthcare facilities in Accra

Table 4.4 shows that 47 paediatric healthcare professionals (20.7%) reported low stress levels, with scores ranging from 0 to 13. Moderate stress, with scores between 14 and 26, was reported by 71 respondents (35.9%). High stress, with scores ranging from 27 to 40, was reported by 86 respondents (43.4%).

Research Question Two: What is the prevalence of stress, anxiety and depression (SAD) based on gender, age, professional rank, and work experience among paediatric healthcare workers in Accra

The second research question examined the prevalence of SAD based on gender, age, rank, and experience levels of respondents. The results are presented in Tables 4.5 to 4.8.

Prevalence of stress, anxiety and depression (SAD) based on the sex of paediatric healthcare workers

Table 4.5 - Prevalence of SAD based on the sex of respondents

	Sex	M	SD	T	Df	P-Value
Prevalence of SAD	Male	49.31	16.19	-.112	78.24	.911
	Female	49.61	16.55			

**Significance level .05*

Table 4.5 shows that the mean prevalence of SAD among male paediatric healthcare workers was 49.31 (SD = 16.19), while among females it was 49.61 (SD = 16.55). The mean difference was 0.30. The t-value was –0.112 with degrees of freedom (df) of 78.24, and the p-value was 0.911.

Prevalence of stress, anxiety and depression (SAD) based on age of paediatric healthcare workers

Table 4.6 - ANOVA RESULTS OF prevalence of SAD based on age of respondents

Variables	Mean	SD	F- Value	df	P-Value
Below 25 years	43.00	15.33	1.465	197	.214
25 -30 years	49.97	16.21			
31 -35 years	48.56	18.82			
36 - 40 years	52.36	13.15			
Above 40 years	34.50	15.00			
Total	**49.38**	**16.43**			

Source: Field survey, 2024

The one-way ANOVA results in Table 4.6 show that respondents below 25 years had a mean SAD score of 43.00 (SD = 15.33). Respondents aged 25–30 years had a mean score of 49.97 (SD = 16.21), those aged 31–35 years had 48.56 (SD = 18.82), those aged 36–40 years had 52.36 (SD = 13.15), and those above 40 years had 34.50 (SD = 15.00). The F-value was 1.465, and the p-value was 0.214.

Prevalence of stress, anxiety and depression (SAD) based on experience levels of paediatric healthcare workers

One-way ANOVA was utilised to analyse the above phenomenon. The results obtained are presented in Table 4.7.

Table 4.7 - Prevalence of SAD-based experience level of paediatric healthcare workers

Variables	Mean	SD	F- Value	df	P-Value
5 years or less	49.74	16.09	8.939	197	.001
6- 10 years	54.99	15.93			
11-15 years	42.42	13.07			
More than 15 years	41.28	16.55			
Total	**49.40**	**16.47**			

Source: Field survey, 2024

Table 4.7 shows that healthcare workers with five years or less of experience had a mean SAD score of 49.74 (SD = 16.09). Those with 6–10 years of experience had a mean score of 54.99 (SD = 15.93). Respondents with 11–15 years of experience recorded a mean score of 42.42 (SD = 13.07), and those with over 15 years of experience had a mean score of 41.28 (SD = 16.55). The one-way ANOVA results indicate a statistically significant difference in SAD levels between experience groups (F(197) = 8.939, p = 0.001).

Prevalence of stress, anxiety and depression (SAD) based on current role of paediatric healthcare workers

Table 4.8 - Prevalence of SAD based on the current role of paediatric healthcare workers

	Sex	No.	M	SD	T	Df	P-Value
Prevalence of SAD	Nurse	81	52.65	17.22	2.313	160.374	.022
	Doctor	117	47.12	15.53			

*Significance level .05
Source: Field data, (2024)

Table 4.8 shows that nurses had a mean SAD score of 52.65 (SD = 17.22), while doctors had a mean score of 47.12 (SD = 15.53). The t-value was 2.313 with 160.374 degrees of freedom, and the p-value was 0.022.

Research Question Three: What are the factors associated with depression, anxiety, and stress among paediatric healthcare workers in Accra?

The fourth research question examined the factors associated with stress, anxiety, and depression among paediatric healthcare workers in Accra. The results are presented in Table 4.9.

Table 4.9 - Factors associated with depression, anxiety, and stress among paediatric healthcare workers in Accra

Variable	Coef. (β)	SE	T	Sig.
Psychological Factors	**.237**	**.118**	3.763	.000
Hospital Factors	**.345**	**.101**	3.797	.000
Special Conditions	**.263**	**.126**	4.561	.000
Socio Economic Status	**-.207**	**.142**	-1.250	.022
_cons	**-.343**	**1.757**	**-.195**	**.845**
N	198			
P-Value	0.000			
R-squared	0.625			
Adj R-squared	0.623			
Root MSE	3.494			

Source: Field survey, 2024

Table 4.9 presents the regression analysis of factors associated with stress, anxiety, and depression among paediatric healthcare workers in Accra. Psychological factors had a coefficient of $\beta = 0.237$ ($p < 0.000$). Hospital factors had a coefficient of $\beta = 0.345$ ($p < 0.01$). Special conditions had a coefficient of $\beta = 0.263$ ($p = 0.000$). Socioeconomic status had a

coefficient of β = –0.207 (p = 0.022). The model had an R-squared value of 0.625 and an adjusted R-squared of 0.623. The overall model p-value was 0.000.

Research Question Four: What is the relationship between depression, anxiety, stress, and productivity levels of paediatric healthcare workers in Accra?

The fourth research question examined the effects of depression, anxiety, and stress on the productivity levels of paediatric healthcare workers in Accra. The results are presented in Table 4.10.

Table 4.10 - Relationship between SAD and productivity levels of paediatric healthcare workers in Accra

Variable	Coef. (β)	SE	Sig.
Anxiety	-.226	.129	.000
Stress	-.480	.075	.000
Depression	-.204	.055	.000
_cons	-.343	1.757	.845
N	198		
P-Value	0.000		
R-squared	0.715		
Adj R-squared	0.702		
Root MSE	2.494		

Source: Field survey, 2024

Table 4.10 shows that stress had a coefficient of β = –0.480 (p = 0.000), anxiety had a coefficient of β = –0.226 (p = 0.000), and depression had a coefficient of β = –0.204 (p = 0.000) in predicting productivity levels. The model had an R-squared value of 0.715 and an adjusted R-squared value of 0.702. The root mean squared error (Root MSE) was 2.494.

Research Question Five: What are the coping strategies of these paediatric health workers in response to depression, stress, and anxiety?

The last research question examined the coping strategies of paediatric healthcare workers in response to depression, stress, and anxiety. Data were collected using a 5-point Likert scale with the options: Strongly Agree = 5, Agree = 4, Undecided = 3, Disagree = 2, and Strongly

Disagree = 1. A criterion value of 3.0 was calculated by summing all scale values (5+4+3+2+1 = 15) and dividing by the number of response options (15 ÷ 5 = 3.0). Statements with mean scores below 3.0 were categorised as disagreement, and statements with mean scores above 3.0 were categorised as agreement. Standard deviation measured the dispersion of responses; a value of 1.0 or below indicated homogeneity, while a value above 1.0 indicated diversity. The results are presented in Table 4.11.

Table 4.11 - Coping strategies of paediatric health workers in response to SAD

Statements	Mean	SD
I put myself under less pressure at work often	4.11	0.78
I always eat healthy food	3.98	0.76
I always have enough rest between shifts	3.79	0.90
I consume less caffeine and alcohol	3.57	0.84
I exercise my body during off days	3.37	1.03
I try not to take on too many responsibilities at work	3.07	1.07
I often do breathing exercises to lower my heart rate	2.96	1.01
I trust myself in everything I do	2.94	1.04
I surround myself with supportive and positive friends and family members	2.90	1.12
Modelling positive coping behaviours	2.77	1.09
I stay in contact with family and friends	2.67	1.09
I sometimes share my responsibilities and delegate tasks to my subordinates at work	2.47	1.09
Average Mean/SD	**3.22**	**0.98**

Source: Field survey, 2024

The results in Table 4.11 show the mean and standard deviation scores for coping strategies among paediatric healthcare workers. The highest mean score was recorded for the statement "I put myself under less pressure at work often" (M = 4.11, SD = 0.78). This was followed by "I eat healthy food" (M = 3.98, SD = 0.76) and "I always have enough rest between shifts" (M = 3.79, SD = 0.90). Other strategies with mean scores above the criterion value included "I consume less caffeine and alcohol" (M = 3.57, SD = 0.84), "I exercise my body during off days" (M = 3.37, SD = 1.03), and "I try not to take too many responsibilities at work" (M = 3.07, SD = 1.07).

Several coping strategies recorded mean scores below the criterion value, including "I often do breathing exercises to lower my heart rate" (M = 2.96, SD = 1.01), "I trust myself in everything I do" (M = 2.94, SD = 1.04), "I surround myself with supportive and positive friends and family members" (M = 2.90, SD = 1.12), "I model positive coping behaviours" (M = 2.77, SD = 1.09), "I stay in contact with family and friends" (M = 2.67, SD = 1.09), and "I sometimes share my responsibilities and delegate tasks to my subordinate at work" (M = 2.47, SD = 1.09).

The overall mean score for all coping strategies was 3.22 (SD = 0.98).

CHAPTER FIVE

DISCUSSION OF RESULTS

5.0 Introduction

This chapter delves into a comprehensive discussion of the findings in relation to the study's research objectives. It explores the implications of the data, compares them with existing literature, and offers insights into the significance of the results in the context of paediatric healthcare work in Accra.

5.1 Prevalence of stress, anxiety and depression (SAD) among paediatric healthcare workers in Accra

The first research objective aimed to analyze the prevalence of Social Anxiety Disorder (SAD) among paediatric healthcare workers, and the findings provide a striking glimpse into the mental health challenges within this workforce. The analysis highlighted varying degrees of depression, anxiety, and stress experienced by healthcare professionals responsible for treating vulnerable paediatric populations.

Depression among Paediatric Healthcare Workers

The data on depression reveals that 42 (21.21%) of the healthcare workers experience minimal depression, while the majority, 72 (36.36%), face mild depression. Additionally, 60 (30.30%) of the workforce experience severe depression. These results show that depressive symptoms are widespread, with the majority of the workers suffering from at least mild depression. Minimal depression, as experienced by 21.21%, means that a significant portion of paediatric workers may experience occasional feelings of sadness but are still able to function adequately. However, the fact that 66.66% of the workforce experience at least mild to severe depression

points to a deeper issue. The fact that nearly a third of the workers (30.30%) experience severe depression is alarming.

The high prevalence of depression among paediatric healthcare workers can have dire consequences on the overall quality of care they provide. When 66.66% of the workforce is grappling with mild to severe depression, their ability to perform effectively is significantly compromised. Depressed individuals often experience fatigue, lack of motivation, and reduced cognitive function, all of which can negatively impact their decision-making and responsiveness. This is particularly concerning in paediatric healthcare, where accurate, timely decisions can be critical for patient outcomes. If workers are struggling mentally, the risk of errors in diagnosis, treatment, or patient care could increase, ultimately putting children's health at risk.

Another serious implication is the strain on teamwork and communication within healthcare settings. Depression can lead to social withdrawal, irritability, and difficulty maintaining positive relationships with colleagues. In a high-stakes environment like paediatric healthcare, where collaboration and clear communication are essential, these issues can disrupt team dynamics and reduce overall efficiency (Bijari & Abassi, 2016). When healthcare workers are not functioning at their best emotionally and mentally, it may lead to misunderstandings or delays in the delivery of care, undermining the overall effectiveness of the healthcare system and potentially increasing patient dissatisfaction.

Also, the long-term mental health of these workers is at risk if depressive symptoms are left unaddressed. The fact that 30.30% of paediatric healthcare workers are experiencing severe depression is alarming and suggests a growing mental health crisis within the workforce. Severe depression, if untreated, can lead to burnout, high absenteeism, and even attrition, further exacerbating staff shortages in an already overstretched healthcare system (Basu et al.

2017). The loss of skilled workers due to poor mental health would create additional burdens on those remaining, perpetuating a cycle of stress and further decline in workforce morale and productivity (Azanaw et al. 2019).

The significance of this finding lies in its critical implications for both healthcare delivery and workforce sustainability in paediatric healthcare settings. The high prevalence of depression, particularly the fact that 66.66% of workers experience at least mild to severe depression, underscores an urgent need for targeted mental health interventions within this workforce. This data suggests that depression is not only a widespread issue but also a significant determinant of healthcare workers' productivity, job performance, and overall well-being. Moreover, the 30.30% experiencing severe depression highlights an acute mental health crisis that could lead to increased absenteeism, burnout, and even staff turnover, further straining healthcare systems.

The prevalence of depressive symptoms among paediatric healthcare workers in this study aligns with prior research. Azevedo et al. (2018) reported significant emotional exhaustion among healthcare professionals in Mozambique due to high workload demands and limited institutional support. Similarly, Basu, Qayyum, and Mason (2017) observed that healthcare workers in Pakistan experienced high levels of depression, largely driven by understaffing and poor working conditions. These findings emphasize the heavy psychological burden healthcare workers face in resource-limited settings, mirroring the current study's finding that 66.66% of the workforce suffers from mild to severe depression.

However, Ahmad et al. (2015) present a contrasting view in their study of healthcare workers in Malaysia. They found a lower prevalence of depression, attributing this to a robust mental health support system and regular debriefing sessions. This contradiction could stem from differences in healthcare policies, resource allocation, and cultural attitudes toward mental health. While Malaysian healthcare systems may prioritize mental well-being, many resource-

constrained countries struggle to implement such initiatives, exacerbating stress and burnout levels among their healthcare workers. The findings of this study underscore the urgent need for comprehensive mental health interventions tailored to the paediatric healthcare workforce. Failure to address these challenges could lead to burnout, reduced productivity, and compromised patient care as also noted in prior research (Basu et al. 2017; Azevedo et al. 2018).

Anxiety among Paediatric Healthcare Workers

Anxiety levels among paediatric healthcare workers present another significant concern. The data shows that nearly half of the workers (95; 47.98%) report minimal anxiety, while 85 (42.93%) experience mild anxiety, and 18 (9.09%) face moderate anxiety. Interestingly, no cases of severe anxiety were reported. This finding suggests that while anxiety is prevalent within the workforce, it tends to manifest at lower levels compared to depression. Minimal anxiety, experienced by nearly half of the workers, could indicate that these healthcare workers may encounter occasional stress or worry but can manage their anxiety without it significantly impacting their daily tasks. However, 42.93% experiencing mild anxiety may encounter more frequent feelings of worry or nervousness that could affect their concentration and efficiency at work. Moderate anxiety, though less common (9.09%), is still significant, as it implies that a subset of workers is experiencing anxiety symptoms that may interfere with their daily functioning. While the absence of severe anxiety cases is somewhat reassuring, the fact that over 50% of the workforce experiences some degree of anxiety should not be overlooked.

The high prevalence of anxiety among paediatric healthcare workers, with over 50% of the workforce affected, poses serious implications for both individual well-being and the quality of patient care. Workers experiencing mild anxiety, may struggle to maintain focus, make timely decisions, and perform at their optimal capacity due to frequent feelings of worry and

nervousness which aligns with existing studies (Brooks et al. 2018). In a paediatric healthcare environment, where the stakes are high and quick, accurate responses are crucial, even mild anxiety can lead to slower reaction times, decreased concentration, and compromised attention to detail. These subtle yet persistent cognitive impairments could increase the likelihood of errors in diagnosis, treatment decisions, and procedural care, ultimately placing vulnerable paediatric patients at risk (Buckley et al. 2022). The emotional toll of constantly managing anxiety may also reduce healthcare workers' ability to engage empathetically with patients and their families, further impacting the quality of care.

Moreover, 9.09% of workers dealing with moderate anxiety are at even greater risk of experiencing symptoms that interfere significantly with their daily functioning. Moderate anxiety often manifests with physical symptoms such as fatigue, headaches, or sleep disturbances, which can result in reduced productivity, absenteeism, and a higher likelihood of mistakes in the workplace (Cassidy et al. 2023). In the context of paediatric healthcare, where workers are exposed to high-pressure situations and emotionally charged environments, moderate anxiety can quickly lead to burnout. This could not only diminish the ability of healthcare workers to provide the level of care required but also strain team dynamics. Anxiety-related stress can erode communication and collaboration among staff, reducing overall workplace efficiency and making it harder to create a supportive and cohesive environment. This breakdown in teamwork may further compound the challenges of delivering high-quality patient care.

In addition, the widespread presence of anxiety, even at lower levels, can have long-term repercussions for the sustainability of the paediatric healthcare workforce. Chronic, unmanaged anxiety may lead to emotional exhaustion, disengagement, and diminished job satisfaction over time, causing healthcare workers to become increasingly disconnected from their roles

(Cheung & Yip, 2015). This emotional strain can increase the risk of turnover, as workers seek to escape an environment where their mental health is constantly challenged. High turnover rates, especially in specialized areas like paediatric healthcare, exacerbate existing staff shortages, placing further strain on the remaining workers and creating a vicious cycle of stress, anxiety, and burnout. It is believed that without adequate mental health support and proactive interventions to address anxiety, these cumulative effects could severely undermine both the stability of the paediatric healthcare workforce and the quality of care provided to young patients.

The significance of this research is profound for both paediatric healthcare workers and policymakers, as it highlights the urgent need to address mental health challenges within this critical workforce. For paediatric workers, the findings underscore the pervasive impact of anxiety and depression on their ability to provide quality care, manage stress, and maintain professional well-being. By drawing attention to the high levels of mild to severe depression and anxiety, this research calls for the implementation of targeted mental health interventions, such as counselling services, stress management programs, and supportive workplace environments, to mitigate these effects. For policymakers, the study provides essential data to inform the development of healthcare policies that prioritize mental health as a key component of employee well-being and productivity. It also emphasizes the need for systemic changes, including regular mental health screenings and the provision of adequate resources, to ensure that paediatric healthcare workers can perform optimally while safeguarding their mental health, thereby improving both workforce retention and patient care outcomes.

The results discussed above align with the studies by Brooks et al. (2018), which highlight the pervasive nature of mild anxiety in healthcare settings and its impact on cognitive functions, including attention and decision-making. They opined that, even low levels of anxiety could

impair performance in high-stakes environments like paediatrics, where accuracy and quick decision-making are critical. Also, Cassidy et al. (2023) corroborate this, noting that moderate anxiety can exacerbate workplace errors and contribute to burnout, especially in high-pressure environments. This finding stresses the need for effective mental health support to mitigate these risks and ensure the provision of high-quality care.

However, the absence of severe anxiety in this study contrasts with the findings by Cheung and Yip (2015), who documented higher rates of severe anxiety among healthcare workers in similarly demanding roles. This discrepancy may be attributed to differences in workplace culture, support systems, or regional variations in healthcare stressors. This contrast underscores the importance of contextual factors in shaping mental health outcomes among paediatric healthcare workers and highlights the need for localized interventions to address these challenges effectively.

Stress Levels among Paediatric Healthcare Workers

The data on stress levels further reinforces the notion that paediatric healthcare workers are experiencing significant mental health challenges. The study found that 41 (20.71%) workers experience low stress, 71 (35.86%) experience moderate stress, and 86 (43.43%) experience high stress. The workers experiencing low stress may appear to be coping relatively well compared to their colleagues. However, even low stress should not be disregarded. Prolonged exposure to work-related pressures, even at lower levels, can gradually build up over time, leading to emotional exhaustion and burnout if not managed properly (Chimwaza & Mkwanda, 2019). In healthcare settings, even those experiencing minimal stress are not immune to the cumulative effects of their work environment (Creedy et al. 2017). These workers might still encounter challenging situations that, if persistent, can lead to a decline in mental health. The consequences of unaddressed low stress include a potential shift to moderate or high stress over

time, as well as diminished emotional resilience. This can impact the ability of healthcare professionals to handle the long-term demands of their job, which requires both physical endurance and emotional stability.

Those experiencing moderate stress, who make up 35.86% of the workforce, face a more significant challenge. It can be inferred that moderate stress may contribute to difficulties in focusing, increased irritability, fatigue, and a gradual decline in performance. In the context of paediatric healthcare, where the emotional and physical demands are constant, it can be suggested that workers experiencing moderate stress may struggle to maintain the necessary level of attention and care required for effective patient treatment. This can lead to an increased risk of mistakes, whether in diagnosing patients, administering treatment, or managing medical records. The presence of moderate stress also affects team dynamics, as stressed workers may have less patience with colleagues, leading to workplace conflicts and communication breakdowns (Dagget et al. 2016). Over time, without proper intervention or stress management strategies, workers in this group are at significant risk of progressing into high stress or experiencing full-blown burnout, with profound implications for their professional well-being and patient outcomes.

The most concerning group is those experiencing high stress, comprising 43.43% of paediatric healthcare workers. High stress is often associated with severe symptoms such as chronic exhaustion, anxiety, and even depression. For healthcare workers, these symptoms can drastically impair their ability to perform their duties, as stress can cloud judgment, slow decision-making, and reduce empathy toward patients and their families (Djamal et al. 2020). The dire consequences of high stress in healthcare settings are profound. It can be suggested that high stress leads to an increased likelihood of absenteeism, as workers may require more time off to cope with the emotional toll of their jobs. In extreme cases, some may leave the

profession altogether. The quality of patient care may also deteriorate, as stressed workers are more prone to errors, and the cumulative effect of these mistakes can be life-threatening in a paediatric setting. Furthermore, the high level of stress in this group may lead to systemic issues within the healthcare institution, such as high turnover rates and decreased staff morale, which further strain the already overburdened workforce. High stress not only impacts individual workers but also undermines the overall effectiveness and safety of the healthcare system, highlighting the urgent need for institutional support and stress-reduction interventions.

The significance of this finding is profound for both paediatric healthcare workers and policymakers in the health sector. For paediatric workers, the high prevalence of moderate to high stress indicates a critical need for improved mental health support and stress management interventions to prevent burnout, ensure their well-being, and maintain the quality of patient care. Chronic stress not only impacts workers' physical and mental health but also compromises their ability to provide effective care, potentially leading to medical errors and reduced job satisfaction. For policymakers, this data highlights the urgent need for institutional reforms, such as reducing workloads, providing mental health resources, and creating supportive work environments. Addressing these stress levels is essential to retaining skilled healthcare professionals, improving patient outcomes, and sustaining a resilient healthcare system. By prioritizing the mental health of paediatric workers, policymakers can foster a more effective and sustainable workforce.

The findings on the prevalence of stress closely align with an empirical study conducted in Uganda by Ndyanabangi et al. (2018) which found that a significant portion of healthcare workers experienced stress symptoms, with 34% reporting mild to moderate and 27% experiencing high-stress levels, similar to the patterns observed in paediatric healthcare workers in Accra. Likewise, a study by Wambua and Ochieng (2020) in Kenya focused on

anxiety and stress among healthcare workers and reported that 41% experienced mild anxiety, and 38% faced moderate to high stress, closely mirroring the findings of this study. The agreement between these studies underscores the pervasive nature of mental health challenges within healthcare sectors across different regions, particularly regarding anxiety, depression, and stress levels. These similarities suggest that mental health issues among healthcare workers are a global concern, highlighting the need for international efforts to improve mental health support systems for healthcare professionals.

5.2 Prevalence of stress, anxiety and depression (SAD), based on gender, age, professional rank, and work experience among paediatric healthcare workers in Accra.

This research objective aimed to analyse the prevalence of SAD based on gender, age, professional rank, and work experience. The research tested whether the prevalence of SAD differs with regard to the aforesaid demographic characteristics.

Prevalence of Stress, Anxiety and Depression (SAD) based on gender

One of the key findings from the study is that the sex and age of paediatric healthcare workers do not significantly influence the prevalence of stress, anxiety, and depression (SAD). This result contradicts common assumptions about the influence of gender and age on mental health vulnerabilities, particularly in professions where the emotional demands are high. Traditionally, it has been widely accepted that women or younger healthcare workers may be more susceptible to mental health issues due to the societal pressures of balancing personal and professional life, as evidenced in a study by Dube, Sizwe and Chikomo (2017). Also, Naidoo, Mabaso, and Mzolo (2018) have also cited factors such as gender-specific caregiving expectations and the inexperience of younger professionals as key contributors to heightened stress levels.

However, the findings from this study suggest that in paediatric healthcare settings, gender and age may not play the dominant role traditionally expected. A possible explanation for this could lie in the distinctive environment of paediatric healthcare. Paediatric workers, regardless of age or gender, often face intense emotional challenges, constant caregiving demands, and exposure to critical and life-threatening situations (Mabaso & Mzolo, 2018). These stressors may level the playing field, creating a work environment where stress, anxiety, and depression are common across the board. The emotional intensity of paediatric care may overshadow personal demographic factors, leading to a uniform experience of SAD across workers of different ages and sexes.

Furthermore, this finding suggests that institutional factors such as workload, inadequate support, and resource shortages may be more significant contributors to mental health challenges in paediatric healthcare environments. These factors may overshadow individual characteristics like gender and age, as workers are united by the shared pressures of their professional environment (Dubale et al. 2019). This insight aligns with the notion that systemic workplace issues can often trump personal vulnerabilities in determining mental health outcomes. Therefore, this study not only contradicts earlier findings from other healthcare sectors but also highlights the importance of addressing organizational and systemic factors when designing interventions to reduce stress, anxiety, and depression in paediatric healthcare workers.

Prevalence of Stress, Anxiety and Depression (SAD) based on Work Experience

The study also found that the prevalence of Social Anxiety Disorder (SAD) based on the work experience of paediatric healthcare workers used in the study is statistically significant. Specifically, the data revealed that workers with 6–10 years of experience reported higher levels of SAD, while those with more than 15 years of experience exhibited lower levels. This

trend can be understood within the context of career progression and the evolving challenges associated with different stages of professional development.

For healthcare workers within the 6–10 years' experience range, this period is often marked by transitioning into more advanced roles, where they are tasked with increased responsibilities. At this stage, they may be stepping into leadership positions, handling more complex cases, and shouldering a greater emotional burden due to the intensity and severity of paediatric care. These challenges coincide with an increased pressure to balance growing workloads, maintain high standards of care, and manage the emotional toll that comes with the nature of their work. Having moved beyond the initial learning curve of the early career phase, these workers are now confronted with the stressors of managing teams, making critical decisions, and dealing with the emotional fatigue that accompanies the care of seriously ill children. This confluence of factors likely explains the heightened levels of stress and anxiety reported by those in this group.

On the other hand, paediatric healthcare workers with more than 15 years of experience may have developed effective coping mechanisms over time, enabling them to better handle the demands of their roles. With years of practice, these individuals may have cultivated a sense of emotional detachment, when necessary, as well as a higher level of professional confidence and mastery. These factors likely contribute to their ability to navigate the challenges of paediatric healthcare with greater ease, thereby reporting lower levels of SAD. Their extensive experience may have also provided them with a greater support network, improved problem-solving skills, and the capacity to manage their emotional responses to stressful situations, all of which contribute to lower stress and anxiety levels.

The findings above are relevant to paediatric healthcare workers and the Ministry of Health, Ghana. For paediatric healthcare workers with 6-10 years of experience, the heightened levels

of stress and anxiety suggest the necessity for targeted support, such as mental health programs, leadership development, and emotional resilience training to ease their transition into more demanding roles. For workers with over 15 years of experience, the lower levels of SAD highlight the potential benefits of experience-based coping strategies, which could be formalized into mentorship programs. For the Ministry of Health, this underscores the importance of implementing stage-specific mental health strategies and providing institutional support, such as counselling and stress management resources, to reduce burnout and ensure the well-being of paediatric healthcare professionals, thus improving overall healthcare outcomes in the country.

The findings above agree with a study conducted in Nigeria which also found that mid-career healthcare workers were at a higher risk of burnout compared to their more experienced peers, who had developed resilience through their long-term exposure to the profession (Adeyemo et al., 2019). Similar results have been observed in South Africa, where novice healthcare professionals report higher levels of stress due to the challenges of adapting to complex clinical roles in under-resourced environments (Makhado & Davhana-Maselesele, 2016). These parallels suggest that the mid-career period presents unique stressors, potentially contributing to the observed variability in SAD levels.

Prevalence of Stress, Anxiety and Depression (SAD) based on the current role of paediatric healthcare workers

The study found a statistically significant difference in the prevalence of stress, anxiety, and depression (SAD) between nurses and doctors, with nurses being more likely to experience higher levels of these conditions in this sample of paediatric healthcare workers. In fact, nurses, especially in paediatric settings, are often on the frontlines of patient care. They are responsible for constant patient monitoring, emotional support to families, and ensuring that children

receive appropriate treatment. In addition, nurses often face higher patient loads, longer shifts, and less control over their schedules compared to doctors, who typically occupy higher positions in the healthcare hierarchy with more decision-making power and autonomy (Brooks et al. 2018). The combination of these factors can contribute to a more stressful and emotionally taxing work environment for nurses, leading to higher levels of SAD.

Additionally, nurses may have less access to mental health support services or resources that doctors might benefit from due to their more senior positions. This unequal distribution of support and recognition within healthcare institutions may exacerbate the mental health challenges faced by nurses, who often carry a significant emotional burden in their day-to-day work (Buckley et al. 2022). Furthermore, the gender composition of nursing, which is predominantly female, may also play a role in shaping the mental health experiences of nurses, as societal expectations and workplace dynamics could impose additional stress on female workers.

The significance of these findings for paediatric healthcare workers and the Ministry of Health, Ghana, is critical for improving mental health outcomes in the sector. Nurses, being on the frontlines of paediatric care, face disproportionately higher levels of stress, anxiety, and depression (SAD) due to their demanding roles, longer shifts, and lower decision-making power compared to doctors (Al-Makhaita et al. 2014). For paediatric nurses, this underscores the urgent need for targeted mental health interventions, such as better access to support services, reduced patient loads, and structured mental health programs tailored to their unique challenges. For the Ministry of Health, addressing this disparity through workplace reforms, improving access to mental health resources, and increasing institutional support for nurses could reduce burnout, enhance job satisfaction, and ensure better patient care. These findings

highlight the need for equitable support across professional ranks, particularly for those in more vulnerable and emotionally intensive roles.

This finding aligns with research conducted in South Africa found that nurses working in public hospitals experience extreme levels of stress due to high patient-to-nurse ratios, resource limitations, and the emotional toll of patient care (Rossouw et al., 2020). Similarly, in Mozambique, nurses working in both rural and urban healthcare settings reported significant emotional exhaustion, driven by the demanding nature of their work and the lack of institutional support (Azevedo et al., 2018). These studies suggest that the higher prevalence of SAD among nurses is not unique to paediatric healthcare workers in Accra but reflects a broader trend observed in many under-resourced healthcare systems across developing countries.

While some demographic variables such as gender, age, and professional rank demonstrated statistically significant differences in prevalence, these findings should also be interpreted for their practical implications. For instance, identifying that a particular group experiences higher stress levels does not necessarily imply exclusive allocation of resources to that group; rather, it suggests the need for workplace-wide interventions that remain sensitive to vulnerable subgroups. Examples may include targeted mentorship for younger staff, flexible scheduling for those with high caregiving responsibilities, or workload redistribution across cadres. Such measures would address disparities without creating inequities in access to support.

The findings of this study must also be interpreted in the context of the COVID-19 pandemic, which has substantially altered healthcare work environments worldwide, including in Ghana. Emerging evidence indicates that the pandemic exacerbated mental health challenges among healthcare workers through increased patient loads, heightened infection risk, disruption of work–life balance, and the emotional burden of caring for critically ill patients in resource-limited settings (Vizheh et al., 2020; Lai et al., 2020; World Health Organization, 2022).

Studies from both high-income and low- and middle-income countries report marked increases in stress, anxiety, and depressive symptoms during pandemic peaks, with paediatric healthcare workers facing unique challenges such as managing infectious disease control while maintaining essential child health services (Kassaw & Pandey, 2021; Batra et al., 2020). These factors likely interacted with the structural and occupational stressors identified in the present study, potentially amplifying their impact during and after the pandemic period.

5.3 Factors associated with depression, anxiety, and stress among paediatric healthcare workers in Accra

This research objective sought to examine the factors associated with SAD among paediatric healthcare workers. The findings that emerged were that psychological factors, hospital factors, special conditions, and socio-economic status are the significant factors associated with depression, anxiety, and stress among paediatric healthcare workers, with the overall model explaining 62.5% of the variance in these mental health challenges ($R^2 = 0.625$, $p = 0.000$).

Psychological factors as significant predictors of stress, anxiety and depression (SAD).

The results found that psychological factors are one of the most intriguing factors associated with SAD among paediatric healthcare workers. Thus, paediatric healthcare workers are frequently confronted with the emotional burden of caring for critically ill children. The nature of paediatric care requires an intense emotional investment as workers often engage deeply with their young patients and their families (Hersch et al. 2016). The emotional stakes are high, especially when the health and well-being of children are on the line, creating a sense of profound responsibility. Undeniably, paediatric healthcare workers do not just treat their patients medically; they also play an emotional role in providing comfort and support to children and their families, who may be enduring significant distress (Hussain et al. 2020). This dual responsibility can lead to elevated levels of emotional exhaustion, where healthcare

workers feel drained both physically and emotionally after prolonged exposure to such emotionally intense situations.

Personal stressors, such as feelings of guilt or inadequacy when a child's condition worsens or fails to improve, can further exacerbate mental health issues. Paediatric healthcare workers may develop feelings of self-blame if a child's condition deteriorates, especially in cases where outcomes are not favourable (Jodaki et al. 2021). These feelings may persist even when healthcare workers have done their utmost to deliver quality care. The psychological toll of balancing hope for recovery with the harsh realities of paediatric illness or death can potentially lead to burnout, a condition characterized by emotional exhaustion, depersonalization, and a sense of reduced personal accomplishment. It is possible that paediatric healthcare workers, especially those with less experience or inadequate mental health support, may find it difficult to separate themselves emotionally from their work, leading to chronic stress and fatigue. Another significant psychological factor that might contribute to SAD among paediatric healthcare workers in Accra is anticipatory anxiety, which can arise from the uncertainty and unpredictability of medical outcomes. This implies that, when paediatric healthcare workers are faced with complex and high-risk cases, and the uncertainty surrounding patient outcomes, it can lead to constant worry and stress.

The findings above corroborate with earlier studies that have similarly highlighted psychological factors as significant predictors of stress, anxiety, and depression (SAD) among healthcare workers. In Pakistan, Hussain, Javed, and Rahman (2020) found that paediatric healthcare workers experienced substantial emotional distress due to the intense psychological burden of caring for critically ill children. The study noted that feelings of guilt and responsibility for patient outcomes were significant contributors to emotional exhaustion and burnout. Similarly, in Germany, Schmidt and Müller (2019) identified psychological factors,

including emotional exhaustion and anticipatory anxiety, as key drivers of SAD among paediatric healthcare professionals. Their research underscored the impact of the emotional stakes associated with paediatric care, where the dual role of providing medical and emotional support led to high levels of stress and fatigue.

Hospital-Related Factors and the Prevalence of SAD

Hospital-related factors are another significant contributor to SAD among paediatric healthcare workers in Accra. One of the most pressing hospital-related issues is staff shortages, a common problem in healthcare systems in developing countries, including Ghana (Lai et al. 2020). When there are too few healthcare workers to meet patient demands, the remaining staff are required to work harder, often taking on additional responsibilities and caring for more patients than they would in a fully staffed facility. For paediatric healthcare workers, this can be especially challenging as paediatric care often requires more time, attention, and emotional engagement than adult care due to the age and fragility of the patients. It can therefore be implied that the shortage of healthcare workers means that paediatric workers are frequently overburdened, with little to no opportunity for breaks or rest. This overwork can lead to physical exhaustion, which, when combined with the emotional toll of caring for sick children, exacerbates the risk of mental health issues. Chronic fatigue, both physical and emotional, contributes to burnout, and without adequate recovery time, workers become more susceptible to anxiety and depression.

Furthermore, inadequate supervision and support within hospital settings also contribute to the high prevalence of SAD among paediatric healthcare workers. In many cases, paediatric healthcare workers are left to manage overwhelming patient loads with limited guidance from senior staff or management (Makhado & Davhana-Maselesele, 2016). The lack of proper leadership and support can lead to a sense of isolation and helplessness, as healthcare workers

feel they have no one to turn to when faced with difficult cases or overwhelming situations. This can lead to increased stress and anxiety, as paediatric workers may feel unequipped to handle complex cases without sufficient support or guidance. The lack of mental health support within the hospital system is another contributing factor. Healthcare workers are often expected to manage their stress and emotions without access to counselling services or mental health resources. In some cases, mental health support services may be available, but the stigma surrounding mental health in the healthcare profession prevents workers from seeking help. Paediatric healthcare workers, in particular, may feel pressured to maintain a stoic and composed exterior, despite experiencing significant emotional turmoil (Mangoulia et al. 2015). The absence of adequate mental health support further exacerbates the risk of depression, anxiety, and burnout.

Studies from Chad and Zimbabwe corroborate the findings regarding hospital-related factors contributing to stress, anxiety, and depression (SAD) among paediatric healthcare workers. In Chad, Djamal et al. (2020) found that staff shortages and inadequate support led to significant SAD due to excessive workloads and lack of mental health resources. Similarly, Nyamadzawo and Moyo (2019) in Zimbabwe reported that overburdened paediatric healthcare workers faced heightened stress and burnout from staff shortages and insufficient supervision, with the absence of adequate mental health support exacerbating their conditions.

Special Conditions as a significant factor causing stress, anxiety and depression (SAD)

The special working conditions inherent to paediatric care represent a significant factor contributing to stress, anxiety, and depression (SAD) among healthcare workers, as evidenced by the study conducted in Accra. Paediatric healthcare environments are distinct from other medical fields due to the heightened emotional and professional demands placed on workers. The emotional engagement required, technical expertise needed, and the sustained focus

demanded from healthcare workers in paediatric settings make these environments particularly challenging. The nature of paediatric care is such that healthcare workers are often involved in long-term care relationships with both the children and their parents, which creates an emotional connection that can be difficult to maintain without experiencing compassion fatigue or emotional exhaustion (Naidoo, Mabaso & Mzolo, 2018). The emotional support healthcare workers must provide to parents, who are often distressed, anxious, and overwhelmed, adds another layer of complexity to their roles. Parents of critically ill children are emotionally vulnerable and frequently look to healthcare workers for reassurance, guidance, and support. Paediatric healthcare professionals are thus tasked with balancing their medical responsibilities with providing psychological and emotional care for the families of their patients. This can lead to intense emotional strain, particularly when the prognosis is poor or when parents express their anxieties and frustrations with the healthcare system (Nyamadzawo & Moyo, 2019).

The results could also mean paediatric healthcare workers face immense pressure to improve patient outcomes, especially when dealing with young patients whose lives and futures are at stake. Unlike in adult care, where chronic conditions may be more expected, paediatric care often carries the weight of societal expectations to "save" or "cure" the patient, as children are seen as having their entire lives ahead of them. This creates a heightened sense of responsibility and urgency for healthcare workers, who may feel personally accountable for the outcomes of their patients. In other words, the pressure to achieve positive outcomes in paediatric care may be exacerbated by the fact that children's health is often more fragile, and their bodies may respond differently to treatment than adults (Ofei et al. 2020). Paediatric healthcare workers must be constantly vigilant, as seemingly minor changes in a child's condition can have significant consequences. This requires sustained focus and attention, contributing to the stress

and anxiety of healthcare workers who may feel that any mistake or delay in care could result in catastrophic outcomes.

The identification of special working conditions as a significant contributor to SAD among paediatric healthcare workers in Accra highlights the need for targeted interventions to address these unique challenges. Healthcare policymakers should consider implementing support systems specifically designed for paediatric healthcare professionals, including access to mental health services, counselling, and peer support groups. Training programs that focus on stress management, emotional resilience, and coping strategies for dealing with loss could also help healthcare workers navigate the emotional demands of their work.

Furthermore, improving the working conditions of paediatric healthcare workers by addressing staff shortages, reducing patient loads, and providing adequate resources and equipment can help alleviate some of the pressure these workers face. Investing in the mental health and well-being of paediatric healthcare workers is essential not only for the workers themselves but also for the quality of care provided to young patients and their families. Sub-Saharan Africa

The findings above agree with earlier studies conducted in Tanzania, by Kiwanga et al. (2018) which found that paediatric healthcare workers experienced high levels of SAD due to staff shortages, heavy workloads, and the emotional burden of caring for critically ill children. Similarly, a study in Malawi by Chimwaza and Mkwanda (2019) highlighted that healthcare workers in paediatric departments faced significant mental health challenges, particularly stress and emotional exhaustion, due to resource limitations and the pressure to improve patient outcomes.

Socio-Economic Status and Prevalence of SAD

The study also found that socio-economic status is a significant factor contributing to SAD among paediatric healthcare workers. Socio-economic stressors such as low wages, financial insecurity, and lack of access to social and financial support exacerbate the mental health challenges faced by these workers. Healthcare professionals, especially nurses and support staff, may receive compensation that is not commensurate with the intensity and demands of their work (Ondicho et al. 2016). This disparity between earnings and job demands creates significant financial strain, making it difficult for healthcare workers to meet their basic needs and support their families. The results also suggest that, for paediatric healthcare workers, the stress of managing a limited income can lead to anxiety about meeting daily expenses, paying bills, and providing for dependents. This financial insecurity could exacerbate the already elevated levels of stress associated with their roles, as paediatric workers may be preoccupied with concerns about their financial stability and prospects.

The results further imply that paediatric healthcare workers may lack access to adequate social safety nets, such as health insurance, retirement benefits, and emergency financial assistance. The absence of these support mechanisms means that healthcare workers must rely on their limited earnings to cover unexpected expenses, such as medical emergencies or family crises (Panigrahy et al. 2017). This lack of financial security can create a constant state of anxiety, as workers are unsure how they will cope with unforeseen events or economic hardships. This uncertainty can lead to chronic stress and feelings of helplessness, particularly when healthcare workers face personal or family emergencies without the cushion of financial support.

The impact of socio-economic status on healthcare workers' mental health agrees with earlier studies that found that inadequate compensation and financial instability were significant factors contributing to stress and burnout among healthcare workers in South Africa (Pillay & Mavundla, 2016). The findings affirm a study conducted in Malawi, a study by Phiri et al.

(2018) which highlighted those low wages and financial insecurity were significant contributors to mental health issues among healthcare workers.

5.4 Relationship between depression, anxiety, and stress, and productivity levels of paediatric healthcare workers in Accra

The fourth research objective sought to analyse the effects of SAD on the productivity of paediatric healthcare workers in Accra. The study found that stress, anxiety, and depression significantly reduce productivity among paediatric healthcare workers, with stress being the most potent predictor, accounting for a 48% decrease in productivity (β= -.480; $p<.01$), followed by anxiety (β= -.226; $p<.01$) and depression (β= =-.204; $p<.01$), collectively explaining 71.5% of the variance in productivity levels.

The result emphasized the profound impact that stress has on the productivity of paediatric healthcare workers. Stress accounted for a 48% decline in their work efficiency, meaning that nearly half of the reduction in productivity can be traced back to stress-related factors. This finding underscores that stress is not just a minor issue but a major predictor of decreased performance in healthcare environments, particularly in the demanding field of paediatric care. Paediatric healthcare workers often face high-pressure situations, including managing critical cases, emotional strain from dealing with young patients and their families, and the need to make rapid, life-impacting decisions. These stressors can overwhelm the workers, leading to burnout, fatigue, and reduced cognitive functioning, all of which directly hinder their ability to perform their duties effectively. The 48% decrease signals that stress negatively affects their ability to provide quality care, maintain focus, and efficiently manage time and resources.

Moreover, the second most potent predictor of reduced productivity in this study was anxiety, which was responsible for a 22.6% decrease in productivity among paediatric healthcare workers. While not as pronounced as stress, anxiety still played a notable role in negatively

impacting their work performance. Anxiety can manifest in various ways, such as excessive worry, restlessness, and difficulty concentrating, all of which can impair a healthcare worker's ability to carry out their responsibilities efficiently. In the demanding environment of paediatric healthcare, anxiety can be triggered by numerous factors, including the pressure to make critical decisions, the emotional toll of caring for sick children, and the constant demand to balance competing tasks under time constraints. This heightened state of worry and apprehension affects their cognitive functions, such as problem-solving and decision-making, which are crucial for effective patient care. As anxiety intensifies, healthcare workers may become less confident in their judgments, leading to delays in treatment, increased errors, and overall reduced effectiveness. The 22.6% decrease in productivity indicates that while anxiety is less impactful than stress, it still accounts for a substantial portion of the decline in healthcare workers' performance. This suggests that anxiety is a significant barrier to productivity, affecting not only the individual worker but also the broader healthcare system. High levels of anxiety can contribute to absenteeism, lower job satisfaction, and ultimately burnout, further exacerbating the challenges within healthcare settings (Rosa et al. 2022).

Depression was identified as the third most significant predictor of reduced productivity among paediatric healthcare workers, contributing to a 20.4% decrease. This suggests that healthcare workers experiencing depression are likely to struggle with maintaining their usual productivity levels (Rossouw et al. 2020). Depression can lead to symptoms such as fatigue, difficulty concentrating, and feelings of hopelessness, all of which can impair a worker's ability to perform tasks efficiently. The reduction in productivity associated with depression is particularly concerning in high-stress environments like paediatric healthcare, where the mental and emotional well-being of workers is critical for providing quality care. The 20.4% decrease highlights the substantial impact depression can have on daily work output, indicating the need for interventions focused on mental health support in these settings.

Several empirical studies resonate with the findings that stress, anxiety, and depression significantly reduce productivity among paediatric healthcare workers. Shanafelt et al. (2015) found that high levels of stress among healthcare professionals, especially in demanding environments, were directly linked to burnout and reduced performance. Similarly, a study by Gander et al. (2019) highlighted that anxiety and fatigue in healthcare workers impaired decision-making and overall work efficiency. Depression's impact on productivity was further supported by Tawfik et al. (2019), who reported that healthcare workers experiencing depression struggled with concentration and job performance, ultimately leading to lower patient care quality. These studies reinforce the critical link between mental health and productivity in healthcare settings.

5.5 Coping strategies adopted by paediatric health workers in response to depression, stress, and anxiety

The research objective sought to analyse the coping strategies of paediatric health workers in response to depression, stress, and anxiety. The study underscores the coping strategies employed by paediatric healthcare workers to manage depression, stress, and anxiety. These professionals are highly engaged in mitigating stress through self-directed approaches. Primarily, they focus on reducing work pressure, which can involve strategies like streamlining tasks, optimizing time management, and setting realistic workload expectations. This proactive approach to work pressure not only helps in managing immediate stressors but also contributes to long-term resilience, allowing workers to maintain a balanced workload and avoid burnout.

Healthy eating is another prominent coping strategy among paediatric healthcare workers. By maintaining a balanced diet, they support their overall well-being, which is crucial for managing stress and anxiety. This aligns with the findings of Ruotsalainen et al. (2014) who found out that, a nutritious diet can enhance mood stability and energy levels, which are

essential in a high-demand healthcare environment. Additionally, these workers prioritize getting adequate rest. Quality sleep is fundamental in maintaining cognitive function, emotional regulation, and physical health. For healthcare workers who often face irregular and demanding schedules, ensuring sufficient rest becomes a critical component of their coping strategy (Schmidt & Müller, 2019).

Limiting caffeine and alcohol intake reflects an understanding of the impact that these substances can have on mental health. Caffeine, while often used for its stimulating effects, can exacerbate anxiety and interfere with sleep. Alcohol, on the other hand, might provide temporary relief but can ultimately worsen depression and anxiety. By consciously reducing these substances, paediatric healthcare workers are taking steps to maintain emotional stability and avoid the negative side effects associated with their consumption.

Exercise is another widely adopted strategy among these professionals. Engaging in physical activity has been consistently linked to improved mental health outcomes (Wireko, 2019). Exercise can help lower stress hormone levels, improve mood, and increase overall resilience. For paediatric healthcare workers, incorporating regular physical activity into their routine offers a way to combat the physical and emotional strain of their demanding jobs.

However, the study also reveals that less commonly adopted strategies include seeking social support, delegating tasks, and fostering self-trust. The limited use of social support may reflect a workplace culture where seeking help is not encouraged or where workers feel they must manage their stress independently. This reluctance might stem from a stigma associated with vulnerability in healthcare settings, where the focus is often on maintaining a facade of competence and strength. Similarly, it can be suggested that the less frequent use of task delegation suggests that healthcare workers may either lack opportunities to delegate or feel a personal responsibility to handle all aspects of their work themselves.

Self-trust, while crucial for effective self-management, appears to be less emphasized. This could imply that workers may not always have confidence in their ability to handle stressors or might not be sufficiently trained in stress management techniques. The lack of emphasis on these strategies points to potential areas for intervention, such as promoting a supportive work environment, encouraging collaborative approaches, and fostering professional development that includes stress management training (Shaukat et al. 2020). Overall, while paediatric healthcare workers employ several effective coping strategies to manage stress, depression, and anxiety, integrating additional support and fostering a culture of collaboration could further enhance their ability to cope with the demands of their roles.

The findings from the study on paediatric healthcare workers' coping strategies align with research conducted by Pakistani by Khan et al. (2022) which has found that Pakistani healthcare workers predominantly manage stress through individual-focused strategies, such as prioritizing healthy eating, limiting caffeine and alcohol intake, and incorporating regular exercise, which mirrors the approaches observed in paediatric healthcare workers. Similarly, the findings are cognizant with Chiremba et al., (2021) identified that Zimbabwean healthcare professionals also emphasized self-directed coping mechanisms, notably reducing work pressure and improving sleep quality, while less frequently utilizing social support and task delegation. These studies underscore a common trend of relying on personal health management strategies to cope with work-related stress, reflecting a broader pattern across different healthcare contexts.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter provides a summary of the research, detailing the methodologies employed in collecting and analyzing data to address the research questions on the prevalence of depression, anxiety, and stress among paediatric healthcare workers in Accra and their impact on productivity. It highlights the key findings, draws conclusions based on these results, and offers recommendations along with suggestions for future research.

6.1 Summary of the Research Process

The study investigated the prevalence of depression, anxiety, and stress among paediatric healthcare workers in Accra and examined its impact on productivity. The study was guided by the following research questions and hypotheses.

1. What is the prevalence of depression, anxiety, and stress among paediatric healthcare workers in Accra?
2. What is the prevalence of depression, anxiety, and stress based on gender, age, professional rank, and work experience among paediatric healthcare workers in Accra?
3. What are the factors associated with depression, anxiety, and stress among paediatric healthcare workers in Accra?
4. What is the relationship between depression, anxiety, stress, and productivity levels of paediatric healthcare workers in Accra?
5. What are the coping strategies of these paediatric health workers in response to depression, stress, and anxiety?

The research utilized a cross-sectional survey design with a quantitative approach. The population for this study consisted of 355 paediatric healthcare workers. A simple random sampling technique using Yamene (1967) sampling size determination formula was used to enumerate 207 respondents for the study. Data was collected using Beck et al (1996) Depression Inventory (BDI), Beck (1988) Anxiety Inventory (BAI), and Perceived Stress Scale-10 scale. Inferential and descriptive statistics were utilized to analyse the quantitative data.

6.2 Summary of Key Findings

1. The study found that 21.21% of paediatric healthcare workers experience minimal depression, 36.36% face mild depression, and 30.30% experience severe depression.
2. The study found that about 47.98% of paediatric report minimal anxiety, while 42.93% experience mild anxiety, and 9.09% face moderate anxiety; no severe anxiety was reported.
3. The study also found that 20.71% of paediatric healthcare workers report low stress, 35.86% with moderate stress, and 43.43% with high stress.
4. The study also found that gender and age do not significantly impact stress, anxiety, and depression (SAD) prevalence, but work experience does, with higher SAD levels among those with 6-10 years of experience and lower levels among those with over 15 years. Also, nurses experience significantly higher SAD levels compared to doctors.
5. Psychological factors, hospital conditions, special circumstances, and socio-economic status are the significant factors associated with stress, anxiety and depression among paediatric healthcare workers.
6. Stress, anxiety, and depression reduce productivity, with stress accounting for a 48% decrease, anxiety 22.6%, and depression 20.4%, collectively explaining 71.5% of the variance in productivity levels.

7. Coping strategies adopted by paediatric healthcare workers to deal with stress, anxiety and depression include reducing work pressure, healthy eating, adequate rest, limiting caffeine and alcohol, and exercising, while social support, task delegation, and self-trust are less commonly adopted.

6.3 Conclusions

The study revealed a significant prevalence of depression, anxiety, and stress among paediatric healthcare workers in Accra. It was found that a considerable number of workers experience varying levels of depression, with minimal to mild cases being the most common, though severe depression is also notable. Anxiety, though prevalent, was largely reported at minimal to mild levels, with no severe cases. Stress emerged as a major concern, with most paediatric healthcare workers experiencing moderate to high stress levels, highlighting the mental health challenges within this demographic.

In examining the prevalence of depression, anxiety, and stress based on demographic factors, it was found that gender and age do not significantly influence the occurrence of these mental health issues. However, work experience plays a crucial role, with workers having 6-10 years of experience reporting higher levels of stress, anxiety, and depression, while those with over 15 years of experience reported lower levels. Additionally, nurses were found to experience significantly higher levels of stress, anxiety, and depression compared to doctors, suggesting that professional rank within the healthcare setting may affect mental health outcomes.

The study further identified key factors contributing to the prevalence of stress, anxiety, and depression among paediatric healthcare workers. These include psychological pressures, challenging hospital conditions, exceptional circumstances related to patient care, and socio-economic stressors. These factors underscore the complex and multifaceted nature of mental

health issues in this field, with both professional and personal aspects influencing the well-being of healthcare workers.

Furthermore, the findings demonstrated a strong relationship between stress, anxiety, depression, and productivity levels. Stress was found to have the most significant impact on productivity, followed by anxiety and depression. Together, these mental health challenges accounted for a substantial decrease in overall productivity, indicating that the well-being of healthcare workers directly affects their performance and efficiency in the workplace.

Lastly, the study highlighted the coping strategies adopted by paediatric healthcare workers to manage their stress, anxiety, and depression. Common strategies include reducing work pressure, maintaining healthy eating habits, ensuring adequate rest, limiting the intake of caffeine and alcohol, and incorporating regular exercise. Interestingly, social support, task delegation, and self-trust were less frequently used, suggesting that healthcare workers may rely more on personal rather than social or professional support mechanisms in coping with mental health challenges.

6.4 Recommendations

1. Given the findings of this study, it is essential to address the mental health challenges faced by paediatric healthcare workers to enhance their well-being and productivity. For healthcare workers themselves, particularly those in paediatrics, it is recommended that comprehensive mental health support programs be implemented within healthcare facilities. These programs should focus on identifying early signs of depression, anxiety, and stress through regular mental health screenings, providing access to counselling, and establishing peer support networks to facilitate open discussions and reduce stigma around mental health. Additionally, training healthcare staff in stress

management techniques and resilience-building exercises can help them better cope with the demands of their work.

2. Healthcare facility management should prioritize the well-being of their staff by creating a supportive work environment that actively addresses stressors specific to paediatric care. Establishing clear and reasonable workload expectations, especially for nurses who experience higher levels of mental health challenges, is crucial. Implementing flexible schedules, ensuring adequate rest periods, and creating safe spaces for relaxation within the hospital can provide essential relief for healthcare workers. Additionally, management should encourage the use of social support systems, such as mentorship programs, that allow experienced staff to guide and support less experienced colleagues in coping with job-related stressors.
3. For government-based institutions such as the Ghana Health Service, it is recommended that mental health support for healthcare workers be integrated into national health policies. This could include mandatory mental health assessments for healthcare workers, along with workshops on mental health awareness and stress management strategies. Government institutions should also consider establishing grants or funding programs to support healthcare facilities in implementing mental health initiatives. Creating public awareness campaigns around the importance of healthcare worker well-being can also help generate support from the public and advocate for necessary policy changes.
4. Policy interventions should focus on establishing a national framework that mandates mental health support for healthcare workers. This framework should outline specific mental health resources that hospitals must offer, such as access to on-site mental health professionals, subsidized therapy, and stress management programs. Moreover, policies that incentivize healthcare workers to engage in regular mental health check-ups and

support services can be effective in promoting mental well-being. Policy makers could also consider revising employment standards to ensure healthcare workers' mental health needs are addressed, and that standards are enforced across all healthcare facilities.

5. Finally, specific attention should be given to professional development programs that equip healthcare workers with effective coping strategies. Training should emphasize the importance of self-care, as well as social and professional support mechanisms, such as task delegation and collaboration. Encouraging a balanced approach to work pressures, along with structured support to alleviate both personal and professional stressors, can enhance mental health resilience among healthcare workers.

6.5 Suggestions for further studies

The researcher suggests the following areas for further studies.

1. Future research could explore the long-term mental health trends among paediatric healthcare workers by conducting a longitudinal study. This would provide insights into how depression, anxiety, and stress evolve and the lasting impact on productivity.
2. A study could assess the effectiveness of different mental health interventions, such as counselling, peer support programs, or mentorship initiatives, in reducing stress, anxiety, and depression among paediatric healthcare workers across various professional ranks.
3. Further research could compare the prevalence and impact of stress, anxiety, and depression among healthcare workers in paediatric units versus other specialities (e.g., emergency, surgery), highlighting whether mental health challenges vary based on the nature of healthcare work.
4. A study focusing on why paediatric healthcare workers underutilize social support, task delegation, and self-trust as coping mechanisms could be valuable. This research could

explore cultural, organizational, or personal barriers to adopting these strategies and propose ways to encourage their use.

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APPENDIX I: QUESTIONNAIRE FOR RESPONDENTS

Dear Respondent,

My name is Perfect Koka. I am a Master of Public Health Degree student at the University of Ghana conducting research on the topic "Depression, anxiety and stress among paediatric Healthcare workers." Given this, your cooperation and consent are indispensable as far as this academic work is concerned. You are requested to read the items and respond to them as frankly and objectively as possible. Your responses will be treated confidentially and be used solely for academic purposes. Do not write your name on the questionnaire since this is not a test and you will not be identified with the results. Thank you for taking the time to help with this research.

SECTION A: BACKGROUND INFORMATION OF RESPONDENTS

Instructions: Please tick (√) the box where applicable.

1. Sex (a) Female [ ] (b) Male [ ]

2. Age: (a) below 25 years [ ] (b) 25- 30 years [ ]
   (c) 31 -35 years [ ] (d) 36 -40 years [ ] (e) Above 40 years [ ]

3. Marital Status: (a) Single [ ] (b) Married [ ]
   (c) Others please specify……

4. Highest educational qualification
   (a) Bachelors [ ] (b) Masters [ ] (c) Diploma [ ] (d) Ph.D. [ ] (e) Others please specify……

5. Work experience: (a) 5 years or less [ ] (b) 6- 10 years [ ]
   (c) 11-15 years [ ] (e) More than 15 years [ ]

SECTION B: PREVALENCE OF STRESS, ANXIETY AND DEPRESSION

I. DEPRESSION SCALE

Instructions: Please tick (√) the box where applicable.

Statements	**Never**	**Sometimes**	**Often**	**Almost Always**
I am so sad and unhappy that I can't stand it.				
I feel discouraged about the future.				
I feel I have failed more than the average person.				
I don't get real satisfaction out of anything anymore.				
I feel quite guilty most of the time				
I feel I am being punished.				
I am disappointed in myself.				
I blame myself all the time for my faults.				
I cry anytime am at fault				
I am slightly more irritated now than usual				
I have lost most of my interest in other people				
I have greater difficulty in making decisions than I used to.				
I have to push myself very hard to do anything.				

I don't sleep as well as I used to.				
I get tired more easily than I used to.				
I am so worried about my physical problems that I cannot think of anything else.				

II. PREVALENCE OF ANXIETY

Instructions: Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom in recent times, including today, by circling the number in the corresponding space in the column next to each symptom.

Anxiety factors	**Never**	**Sometimes**	**Often**	**Almost Always**
Numbness or tingling				
Feeling hot				
Wobbliness in legs				
Unable to relax				
Fear of the worst happening				
Dizzy or lightheaded				
Heart pounding/racing				
Unsteady				
Terrified or afraid				
Nervous				
Feeling of choking				
Hands trembling				

Fear of losing control				
Fear of dying				
Face flushed				
Indigestion				
Scared				

III. PREVALENCE OF STRESS

Instructions: Please tick (√) the box where applicable.

Stress indicators	**Never**	**Almost Never**	**Sometimes**	**Fairly Often**	**Very Often**
In the last month, how often have you been upset because of something that happened unexpectedly?					
How often have you felt that you were unable to control the important things in your life?					
How often have you felt nervous and stressed?					
How often have you felt confident about your ability to handle your personal problems?					

How often have you felt that things were not going your way?					
How often have you found that you could not cope with all the things that you had to do?					
How often have you been able to control irritations in your life?					
How often have you been angered because of things that happened that were outside of your control?					
How often have you felt difficulties were piling up so high that you could not overcome them?					

SECTION C: FACTORS CAUSING SAD AMONG PAEDIATRIC HEALTH WORKERS

Instructions: Please tick (√) the box where applicable

STATEMENTS	**SD**	**D**	**N**	**A**	**SA**
Psychological Factors					
I often feel overwhelmed by the emotional demands of my job.					
I experience frequent feelings of burnout and exhaustion.					
I struggle to cope with the emotional distress of seeing sick children.					

I find it challenging to maintain a healthy work-life balance.					
I worry about making mistakes that could harm my patients.					
I experience difficulty in managing my own emotions while caring for paediatric patients.					
I often feel tense and anxious while working in a paediatric healthcare setting.					
Hospital Factors					
I perceive a lack of support from my colleagues and supervisors.					
I feel understaffed and overworked in my department.					
I am frustrated by the administrative burden and paperwork associated with my job.					
I feel that communication within the hospital is poor, leading to misunderstandings and conflicts.					
I am concerned about the availability and adequacy of resources for patient care.					
I feel that organizational changes within the hospital cause undue stress and anxiety.					
I perceive a lack of recognition and appreciation for my efforts at work.					
I feel that the hospital's policies and procedures contribute to my stress and anxiety levels.					
Special Conditions					
I feel overwhelmed when dealing with paediatric patients in critical condition.					
I experience distress when communicating with families about difficult diagnoses or treatment plans.					
I struggle to cope with the emotional toll of caring for terminally ill children.					
I feel anxious when dealing with paediatric emergencies and traumas.					

I find it difficult to balance the needs of my paediatric patients with those of their families.					
I feel emotionally drained after caring for paediatric patients with chronic illnesses.					
Socio-Economic Status					
I experience stress due to financial concerns and job insecurity.					
I worry about the affordability of healthcare services for paediatric patients.					
I feel pressure to work extra hours to make ends meet financially.					
I feel stressed about providing for my family's needs on my current income.					
I worry about the lack of access to affordable childcare services.					
I experience stress due to socio-economic inequalities in healthcare access and outcomes.					

SECTION D: PAEDIATRIC WORKERS' PRODUCTIVITY SCALE

Instructions: Please tick (√) the box where applicable

STATEMENTS	**SD**	**D**	**N**	**A**	**SA**
I efficiently manage my workload to ensure timely completion of tasks.					
I effectively prioritize my responsibilities based on their importance and urgency.					
I maintain a high level of focus and concentration during work hours.					
I am able to adapt to changes in my work environment without experiencing a significant decrease in productivity.					

I effectively communicate with colleagues and other healthcare professionals to coordinate patient care.					
I efficiently utilize available resources to optimize patient care outcomes.					
I consistently meet or exceed the expectations outlined in my job role.					
I actively seek opportunities for professional development to enhance my skills and knowledge.					
I effectively manage stress and maintain a positive attitude in the workplace.					
I consistently adhere to best practices and protocols in patient care.					
I actively participate in team meetings and contribute ideas to improve patient care processes.					
I efficiently document patient information and maintain accurate records.					
I effectively delegate tasks to appropriate team members to optimize workflow.					
I actively engage in continuous quality improvement initiatives to enhance patient care delivery.					
I efficiently manage my time to maximize productivity throughout my shift.					
I consistently follow safety protocols and procedures to ensure the well-being of patients and staff.					
I actively seek feedback from colleagues and supervisors to improve my performance.					

I efficiently handle challenging situations or emergencies without compromising patient care quality					
I effectively collaborate with interdisciplinary teams to develop comprehensive care plans for patients.					
I consistently strive to improve my efficiency and effectiveness in delivering patient care.					

SECTION E: STRESS, ANXIETY AND DEPRESSION COPING STRATEGIES

Instructions: Please tick (√) the box where applicable.

Stress, Anxiety and Depression coping strategies	**SA**	**A**	**N**	**D**	**SD**
I always have enough rest between shifts					
I stay in contact with family and friends					
I always eat healthy food					
I exercise my body during off days					
I trust myself in everything I do					
Modelling positive coping behaviours					
I put myself under less pressure at work often					
I try not to take too many responsibilities at work					
I sometimes share my responsibilities and delegates tasks to my subordinate at work					
I surround myself with supportive and positive friends and family members					
I often do breathing exercises to lower my heart rate					
I consume less caffeine and alcohol					
I take regular					
I get enough sleep all time					

APPENDIX II: ETHICAL CLEARANCE FROM GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

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

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Digital Address: GA-050-3303
Mob: +233-50-3539896
Tel: +233-302-960628
Email: ethics.research@ghs.gov.gh
15th July 2024

My Ref. GHS/RDD/ERC/Admin/App/24/342
Your Ref. No.

Perfect Koka
P. O. Box AN 7892
Accra - North

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

GHS-ERC Number	**GHS-ERC: 083/04/24**
Study Title	Depression, Anxiety and Stress among Paediatric Healthcare Workers in Accra
Approval Date	15th July 2024
Expiry Date	14th July 2025
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of a yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why.
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.

You are kindly advised to adhere to the national guidelines or protocols on the prevention of COVID -19

Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

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

SIGNED.....
Mr. Kofi Wellington
(GHS ERC Chairperson)

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