

ENSIGN GLOBAL COLLEGE, KPONG

EASTERN REGION, GHANA

**HEALTH STATUS OF PRISON INMATES: A QUALITATIVE STUDY OF AKUSE
PRISON IN THE LOWER MANYA KROBO MUNICIPALITY IN THE
EASTERN REGION OF GHANA**

BY

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A THESIS SUBMITTED TO THE DEPARTMENT OF COMMUNITY HEALTH,
FACULTY OF PUBLIC HEALTH, ENSIGN GLOBAL COLLEGE IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE
MASTER OF PUBLIC HEALTH DEGREE

SEPTEMBER, 2024

DECLARATION

I, Perpetual Kuukuwa Bray, declare that this research proposal on the topic “Health Status of Prison Inmates: A Case Study of Akuse Prison in the Lower Manya Krobo Municipality of the Eastern Region of Ghana” is the result of my own original work produced under my supervisor. All ideas and information from other people’s work, which are used in this project, have been duly acknowledged and cited.

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DEDICATION

I humbly dedicate this project to the Almighty for his sufficient grace, strength and wisdom throughout this journey. Also this thesis is dedicated to some special people like Mr. Wulff-Nortey Lee Solomon (uncle) Dr. Steve Manortey (advisor), Deputy Comptroller of Immigration (DCOI) Francis Tachie (my former boss), David Ekow Bray (Sibling), Akuse Prisons (Commanders/Staffs), Inmates of Akuse Prisons, Mr Clinton, and my entire family. Your unwavering supports, guidance, efforts and encouragements have shaped the direction of this project. Without you all, this project would not have been a success.

ACKNOWLEDGEMENT

First and foremost, I would like to express my deepest appreciation to my uncle (Mr. Wulff-Nortey Lee Solomon) for being my support system. I am very grateful for the immense support. I extend my heartfelt gratitude to my advisor (Dr. Steve Manortey) whose expertise, constructive feedbacks, and advice have been essential towards the completion of this thesis. Your support and guidance have shaped the direction of this project. Again, I would like to thank all faculty members, administrative staff and individuals whose contributions, support and encouragements have influenced my academic growth.

I am deeply grateful to Ghana Prisons Service, especially Akuse Prisons, also the Commanders (both male and female wards) of Akuse prison, Second-in-Command (male wards), nurses of the infirmary, and all staffs of the Akuse Prison for their assistance in facilitating this research. Their dedication, professionalism, and commitment towards this work is greatly appreciated. My deepest heartfelt appreciation also goes to the inmates who willingly participated in this study. Their stories shared, experiences and perspectives made this research possible. I am deeply very grateful for your trust and participation.

To my sibling (David Ekow Bray) thank you for being supportive, believing in me and been a constant motivation and strength throughout this journey. Finally, I would like to express my immense appreciation to my family whose motivation have been my anchor throughout this journey, and to some friends especially Mr. Clinton Sekyere Frempong, Dr. Gideon Peprah, Mr. Danikuu Nobini Robert, Rafat Kartumi Asuamah, and Feodora for their support, assistance and encouragement throughout this journey.

DEFINITION OF TERMS

1. **Prison Healthcare:** The medical services and care provided to incarcerated individuals within a prison setting, including preventive, diagnostic, therapeutic, and rehabilitative services.
2. **Inmates:** Individuals who are confined within a prison or correctional facility, serving a sentence for a crime or awaiting trial.
3. **Health Status:** The overall condition of an individual's physical, mental, and social well-being, often measured by the prevalence of diseases, chronic conditions, and psychological issues.
4. **Health Outcomes:** The results of various healthcare practices and interventions, reflected in the health status of individuals or populations, such as reduced disease prevalence or improved mental health.

ABBREVIATIONS/ACRONYMS

COPD.....Chronic Obstructive Pulmonary Disease

COVID-19.....Coronavirus Disease 2019

DM.....Diabetes Melitus

GSS.....Ghana Statistical Service

IDI..... In-Depth Interview

MDG..... Millennium Development Goals

NCD..... Non-Communicable Diseases

NGO.....Non-Governmental Organization

SDG..... Sustainable Development Goals

SEM.....Socio-Ecological Model

WHO.....World Health Organization

ABSTRACT

Background: The health status of prison inmates in Ghana is a pressing concern, as prisons fail to provide basic living conditions and adequate healthcare, leading to a higher burden of communicable and non-communicable diseases, mental health issues, and substance misuse. This neglect has severe consequences for inmates' physical and mental well-being, perpetuating cycles of suffering and impeding rehabilitation. This study assessed the health status of prison inmates in Akuse Prison, Eastern Region, Ghana, to inform policymakers and healthcare providers about the need for healthcare services and systems in prisons.

Methodology: The study employed a qualitative research method, specifically a case study. A descriptive approach using face-to-face in-depth interviews was used for the data collection. A purposive sampling technique was employed to select participants. Data was analyzed using thematic analysis, where emerging themes and patterns were identified and coded. Data was triangulated to ensure consistency and validity.

Results: Findings from the study revealed that the living spaces of the inmates were not clean enough, which could be attributed a lot of their ill-health conditions to the unhygienic environment they live in. Another major finding was on the overcrowding of inmates within very limited space. It was further noted through the responses provided by the inmates that their feeding is nothing to write home about. The food provided to them has little or no nutritional value, resulting in several perceived disease conditions such as rashes and weight loss. Furthermore, it was observed that most of the inmates complained about their mental health conditions, which is negatively affecting their well-being in prison.

Conclusion: In conclusion, the study highlighted the dire health conditions faced by inmates in the Akuse Local Prisons, driven by poor sanitation, overcrowding, inadequate healthcare, and insufficient nutrition. These factors collectively create a hazardous environment that significantly deteriorates the physical and mental health of inmates. These findings suggest the need to implement targeted interventions to enhance the health and well-being of inmates in the Akuse prisons.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

The health and wellbeing of incarcerated populations is an important public health and human rights issue that often receives insufficient attention. Prisons in developing countries like Ghana frequently face challenges related to overcrowding, inadequate nutrition, poor sanitation, and limited access to healthcare services. These conditions can contribute to the spread of infectious diseases and exacerbate existing health problems among inmates. According to the World Health Organization (WHO) (2023), health is defined as “*a state of complete physical, mental, and social well-being and not merely the absence of disease.*” Inmates are affected by social, psychological and physical health problems, such as infectious diseases, chronic viral hepatitis (Stasi *et al.*, 2016), chronic diseases, injuries, dermatological and sensory problems, mental disorders, as well as suicidal and risky behaviors (Voller *et al.*, 2016).

Health care in prisons in Ghana is one of the neglected health areas in our country (Nweze *et al.*, 2021). Substantial progress has been made in translating the Sustainable Development Goals (SDGs) to areas such as mental health, maternal and adolescent health, and sexual and reproductive health (Votruba and Thornicroft, 2015). However, neither the Millennium Development Goals (MDGs), which preceded the SDGs, nor the SDGs themselves have made specific reference to the health of people in prison in developing countries. This gap in international health strategies overlooks the potential contribution of prison health to the SDGs, with the result that imprisoned people become even further marginalized (Ismail *et al.*, 2021).

Incarceration rates on the other hand have increased by approximately 25-30 % over the last 15 years (Geitona and Milioni, 2016). Globally, there are more than 10 million people imprisoned (Olagunju and Oluwaniyi, 2018). As of 2015, the United States (US) prison population was the world's largest, with 2.2 million, followed by China with 1.6 million and Russia with 0.6 million (Yoon *et al.*, 2021). The World Prison Population List reported that the prison population has expanded by 73 percent in a short period (Sturup-Toft *et al.*, 2018). In Ghana, the prison population has witnessed a significant increase from 9,507 in 2000 to 15,228 in 2023 (Baffour *et al.*, 2023).

Prisoners' health represents a major challenge for public health in Ghana since the increasing incarceration rates has a direct impact on prisoners' overall health status (Rathod *et al.*, 2023). However, government efforts to improve the poor conditions of prisons in Ghana have largely failed. Nearly all 46 prisons in the country face logistical, financial, and infrastructural problems, including congestion, limited space, and inadequate bedding, all of which adversely affect the health of inmates (Baffour *et al.*, 2023). There is evidence that psychological distress is prevalent among inmates, with factors such as overcrowding, poor sanitary conditions, and violence all contributing to their overall psychological well-being (Okoro *et al.*, 2018). Another recent study reiterated that inmates experience high levels of physical and mental health problems due to the prison environment, which is characterized by isolation, communal living, violence, insecurity, threats, and overcrowding (Cunha *et al.*, 2023). These infections not only affect the individuals within the prisons but also pose a significant risk to the community if left unaddressed (Duarte *et al.*, 2022).

The health status of inmates has been assessed in other parts of the country, however, there is little or no literature in the Eastern Region which assessed the health status of inmates. This

study therefore seeks to bridge the gap by assessing the health status of inmates in the Akuse Prisons in the eastern region, of Ghana.

1.2 Problem Statement

Prisons in Africa are often considered among the worst in the world due to their human rights-unfriendly conditions (Jeremy and Sarkin, 2019). Mortality rates for incarcerated individuals are higher compared to their community peers, particularly from external causes such as suicide, as well as poor health outcomes after release from custody (Liu *et al.*, 2021; Fazel *et al.*, 2017). Additionally, the prevalence of various mental health disorders is significantly higher among prisoners globally compared to the general population (Fazel *et al.*, 2016). A systematic review by Bukten *et al.* (2024) revealed that prisoners have rates of psychotic illnesses and major depression two to four times higher, and rates of antisocial personality disorder about ten times higher, than the general population.

The presence of chronic conditions such as hypertension and diabetes further complicates the healthcare needs of this population (Miles, 2020). In Ghana, studies have highlighted the experiences of inmates in Kumasi Central Prison, emphasizing issues such as overcrowding and the need for improved rehabilitation services (Ofori-Dua *et al.*, 2020). Additionally, the socioeconomic backgrounds of many inmates, coupled with the stigma associated with incarceration, often result in pre-existing health conditions being left untreated or worsening (Baffour *et al.*, 2022).

Prisons in Africa, including Ghana, are often cited for their poor conditions and human rights violations. The Akuse Prison is likely facing similar issues such as overcrowding, inadequate healthcare infrastructure, and insufficient access to medical services (Peacefmonline, 2019).

Report from the Akuse prisons, by the Assistant Superintendent of Prison (ASP) Daniel Odotei indicated the lack proper infirmary infrastructure, logistics, and drugs in Akuse Prisons which affects the delivery of quality primary healthcare to inmates (Wemakor, 2021). He further reported that the inmates are vulnerable to infectious diseases and mental health disorders. The current condition of the infirmary is small and can not admit three sick inmates at a time. This prevents most inmates to receive care at the prison (Wemakor, 2021). With inadequate data on the health status of inmates in Akuse, it is challenging to develop targeted interventions or allocate resources effectively. By filling the gap in literature with specific data from the Akuse Prison, this study will contribute to a more comprehensive understanding of the health landscape in Ghanaian prisons, informing the health needs of these inmates which can lead to improved healthcare policies, better allocation of resources, and ultimately, better health outcomes for the inmates.

1.3 Rationale of Study

The rationale for this study using Akuse prison in the Lower Manya Krobo Municipality as its focus aims to address an important yet overlooked issue. There have been many studies on prison inmates with specified health areas by many researchers but this study seeks to give an in-depth assessment of the health status of prison inmates. The study is vital because it will inform policymakers, philanthropists, NGO's decisions to see the need to improve the conditions of the prisons, which in turn will improve inmates' living conditions, thereby promoting health among the inmates.

In addition, to implement needful measures to provide inmates with proper and quality health care services and systems. Through this research, the study seeks to raise awareness, inform policy decisions, and contribute to the implementation of reformative interventions, and programs that will help provide relevant skills to the inmates and properly integrate these

inmates back into society as responsible citizens, and also reduce the stigma around inmates after discharge. This study will fill the literature gap through a Qualitative study on the health status of prison inmates and serve as a reference point for future studies.

1.4 Conceptual Framework

The conceptual framework is based on the dependent, independent, moderating, and mediating variables and how the other variables influence the dependent variable. Figure 1 below shows the link between the behavioural skill of inmates within the ecology of their interpersonal relationships, community, the prison as an institution and the operational policy governing the prison environment. The framework elaborates on the link between the outside world and prison life, safety issues and the quality of life of the inmates and how that translates into behavior and health outcomes.

SOCIO ECOLOGICAL MODEL EXPLAINING THE CONDITIONS OF INMATES



Figure 1. 1: Adopted and modified Conceptual Framework from (Joudrey *et al.*, 2019).

The Socio-Ecological Model (SEM), was developed by Urie Bronfenbrenner in the late 1970s. Imprisonment is not used to inflict additional pain but instead is meant to contribute as much as possible to reintegrating prisoners into the community (Cunha *et al.*, 2023). This model recognizes the linkages and interconnectedness between the prisoners, and the prison environment, that influences or affects the inmate's well-being and health. Boone *et al.*, (2016) showed the links between the prison climate and the environment, as a social system, he termed as social climate.

The general correctional institution has a certain character that influences the well-being and behavior of prisoners both during and after imprisonment (Boone *et al.*, 2016). Imprisonment and prison environment tend to affect the inmate's health, this framework work makes it possible to better understand the mechanisms through which prisons affect these inmates (Joudrey *et al.*, 2019). However, an international literature review by Boone *et al.* (2016) led to the identification of 6 primary domains of prison climate.

1. Individual levels: These are dependent on inmates' behavior lifestyle choices, and relationships in the prisons. e.g. drug addiction, maltreatment/intimidation among themselves.
2. Interpersonal level: Individual relationships with other inmates within the prison, relationship with wardens. E.g. fighting for sleeping space, and use of beds at the expense of other inmates.
3. Institutional levels: Here, these include safety and order measures. Rules and policies/decisions available within and around prisons.

Quality and quantity of facilities (Food/cell conditions), e.g. the poor buildings, drug use, lack of health care, and restrictions

4. Community level: The relationship or contact with the outside world/society. E.g. Stigma, general relationships within prisons, and after detention.
5. Policy level: Those rules, policies, and decisions available within and around prisons. E.g. sleep time, abuse of human rights, restrictions.
6. The general prison environment as Boone *et al.* (2016) calls it as social climate.

The building characteristics and composition of prisoner populations were all regarded as important conditions that create the circumstances necessary for a positive living environment (Bonne *et al.*, 2016) Therefore, prisons are complex social systems in which people suffer various health issues. Hence this study aims to overcome both these issues by studying the relationship between prison climates between prison inmates which tends to affect their health and well-being. The socio-ecological model provides a holistic approach to unraveling the prison complexities of inmate's experiences and their implications on their health and well-being.

1.5 General Objective

The main objective of this study is to assess the health status of Prison inmates in Akuse Prison in the Eastern Region of Ghana.

1.6 Research Questions

1. What health conditions are experienced by the inmates at Akuse Prison?
2. What factors influence the health conditions of the inmates at Akuse prisons?
3. How does imprisonment impact the health outcomes of inmates at Akuse Prisons?

1.7 Specific Objectives

1. To describe the health conditions experienced by inmates in the Akuse prisons.
2. To identify factors influencing the health conditions experienced by inmates in the Akuse prisons
3. To assess the impact of imprisonment on the health outcomes of the inmates in Akuse Prisons.

1.8 Profile of the Study Area

Akuse Prison, located in the Lower Manya Krobo Municipality of Ghana's Eastern Region, faces significant challenges due to overcrowding, limited healthcare infrastructure, and inadequate living conditions. The prison, which houses a diverse inmate population from various backgrounds, struggles with poor sanitation, insufficient medical supplies, and a lack of specialized care.

1.9 Scope of Study

This study focused on assessing the health status of inmates at the Akuse Prison in the Eastern Region of Ghana. This study is limited to the Akuse Prison and does not extend to other prison facilities in Ghana, though the findings may have broader implications for prison health across the country.

1.10 Organization of Report

This research project report is organized into six chapters. Chapter One is the introduction, which outlines the context of the study, including the background, statement of the problem, rationale of the study, conceptual framework, research questions, and objectives of the study. Chapter Two is a review of the related literature concerning the study. Chapter Three provides the research design and the methodology used in carrying out the study. In this

section, there is also a discussion on sampling techniques, research instruments, and procedures of data collection, data analysis techniques. Chapter Four focuses on the results coming from the analysis of the generated study data. Chapter Five discusses the key findings in the context of published literature and Chapter Six gives a conclusion and provides targeted recommendations for the study.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This Chapter reviewed related literature with regards to the objectives of the study. In addition, other published and grey literature which are not directly linked to the objectives of the study but are relevant were also reviewed in this chapter. Scholarly articles were retrieved from search engines such as Google Scholar, ScienceDirect, Science.gov, ResearchGate and PubMed Central. This section was divided into three sub-sections: Health conditions experienced by inmates, factors influencing the health conditions experienced by inmates and impact of imprisonment on the health outcomes of inmates.

2.2 Health conditions experienced by inmates

Several studies have highlighted the high prevalence of chronic medical conditions among prison inmates. A nationwide survey found that inmates in federal, state, and local facilities had a higher burden of chronic illnesses such as hypertension, asthma, arthritis, cervical cancer, and hepatitis compared to the non-institutionalized population (Harzke and Pruitt 2018). Similarly, a study focusing on the Texas prison system reported significant prevalence rates for conditions like hypertension (18.8%), asthma (5.4%), and diabetes (4.2%) (Pate *et al.*, 2021).

Inmates often experience a higher burden of both communicable and non-communicable diseases compared to the general population. Non-communicable diseases (NCDs) such as cardiovascular disease, hypertension, diabetes, and chronic obstructive pulmonary disease (COPD) are prevalent among older inmates, who are the fastest-growing demographic in prisons (Sharupski *et al.*, 2018; Munday *et al.*, 2019). A systematic review found that the

prevalence of cardiovascular disease and hypertension among older inmates was 38% and 39%, respectively, which is significantly higher than in age-matched community peers (Munday *et al.*, 2019). Additionally, inmates with diabetes mellitus (DM) reported worse physical and mental health outcomes, indicating the need for specialized primary healthcare services within.

Mental health issues are also highly prevalent among inmates. Depression, anxiety, and hostility are common, often exacerbated by prison conditions such as overcrowding and lack of work assignments (Edgemon and Clay-Wraner, 2018). Older inmates, in particular, exhibit high rates of psychiatric illness, with significant differences observed between male and female inmates in terms of psychological health and the use of psychiatric care (Stoliker and Galli, 2019). The prison environment itself, characterized by overcrowding, insalubrity, and poor hygiene, contributes to the aggravation of existing mental health issues and the emergence of new ones (Machado *et al.*, 2020).

The prison environment plays a crucial role in shaping the health outcomes of inmates. Overcrowding and punitiveness are positively related to both depression and hostility, while the availability of work assignments is negatively related to these mental health indicators (Edgemon and Clay-Wraner, 2018). Social integration within the prison unit has been associated with better health outcomes, although factors such as race-ethnicity and religious identity influence the formation of social groups and the distribution of health behaviors (Haynie *et al.*, 2018). Furthermore, acute health conditions have been found to increase the likelihood of inmate misconduct, suggesting that addressing these ailments could improve both health and behavior (Geosholz and Semenza, 2018).

Emerging health issues in prisons include the increasing importance of non-communicable diseases in high-income countries, where they have become the leading cause of mortality in

prison (Sturup-Toft *et al.*, 2018). The aging prison population presents additional challenges, as older inmates typically have multiple and complex medical and social care needs, including reduced mobility and personal care requirements (Sturup-Toft *et al.*, 2018). Research is needed to understand the complex relationship between sentencing patterns, the aging prison population, and deaths in custody, as well as to develop effective models of care (Sturup-Toft *et al.*, 2018).

2.3 Factors Influencing the Health Conditions Experienced by Inmates

Prison conditions, including overcrowding, punitiveness, and the availability of amenities, significantly impact inmates' mental health. Overcrowding and punitive environments are associated with higher levels of depression and hostility among inmates. Conversely, the availability of work assignments and recreational activities like television can mitigate these negative mental health outcomes (Edgemon and Clay-Warner, 2018). Additionally, poor physical conditions such as insalubrity, poor hygiene, and unsatisfactory food contribute to the aggravation of existing illnesses and the emergence of new health issues (Machado *et al.*, 2020).

The role of social networks within prison settings is crucial for inmates' health. Social integration, characterized by forming friendships and participating in social groups, is associated with better health outcomes. However, factors such as race-ethnicity, religious identity, and exercise intensity influence the formation of these social networks, thereby affecting the distribution of health behaviors among inmates (Haynie *et al.*, 2018). Social support, coherence, and self-efficacy are positive determinants of psychophysical quality of life, while depression, anxiety, and anger are negative determinants (Skowroński and Talik, 2022).

Pre-prison characteristics, or "imported factors," such as childhood abuse, substance misuse, and learning difficulties, play a significant role in determining inmates' mental health status. These factors can predict the likelihood of mental health issues within the prison, with childhood sexual abuse and learning difficulties being particularly strong predictors (Bowler *et al.*, 2018). Interestingly, some factors like prior experience of prison and a history of substance misuse are associated with lower rates of mental health issues, although they pose challenges for reintegration post-release (Bowler, 2018).

Health behaviors and perceptions among inmates are influenced by various factors, including cardiovascular disease risk, physical activity, and smoking. Higher cardiovascular disease risk is associated with worse health perceptions, which can serve as a starting point for discussing preventive measures with inmates (Saleh *et al.*, 2019). Physical health conditions, both acute and chronic, also influence inmate behavior, with acute conditions increasing the likelihood of misconduct and chronic conditions decreasing it (Groshol and Semenza, 2018). Additionally, lifestyle factors such as smoking and physical activity levels differ between Australian-born and overseas-born inmates, affecting their health outcomes (Field *et al.*, 2019).

Access to health information and mental health support is critical for inmates' well-being. Factors such as age, race, health status, and social trust influence the amount of health information accessed and participation in mental health support groups. Gender, work duration, and participation in substance abuse support groups are also significant predictors of seeking health information and support (Nwakasi *et al.*, 2020).

2.4 Impact Of Imprisonment on the Health Outcomes of the Inmates

Inmates experience a higher burden of both communicable and non-communicable diseases compared to the general population. The prison environment exacerbates existing health

issues and introduces new health risks. For instance, the prevalence of chronic diseases such as cardiovascular conditions is notably high among inmates, particularly in high-income countries (Sturup-Toft, 2018). Additionally, the COVID-19 pandemic has further highlighted the vulnerability of the prison population, with disproportionately high rates of infection and mortality (Kim *et al.*, 2022). A study conducted in Ontario, Canada, revealed that health care utilization rates are significantly higher for inmates both during imprisonment and after release, indicating a high burden of morbidity (Kouyoumdjian *et al.*, 2018). This elevated utilization may reflect the suboptimal access to quality health care within prisons and the high morbidity among this population.

The mental health of inmates is severely impacted by the conditions of imprisonment. Overcrowding, lack of privacy, and punitive environments contribute to increased levels of depression and hostility among inmates (Edgemon and Clay-Warner, 2018). The psychological effects of imprisonment are also influenced by individual traits such as cognitive abilities, psychopathy, and emotionality. Inmates with high levels of anxiety and negative emotionality are particularly prone to poor psychological outcomes (Lanciano *et al.*, 2022). Moreover, the social environment within prisons plays a crucial role in shaping mental health outcomes. Social integration within the prison unit is associated with better health outcomes, suggesting that peer support can mitigate some of the negative effects of imprisonment (Haynie *et al.*, 2018).

Imprisonment can lead to significant changes in behavior and cognitive function. A study on the effects of imprisonment on self-control and executive functions found that inmates exhibited increased risk-taking behavior and reduced attentional performance after three months of imprisonment (Meijers *et al.*, 2018). These changes may increase the likelihood of

reoffending upon release, as inmates may be less capable of making sound decisions and controlling impulsive behaviors.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

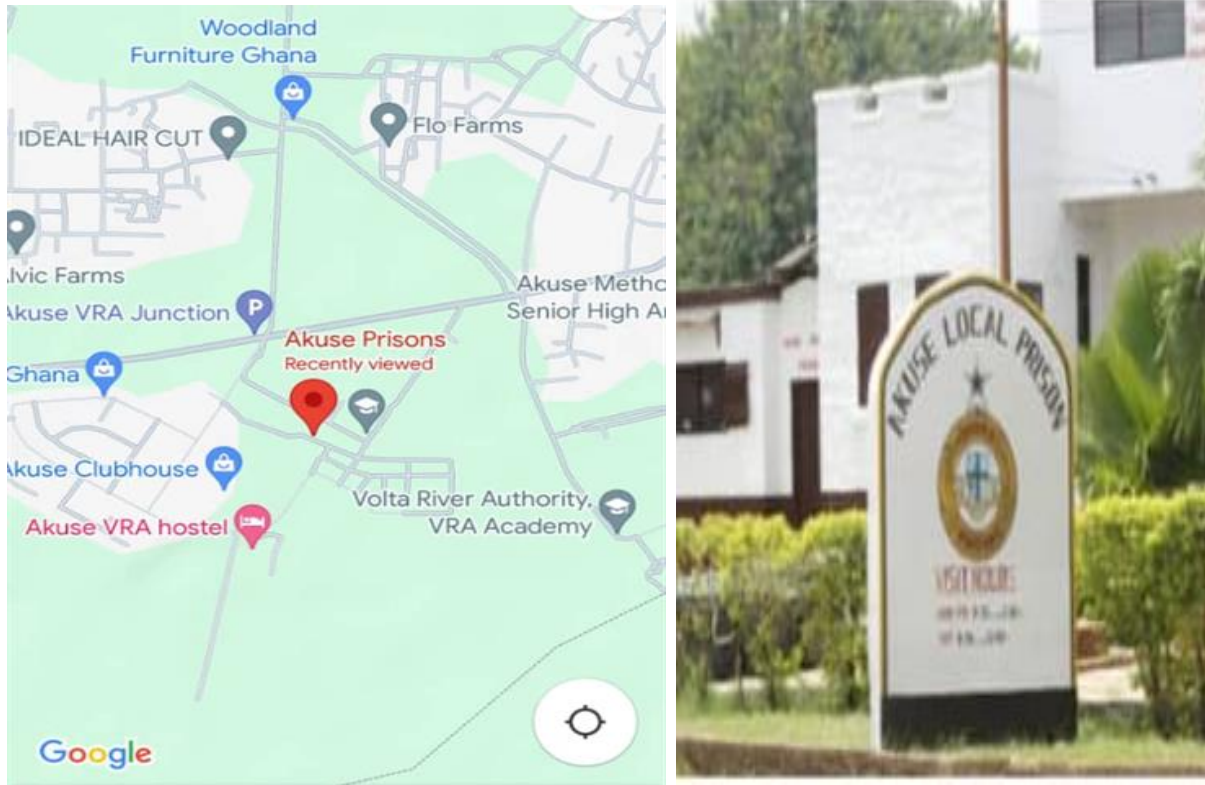
This section provided details on the processes and procedures through which the study was carried out. The section included a description of the study design, study site description, study population, exclusion and inclusion criteria, sample size, sampling method, data collection procedure, data analysis, data management, ethical issues, budget and project outline and dissemination of findings. Each method used to achieve the objectives for this study was appropriately justified with relevant literature

3.2 Study site description

The study was conducted in Akuse, a town in the Eastern Region of Ghana. Akuse is approximately 43km/26m away from Koforidua, the capital of the Eastern Region. The specific area for this study is Akuse Local Prisons situated in the Akuse township. It is popularly called Akuse Prisons. Akuse Prisons was established in the year 1911 at a place that served originally as a warehouse for merchant activities in the then Gold Coast. It is located in the Lower Manya Krobo Municipal of the Eastern Region. The Prison shares a close boundary with the Akuse Police Station, thus the district headquarters (GSS, 2014).

It has 4 core mandates including safe custody, provision of basic needs of inmates, and most importantly the reformation and reintegration of inmates. The inmate population as of 2019, stood at 225, with seven being women but presently the population has risen more than its capacity. Akuse prisons serve as the only detention center for most neighboring communities like Odumase, Kpong, Shai Hills, Agomanya, Atua, Ashiaman, and even Tema etc. Akuse local prison plays an important role in the criminal justice system, which aims to balance

punishment with rehabilitation, and it stands as a testament to Ghana’s commitment to justice and prisoner welfare



Map 1: Map and picture of Akuse Prisons

3.2 Study Population

The target population for the study was prison inmates (both male and females) in the Akuse Local Prison in Ghana, who were detained and serving their terms of imprisonment.

3.3 Inclusion and Exclusion criteria

3.3.1 Inclusion Criteria

Prisoners 18 years and above, both male and female who at the time of the study are serving their terms of imprisonment or prisoners' residents in the prison and were willing to share their experiences about the study were included in the study.

3.3.2 Exclusion Criteria

Prisoners who are severely ill at the time of data collection were excluded from the study. Participants who are not willing to share their experiences were also excluded from the study.

3.4 Study design

The study employed a qualitative research method. Specifically, a descriptive case study design was used. This study design is typically used when small numbers of cases are being explored (Harrison *et al.*, 2017). This approach is ideal for studying the health status of inmates because it allows for a detailed examination of individual cases within the prison. A descriptive case study design enables researchers to explore these factors within the specific context of Akuse Prison, capturing the unique aspects of the prison environment that impact inmates' health. Additionally, given the potentially limited number of inmates in Akuse Prison who may be available and willing to participate in the study, a case study approach is appropriate for gathering in-depth data from this small sample.

3.5 Sample size and sampling procedure

An estimate of 15 to 20 in-depth interviews were conducted. Once the point of saturation is reached, data collection will end. A purposive sampling technique was employed to sample the participants.

3.6 Data Collection Instrument and Procedure

Data collection techniques included individual in-depth interviews. An interview guide was developed for the in-depth interviews. All in-depth interviews were recorded on audiotaped and notes were taken as well. In-depth interviews were conducted in a quiet area with privacy. The interviews started after obtaining informed consent from the respondents.

3.7 Quality Control

Prior to starting the data collection, the Principal Investigator were trained the team members regarding the appropriate utilization of the questionnaire to ensure adequate understanding during data collection. A preliminary (pre-testing) study was conducted, employing a small sample of inmates in Nsawam Prison to assess the questionnaire for clarity, appropriateness, and validity, ensuring the reliability of the data collection tool. The questionnaire was modified, if necessary, based on the feedback received from the pretest. The data collection process occurred within a timeframe ranging from 30 minutes to 1 hour. The questionnaire was administered by the Principal Investigator (PI) and other members of the research team only with the full consent of the participants. The study was conducted under the full supervision of the PI.

Reviewing qualitative transcripts throughout the study and suggesting ways to improve quality, including revision of topic guides and development of further probing questions, were emphasized. This was achieved through a daily debriefing session among study team members after each day's work. Verbatim transcription of audio recording, including the importance of silences and the way in which things are said were discussed in details. Transcripts were translated, a selection of which was back translated for quality.

3.8 Data Processing and Management

All qualitative in-depth interviews (IDIs) were recorded using a digital recorder. Recorded interviews were transcribed verbatim. A second person re-listened to the tape and fill in the missing gaps after the transcript has been typed.

3.9 Data Analysis

Thematic analysis was used. Its applicability to the study is important because the health status of prison inmates is complex, comprising physical, mental/psychological, and social well-being. Thematic analysis provided valuable insights into the health status of prison inmates, throwing light on their experiences, needs, and challenges. Also, it provided a holistic view and rich exploration. The interviews were transcribed exactly as they were spoken, and the transcripts were read and carefully to become familiar with the content (Riger, 2016). Key themes and patterns related to prison experiences were identified and assigned codes accordingly. This process involved grouping data into themes and sub-themes and regularly cross-referenced to ensure accuracy and reliability (Sundler *et al.*, 2019).

3.10 Limitations of Study

The study has some limitations which must be acknowledge. The study's qualitative nature and focus on a single prison, Akuse Prison, limit the generalizability of the findings. The small sample size may not fully represent the diverse health conditions and experiences of inmates across other prisons in Ghana. The study also relied on self-reported data from inmates, which may be subject to bias. Inmates might underreport or exaggerate their health conditions due to fear of reprisal or in an attempt to gain more attention from authorities. Additionally, the study provides a snapshot of the health conditions at a single point in time,

which may not capture the long-term health trends or the impact of changes in prison conditions over time.

3.12 Assumptions

It was assumed that inmates provided honest and accurate accounts of their health conditions and experiences during the interviews. The study also assumed that the conditions observed in Akuse Prison are consistent with those in other prisons in Ghana, despite potential regional differences in prison management and resources. Additionally, the study assumed a direct link between the poor physical environment and the health outcomes of the inmates, which may not account for individual resilience or external factors. However, the study assumed that improving prison conditions will directly lead to better health outcomes, without considering potential systemic issues, such as funding limitations or political priorities, that may hinder the implementation of recommended interventions.

CHAPTER FOUR

4.0 RESULTS

4.1 Introduction

The results section provides themes in response to the objectives of this study. The section is divided into four main sub-sections. Table 4.1 describes the socio-demographic characteristics of the respondents enrolled in this study. The second (health conditions experienced by inmates in the Akuse prisons), third (factors influencing the health conditions experienced by inmates), and fourth (the impact of imprisonment on the health outcomes of the inmates) sections provide themes and quotes from respondents in line with the three specific objectives of the study

4.2 Socio-demographic characteristics of respondents

Table 4.1 shows the socio-demographic characteristics of the 30 study participants who willingly consented to be interviewed. The majority (60.0%) of participants were between the ages of 23 and 34 years with most of the respondents 66.7% being males. Also, the majority of the respondents were single. Further, most of the participants had a basic level of education. The majority of the respondents were Ewes with the majority 93.4% being Christians. More than half of the respondents were convicts with the majority having their year of incarceration between 1 to 5 years.

Table 4. 1: Socio-demographic characteristics of respondents

Variable	Frequency (n=30)	Percentage (%)
Age		
23 to 34 years	18	60.0
35 years and Above	12	40.0
Sex		
Male	20	66.7
Female	10	33.3
Marital Status		

Single	13	43.3
Married	12	40.0
Separated/Widowed	5	16.7
Level of Education		
Basic	12	40.0
Secondary	8	26.7
Tertiary	9	30.0
None	1	3.3
Year of Incarceration		
Not stated	1	3.3
1 to 5 years	15	50.0
6 years and above	10	33.3
Remand	4	13.3
Duration of Stay		
Less than 1 year	7	23.3
1 to 3 years	13	44.3
4 to 6 years	8	26.6
7 years and above	1	3.3
Not Mentioned	1	3.3
Type of sentence		
Remand	4	13.3
Convict	26	86.7
Number of Children		
None	5	16.7
1 to 3 children	20	66.6
4 children and above	5	16.7
Occupation		
Artisan	6	20.0
Traders/ Business Owners	6	20.0
Teachers / Other Professional	7	23.3
Student	1	3.3
Driver/ Motor Riders	2	6.6
Self Employed	7	23.3
Unemployed	3	10.0
Ethnicity		
Ewe	14	46.7
Akan	8	26.7
Ga-Dangme	3	10.0
Others	5	16.6
Nationality		
Ghanaian	27	90.0
Nigerian	3	10.0
Religion		
Christianity	28	93.4
Islam	1	3.3
Rastafarian	1	3.3

Source: Field Data, 2024

4.3 Health conditions experienced by inmates in the Akuse prisons.

This section presents descriptions of health conditions experienced by the respondents in the study. Four themes speak to this description: Skin diseases, foodborne diseases, respiratory diseases, and general body pains. Elaborations on these themes are as follows:

4.3.1 Skin Diseases

Respondents described how they were infected with various skin infections as a result of their stay in prison. Some respondents noted how they suffered from infections, including boils and skin rashes, as shared in the quotes below:

“Okay, hmm, let’s take it as heat rashes and boils because of small rooms”.

[Inmate 1, male, 62 years]

“The common issue is skin infections and the others most challenge is “Sodoso”

[Inmate 13, males, 32 years]

“Hmm, for me as I am talking to you, I think the skin infections is the problem, Skin infection, you can’t even describe it.”

[Inmate 16, males, 34 years]

“Situation cough, skin rashes/ diseases because of congestion. Sometimes multiple boils”.

[Inmate 1, male, 62 years]

4.3.2 Food-borne diseases

According to the participants, food-borne diseases such as typhoid were some of the health conditions experienced. Some quotes showing depicting this theme include;

Typhoid fever and other 2 colleagues,

[Inmate 3, female, 48 years]

Okay, okay white, coughing, cold, sneezing, malaria, typhoid, asthma, skin rashes.

[Inmate 2, female, 41 years]

4.3.3 Respiratory diseases

In the feedback received from some participants, it was observed that participants suffered from some respiratory diseases. They shared instances where they coughed, sneezed, became asthmatic and suffered pneumonia. The quotes provided in the feedback is related to the notion that respiratory diseases are some health conditions experienced in the prison.

Coughing severely and I feel weak and sometimes I shake, I told other officers that last night I was even feeling to vomit.

[Inmate 3, male, 27 years]

Sicknesses plenty, also cough before and people are coughing, Kooko', piles, skin rashes

[Inmates 4, male, 42
years]

I suffer from cough, headaches, boils, and a lot of rashes, especially as you can see on my face.

[Inmates 10, male, 32
years]

Sicknesses plenty, also cough before and people are coughing,

[Inmate 1, male, 62 years]

4.3.4 General Malaise

Another health condition experienced by the participants was general malaise, where participants spoke of suffering from body pains and awkward feelings. Respondents noted how being confined within the prison walls led to body pains.

When you confined here is a ridiculous situation, if you don't go out you don't see Sun. Body pains a lot as human beings

[Inmate 7, female, 27 years]

Three (3) days ago, like I said, had waist pains and piles disturbing me.

[Inmates 15, male, 25 years]

Since I came here, I have suffered boils, heat rashes, and body pains as I am here

[Inmates 11, male, 24years]

4.3.5 Vector-borne diseases

Also, participants spoke of how they suffered from vector-borne diseases such as malaria due to multiple mosquito bites as a result of being confined in the prison. Some quotes supporting this theme includes;

Now I vomit and pains in my chest, I was told is malaria

[Inmate 3, male, 37 years]

Skin diseases like krodoso, beriberi, coughing, ribs problems, we sleep on blankets on the floor and mosquitoes disturbing.

[Inmates 5, male, 52 years]

Mosquitoes are our problem especially at lights off. I have never been here.

[Inmate 9, females,]

We sleep on blankets on the floor and mosquitoes disturbing.

[Inmate 5, male, 52 years]

4.4 Factors influencing the health conditions experienced by Inmates in the Akuse prisons

This section presents the factors influencing the health conditions experienced by Inmates in the Akuse prisons. Three themes speak to this description. These include quality of healthcare services, prison environment, diet, and nutrition in the prison impact. Elaborations on these themes are as follows:

4.4.1 Quality of healthcare services

One factor that positively influenced the health conditions experienced by Inmates in the Akuse prison was the quality of healthcare services. Participants noted that the healthcare services provided at the prisons were good as stated in the quotes below;

Madam Nurse is good, if good, if you need medicine she given you, madam is good. I will rate her 10/10, night if something happens and you call her she will attend to you, and she is good.

[Inmate 7, male, 33 years]

Yes, yes they are readily available, they were good, they have a nurse and checks upon me, health care is timely and good. I will rate them more than necessary

[Inmate 4, female, 27 years]

4.4.2 Prison environment

Participants stated that the prison environment negatively influenced their health. Participants noted factors such as poor washroom quality, congestion, and inadequate ventilation in the

cells, excessive heat, spacing problems and many others that negatively affected their health. One participant said that:

For short, we are too congested, overcrowded because the interval between Inmates is 2 inches when we sleeping so if somebody coughs is airborne disease and we getting problem. We have beds but not sufficient some people sleep on the grounds. Even if they provide beds, the room is not big enough.

[Inmate 1, male, 62 years]

Another participant spoke on how they had poor water supply and the condition of their washroom.

In fact, the hygiene in our washrooms is not good at all. If someone is in toilet and someone is bathing and you can see. The WC is not working you have about 10-15 people use before you flush. The water situation is also bad, we struggle to get water, officers try their best to get us water.

[Inmate 1, male, 62 years]

The toilet facilities over here is very very poor we all go to one toilet so imagine someone has disease is terrible.

[Inmate 5, male, 52 years]

4.4.3 Diet and Nutrition

In addition, participants spoke on how diet and nutrition had an influence on their health. Some participants noted that the food was not nutritious, tasteless and inadequate to satisfy them. Below are the quotes supporting this theme:

The food is not nutritional; nothing is okay about the food. I cannot give that food to any animal to eat, no nutrients, but even the taste, but because we do not have anything, it is wickedness and is barbaric.

[Inmate 6, male, 41 years]

I will say hmm, our food is not good at all. The side of food that one cedi eighty pesewas is not good for our feeding at all if they can do something about it. And is not enough at all, we eat once a day.

[Inmate 2, male, 25years]

Hahaha, The food is not sufficient and tasteless, not good at all the food is not good. hmmm, hahaha

[Inmate 7, male, 33 years]

4.5 The impact of imprisonment on the health outcomes of the Inmates in Akuse

Prisons.

This section presents the impact of imprisonment on the health outcomes of the participants. Three themes speak to this description and they include, the impact on physical health, impact on mental and emotional health and the impact on Diet and nutrition. Elaborations on these themes are as provided below:

4.5.1 Impact on Physical health

According to participants, imprisonment had an impact on their physical health. Some participants explained how they have reduced in weight and no longer has his freedom due to imprisonment.

Mostly, I have reduced in weight and health and my business gone down, do not have my freedom, has affected me physically paaa

[Inmate 16, male, 34 years]

Have affected me a lot have lost weights, selfless and thinking a lot, my kids,...

[Inmate 8, male, 53 years]

4.5.2 Impact on Mental and emotional health

In the feedback received from some participants, it was noted that imprisonment had an impact on their mental and emotional health. They shared instances where they cried and felt bad as a result of visit from family member. Some participants also noted how they feel emotionally down when they remember their children and spouses. Some quotes supporting this theme includes;

Oh! Yes, I feel paa, down, my wife always cries when she visits and I feel pains within especially too because I have 2 kids with her. I feel very affected by my stay here.

[Inmate 18, male, 33 years]

“Psychologically and emotionally I am affected, exactly am never wanted a record like that but this is where I find myself”.

[Inmate 16, male, 34years]

I always think of my children and family at times and you be thinking a lot. I feel I have disappointed my family and myself

[Inmate 5 Female, 28 years]

CHAPTER FIVE

5.0 DISCUSSION

5.1 Health conditions experienced by inmates

The findings from this study provide a comprehensive view of the health conditions experienced by inmates in the Akuse Local Prisons, revealing deep-seated challenges that significantly impact their physical and mental well-being. Inmates are confronted with a range of health issues that are exacerbated by the prison environment, including skin diseases, respiratory ailments, food-borne illnesses, general malaise, and vector-borne diseases such as malaria. These health problems are not merely isolated incidents but are symptomatic of broader systemic failures within the prison setting, where overcrowding, poor sanitation, and inadequate healthcare converge to create a hostile environment for inmate health.

Skin diseases emerged as a prevalent health issue among the inmates, with many suffering from conditions such as boils, rashes, and other skin infections. The overcrowded and unsanitary conditions within the prison serve as a breeding ground for these infections. These findings corroborate the results from a similar study done on inmates' cross-sectional study in the eastern Tigray Zonal Prison in northern Ethiopia (Mardu *et al.*, 2019). Inmates are often forced to live in close quarters, with minimal ventilation and poor hygiene facilities, which exacerbates the spread of skin conditions. The lack of adequate personal hygiene products and the infrequent access to clean water further contribute to the persistence of these skin issues. A similar study conducted by Hutton and Chase (2017) has a key finding that also confirmed this result.. Respiratory diseases such as severe coughing, asthma, and pneumonia were also common among the inmates. The prison environment, characterized by poor air quality, damp conditions, and overcrowding, facilitates the transmission of respiratory infections. This finding is similar to the findings of Holden *et al.* (2023). Another study by

Nijhawan (2016) further reiterated that, the close proximity in which inmates are housed means that diseases can spread rapidly, and the lack of adequate medical interventions only worsens the situation. In some cases, inmates with pre-existing respiratory conditions find their health deteriorating further due to the prison environment, which lacks proper ventilation and exposes them to high levels of airborne pathogens. A similar study conducted in Central and Southern America highlighted the high prevalence of tuberculosis among persons in custody and partly attributed the cause to an increasing prison population (Walter *et al.*, 2021).

The study also highlighted the widespread occurrence of food-borne diseases, including typhoid, among the inmates. The quality of food and water in the prison is alarmingly poor, with meals often prepared under unhygienic conditions. This finding aligns with a study conducted by Van Hout and Mhlanga-Gunda (2019) which found that contaminated water sources and the improper handling of food contribute to the spread of food-borne diseases among inmates. In addition to these specific diseases, inmates frequently experience general malaise, characterized by body pains, weakness, and a general sense of fatigue. These symptoms are likely a result of the combined effects of poor diet, lack of physical activity, and the overall harsh conditions of imprisonment. The limited access to outdoor activities and the lack of exposure to sunlight contribute to a decline in physical health, leading to vitamin deficiencies and other related health issues. Similar findings have been reported by Raymond-Lezman and Riskin (2023). Another study by Ansah *et al.* (2023) among inmates at Ankafu Prison Complex in the Central Region, Ghana. found that the physical discomfort experienced by the inmates is compounded by the psychological stress of imprisonment, which further diminishes their overall sense of well-being

The study also found vector-borne diseases such as malaria to be prevalent among the inmates, primarily due to the presence of mosquitoes within the prison facilities. The lack of

proper mosquito control measures, such as insecticide-treated nets and regular fumigation, results in high rates of malaria infection. The prison's proximity to stagnant water bodies and the poor drainage system within the facility further contribute to the breeding of mosquitoes, placing inmates at constant risk of contracting malaria. This finding is consistent with a study conducted by Nabatanzi *et al.* (2022) in Uganda.

5.2 Factors influencing the health conditions experienced by inmates

The current study corroborates with Ghanaian-based studies that suggested persons in custody were largely responsible for their health care due to little to no medical services in the prison facilities (Walter *et al.*, 2021; Baffour *et al.* 2022). Several factors were identified as influencing these health conditions, with the quality of healthcare services being a critical determinant. While some inmates expressed satisfaction with the healthcare services provided, particularly praising the efforts of the nursing staff, many others highlighted significant gaps in care. A study conducted by Baffoe-Bonnie *et al.* (2019) among healthcare workers of the James Camp Prison in Ghana. reported similar findings. In their study, they found that prison's healthcare infrastructure is severely lacking, with limited medical supplies, inadequate staffing, and insufficient access to essential medications. Another study by Jeker *et al.*, (2023) further disclosed that the situation is compounded by the logistical challenges of providing healthcare in a prison setting, where access to external medical facilities is often restricted, and the ability to respond to medical emergencies is limited.

The prison environment itself plays a significant role in shaping the health outcomes of inmates. The conditions within the prison, including poor sanitation, inadequate ventilation, and severe overcrowding, create an environment conducive to the spread of disease. The unsanitary conditions of the washrooms, combined with the scarcity of clean water and the poor state of bedding, contribute to the high incidence of skin and respiratory infections. A

study conducted by MacDonald (2018) suggested that overcrowding is particularly problematic, as it not only facilitates the transmission of infectious diseases but also contributes to the overall deterioration of the inmates' mental and physical health. Another study conducted by Stoliker (2018) among inmates in the United States found that the lack of space and privacy, coupled with the constant exposure to noise and stress, exacerbates the psychological toll of imprisonment.

Diet and nutrition also emerged as critical factors affecting the health of inmates. The food provided to inmates is often described as inadequate in both quantity and quality, with meals lacking the necessary nutrients to support a healthy lifestyle. Inmates reported receiving food that is bland, poorly cooked, and insufficient to meet their daily caloric needs. This nutritional deficiency contributes to the overall decline in physical health, leading to weight loss, weakened immune systems, and an increased vulnerability to diseases. This finding is similar to the findings of Morales *et al.*, (2024). Another study by Heidari *et al.* (2023) reported that poor diet also has psychological implications, as the lack of satisfying and nutritious meals can lead to feelings of despair and hopelessness among the inmates.

5.3 Impact of imprisonment on the health outcomes of the inmates

The impact of imprisonment on the health outcomes of inmates is profound, affecting both their physical and mental well-being. Physically, many inmates reported experiencing significant weight loss, chronic pain, and a general decline in health, which they attributed directly to the harsh conditions of imprisonment. This finding agrees with extant literature in France (Lagarrigue *et al.*, 2017) and Italy (Bondolfi *et al.*, 2020). A study by Mutz and Müller (2023) added that the lack of access to proper healthcare, coupled with poor living conditions, results in the exacerbation of existing health conditions and the emergence of new ones. The psychological impact of imprisonment is equally severe, with inmates experiencing

high levels of stress, anxiety, and depression. The separation from family and loved ones, combined with the stigma associated with being in prison, contributes to a sense of isolation and emotional distress. Similar findings have been reported in a study by Moore *et al.*, (2021). This finding also corroborates the findings of Gonzalez and Connell (2014) who found that mental health challenges are often left unaddressed, as the prison system lacks the resources and infrastructure to provide adequate mental health support.

A study conducted by Stępnik (2013) further revealed a clear impact of imprisonment on inmates' subjective state of health. His study reported that the health condition of inmates generally encompassed the lifestyle of the inmates before being sent to prison and the impact of prison conditions. Notably, a large percentage of inmates presented deplorable health conditions at the time of their admission to the penitentiary institution. He also found that somatic or mental illnesses were predominantly reported among the inmates. However, psychopathology among prisoners has been linked to violence, self-harm, suicide, victimization, and reduced willingness or ability of individuals to participate in daily activities and prison programs, which may impact their well-being and rehabilitation in a study conducted by Gabrysch *et al.*, (2019). Another study by Pratt *et al.* (2015) found that about 15% of their respondents attempted suicide in their study, of which the majority had a high suicide risk at admission. This indicates that assessment of mental health and risk factors for suicide at admission is vital, and subsequent interventions for suicide prevention are needed in newly imprisoned populations conducted as suggested by Ryan and Oquendo (2020). Research by Zhong *et al.* (2021) further argued that the risk for suicide in prison is high and has been linked to clinical, environmental and socio-demographic factors, and more specific factors such as separation from family due to imprisonment.

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This section begins with a summary of the key outcomes of the data collected on inmates of Akuse Local Prisons in the Eastern Region of Ghana. It also provides a conclusion and recommendations in line with the research objectives and proposals for future research.

6.2 Conclusions

The study highlights the dire health conditions faced by inmates in the Akuse prisons, driven by poor sanitation, overcrowding, inadequate healthcare, and insufficient nutrition. These factors collectively create a hazardous environment that significantly deteriorates the physical and mental health of inmates. It was observed from the analysis that the living spaces of the inmates were not cleaned enough, which is of major concern to them. They could attribute a lot of their ill-health conditions to the unhygienic environment they live in. Another major finding was on the overcrowding of inmates within very limited space. Inmates have seriously complained about the congestion within the prison wall and its consequences on their health. It was further noted through the responses provided by the inmates that their feeding is nothing to write home about. The food provided to them has little or no nutritional value, resulting in several perceived disease conditions such as rashes and weight loss. Also, inadequate healthcare contributes to a dangerous environment that worsens inmates mental and physical health. Finally, it was observed that most of the inmates complained about their mental health conditions, which is negatively affecting their well-being in prison.

6.3 Recommendations

The findings suggest the urgent need for systemic reforms within the prison system to ensure that inmates' health and well-being are safeguarded. Addressing these issues is not only a matter of human rights but also essential for the overall public health landscape.

1. The authorities of Akuse Prisons should ensure immediate steps are taken to enhance the cleanliness and hygiene of the prison environment. This includes providing cleaning materials and involving the inmates in regular cleaning, better waste management, and the provision of adequate sanitation facilities to prevent the spread of infectious diseases.
2. The government must make a conscious effort to reduce prison overcrowding by exploring alternative sentencing options for minor offenses and improving the efficiency of the criminal justice system. This would alleviate the pressure on the prison infrastructure and improve the living conditions of inmates.
3. The government must help improve the nutrition of the foods served to the inmates. The food provided should be balanced to ensure it meets their nutritional needs. Meals should be prepared under hygienic conditions, and food portions should be sufficient to support the health and well-being of inmates.
4. The government and the health care authorities must put interventions in place to improve the patient-doctor ratio as well as patient-health facility ratio. More infrastructure and healthcare personnel should be sent to these prisons.
5. Mental health services should be integrated into the prison healthcare system, with regular counseling sessions, psychological support, and programs aimed at reducing the stigma associated with mental health issues. This would help address the emotional and psychological challenges faced by inmates.

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APPENDICES

Appendix I: Ethical Considerations

Ethical Clearance

Ethical approval was sought from the Institutional Review Board of Ensign Global College before commencing the study. Additionally, official permission was sought from the Director-General of Ghana Prison Service, Headquarters, Accra, and also the Akuse Local Prisons (Officer-In-Charge) Akuse. Informed consent was sought from all participants, and their confidentiality and anonymity was ensured throughout the research process. Participants were made aware of their right to withdraw from the study at any point without consequences.

Risks and benefits of the study

There are no serious foreseeable risks associated with participation in this study. The investigator tried as much as possible to avoid questions that seem to embarrass or make uncomfortable healthcare practitioners who seek to participate in the study. There is no direct benefit from this study to the participants. The information generated was used for academic research and the findings reported in a publication and to help advance knowledge about the current trends for policy-makers.

Compensation

Participation in this study does not come with any form of compensation. Nonetheless, the investigator verbally appreciated the time invested by the participant in answering the questions.

Informed consent process.

The investigators shall read all the elements of the informed consent form as well as the purpose of the study to prospective participants. Prospective participants were asked to sign/thumbprint the consent form before the administration of the questionnaire. In the event of doubt, the principal investigator shall answer all questions asked by the participants in order to ensure clarity in understanding the study protocol.

Voluntary participation/Withdrawal from study

Participants were informed that their participation in the study is entirely voluntary, and they may decide to participate if they wish and having given their full consent.

Participants were informed of their right to withdraw their participation from the study. They can freely opt out at any stage of the study without any punishment, intimidation, losing any benefit or whatsoever.

Confidentiality and Privacy

Participants were assured that all their responses were treated with utmost confidentiality. Participants were not identified by name on any survey questionnaire or any other documentation. All computer entries and networking programs identified participants with coded identification numbers only. The list linking participant ID numbers to other identifying information were stored separately from coded project forms and source records, in a locked file and in an access restricted room. Participants were reported by name in any report or publication resulting from data collected in this study.

The privacy of all participants was ensured. Interviews were conducted in venues that assured the maximum privacy of participants in addition to being convenient to every participant.

Neither the name/address of participants nor any coded identification number were used to identify individual participants.

Appendix II: INFORMED CONSENT FORMS

TITLE OF STUDY: HEALTH STATUS OF PRISON INMATES: A CASE STUDY OF AKUSE PRISONS IN THE LOWER MANYA KROBO DISTRICT OF THE EASTERN REGION OF GHANA.

General Information about Research

This study seeks to find out about the general health and well-being of all inmates in the prisons. This study will help us to understand the conditions and challenges that inmates go through in their daily routines to help us develop realistic sustainable solutions to address these challenges for inmates. This study will take about 15 minutes to complete, your role is to respond according to how you feel being incarcerated in your current situation. You are reminded to feel free to answer all questions since no question is of greater importance than the other.

Benefits/Risks of the study

There are no direct risks associated with your participation in this study. There are no direct benefits to you but our findings will help in informing health interventions to address the challenges of inmates.

Withdrawal by participants do not attract any penalties.

Confidentiality

- All data shared is secured and accessible only by my supervisor and shall not single out any individual with specific responses. Thus, by signing a written consent form, you or your representative is authorizing such access.
- You indeed have the right to access collected information about you as part of the study.

Compensation

There is no compensation either in kind or funds except verbal appreciation for your voluntary support.

Withdrawal from Study

Your participation is voluntary, and you have the right to withdraw, decline, or later stop participating, if you so wish.

Contact for Additional Information

Please contact me in case of any issues related to the study Researcher:

PERPETUAL
KUUKUWA BRAY,
Ensign Global
College Kpong
024 877 8395

Participant Agreement

“I have read or understood all of the above, asked questions for clarification, received same regarding my participation in this study, and am willing to give consent, and not under any duress. I will not have waived any of my rights by signing this consent form. Upon signing this consent form, I will receive a copy for my records.”

Name of Participant

Signature or mark of Participant

Date

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

Name of Person who Obtained Consent

Name of Person who Obtained Consent

Signature of Person Who Obtained Consent.

APPENDIX III: DATA COLLECTION INSTRUMENT

TITLE: THE HEALTH STATUS OF PRISON INMATES: A CASE STUDY OF THE AKUSE PRISONS IN THE MANYA KROBO DISTRICT OF THE EASTERN REGION OF GHANA

INTERVIEW GUIDE

Hello! I am conducting a research study on the health status of prison inmates: A case study of Akuse Local Prisons in Ghana. Suppose you would like to participate in this study. We will conduct an individual interview with you to ask a few questions about your experiences in the prison. None of this information will be shared with anyone else or used for purposes other than this research. Withdrawal by participants do not attract any penalties.

This interview will be hand-recorded and transcribed. Do you consent to the recording of this interview?

Yes () No ()

Section A. Sociodemographic characteristics of participant

1. Age_____
2. Marital status: Single () Married () Separated () Widowed ()
Other
(Specify)_____
3. Level of education: Basic () Secondary () Tertiary () Vocational ()
None/Uneducated () Other (Specify)_____
4. Years of incarceration____years (duration stayed: 4month)_____
5. Type of sentence: Life sentence () Remand ()
Other(Specify)_____

6. Number of children _____
7. Occupation: Civil servant () Artisan () Unemployed ()
Other(Specify)_Private_____
8. Ethnicity: Akan () Ewe () Ga-Dangme () Mole Dagbani
Other
(Specify)_____
9. Religion: Christianity () Muslim () Traditional ()
Other
(Specify)_____

Section B: Health condition of inmates

10. Can you describe your current health status?
11. What are the most common health issues you or others here have experienced since being in Akuse Prison?
12. 12. Have you experienced any new health problems since your imprisonment? If so, can you describe them?
13. How would you compare your health now to before you were imprisoned?

Section C: Factors influencing health conditions experienced by inmates

14. What factors do you think contribute to the health problems you or others face in Akuse Prison?
15. How does the prison environment (e.g., living conditions, cleanliness, crowding) affect your health?
16. Can you describe the availability and quality of healthcare services provided in the prison?
17. How do diet and nutrition in the prison impact your health?

18. How do interactions with prison staff and other inmates affect your health?

Section D: Impact of imprisonment on the health of inmate

19. How has being in prison affected your physical health?

20. How has being in prison affected your mental and emotional health?

21. What long-term health effects do you think imprisonment might have on you and other inmates?

22. What improvements would you suggest to enhance the health and well-being of inmates in Akuse Prison?

Closing: Do you have any additional comments or suggestions about the health

conditions and healthcare in Akuse Prison?

Thank you for your time and participation

APPENDIX III: THEMES EMERGED FROM THE STUDY

Table 1: Themes emerged from the study

Global Themes	Sub-themes	Codes
Health conditions experienced	● Skin Diseases	1. Boils 2. Skin rashes
	● Food-borne diseases	1. Typhoid
	● Respiratory diseases	1. Coughing 2. Sneezing 3. Asthma 4. Pneumonia
	● General Malaise	1. Body pains 2. Weakness
	● Vector-borne diseases	1. Malaria
Factors influencing health conditions experienced	● Quality of healthcare services	1. Available nurse 2. Hospital transfer
	● Prison environment	1. Congestion 2. Heat 3. Poor washroom 4. Water 5. No beds
	● Diet and nutrition	1. Inadequate meals 2. No nutritious meals 3. Low cost meals 4. Tasteless meals
Impact on health outcomes	● Impact on Physical health	1. Aggression 2. Pain 3. Loss of weight
	● Impact on Mental and emotional health	1. Depression 2. Crying 3. Fear 4. Ashamed 5. Breakdown 6. Disappointed

APPENDIX IV: ETHICAL CLEARANCE CERTIFICATE



OUR REF: ENSIGN/IRB/EL/SN-250/01
YOUR REF:

April 18, 2024.

INSTITUTIONAL REVIEW BOARD SECRETARIAT

Perpetual Kuukuwa Bray
Ensign Global College
Kpong.



Dear Perpetual,

ETHICAL CLEARANCE TO UNDERTAKE POSTGRADUATE RESEARCH

At the General Research Proposals Review Meeting of the *INSTITUTIONAL REVIEW BOARD (IRB)* of Ensign Global College held on Thursday, April 11, 2024, your research proposal entitled "Health Status of Prison Inmates: A Case Study of Akuse Prison in the Eastern Region of Ghana" was considered.

The following recommendation(s) and change(s) are to be effected in order for approval and ethical clearance to collect data for the said research under academic supervision.

- 1) The name of the district should be added to the title of the study.
- 2) Provide permission letters from the Ghana Prisons Service.
- 3) The title of the study should be added to the questionnaire.
- 4) Rename the table on page 15.
- 5) State that withdrawal by participants does not attract any penalties.
- 6) Sample size is too small for effective analysis.

We wish you all the best.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Patrick Kuma'.

Mr. Patrick Kuma

(Registrar/ IRB Administrator)