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PERSPECTIVES ON HOSPITAL ENVIRONMENTAL CLEANING PRACTICES AMONG CLEANERS AT THE TEMA GENERAL HOSPITAL, GHANA

BY

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DECLARATION

This is to certify that this thesis is the result of the original research undertaken by Joana Adede Ocansey towards the award of Master of Philosophy (MPhil) Degree in Nursing, in the School of Nursing and Midwifery, University of Ghana. I declare that this thesis has not been partly or fully submitted for any other degree concurrently. All sources, authors and publishers of textbooks and articles used in this study have been duly acknowledged. The study was conducted with the guidance and supervision of Prof. Kennedy Kwasi Addo and Dr. Eric Tornu.

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DEDICATION

I dedicate this work to God almighty, my husband, Mr Joseph Kwesi Danso, M'Ewuraa, my parents, Mr and Mrs Jones Ocansey, and my mentor, Dr Lawrence Ofori-Boadu.

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LIST OF ABBREVIATIONS

AMR : Anti- Microbial Resistance

ERB : Ethical Review Board

ERC : Ethical Review Committee

GHS : Ghana Health Service

HCAI : HealthCare Associated Infections

ICD : Institutional Care Division

IPC : Infection Prevention and Control

KAP : Knowledge Attitude Practice

LMIC : Lower to Middle Income Country

PBC : Perceived Behavioural Control

PPE : Personal Protective Equipment

SEPS : Systems Engineering for Patient Safety

SN : Subjective Norms

TPB : Theory of Planned Behaviour

TRA : Theory of Reasoned Action

WASH : Water Sanitation and Hygiene

WHO : World Health Organization

ABSTRACT

Environmental cleaning in healthcare facilities worldwide is critical to curbing healthcare-associated infections. The World Health Organization provides guidelines and protocols for hospital environmental cleaning. However, the perspectives of hospital environmental cleaners regarding hospital environmental cleaning practices remain unknown within the Ghanaian context. This study aimed to explore and describe the perspectives of Tema General Hospital cleaners on their hospital environmental cleaning practices. The Theory of Planned Behaviour by Ajzen (1991) underpinned this study. The design employed a qualitative, exploratory, descriptive design to explore and describe the perspectives of 15 purposively sampled hospital environmental cleaners. Data was collected through semi-structured interviews using an interview guide developed with literature. Interviews were audio recorded with participants' permission and transcribed verbatim for reflexive thematic analysis as proposed by Braun and Clarke. The four themes generated from the participants' data were;hospital environmental cleaning practices and care support,hospital environmental cleaning beliefs and attitudes, , navigating cleaning expectations and perceived cleaning role control and commitment. These themes were in alignment with the consructs of the theoretical model.

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CHAPTER ONE
INTRODUCTION

This chapter presents the study's background, problem statement, purpose, objectives, and research questions. The study's significance and operational definitions of the keywords used are also presented in this chapter.

1.1 Background to the Study

Healthcare-associated infections (HAIs), also referred to as nosocomial infections, are infections acquired during healthcare delivery that were neither present nor incubating at admission (Hewage et al., 2021). These infections often originate from pathogens on contaminated surfaces, equipment, and other hospital environmental reservoirs and may be transmitted by patients, healthcare workers, or visitors. HAIs contribute to prolonged hospital stays, increased morbidity and mortality, higher treatment costs, and the growing challenge of antimicrobial resistance (Rice et al., 2023).

The burden of HAIs is disproportionately higher in low- and middle-income countries (LMICs). WHO estimates indicate that about 7% of hospitalized patients in high-income countries develop HAIs compared to approximately 15% in LMICs (WHO, 2022). Findings from a multicountry WHO survey involving 55 facilities in 14 countries similarly show wide variations, with prevalence rates ranging from 8.7% in Europe and North America to significantly higher levels in parts of Asia, South America, and sub-Saharan Africa (Raoofi et al., 2023). These infections impose considerable health and financial burdens on affected patients and households, reinforcing the need for effective infection prevention and control (IPC) systems (WHO, 2020a).

Environmental cleaning is a core IPC strategy aimed at reducing microbial contamination on surfaces and equipment. It involves the routine removal of dust, organic material, and microorganisms using standardized procedures (WHO, 2020a). When carried out correctly,

environmental cleaning reduces the risk of HAIs. Hospital cleaners also referred to as orderlies, janitors, ward aides, or environmental service personnel play a central role in maintaining a hygienic environment across clinical and nonclinical areas (Santos et al., 2020). Despite their importance, cleaners in many resource-constrained settings often operate under challenging conditions.

In high-income settings such as the Netherlands, the United States, and Canada, structured training programs, consistent supervision, adequate cleaning supplies, and institutional recognition support effective environmental hygiene (Sussenbach et al., 2024). In contrast, studies from countries such as Ghana and Malawi report deficiencies including limited training opportunities, inadequate cleaning logistics, and low institutional investment in environmental hygiene services (Gon et al., 2021).

In Ghana, similar constraints have been documented. Cleaners in public hospitals often lack formal IPC training, report experiences of stigmatization, and occupy low-status roles within the health system (Elling et al., 2022). These factors can contribute to low motivation and poor adherence to environmental cleaning protocols, thereby heightening the risk of HAIs (Gon et al., 2021). Although national WASH and IPC assessments by the Ministry of Health and the Ghana Health Service have identified such gaps, implementation of required improvements has been inconsistent (Ashinyo et al., 2021).

The Theory of Planned Behaviour (TPB) posits that behaviour is shaped by attitudes, perceived social norms, and perceived behavioural control (Fishbein & Ajzen, 1977). In the context of environmental cleaning, cleaners' beliefs about their role, their perception of organizational

expectations, and their sense of capability may influence their adherence to cleaning protocols. Positive attitudes, such as a sense of responsibility toward patient safety, can support compliance, whereas lack of recognition, inadequate resources, and limited training may undermine it (Youssef et al., 2023; Wollast et al., 2021). In Ghana and other LMICs, inadequate remuneration, low status of cleaners limited institutional support, and persistent supply constraints have been linked to negative attitudes towards IPC practices more broadly, including environmental cleaning (Gebreeyessus, 2022; Sunkwa-Mills et al., 2020). Cleaners' perceptions of occupational risk, their understanding of their contribution to patient safety, and workplace stigma also influence their behaviour (Gebregziabher et al., 2020).

Given these considerations, it is important to examine cleaners' pespectives of hospital environmental cleaning. Understanding their experiences, motivations, and constraints can guide the development of targeted interventions, inform training programs, and support policy measures to strengthen IPC and reduce HAIs in Ghanaian healthcare facilities.

1.2 Statement of Problem

Hospital-acquired infections (HAIs) remain a major public health challenge in Ghana, with an estimated prevalence of 8.2% largely linked to inadequate water, sanitation, and hygiene (WASH) infrastructure and poor infection prevention and control (IPC) practices (Saadeh et al., 2022). At Tema General Hospital, environmental cleaners are central to maintaining hygiene, yet many lack essential IPC knowledge and skills. Surveys by the Ghana Health Service (2017, 2021) highlight systemic issues such as exclusion from IPC/WASH training, shortages of cleaning logistics, and limited recognition of cleaners' roles. These challenges, compounded by low status, poor

remuneration, and weak management support, contribute to attrition, poor sanitation outcomes, and heightened infection risks.

Despite their critical role, cleaners are often overlooked in WASH and IPC research, policy, and reporting. Existing studies (e.g., Ashinyo et al., 2021) document low compliance with cleaning standards and PPE use, but the literature largely emphasizes infrastructural and clinical staff practices, neglecting the behavioural and social factors shaping cleaners' work (Sunkwa-Mills et al., 2020). Moreover, little qualitative research has explored cleaners' perspectives, such as beliefs, perceived social pressures, and challenges,through frameworks like the Theory of Planned Behaviour (TPB).

This study addresses this gap by examining Tema General Hospital cleaners' perspectives on environmental cleaning practices. Using the TPB, it seeks to identify determinants of cleaners' intentions and behaviours, thereby informing strategies to strengthen IPC compliance and reduce HAIs in Ghana.

1.3 Purpose of the Study

This study explored and described the perspectives of Tema General Hospital cleaners on their hospital environmental cleaning practices.

1.4 Objectives of the Study

The objectives of the study were;

1. To describe the cleaners' views and dispositions towards hospital environmental cleaning at the Tema General Hospital

2. To explore the social norms that shape the cleaners' decision towards their cleaning practices at the Tema General Hospital

3. To identify the factors that enable or hinder the cleaners in performing effective environmental cleaning at the Tema General Hospital.

4. To examine the factors that motitvate or demotivate cleaners' to follow recommended environmental cleaning protocols at the at the Tema General Hospital.

1.5 Research Questions

1. What are the cleaners' views and dispositions towards hospital environmental cleaning at the Tema General Hospital

2. What are the social norms that shape the cleaners' decision towards their cleaning practices at the Tema General Hospital

3. What are the factors that enable or hinder the cleaners in performance of effective environmental cleaning at the Tema General Hospital.

4. What factors motivate or demotivate cleaners to follow recommended environmental cleaning protocols at the at the Tema General Hospital.

1.6 Significance of the Study

The findings from this study will provide further insight into the cleaners' perceptions, social pressures and expectations, and challenges in performing hospital environmental cleaning. The findings will help develop interventions to modify their environmental cleaning behaviours. Recommendations from this study can inform policy development through the Tema General Hospital, the Ghana Health Service, and the Ministry of Health. The policy development may include their education and training, as well as policy formulation regarding hospital environmental cleaning. Considering the paucity of knowledge in the study of cleaners and their role in maintaining environmental hygiene, this study will also add to the body of knowledge in that area.

1.7 Operational Definition of Terms

Attitude: cleaners' beliefs and perception of the merits and demerits of hospital environmental cleaning

Cleaners: an individual that a healthcare facility engages to undertake cleaning activities for a fee.

Cleaning Guidelines: a set of recommendations or instructions designed to direct cleaners to achieve optimum hospital cleaning goals

Hospital Environmental Cleaning: activities that are in line with requirements to achieve the minimal essential hospital environmental cleanliness

Intention: the cleaners' decision towards the practice of hospital environmental cleaning

Perception: cleaners' thoughts and opinions

Perceived Behavioural Control: factors that enable or hinder cleaners' practice of hospital environmental cleaning.

Protocols: established specific processes and steps that must be followed strictly

Subjective norms: cleaners' perceptions about the expectations of significant persons regarding their cleaning practices

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This literature review aims to examine existing studies on hospital environmental cleaners' intentions and practices related to environmental cleaning. A comprehensive search of peer-reviewed and grey literature was conducted across multiple databases, including Google Scholar, CINAHL, UGSpace, ScienceDirect, PubMed/MESH, and ResearchGate. The search strategy utilized a combination of keywords such as environmental service workers, hospital housekeeping, hospital cleaning, hospital orderlies, knowledge, attitudes, practices of cleaners, and patient safety.

The initial search yielded a broad range of studies addressing challenges encountered by hospital cleaners, their contribution to healthcare-associated infections, infection prevention and control practices, waste management, and occupational safety. Based on the scope of the present study, the review focused on literature that supported the justification for applying the Theory of Planned Behaviour (TPB) to hospital environmental cleaners. Subsequently, the chapter synthesizes evidence relating to the TPB constructs underpinning the study: cleaners' attitudes and beliefs toward environmental cleaning, subjective norms influencing their cleaning practices, perceived behavioural control over their cleaning roles, and their intention to adhere to established cleaning protocols.

2.1 Justification for the Application of the Theory of Planned Behaviour to Hospital Environmental Cleaners' Perceptions of Environmental Cleaning

In conceptualizing this study, three behavioural theories were initially considered: the Self-Efficacy Model (Bandura, 1977; Chong et al., 2020), the Health Belief Model (HBM), and the Theory of

Planned Behaviour (TPB). Each model was evaluated for its relevance and applicability to understanding hospital environmental cleaners' perceptions and intentions regarding environmental cleaning practices.

The Self-Efficacy Model, developed by (Bandura, 1977), is grounded in the premise that an individual's behaviour is influenced primarily by their belief in their capability to perform a specific task. While the model offers valuable insights into personal confidence and performance attainment, it was deemed unsuitable for the present study. This is because the model pays limited attention to contextual and interpersonal factors, such as the influence of supervisors, colleagues, and institutional expectations that are central to shaping cleaners' behaviour within a hospital environment.

The Health Belief Model, formulated by public health social psychologists in the 1950s, posits that health-related behaviours are shaped by individuals' perceptions of susceptibility to illness, perceived severity of the health threat, perceived benefits of preventive action, and cues to take action (Shahnazi et al., 2020; Costa, 2020). Although the HBM incorporates personal beliefs and intentions, its application is largely confined to disease-prevention contexts and focuses predominantly on the individual's internal perceptions. The model provides limited consideration of social pressures, organizational culture, or workplace expectations. As such, its restricted attention to social norms renders it less suitable for examining cleaners' behaviours within the broader social and institutional context of hospital environmental cleaning.

Given these limitations, neither the Self-Efficacy Model nor the Health Belief Model was adopted for this study. TPB uniquely integrates personal beliefs, social expectations, and perceived control, providing a more holistic framework for understanding cleaners' intentions in a resource-limited hospital environment.

Thus, the Theory of Planned Behaviour offers a theoretically sound and contextually appropriate foundation for examining the behavioural intentions of hospital environmental cleaners at Tema General Hospital. Although numerous studies have explored environmental cleaning practices, there is a limited focus on the intentional determinants of such behaviour, particularly within low-resource hospital settings in Ghana.

2.2 The Theory of Planned Behaviour by Icek Ajzen

The Theory of Planned Behaviour (TPB) (Ajzen, 1991) was selected as the guiding framework for this study because it provides a comprehensive approach for understanding how individual beliefs, social expectations, and contextual factors shape the intentions of non-clinical hospital staff, particularly environmental cleaners, toward infection control and hospital environmental cleaning practices. Unlike purely individual-level theories, TPB incorporates organisational, social, and resource-related determinants, making it particularly suitable for examining behaviour in hierarchical and resource-constrained healthcare settings such as Ghana.

Although TPB includes the behavioural outcome, this study focuses only on the constructs of attitude, subjective norms, perceived behavioural control, and intention. Behaviour is excluded because intention is widely recognised as a robust proxy for behaviour when direct observation is not feasible, and evaluating actual behaviour would require extensive observational time, additional personnel, and resources beyond the scope of this study.

TPB evolved from the Theory of Reasoned Action (TRA), which focused only on attitudes and subjective norms as predictors of behaviour(Ajzen, 1991). However, TRA assumed that individuals have full control over their actions. Subsequent research demonstrated that many behaviours, including cleaning routines, are constrained by environmental, organisational, and resource-related

factors. Ajzen therefore introduced Perceived Behavioural Control (PBC) to account for situations where individuals face barriers beyond their personal motivation (La Barbera & Ajzen, 2020). The review is organized under the following thematic areas.

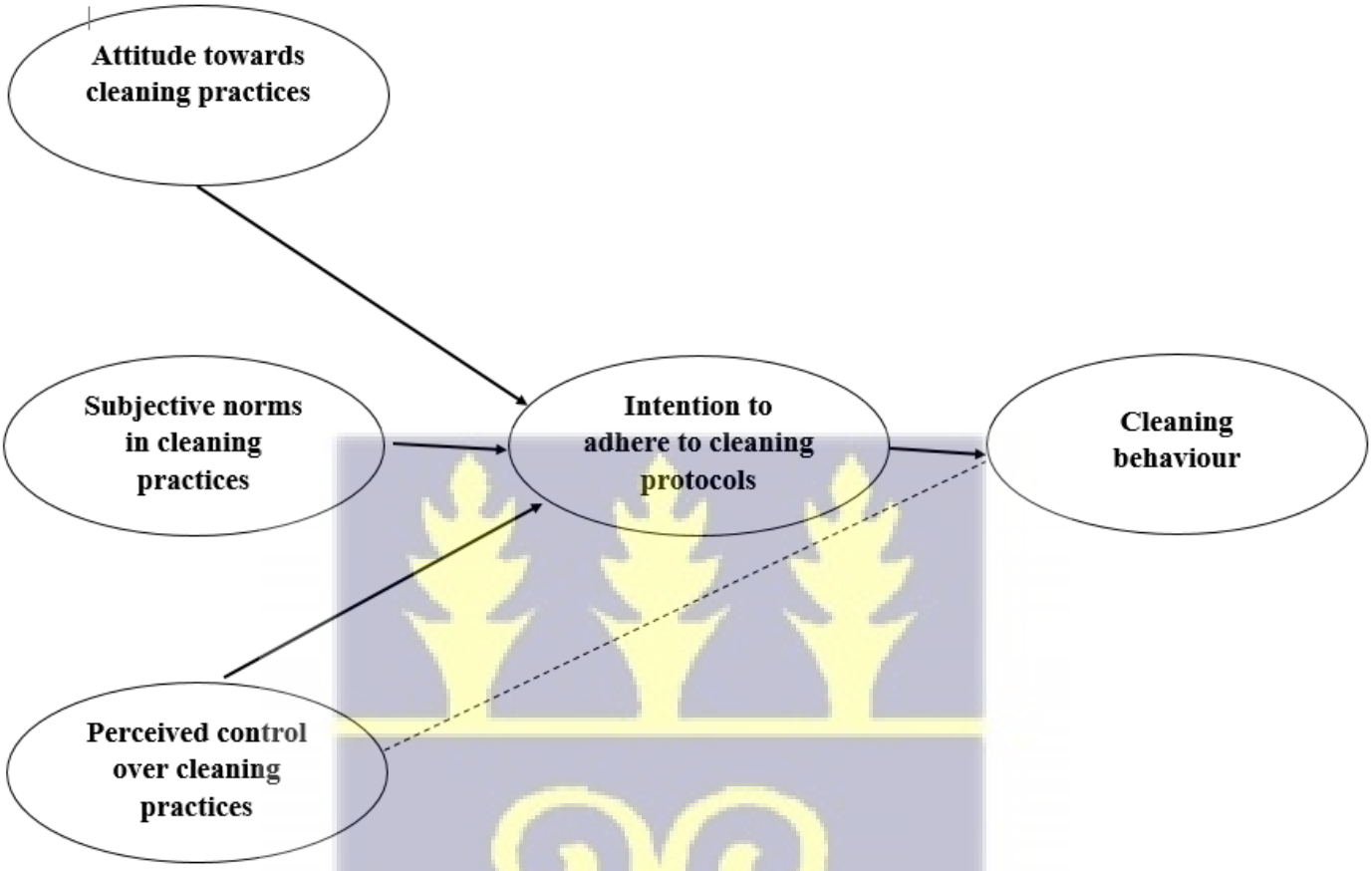

Figure 2: Theory of Planned Behaviour Applied to Cleaners (Ajzen et al., 2021)

2.2.1 Attitude in the context of hospital cleaners

Attitude refers to an individual's positive or negative evaluation of performing a behaviour. For cleaners at the Tema General Hospital, attitude reflects whether they believe that following cleaning and IPC protocols is beneficial, worthwhile, and effective in preventing infection transmission. For instance, cleaners who perceive proper disinfection as essential for patient safety and professional pride are more likely to intend to clean thoroughly.

2.2.2 Subjective Norms in the context of cleaners

Subjective norms (SN) refer to perceived social pressure from significant others. In the hospital environment, cleaners are influenced by supervisors, nurses, colleagues, patients, and hospital leadership. If cleaners feel that supervisors expect strict adherence to protocols—or if they observe others consistently following proper procedures—their intention to comply is strengthened. Conversely, poor supervisory modelling, a culture of shortcuts, or a lack of recognition can weaken compliance intentions.

2.2.3 Perceived Behavioural Control in the context of hospital cleaners

Perceived behavioural control (PBC) describes an individual's belief in their capacity to perform the behaviour, considering resources, skills, and barriers. For hospital cleaners, PBC is shaped by access to cleaning materials, PPE, disinfectants, adequate training, manageable workloads, and organisational support. Even if cleaners possess knowledge and positive attitudes, insufficient cleaning supplies or a heavy workload may diminish their perceived ability to carry out cleaning tasks effectively.

2.2.4 Intention as a predictor of cleaners' behaviour

Behavioural intention is considered the immediate determinant of action (Fishbein & Ajzen, 1977). In this study, intention reflects cleaners' willingness and motivation to follow environmental cleaning protocols. Evidence shows that stronger intentions correlate with a higher likelihood of compliance with IPC behaviours (Agüí et al., 2023; Matha et al., 2022).

2.2.5 Use of TPB in related cleaning and sanitation studies

TPB has been widely applied to studies involving sanitation workers, janitors, environmental services staff, and other non-clinical healthcare personnel. For example, TPB has been used to explore waste handlers' adherence to safety procedures in COVID-19 treatment centers, sanitation workers' compliance with hygiene practices, and cleaners' motivation to perform hand hygiene (Matlow et al., 2012). These studies demonstrate that attitudes, workplace norms, and resource availability strongly shape cleaning-related intentions, highlighting TPB's suitability for studying Ghanaian hospital cleaners.

The theory of Planned Behaviour is critical to the practices of cleaners in environmental cleaning, as their decisions will be influenced by factors such as their beliefs about the standards, expectations of people in their workspace, cleaners' perceived capability, and resource availability. The model is designed to envisage human behaviour with consideration of beliefs, social norms, and enablers and barriers to decision-making towards a behaviour. The domains in the model possess constructs that are applied to many studies in human behaviour.

Hospital environmental cleaning is critical to preventing healthcare-associated infections (HCAIs) as hospitals are potential reservoirs for infectious agents and may pose a risk to vulnerable patients, staff, and visitors (International et al., 2023). WHO report estimates that the incidence of HCAIs is 6.5% worldwide(International et al., 2023). Additionally, an overview of HAIs indicated that approximately 1.7 million hospitalized patients in the USA acquire HAIs, with 1 in 17 dying. (Haque et al., 2018). In lower-to-middle-income countries, appropriate and effective cleaning practices are crucial for removing or reducing the risk of HCAIs, which may occur when contaminated surfaces or equipment come into contact with patients (Melariri et al., 2024).

Maintaining a clean, hygienic hospital environment requires stringent cleaning guidelines and protocols. The WHO and the CDC provide guidelines that ensure consistency and effectiveness through compliance. (World Health Organization, 2020). According to Santos et al. (2020) and Gebreeyessus (2022), a clean and hygienic hospital environment promotes the safety and quality of services and working conditions.

According to Meyer et al. (2021), Water, Sanitation, and Hygiene are considered facilitators of healthcare hygiene maintenance as water availability allows for cleaning and disinfection. Additionally, it directly affects HCAIs, particularly in LMIC healthcare settings where 60-80% of HCAIs are attributable to poor healthcare environmental conditions (Storr et al., 2021).

The cleanliness of the healthcare environment depends on many factors, including the expertise and diligence of the cleaning staff. They are nonclinical healthcare workers known by titles including Orderlies, Cleaners, Housekeeping staff, Ward Assistants, Environmental Service Workers, and Janitors (Hasan, 2023). Their primary duties include cleaning, disinfection, laundry, and waste management. Some other activities unrelated to their core duties include collecting and dispensing patient food, running errands, helping ambulate patients, assisting in nursing care, and moving equipment (Ilesanmi et al., 2015). Guidelines and protocols that guide their activities are derived from the WHO and CDC guidelines (World Health Organization, 2020; Prevention, 2019).

Procedures and protocols followed in hospital environmental cleaning include daily routine cleaning in patient rooms and administrative spaces, and terminal cleaning by thoroughly cleaning and disinfecting unoccupied patient rooms (Yang et al., 2021). Cleaning activities are carried out by following protocols and using equipment, detergent, and chemicals such as chlorine. Additionally, techniques such as scrubbing, spraying, and wiping are employed in specialized cleaning (Hasan, 2023). In addition, infection control measures such as the use of PPEs and

frequent hand hygiene are promoted during and after cleaning procedures to prevent cleaners' transmission of infectious germs to themselves and the patient care environment (Barrett, 2021).

Cleaning practices differ significantly across contexts and are largely shaped by the availability of resources, particularly when comparing high-income countries (HICs) with low- and middle-income countries (LMICs). In HIC settings such as Australia, Canada, and the United States, hospital environmental hygiene commonly incorporates advanced technologies—including UV-C disinfection, steam-based cleaning systems, and biofilm-removal technologies—which require specialized training for cleaning personnel (Dancer & Kramer, 2019). Conversely, in many LMICs such as Malawi and Ghana, hospital environmental hygiene relies on outdated or rudimentary technologies, reflecting limited institutional investment in environmental cleaning. In these settings, cleaners often have minimal education, inadequate IPC knowledge and skills, and limited access to modern cleaning tools. They are generally positioned at the lowest tier of the hospital hierarchy, poorly remunerated, and insufficiently trained, resulting in suboptimal performance that heightens the risk of healthcare-associated infections (HAIs), occupational injuries, and compromised patient safety.

Despite these systemic challenges, the role of hospital cleaners remains central to healthcare safety and quality. Their work directly influences hospital hygiene standards and contributes to preventing HAIs, thereby shaping overall patient outcomes (Dancer, 2023). Effective environmental cleaning ensures that healthcare spaces are free from contaminants, waste, and infectious agents while providing a clean and supportive environment that promotes patient comfort and recovery (Storr et al., 2021; Elling et al., 2022; Geurtze, 2022).

In the course of their routine duties, hospital cleaners must continually decide whether, and to what extent, they will adhere to established environmental cleaning protocols. Their compliance

is shaped, foremost, by their personal appraisals and beliefs about cleaning tasks; specifically, whether they view the procedures as essential, beneficial, or onerous. Additionally, their interactions with influential individuals within the hospital setting, such as nurses, patients, visitors, supervisors, and managerial staff, generate social expectations that may either encourage or discourage adherence to required standards. Beyond these individual and social influences, cleaners' behaviours are further conditioned by enabling factors and constraints, including the availability of cleaning supplies, workload demands, supervisory support, and broader institutional structures. Together, these determinants, attitudes, perceived social norms, and perceived behavioural control shape cleaners' intentions and ultimately guide their decisions regarding adherence to hospital environmental cleaning protocols.

2.3. Attitudes and Beliefs of Cleaners Towards their Hospital Environmental Cleaning Practices

Attitudes and beliefs of hospital cleaners play a pivotal role in the effective implementation of infection prevention and control (IPC) measures. Environmental cleaning serves as a fundamental component of hospital IPC, as it reduces the risk of healthcare-associated infections (HAIs). Cleaners' adherence to established cleaning protocols, their awareness of IPC principles, and the quality of training and supervision they receive collectively influence the overall effectiveness of hospital environmental hygiene.

Evidence consistently shows variability in cleaners' compliance with environmental cleaning protocols. While some cleaners display high levels of commitment to following prescribed procedures, others demonstrate lapses or inconsistencies. Naidoo (2021) notes that although healthcare workers, including cleaners, generally recognise the importance of protocol adherence,

practical constraints such as limited time and high workloads often hinder consistent compliance, showing that favourable beliefs may be undermined by practical constraints. Perceived benefits also shape behaviour toward cleaning practices. Alhumaid et al. (2021) report that cleaners who believe that IPC adherence leads to positive outcomes, such as a cleaner environment, reduced infection transmission, and improved patient recovery, are more likely to comply with cleaning guidelines. Similarly, some writers assert that making cleaners aware of the direct link between cleaning protocols and infection control enhances their motivation to adhere to standards.

Cleaners' attitudes are further influenced by their knowledge of IPC procedures. According to Tamene et al. (2022), awareness of correct disinfectant application, such as the proper use of chlorine or bleach, supports more favourable cleaning practices. Training and continuous education significantly improve compliance, with studies by Alhumaid et al. (2021) and Tshitangano (2024) showing that structured training enhances both knowledge and adherence to cleaning protocols. However, Yang et al. (2021) highlight a common gap between knowledge and actual practice, particularly in resource-constrained settings.

Supervision also plays a substantial role in shaping cleaners' attitudes. Effective supervision fosters motivation and strengthens adherence to IPC standards. Tshitangano (2024) found that cleaners who regularly receive supervisory guidance tend to exhibit better attitudes and stronger compliance. However, Rezk et al. (2021) report mixed experiences with supervision, with some cleaners describing supportive, well-resourced supervisors and others expressing dissatisfaction due to poor communication, leadership style, or inadequate provision of cleaning materials. Such variations highlight the extent to which managerial practices can influence cleaners' perceptions and behaviours.

Prior work experience contributes another layer to cleaners' attitudes. Experienced hospital(Mitchell et al., 2017) cleaners may bring valuable skills and established work habits that enhance compliance (Geurtze, 2022). Yet, Atoufi et al. (2022) caution that experience can sometimes be detrimental if workers rely on outdated practices or fail to participate in changes that reflect current IPC standards.

Cleaners' job commitment is strongly linked to support from hospital management. Access to adequate cleaning supplies, opportunities for training, and positive reinforcement from supervisors have been shown to enhance diligence and protocol compliance (Battan et al., 2023). Conversely, inadequate support, unfavourable working conditions, and limited professional development diminish motivation and adherence.

Perceptions of the cleaning role also shape cleaners' attitudes. Some cleaners view their tasks as monotonous or undervalued, which may lead to apathy and reduced adherence to required standards. Others who perceive their work as meaningful and dynamic—particularly where regular training is available—demonstrate stronger commitment to IPC-related responsibilities (Zhang et al., 2024). Hospitals that prioritise professional development for environmental services staff tend to report better cleaning outcomes and greater job satisfaction (Youssef et al., 2023).

In Ghana, many unpublished assessment reports on WASH/IPC and anecdotal reports have pointed to the dire In situation of the poor conditions, suboptimal performance, high attrition rate, and low status of hospital cleaners. In line with the sustainable development goals of ensuring adequate water, sanitation, and hygiene for healthcare facilities in the country, various initiatives have been introduced to improve IPC practices among healthcare workers, including cleaners, particularly hand hygiene, in hospital waste management(Oppong et al., 2022). However, many of these training programmes tend to prioritise clinical staff (nurses, midwives, bio-laboratory technicians, and

prescribers), leaving cleaners insufficiently equipped with the necessary skills (Afesi-Dei et al., 2023). Water, sanitation, and hygiene (WASH) related programmes have also been shown to inadequately address cleaners' needs, despite evidence of poor environmental hygiene in some facilities (Ashinyo et al., 2021). This lack of targeted training and support places cleaners at a disadvantage, limiting their ability to comprehend and appreciate their critical role in compliance with cleaning standards. Afford et al. (2025) in their study found that in a government hospital, where the majority of cleaners doubled as hospital waste managers, exhibited a nonchalant attitude towards their work. Furthermore, they were reported to have low compliance with IPC protocols, high occupational injuries, and their population faced high attrition rates. This phenomenon was attributed to the lack of hospital managers' recognition and support of their cadre and their omission from decision-making processes regarding hospital hygiene.

Many studies have been conducted on the subject of water, sanitation, and hygiene in government health facilities with accompanying recommendations on the training and improvement of environmental cleanliness(Ashinyo et al., 2021). Additionally, studies conducted on hospital waste management practices include recommendations for cleaners who double as waste managers to be trained in IPC (Akagbo et al., 2017); (Afesi-Dei et al., 2023). However, there is a paucity in specific studies that applied the TPB to explore their intention towards their cleaning practices.

2.4 Subjective Norms in Cleaners' Hospital Environmental Cleaning Practices

The role of hospital cleaners is integral to maintaining a safe healthcare environment, promoting patient recovery, and preventing infection transmission. However, cleaners frequently navigate a range of social dynamics and subjective norms within their work environment that shape their experiences, well-being, and performance. These norms—emanating from supervisors, colleagues,

patients, and visitors—significantly influence cleaners' motivation, job satisfaction, and adherence to environmental cleaning protocols.

Feedback mechanisms constitute an important social influence on cleaners' behaviour. Feedback may take the form of verbal praise, recognition, or other positive reinforcements. The literature consistently demonstrates that positive feedback enhances cleaners' motivation and compliance with high cleaning standards. Wollast et al. (2021) found that encouragement and praise from supervisors and team members strongly improve adherence to infection control procedures. Conversely, the absence of feedback contributes to feelings of being undervalued, resulting in detachment and reduced motivation (Jordan et al., 2022). Evidence further suggests that when feedback focuses on strengths rather than shortcomings, cleaners experience greater comfort in their roles and demonstrate improved cleaning and waste management practices (Ogunsola & Mehtar, 2020).

Interpersonal relationships within the hospital setting also shape cleaners' attitudes and performance. Cleaners' interactions with clinical staff, patients, and their relatives influence their sense of belonging and job satisfaction. Sunkwa-Mills et al. (2020) report that hospital cleaners often experience marginalisation, with their roles perceived as less important than those of clinical staff. Such perceptions foster feelings of disrespect and low self-worth, contributing to stress and diminished job satisfaction.

Mutual respect has emerged as a critical determinant of cleaners' work experiences. Studies by Tamene et al. (2022) and Ogunsola and Mehtar (2020) show that when cleaners are treated respectfully by management, staff, patients, and visitors, they feel valued and are more likely to perform their duties diligently. Conversely, disrespect, particularly when displayed publicly in the

presence of patients, has a demoralising effect, exacerbating feelings of stigma and dehumanisation (Tamene et al., 2022).

Cleaners' commitment to their work is shaped by both intrinsic and extrinsic motivational factors. Intrinsically, cleaners derive purpose from understanding the significance of their role in preventing infections and supporting patient care. Those who recognise the impact of their tasks on hospital functioning exhibit higher levels of job satisfaction and stronger adherence to cleaning protocols (Youssef et al., 2023). Vance et al. (2022) similarly observe that awareness of the contribution of cleaning to patient well-being enhances cleaners' sense of occupational pride and professional purpose.

Extrinsic motivators, including financial rewards, verbal praise, and supportive feedback from supervisors, colleagues, and patients also play a substantial role. However, negative criticism or unfavourable attitudes from others can have harmful consequences. According to Vance et al. (2022), negative feedback contributes to reduced self-esteem, heightened stress, and job dissatisfaction. This is particularly pronounced in settings where cleaners work long hours under demanding conditions, only to be met with harsh remarks, leading to demoralisation (Laithaisong et al., 2022).

Cleaners' work is further influenced by the behaviour of patients' relatives and visitors. Elling et al. (2022) note that some visitors display disregard for cleaners' tasks, obstructing cleaning processes and showing little respect for their workspace. Studies highlight that visitors' lack of awareness of cleaning protocols often results in disruptions that hinder cleaners' ability to carry out their duties effectively (Curryer et al., 2021).

Broader social norms surrounding cleaners' roles also shape their work experiences. Cleaners often operate in environments where societal expectations conflict with their occupational responsibilities

and personal values. Research indicates that cleaners face stigma associated with low-status work, which undermines their sense of professional identity (Brubacher et al., 2022; Gebreeyessus, 2022). Widespread perceptions that cleaners are less educated or less essential to hospital operations further erode respect for their role (Santos et al., 2020). However, when hospital cleaning is framed within a context of professionalism and recognised as essential to healthcare delivery, cleaners report enhanced motivation, confidence, and dignity. Dancer (2023) emphasises that acknowledging cleaners as integral members of the healthcare team strengthens their professional identity and improves the overall work environment.

2.5 Perceived Control of Cleaners Over their Cleaning Role

Perceived control refers to the extent to which individuals believe they can influence their tasks, work environment, and job outcomes (Cop et al., 2020). For hospital cleaners, perceived control represents a critical determinant of motivation, job satisfaction, and performance. Cleaners employed under contract or outsourced arrangements often report diminished control over their job conditions due to organisational constraints, inadequate resources, and low remuneration (Berry et al., 2021). Research consistently highlights the strong association between perceived control and job satisfaction in cleaning roles. Cleaners who believe they have autonomy in performing their duties report higher levels of satisfaction and commitment (Geurtze, 2022; Santos et al., 2020). Conversely, limited control is linked to dissatisfaction, stress, and reduced job engagement (Riyanto et al., 2021). Inadequate supplies—such as detergents, mops, and disinfectants—further reinforce feelings of disempowerment and hinder effective task performance.

Access to adequate resources is central to enhancing cleaners' perceived control. Studies indicate that resource shortages, delays in supply, and the need to share materials with colleagues undermine

cleaners' confidence and autonomy. Tamene et al. (2022) argue that job demands, when combined with insufficient resources, create heightened job strain and exacerbate frustration. In extreme cases, cleaners resort to purchasing materials with personal funds, which deepens dissatisfaction and perpetuates perceptions of organisational neglect. Gebregziabher et al. (2020) emphasise that inadequate resources and insufficient training diminish cleaners' sense of autonomy and competence, contributing to disengagement from their roles. Kitsios and Kamariotou (2021) further note that when employees are unable to access essential tools, their motivation declines, leading to reduced job satisfaction and weakened perceived control.

The work environment and level of organisational support significantly shape cleaners' sense of control. Contract-based cleaners frequently report low job security, limited managerial support, and inadequate remuneration, all of which reduce their perceived autonomy (Berry et al., 2021). Jobs characterised by low autonomy—such as many cleaning roles—have been associated with lower job satisfaction and poorer mental health outcomes (Kitsios & Kamariotou, 2021), reflecting broader organisational and structural constraints. Riyanto et al. (2021) highlight the importance of organisational support, noting that insufficient assistance, limited access to resources, poor remuneration, and inadequate rest opportunities diminish employees' perceptions of control over their work.

Low perceived control carries significant mental and physical health implications. Rocha et al. (2020) report that cleaners facing high work demands alongside little control are more likely to experience stress, anxiety, and depressive symptoms. Pearman et al. (2020) similarly found that reduced perceived control is associated with mental health challenges such as stress and anxiety, as well as physical issues including fatigue. In contexts where cleaners struggle with high workloads,

inadequate materials, and low pay, the combined pressures can substantially increase health vulnerabilities.

Strategies to enhance cleaners' perceived control have been proposed across the literature. Ensuring a consistent and adequate supply of cleaning materials empowers cleaners and supports effective job performance. Elling et al. (2022) emphasise that fair remuneration and appropriate employment benefits, such as leave entitlements, significantly improve cleaners' autonomy and perceived control. Improving salaries, offering benefits, and strengthening management support structures can further enhance cleaners' sense of independence. Organisational practices such as direct communication, improved supply chain management, and incentive-based performance systems also contribute to a work environment in which cleaners feel valued and adequately supported (Elling et al., 2022; Tenza et al., 2022). These measures collectively foster greater perceived control and improve overall job satisfaction among hospital cleaners.

In the Ghanaian setting, cleaners, including those who manage hospital waste, particularly in government healthcare facilities such as the Tema General Hospital, are non-clinical healthcare workers who are mainly considered to be low-level cadres due to their non-professional status. Reports suggest that they face challenges that hinder their control over their cleaning practices. For instance, some factors include: inadequate supply of cleaning materials, poor interpersonal relationships between staff and significant individuals due to their perceived low status, lack of policies specifically tailored to their cadre, poor remuneration, and conditions of service(Affordofe et al., 2025). In addition, the mode of employment of many hospital cleaners, particularly in the government sector, places them at the level of ancillary workers, where they are not required to hold high professional certificates; thus placing them at the lowest hierarchy and denying them basic entitlements and conditions of services such as annual paid

These factors pose a challenge to the cleaners, leading to their performance being sub-optimal and a lack of job satisfaction.

2.6 Intention to Adhere to Cleaning Protocols

Adherence to cleaning protocols is fundamental to maintaining hygiene and preventing disease transmission in hospital environments. Hospital cleaners, as key frontline personnel, play an essential role in ensuring that these protocols are consistently applied. Within the framework of the Theory of Planned Behaviour (TPB), behavioural intention, defined as an individual's motivation or readiness to perform a behavior, is shaped by attitudes, subjective norms, and perceived behavioural control. Accordingly, cleaners' intention to comply with environmental cleaning protocols is influenced by their beliefs about the importance and effectiveness of the protocols, their perceptions of social expectations, and their confidence in their ability to carry out required tasks. Evidence from existing literature demonstrates that when workers believe cleaning protocols are beneficial, their intention to adhere increases. Alshagrawi and Alhodaithy (2024) note that employees who perceive protocols as effective are more committed to following them. In hospital settings, this intention is further reinforced by a perceived moral responsibility toward protecting colleagues, patients, and visitors (Jukola & Gadebusch Bondio, 2023). Many cleaners recognise that their work contributes directly to infection control, strengthening their motivation to maintain high standards of cleanliness (Alshagrawi & Alhodaithy, 2024).

Organisational support—such as the provision of logistical resources, adequate supplies, and structured training—plays a decisive role in shaping cleaners' intention to comply. Studies indicate that when cleaners feel unsupported or inadequately equipped, compliance decreases due to feelings of frustration and helplessness (Riyanto et al., 2021). Access to essential cleaning materials and

consistent supply chains is particularly critical. The World Health Organization (2020) reports that cleaners supplied with adequate materials and trained in their appropriate use demonstrate higher levels of compliance with infection prevention protocols. In addition, managerial support, including recognition and positive reinforcement, contributes to job satisfaction and strengthens cleaners' intention to adhere to protocols (Islam et al., 2020). Conversely, low remuneration, poor supervisory relationships, and insufficient organisational investment can reduce motivation and weaken compliance intentions (Hasan, 2023).

Interruptions during cleaning tasks pose another significant obstacle to adherence. Interference from staff, patients, and visitors disrupts cleaning routines and may lead to omitted or rushed steps. Elling et al. (2022) found that frequent interruptions compromise cleaning quality and elevate infection risks. Cleaners require uninterrupted time and an enabling work environment to fully comply with established procedures, underscoring the need for institutional strategies to minimise disruptions.

Psychological factors—including stress, motivation, and job satisfaction—also shape cleaners' intention to adhere to protocols. Adamopoulos (2022) highlights that cleaners who feel overburdened or undervalued are less likely to prioritise compliance. In contrast, higher job satisfaction strengthens motivation and enhances the intention to perform cleaning duties effectively.

Training and ongoing education remain key determinants of compliance. Cleaners who understand the importance of environmental hygiene and receive continuous professional development are more likely to adhere to protocols. In-service training that emphasises the role of cleaning in infection prevention strengthens cleaners' awareness of the consequences of non-compliance and fosters sustained adherence (Hoes, 2019). Psychological empowerment, increased confidence, and

enhanced competence gained through training further reinforce their intention to comply with protocols.

2.7 Summary of the Critique of Literature

Many studies have been conducted on the subject of water, sanitation, and hygiene in government health facilities with accompanying recommendations on the training and improvement of environmental cleanliness(Ashinyo et al., 2021). Additionally, studies conducted on hospital waste management practices include recommendations for cleaners who double as waste managers to be trained in IPC (Akagbo et al., 2017); (Afesi-Dei et al., 2023). However, there is a paucity in specific studies that applied the TPB to explore their intention towards their cleaning practices.

Although globally, substantial literature exists on hospital environmental cleaning (Dancer, 2023; Cronk & Bartram, 2018; Peters et al., 2018), with accompanying WHO reports and recommendations on hospital environmental cleaning (Prevention, 2019), there are significant gaps regarding the cleaners' behavior towards their practice of hospital cleaning. Within the Ghanaian context in particular, a thorough search in the literature has highlighted a paucity of studies on hospital environmental cleaners and factors that motivate them to adhere to the cleaning protocols. For instance, the determinants of their intention, such as their beliefs, the influence of significant individuals at their workplace, enablers, and barriers to their performance of cleaning tasks, are underexplored.

Addressing these gaps through the application of the theory of planned behavior is essential for deepening the understanding of the unique challenges faced by hospital cleaners in Ghana and for generating context-specific insights to strengthen infection prevention and control practices across healthcare facilities in the country.

CHAPTER THREE
METHODOLOGY

3.0 Introduction

This chapter outlines the research design, setting, target population, sampling technique, sample size, data gathering procedure, and data analysis. It will also highlight the ethical considerations and methodological rigour.

3.1 Study Design

A research design describes how the study was conducted (Doyle et al., 2020). This study employed a qualitative approach and an exploratory and descriptive design, which involved exploring and describing respondents' perspectives (Doyle et al., 2020). It allowed for an in-depth understanding of the lived experiences and perceptions of hospital cleaners, which could not be adequately captured through other methods such as quantitative approaches. This design is particularly suited to exploring under-researched topics, including environmental cleaning practices within low-resourced hospital settings such as the Tema General Hospital. Additionally, factors such as hospital environmental cleaners' attitudes, perceived social expectations, and perceived control aligned with the constructs of the Theory of Planned Behaviour (TPB) as it directly influence their decisions about their cleaning behaviours.

3.2 Research Setting

The study was conducted at the Tema General Hospital in the Tema Metropolitan area, one of the twenty-nine districts in the Greater Accra region(Planning, 2016). It lies in the south-eastern portion of the greater Accra region with its boundary to the east; Ada East and West. To the North, it is bounded by the Ashaiman Municipality, and to the south by the Atlantic Ocean. The hospital is located in the Tema Central constituency with an estimated population of 66, 191(Planning, 2016).

Tema General Hospital is the largest government health facility in the Tema Metropolis. It was built by the Harrow and Sons Construction Company in 1954 and was made operational in 1962. It is situated in the Tema North constituency. It serves as a major referral health facility in Tema, serving its citizens and surrounding communities, including Tema East, Tema West, Ashaiman, Kpone, Tema New Town, and Ningo-Prampram municipalities. It serves as a clinical training and internship facility for nursing and midwifery, medical and allied health trainees, and personnel from all over Ghana.

The current staff strength is 931 consisting of nurses, midwives, medical and allied health personnel, administrative and support services personnel, estates management, catering, and other categories of staff. The number of cleaners in the hospital is 65 consisting of those who clean the internal and external environment, waste managers, and landscapers.

The hospital's current bed capacity is 452 and the average daily outpatient attendance is estimated at 557 with an average admission rate of 47. There are 14 clinical and nonclinical departments providing general and specialty services. They include gynaecology, obstetrics, Ear Nose and Throat, general and specialized surgery, Public Health, Physiotherapy, Adult Emergency, Accident Centre, In-Service Training, General administration, Estate and environmental services, and Mortuary. The hospital's vision is to be a first class medical tourism, training and research centre in Ghana and beyond.

3.3. Target Population

The target population indicates the entirety of the sample that will be under investigation; environmental cleaners in the hospital (Stratton, 2021). The population includes all cleaners in various units and departments of the hospital thereby providing rich data for the study.

3.3.1. Inclusion Criteria

The characteristics for inclusion in the study were:

- Male and female cleaners above the age of 18 years
- Participant had worked for at least four weeks

3.3.2. Exclusion Criterion

The exclusion criterion in the study

- Participants (cleaners) who managed the landscape and the healthcare waste

3.4. Sample Size and Sampling Technique

In Qualitative studies, the requirement is that the researcher probes to draw responses from several selected respondents to a point where no new information emerges from the responses being provided (Stratton, 2021).

The sample size consists of 15 out of the total population of 65 cleaners in the hospital who clean various units and departments.

The purposive sampling technique was employed in recruiting the respondents who fit the inclusion criteria for the study (Campbell et al., 2020).

The researcher applied for ethical clearance from the Ghana Health Services Ethical Review Board and received approval, with accompanying introductory letters from the School of Nursing and Midwifery, University of Ghana. The same documents with permission letters were presented to the administrator and director of the Tema General Hospital to indicate intention and seek permission, approval, and assistance. Upon receiving authorization, the head of cleaners in the facility was contacted through the administrator and informed about the study.

The content of the information sheet was explained to the prospective respondents in their preferred language highlighting the assurance of possible benefits, compensation, and protection from risks or discomfort. It was explained to them that the interview would be recorded for reference purposes, however, their identity would be kept anonymous by giving them codes (Ladds et al., 2020). Emphasis was laid on the safe-keeping of the recording and other documentation, in the researcher's possession. They will be kept safe at the School of Nursing and Midwifery making them inaccessible to any person and will be destroyed after five years. Their anonymity, confidentiality, and freedom to withdraw from the study without any repercussions were assured and reiterated (Eungoo & Hwang, 2021). Only one respondent could read and write was able to sign the consent form. The rest preferred to thumbprint their consent forms after it was explained to them in the presence of a witness who also signed. Afterward, the respondents were made aware that they could withdraw at any time. The language and venues for the interviews were suited to the respondents' preferences. Respondents were assigned serial alpha-numeric codes to ensure their anonymity and subsequently replaced with pseudonyms in the findings where their words were quoted. The demographic data of participants have been copied and in addition to soft copies stored on a pen drive and locked with a code.

3.5 Data Collection Procedure and Tool

A face-to-face semi-structured interview was conducted using an interview guide developed by the researcher using the Theory of Planned Behaviour (TPB), ensuring that questions explored cleaners' attitudes toward cleaning, perceived social expectations, perceived enablers and barriers to their work, and their decision to follow the recommended cleaning protocols. The theory also guided thematic analysis, as emerging codes were mapped against the four TPB constructs. The interview guide consisted of two sections, A and B, where section A consisted of the demographic

characteristics of participants and section B consisted of questions guided by the objectives of the study, the Theory of Planned Behaviour, and the literature reviewed on the subject.

The participants were allowed to select their chosen interview venue and language. During each interview session, the researcher re-established rapport, explained the purpose of the study, and reassured them of confidentiality and how the questions would be asked so participants could choose how to respond. Additionally, they were made aware of the recording, the researcher taking short notes during the process then allowed to thumbprint or sign their consent form(Bazen et al., 2021). Each interview guide was coded alphanumerically (P1 to P15), the questions were open-ended, and follow-up questions and clarifications were to ensure that responses were captured accordingly (Doyle et al., 2020). Probing and follow-up questions were asked to explore more of participants' perceptions, short notes were taken to keep track of ideas, and participants were observed for verbal and nonverbal cues (Bazen et al., 2021). Data collection continued until thematic saturation was achieved as no new insights emerged from additional interviews. Saturation was observed after the thirteenth participant, but two more participants were interviewed to confirm this point.The interviews lasted between 38 minutes to 1 hour and 51 minutes.

Verbatim transcription of interviews was done after each session and additional notes were made from transcriptions (Bazen et al., 2021).

3.6 Pre-testing of Interview Guide

Pre-testing of interview guide enables the researcher to ensure that the instrument will be efficacious in eliciting the expected responses from participants. It also allows for modifications to be made to the instrument to ensure its efficacy (Buschle et al., 2022). Pretesting of the semi-structured interview guide was done at the Tema Polyclinic, Tema Community Two. It was pretested with five

hospital environmental cleaners. It enabled the researcher to adjust and rearrange some of the questions and the analysis of the responses helped improve the interview guide. For instance, the elaborate responses about their belief about cleaning practices led to additional probing questions in that section of the instrument. The data from the piloted interview guide were not added to the main study.

3.7 Data Management

The researcher assigned alphanumeric (P1 to P15) codes to all participants according to the order in which they were interviewed. Recordings were replayed and then transcribed verbatim. After transcribing, the researcher reread the transcription and removed names and identifiers inadvertently mentioned by participants. Demographic information about participants was erased from the hard copies of transcripts, and the researcher kept the documents safe. Soft copies of transcripts were saved on a pen drive and locked with a code (Kaczynski et al., 2024)

3.8 Data Analysis

Data analysis in qualitative studies is an ongoing process that is done throughout the study (Byrne, 2022). Braun and Clarke's approach to reflexive thematic analysis also cited by was Byrne, (2022) was applied in data collection and analysis using the both manual and MAXQDA analysis software in the following steps:

- Familiarized with data by reading and re-reading the data to gain a deep understanding and note initial observations. During familiarisation, the researcher listened repeatedly to the audio recordings and read the transcripts several times to gain understanding of the cleaners' experiences. Initial observations included responses that involved recurring ideas about routine systematic cleaning processes, infection control, interactions with people, challenges, their importance to

patient safety, their wages, following the protocols, training, and dissatisfaction with facility managers. Reflexive notes were written after each transcript to capture emerging thoughts and early impressions that could inform later coding.

- Identified initial short labels (codes) and systematically identified and used relevant features related to the research questions which included their opinions about the cleaning protocols, the influence of people at work, their challenges, and motivation to follow the protocols.

- Grouped related short labels (codes) into broader themes to form the subthemes which included: daily cleaning routines, awareness and belief about infection control protocols, recognition and feedback on cleaning, interpersonal relations on cleaning, job satisfaction and commitiment to cleaning protocols. The subthemes were subsequently matched with the themes developed in line with the theoretical model.

- The data analysis was done under the guidance and supervision of the research supervisors.

3.9 Methodological Rigor

To ensure that the research process is credible and can be trusted, methodological rigour is maintained. Rigour is described as the process of demonstrating competence in the research process to ensure the validity and reliability of the study procedure (Doyle et al., 2020)(Bhakoo et al., 2019). Thus, for trustworthiness, credibility, transferability, dependability, and confirmability are required throughout the process. In this process, other strategies such as keeping an audit trail, reviewing transcripts with participants, and interacting with supervisors also ensured rigour and coming out with a trustworthy study(Ahmed, 2024).

Credibility is ensured when the findings of a study are deemed reliable and can be matched with real realistic situations (Ahmed, 2024). The researcher ensured this by establishing rapport with the cleaners through introduction by the head of cleaners, and also showing identity card.

Researcher intentionally selected participants who fit the inclusion criteria. Triangulation was achieved by interviewing cleaners from across the various departments of the hospital on both morning and night shifts. During the interview, researcher reiterated the questions, allowed questions, sought clarifications to participants' answers, wrote down notes and spent a long time with participants, probing for more information (Doyle et al., 2020). Each recorded interview session was transcribed after each session.

Transferability is described as how applicable the findings would be if applied to other settings and whether the same or similar conclusions can be drawn from the data (Ahmed, 2024). To achieve this, the researcher described in detail the Tema General Hospital, selected cleaners who fit the inclusion criteria, and provided a described the specific of cleaners roles in the hospital.

Dependability describes whether the study process was fit for replication in another setting(Ahmed, 2024). To ensure dependability, the researcher described in detail the research process. Data was gathered by semi-structured interview, and thematic analysis was done both manually and the MAXQDA 2020 free trial software version. A peer researcher and supervisor reviewed the coding process.

According to Ahmed, (2024) Confirmability describes the objectivity with which the researcher conducted the study to ensure that the findings are a reflection of the exact experiences and perspectives of the participant and not that of the researcher. It was ensured by the researcher stating exactly the feelings, thoughts, opinions, and ideas of the participants without introducing their own.. The researcher did this by suppressing her biases, and assumptions and did not allow them to interfere with the process. Additionally, the researcher kept an audit trail of data collection, analysis, and processing that led to the findings of the study.

3.10 Ethical Consideration

Ethical clearance was obtained from the Ghana Health Service Ethical Review Board in addition to an introductory letter and permission letter from the School of Nursing and Midwifery, University of Ghana. The purpose and objectives of the study were explained to potential participants in their own language. They were informed that their participation and identity would be kept a secret and that the entire process would be recorded with their consent. They were informed about the benefits and possible discomfort they might feel when disclosing their feelings during the interview and their right to stop and drop out of the process if they felt uncomfortable continuing.

The content of the information sheet was explained to them in their preferred language highlighting the assurance of possible benefits, compensation, and protection from risks or discomfort. It was explained to them that the interview would be recorded for reference purposes, however, their identity would be kept anonymous by giving them codes. Emphasis was placed on the secrecy of the recording and other documentation in the researcher's possession. They will be kept safe at the School of Nursing and Midwifery making them inaccessible to any person and will be destroyed after five years. Their anonymity, confidentiality, and freedom to withdraw from the study at any time without any repercussions were assured and reiterated.

CHAPTER FOUR
FINDINGS

4.0 Introduction

This chapter presents the findings of the study: Hospital Environmental Cleaning Practices: Perception of Cleaners at The Tema General Hospital. The theoretical model used to anchor the study was the Theory of Planned Behaviour. The sub-themes that emerged from the study were based on the construct of the Theory of Planned Behaviour and the research questions set for the study. Participant's verbatim statements were used to support the themes that were generated.

4.1 Demographic Characteristics of Participants

Fifteen (15) participants were interviewed based on data saturationo when no new information came up after conducting the fifteenth interview. The participants were all cleaners at the Tema General Hospital. Fourteen of the interviews were conducted in Twi and One in English. Twelve (12) were females and three (3) were males. The ages of the participants ranged from 30-60 years.

All the participants except one have basic education and the highest attaining technical vocational status. Only one has a permanent Ghana Health Service employment status, while the others are casual staff. Their tenure of work ranged from at least 6 weeks to at most 23 years. The highest frequency of tenure is 4 years. The sociodemographic characteristics are summarized in Table 3.

Table 3: Participants' Sociodemographic Characteristics

ID	AGE (years)	SEX	LEVEL OF EDUCATION	EMPLOYMENT STATUS	TENURE OF EMPLOYMENT
P1	32	Female	JHS	Casual	6 weeks
P2	38	Female	JHS	Casual	11 years
P3	35	Female	CLASS 4	Casual	8 months
P4	43	Female	VOC. SCHOOL	Casual	4 years
P5	58	Female	MID. SCHOOL	Permanent	23 years
P6	43	Female	JHS	Casual	1 year
P7	60	M	NONE	Casual	4 years
P8	38	F	SHS	Casual	4 years
P9	31	F	JHS	Casual	4 years
P10	60	F	PRIMARY	Casual	23 years
P11	24	M	TECH.SCHOOL	Casual	3 years
P12	38	F	SHS	Casual	4 years
P13	56	M	MID. SCHOOL	Casual	17 years
P14	54	F	MID. SCHOOL	Casual	12 years
P15	50	F	JHS	Casual	11 years

JHS: Junior High School, MID. SCHOOL: Middle School,

SHS: Senior High School, TECH SCHOOL: Technical School,

VOC. SCHOOL: Vocational School

4.2 Themes and Subthemes

Four themes and 10 subthemes were identified upon data analysis. The details of the themes and subthemes are presented in Table 2.

Table 4:Themes, Subthemes and Codes

THEMES	SUBTHEMES	CODES
Hospital environmental cleaning practices and care support roles	Daily cleaning routines	Sweeping and mopping floors, Emptying trash bins, Dusting surfaces, Cleaning of high-touch areas (door knobs, light switches)
	Infection control practices	Performing hand hygiene Use of personal protective equipment Use of disinfection chemicals for cleaning
	Patient interaction and care support	Helping patients with feeding Helping patients during discharging Wrapping and caring for new-borns Running errands for nurses
Hospital environmental cleaning beliefs and attitudes	Awareness and beliefs about infection prevention protocols	Use of chlorine and other disinfectants Importance of proper cleaning to prevent disease
	Following cleaning and infection control protocols	Consistency in adherence to protocols Importance of following steps
	Perception about	Training and its relevance

	environmental cleaning guidance and supervision	Role of experience Role of supervision
Navigating cleaning expectations	Recognition and feedback on cleaning	Positive feedback (praise and rewards) Negative feedback (criticisms) Training and corrections
	Interpersonal relations around cleaning	Supervisor interactions,Nurse interactions Patient interactions,Visitor interactions Colleague/ Peer interactions
Perceived cleaning role control and commitment	Job satisfaction issues and related challenges	Limited job satisfaction (pay, status) Impact of transportation costs on pay. Inadequate pay, financial struggles Difficult work environment (high workload, uncooperative staff, patients and visitors) Inadequate cleaning supplies, Inadequate support from management
	Commitment to cleaning protocols	Willingness to follow the cleaning protocols Completion of cleaning tasks per protocol

4.2 Hospital Environmental Cleaning Practices, Care and Support Roles

The theme hospital environmental cleaning practices, care and support roles captures the cleaners' perspectives about the scope of their cleaning work, and additional roles they are made to take on such as helping nurses with patient care. The subthemes are: daily cleaning routines, infection control, patient interaction and care support.

4.2.1 Daily cleaning routines

The perspectives shared by hospital environmental cleaners highlight the range of tasks they perform as part of their daily cleaning routines. These tasks extended beyond basic sweeping and mopping to include managing body fluid spills, preparing workspaces for clinical procedures, and ensuring the overall cleanliness of both patient and surgical areas.

> *"I fetch water, put in the mop bucket, add bleach, then I start work. At times, I sweep the night before, so when I get to work, I start mopping" (P3).*

A cleaner also responded to incidents such as urine or blood spills, indicating that cleaners play a crucial role in maintaining environmental hygiene and preventing infection risks from bodily fluids:

"I sweep, mop, and if the louvres are dirty, I clean them. Also, if a patient urinates on the floor, or blood spills on the floor, I have to clean it" (P7)

4.2.2 Infection Control Practices

In order to maintain hygiene and prevent infection in the hospital, the cleaners' responses highlight their perspectives on standard cleaning practices, emphasizing routine procedures, cleaning agents, and protective measures. They outlined systematic approach to their tasks, beginning with washing hands and wearing gloves before proceeding to sweeping and mopping.

"When you come to work you wash your hands, wear gloves, sweep and then mop" (P5)

The use of cleaning agents was another key aspect detailed as the combination of parazone (a bleaching agent) and Savlon (an antiseptic) for floor mopping, as well as bleach for cleaning maternity beds stained with blood at maternity wards.

"We mix parazone, savlon and mop the place. We put bleach on the maternity bed and clean all the blood" (P10)

"I use chlorine solution, duster, gloves and PPEs" (P11)

4.2.3 Patient Interaction and Care Support

The findings revealed that, beyond their primary role in maintaining hospital cleanliness, environmental cleaners often take on additional responsibilities that contribute to patient care and well-being. The quotes bellow high light their involvement in tasks beyond cleaning, including providing meals, assisting patients without family support, and offering emotional care.

One respondent mentioned the duty of fetching "koko" (porridge) for patients, suggesting that cleaners may be involved in ensuring patients receive meals, particularly in settings where family members are unavailable.

"We also have to go for koko for patients and when we return we continue with the work" (P5)

Similarly, another respondent emphasized the need to assist patients who lack family caregivers.

"Some patients do not bring relative so you have to help feed them. Some can be discharged and have no one so you have to help the person" (P10)

Furthermore, some respondents mentioned the emotional and social support they provided to patients through engaging in conversations and showing care leading to patients expressing appreciation after child birth:

"You have to chat with the person and show care. After delivery, they appreciate you" (P12)

Further analysis of the data revealed that their responsibilities often extended beyond their primary cleaning duties. The following quotes highlight the additional tasks assigned to them, including patient care activities, ward assistantship, and even technical support roles:

"*Some additional tasks are added to our work for instance, our in-charge makes some of my colleagues to lay beds which I don't know how to do" (P1)*

"Nurses take us as ward assistants. We put bleach on the maternity bed and clean all the blood. After, you are then asked to push the person who has delivered to the ward. I will take care of the mother and wrap the baby and give him/her to the mother" (P10)

"I run errands, fix oxygen and transport patients to other departments" (P11)

"After I do errands. they will say go and bring gloves etc and my supervisor has explained to us that it's not part of our work" (P 14)

Despite some cleaners expression of displeasure at being made to perform nurses duties, some felt that the patients needed help and they did it out of compassion as expressed in the following quotes:

" *sometimes I don't complain about helping the nurses because we are all humans and we must help each other"(P1)*

4.3 Environmental Cleaning Beliefs and Attitudes

The cleaners' perceptions about their cleaning behaviour and its expected outcomes is captured by this theme. The subthemes that emanated from probing their beliefs are as follows: following cleaning and infection prevention protocols, awareness and beliefs about infection prevention, and perception about environmental cleaning guidance and supervision.

4.3.1 Following Cleaning and Infection Prevention Protocols

The study revealed varying levels of awareness and adherence to infection prevention and control (IPC) protocols among the cleaners. While some cleaners demonstrated knowledge of the correct cleaning and infection prevention procedures, adherence was inconsistent, with several factors

influencing compliance. Some of them highlighted the practical challenges that disrupt proper cleaning sequences, such as high human traffic and the presence of patients and visitors.

The results indicated that cleaners appeared to have some knowledge about infection prevention and control (IPC) practices; however, their adherence varied significantly as some were aware of the necessary order of tasks but were limited by contextual limitations as human traffic.

A number of participants discussed real-world obstacles that made it challenging to use optimal cleaning techniques. One cleaner, for instance, emphasised how heavy patient and visitor traffic interfered with the planned workflow:

"The dusting should be done before mopping, but because of the movement of the people it is difficult even getting those who sit anywhere to get up for you to do what you need to do. So, I do the mopping after dusting" (P2)

On the other hand, some respondents emphasized the personal and professional benefits of adhering to protocols and further acknowledges that following cleaning steps not only enhances hospital hygiene but also improves cleaning practices at home:

"If you follow the steps its very helpful even for the cleaning of your home" (P3)

Another reinforced the importance of adherence by linking it to personal health, noting that failing to follow protocols could expose cleaners themselves to infections.

"Yes because if you don't follow the steps, you will be infected with a disease" (P1)

4.3.2 Awareness and Beliefs of Infection Prevention Protocols

Some responses gathered under this subtheme highlighted a basic understanding of the importance of cleaning in preventing infections. Some cleaners' responses demonstrated awareness that environmental cleaning goes beyond neatness but ensures patient and staff safety.

"Yes, it makes the place neat, it prevents us from infectious disease" (P6)

Apart from cleaners' awareness, they have practical belief in the effectiveness of disinfectants such as parazone and bine (chlorine-like deodorizer). One cleaner believes that when bad odours persist after dusting, stronger cleaning agents are needed to ensure cleanliness and remove harmful germs and unpleasant odours:

"If you dust the place and there is still a scent, then you have to mix parazone with water to mop. Again if the scent is still there, then you have to use bine, bine is like chlorine" (P7)

4.3.3 Perception About Environmental Cleaning Guidance and Supervision

This subtheme highlighted the hospital environmental cleaners' recognition of the value of both formal training and on-the-job guidance in shaping their cleaning practices. Some respondents acknowledged that they were not only given structured training sessions, including Infection Prevention Control, three times in the past year, but were also paired with experienced staff to learn practical cleaning techniques:

" We were taught and attached to some people on the job to learn. We had some IPC training last year, three times about the work." (P 2)

Similarly, another respondent highlighted the importance of prior training received before officially starting work. Additionally, the same cleaner mentioned previous work experience in cleaning:

"Before starting this work, I was given training, and it is this knowledge that I have been using all this time. I had done a cleaning job in the past before coming here, so I have experience" (P7)

The responses from the cleaners regarding their perception of their supervisors reflected a generally positive response, highlighting their willingness to provide guidance. Additionally, they mentioned the willingness of supervisors to communicate openly about the availability of materials:

"From day one, all my supervisors have been helpful. All my supervisors are good; They will tell you that Madam today the work is not neat" (P 4)

"*If, as you know, we need something to work with, sometimes more broom, dustpan, yeah, and then some is available, he tells us to come to the office, and then he gives us. And if some aren't available, he just tells us that, oh, by the course of today, we will get for you" (P 10)*

"Supervisors? They are there. They come to inspect, and when we tell them that we don't have materials, if they have some in their position, they give us if not, then they report to higher authorities" (P5)

While many cleaners expressed positive views about their supervisors, the responses from two participants revealed a less favourable dimension to the supervisory relationship. Both participants were reluctant to discuss their supervisors, whereby one opted to skip the question entirely, and another stated they had nothing to say about the question:

"What about the supervisor? Let's skip that question" (P7)

"supervisor? I don't have anything to say" (P1)

Upon further probing about their negative posture regarding their supervisors, P1and P7 reported that they perceived their supervisors looked down on them with disdain because they are cleaners.

4.6 Intention to adhere to cleaning protocols

All cleaners verbalized their decision to commit to following the cleaning protocols. However, some complained that they were willing, but the interruptions from staff, patients, and visitors, and inadequate supplies were a hindrance to their willingness to follow the protocols.

4.6.1 Willingness to follow cleaning protocols

Overall, the findings regarding cleaners' behavioural intentions showed that despite the hurdles they encountered with a lack of materials, they decided to follow the cleaning protocols.

"Yes, because if I don't follow the protocol, people around here may fall sick, even myself" (P13)

" The protocol is very helpful. It has helped me in the house and even at work. It is not good for a nurse to come and tell you what to do. The protocols help us to do our job very well" (P5)

"I am willing to continue using the protocol. First, I didn't like the job, but now I have come to love the job" (P3)

"I will continue to use the steps. The only hindrance will be our meagre salary and the bad management we have" (P 8)

Some of the participants expressed a lack of interest in following the protocols *as* they felt that the pay was too low and that they would quit if they found a better alternative to making a living:

"As *for this work, I do what I can; I cannot worry myself. The pay is not good so if I get another job, I will stop."*

4.7 Summary of findings

The findings emanating from this study highlighted the varying perceptions of hospital environmental cleaners at the Tema General Hospital regarding their environmental cleaning practices, which were consistent with Ajzen's Theory of Planned Behaviour.

The findings showed that most cleaners carried out basic cleaning activities centred around ensuring the facility is kept clean and safe, using infection control and cleaning protocols. However,

their duties were interspersed with nursing, caring activities, and errands that were not included in their job description, which led to exhaustion and a lack of adequate time to complete their core tasks.

Enquiry into the cleaners' beliefs and attitudes towards their practices highlighted their awareness of the cleaning and infection control protocols and its importance in ensuring that patients, staff, and themselves are protected from infection. Furthermore, their opinions about the role and relevance of cleaning guidance, and supervision indicated that they thought it was instrumental to ensuring their adherence to the cleaning protocols and were willing to follow it. In line with Ajzen's Theory of Planned Behaviour (TPB), a person's opinion and understanding of the negative or positive outcome of a behaviour influenced willingness to perform.

Social norms and interactions effect on their cleaning practices revealed that positive feedback, positive interactions and rewards helped them to improve on their performance, while negative feedback, negative interactions had a negative influence on their morale and performance. This is line with the TPB that indicates that the negative or positive interactions may influence a person's willingness to enact a behaviour.

Findings emerging from the cleaners' perception about their ability to carry out their cleaning tasks per the protocols yielded many challenges they faced. The main challenges were low pay and inadequate resources. Other challenges mentioned were work overload due to long hours, and lack of annual leave policies. These findings were in line with Ajzens theory that indicated that performance of a behaviour is influenced by the ability of the person by way of knowledge, resources, or a conducive environment for the behaviour to be enacted.

Questions regarding their decision to follow the cleaning protocols yielded affirmative responses from all cleaners.

In all, the findings showed that cleaners had good intention to follow the hospital environmental cleaning. However, they faced challenges regarding some negative social interactions, low pay, lack of management support, overwork and inadequate resources. In line with Ajzen's construct of intention, the speaks to the influence of antecedents having a strong influence on determining whether or not a person will decide to perform a behaviour.

CHAPTER FIVE
DISCUSSION

5.0 Introduction

In this chapter, the study's findings are discussed. The findings are compared to literature to establish contrast and echo. Here, investigation of the cleaners' beliefs and perceptions, social pressures, expectations, and challenges in performing hospital environmental cleaning will facilitate an understanding of their perception about their work as cleaners. The discussion is presented under the major themes of the study.

5.1 Sociodemographic Characteristics of Participants

In this study, all fifteen participants were hospital workers who are employed to clean the hospital's internal and external environments, including offices, furniture, equipment, in-patient and out-patient units (Santos et al., 2020). The nature of their work and their lived experiences placed them in the right position to be involved in this study on hospital environmental cleaning practices.

The participants were eleven (11) females and three(3) males with ages ranging between between 24 to 60 years. All the participants except one had basic education and the highest attaining technical vocational status. Only one had a permanent Ghana Health Service employment status, while the others were casual staff of an outsourcing agency. Their work tenure ranged from at least 6 weeks to at most 23 years. The highest frequency of tenure was 4 years.

5.2 Attitude and beliefs about environmental cleaning practices

This theme explored the cleaners' perceptions of their work and their beliefs about the significance of their role in maintaining a hygienic hospital environment. The findings revealed that cleaners were aware of the importance of their responsibilities and possessed a basic level of knowledge regarding infection prevention. They reported that they made conscious efforts to comply with cleaning protocols to prevent the spread of infection and to protect themselves, patients, and staff. This aligns with the findings of Alshagrawi and Alhodaithy (2024), who reported that hospital cleaners commonly acknowledge the infection control implications of their work, which strengthens their motivation to adhere to recommended practices. However, Naidoo (2021) notes that despite such awareness, cleaners frequently encounter challenges including limited time, excessive workload, and inadequate rest that impede adherence.

The cleaners in this study expressed pride in their contribution to maintaining hospital hygiene and viewed compliance with protocols as a core responsibility. This supports Dancer's (2023) observation that knowledge of cleaning protocols directly contributes to improved cleaning practices, stronger commitment, and greater compliance. The findings also demonstrate a relationship between cleaners' awareness of their role and their adherence to safety procedures, consistent with Vance et al. (2022b), who assert that cleaners' recognition of the impact of their work on patient safety and hospital functionality enhances their sense of occupational pride. Tamene et al. (2022) further argue that cleaners' attitudes are shaped by their awareness of infection prevention measures; cleaners who understand the importance of disinfectants and correct application methods tend to demonstrate more favourable cleaning behaviour.

Supervision emerged as a significant factor influencing cleaners' attitudes and adherence. Cleaners described how doctors, nurses, and managers frequently supervised their work, sometimes asking them to repeat tasks or disinfect areas again. While some cleaners found this uncomfortable, most indicated that supervision motivated them to comply with expected procedures and avoid repeating tasks. This finding is supported by Battan et al. (2023), who showed that regular supervision enhances work attitudes and adherence to protocols. Youssef et al. (2021) also found that effective supervision fosters motivation and compliance, particularly when cleaners receive praise or encouragement. Although some cleaners in this study reported negative interactions with supervisors, they emphasised that such experiences did not diminish their commitment to safe cleaning practices. Youssef et al. (2021) similarly observed that cleaners' experiences with supervision vary; some feel supported, while others feel neglected or undervalued.

Despite recognising the importance of cleaning protocols, many cleaners demonstrated gaps in in-depth IPC knowledge. Their IPC understanding was largely attributed to informal learning and on-the-job experience, exposing a deficit in formal training and clarity on job descriptions. Some cleaners reported feeling undervalued and expressed low confidence in their IPC competencies, occasionally cutting corners when faced with time pressure. These findings mirror those of Afesi-Dei et al. (2023), who identified poor compliance among waste handlers and cleaners in some Ghanaian government hospitals, where inadequate formal IPC training, resulted in poor performance and heightened occupational risk. Ashinyo et al. (2021) similarly highlighted the need for structured IPC training and certification. This gap reflects broader systemic shortcomings; as Sunkwa-Mills et al. (2023) argue, the Ministry of Health and its agencies lack policies that support professional training and certification for hospital cleaners. Additionally, the Ghana Health Service

IPC guidelines do not include specific training modules tailored to environmental cleaners, in contrast to modules designed for clinical staff.

The findings further indicated that opportunities for formal IPC training were influenced by employment status. Fourteen of the fifteen cleaners were outsourced agency workers who received only basic orientation focused on maintaining cleanliness. They expressed interest in more substantive IPC training but reported that their employers declined such requests due to financial constraints. The only permanently employed cleaner had received formal training at the hospital level and expressed stronger confidence and commitment to compliance. This supports Berry et al. (2021), who found that outsourced hospital staff, particularly in low-resource settings, tend to receive minimal IPC training as agencies often prioritise cost reduction, leading to poorer cleaning practices.

Experience was also found to shape attitudes toward adherence. Cleaners with longer service histories reported greater confidence and a higher likelihood of following cleaning protocols. This is consistent with Geurtze (2022), who noted that experienced hospital cleaners demonstrate more effective task performance and stronger compliance. However, Atoufi et al. (2022) and Scannell et al. (2020) caution that experience can also reinforce outdated practices or resistance to new methods, meaning that experience alone does not guarantee optimal behaviour.

Workload and time pressure significantly influenced cleaners' attitudes and adherence to cleaning protocols. Cleaners frequently reported feeling overwhelmed by their workload, which led them to omit steps in the cleaning protocols to complete tasks on time. This resonates with the findings of Miner et al. (2021), who documented that excessive workload and pressure to complete tasks lead cleaners to bypass protocols despite understanding their importance. Ogunsola and Mehtar (2020)

similarly found that high workload pushes cleaners toward shortcuts, demonstrating that favourable attitudes are insufficient when contextual barriers are significant.

Within the TPB framework, the cleaners demonstrated generally positive attitudes toward following cleaning protocols. These attitudes were influenced by their belief in their contribution to patient safety, accumulated experience, and the reinforcing effects of supervision. However, barriers such as lack of formal training, limited access to certification, and excessive workload weakened these otherwise positive attitudes. Ajzen (1991) maintains that behavioural performance is shaped not only by attitudes but also by subjective norms and perceived behavioural control; thus, attitudes alone cannot fully determine adherence if key facilitators or barriers are present.

Overall, these findings suggest that while cleaners recognise the significance of their role and display strong attitudinal commitment to maintaining hygiene, their performance may still be affected by factors not explored in this study, including personal challenges and systemic organisational constraints.

5.3 **Subjective Norms Related to Hospital Environmental Cleaning Practices**

The findings on subjective norms revealed the various social expectations and interpersonal influences that shaped cleaners' intentions and adherence to environmental cleaning protocols. Cleaners consistently described how monitoring, feedback, and everyday interactions within the hospital influenced both their motivation and performance. They explained that monitoring and feedback were central mechanisms through which both staff and patients sought to improve their cleaning outcomes. Cleaners reported receiving verbal commendations, expressions of gratitude,

and occasionally tokens such as money or food when their work was perceived as satisfactory. Conversely, they also received complaints and criticisms when their work was deemed inadequate. Some cleaners noted feeling demoralised when nurses or patients reprimanded them for perceived poor performance, particularly when these individuals contributed to workflow interruptions, such as walking across wet floors during cleaning.

These findings align with Hasan (2023), who demonstrated that hospital cleaners who feel valued and appreciated are more likely to comply with infection control protocols. Jordan et al. (2022) similarly found that praise and encouragement enhance job satisfaction and strengthen cleaners' commitment to maintaining cleaning standards. Geurtze (2022) adds that positive feedback encourages cleaners to feel more confident and comfortable in their role, thereby improving cleaning quality. However, Elling et al. (2022) pointed out that persistent criticism and disregard for cleaners' roles can discourage compliance, particularly in contexts where their work is repeatedly disrupted or devalued.

Supervisory monitoring was also found to influence cleaners' behaviours. While some cleaners viewed supervision as supportive and necessary for maintaining standards, others felt that excessive monitoring resembled micromanagement. According to Glavin et al. (2024), supervisory oversight can improve performance, yet overly intensive monitoring may diminish autonomy and reduce motivation. Some cleaners described experiences of nurses closely scrutinising their work only to issue harsh critiques even when they believed they had met expectations. Such experiences were perceived as demotivating, particularly for long-tenured cleaners who felt that recognition of their expertise would be more empowering than continual fault-finding.

The cleaners further suggested that formal institutional recognition, such as award ceremonies, would boost morale. This is consistent with Karaferis et al. (2022), who argue that praise and recognition function as important extrinsic motivators within healthcare environments. Nevertheless, Ağalar and Öztürk Engin (2020) argue that although appreciation is valuable, practical incentives recommendations such as improved compensation and opportunities for professional advancement—are often more effective in sustaining long-term adherence to cleaning standards. Some cleaners also expressed the desire for benefits comparable to clinical staff, such as access to annual leave and opportunities to transition onto the Ghana Health Service's permanent employment structure.

Interpersonal relationships between cleaners and staff, particularly with nurses, patients, and patients' relatives, were another significant social influence. Cleaners described varied interactions, ranging from appreciative and collaborative relationships to strained encounters characterised by disrespect. Several cleaners recounted instances in which they performed additional caregiving tasks such as bathing or feeding patients in the absence of relatives thereby building rapport and deepening their sense of purpose within the hospital environment. These experiences mirror the observations of Jin et al. (2020), who demonstrated that direct interactions with patients strengthen cleaners' belief in the importance of their role in patient safety. Geurtze (2022) similarly noted that positive collaboration with other hospital staff reinforces cleaners' favourable attitudes toward their work.

However, cleaners also reported experiencing disrespect, often rooted in societal perceptions of cleaning work as "dirty" or unskilled. They indicated that some nurses, patients, and relatives regarded them as inferior or uneducated, despite several cleaners holding tertiary qualifications.

This social stigma contributed to lowered morale and, at times, reduced motivation to comply fully with cleaning protocols. Gebregziabher et al. (2020) confirm that in resource-limited settings such as Ghana, hospital cleaners are often marginalised, leading to feelings of low status, stress, and job dissatisfaction. Elling et al. (2022) further highlight the dehumanising impact of disrespect on cleaners, particularly when accompanied by high workloads and minimal recognition.

The workplace culture and environmental conditions further influenced normative pressures. Cleaners described excessive workloads, insufficient staffing, and lack of respect from staff and patients' relatives as factors that undermined their morale and capacity to comply consistently with cleaning standards. They also emphasised that frequent interruptions to their workflow reduced their ability to follow protocols sequentially, contributing to frustration and fatigue.

Within the Theory of Planned Behaviour, subjective norms reflect the perceived expectations of significant others and their influence on behavioural intentions (La Barbera & Ajzen, 2020). In this study, cleaners' social interactions with supervisors, nurses, doctors, patients, and relatives played a critical role in shaping their behavioural intentions. Positive interactions, such as praise, tokens of appreciation, and constructive feedback, strengthened their motivation to comply with protocols. Conversely, disrespect, negative social evaluations, and perceptions of low occupational status weakened their sense of social approval and consequently reduced motivation to adhere strictly to protocols. These dynamics were compounded by cleaners' perceptions of their position within the organisational hierarchy, which they felt was diminished by their lower formal qualifications relative to clinical staff. In addition, frequent interruptions to their workflow contributed to reduced perceived control over their tasks, thereby making strict compliance with protocols appear less feasible.

5.4 Perceived Control and Challenges

The findings under this theme highlight the multiple constraints cleaners encounter in performing their duties, which collectively undermine their sense of control and autonomy. Cleaners consistently reported limited control over their work processes due to insufficient resources, unsupportive attitudes from staff, patients, and relatives, poor remuneration, and the absence of formal training. Gebreeyessus (2022) affirms that restricted autonomy in task execution is typically associated with increased stress and diminished job satisfaction. For instance, shortages of essential supplies such as mops and detergents generated frustration and dissatisfaction. This aligns with the work of Karaferis et al. (2022), who underscore the importance of autonomy and task significance; when cleaners are unable to perform their duties effectively due to resource constraints, their perceived competence and autonomy decline, often resulting in disengagement.

In resource-limited environments such as Ghana, studies consistently document persistent shortages of cleaning, sanitation, and hygiene materials, alongside inadequate training for cleaning and waste management personnel (Ashinyo et al., 2021). Although extensive IPC training was provided during the COVID-19 pandemic, evidence suggests that recent refresher sessions have disproportionately targeted professional staff, excluding cleaners (Ashinyo et al., 2021). Furthermore, the resources available do not match the expectations of protocol adherence. One permanent cleaner noted that resource availability declined after the pandemic, compelling staff to ration materials. For example, receiving only a third of the required chlorine supply led them to over-dilute it to ensure it lasted, thereby making protocol-compliant cleaning impossible.

Some cleaners also reported instances where, due to delays in supply delivery, they purchased materials with their own money or borrowed from staff. Such actions illustrate how resource

shortages diminish cleaners' perceived control, even when their intention to comply with cleaning protocols remains strong.

Dissatisfaction with remuneration was a shared concern among participants. Cleaners expressed that the workload was disproportionate to their pay, a sentiment that reflects the widely recognised low wages of hospital environmental cleaners in LMICs such as Ghana. They perceived that their low educational qualifications and "non-professional" status limited their bargaining power and justified their low pay. This perception aligns with Chan et al. (2020), who describe the systematic undervaluation of cleaners manifested through inadequate pay and limited recognition as a key factor undermining their sense of contribution and fostering disengagement. Omoijiade and Evbuomwan (2019) similarly argue that structural issues, including low salaries and job insecurity, exert a stronger influence on job satisfaction and compliance than interpersonal treatment. Some cleaners reported spending half of their wages on transportation and relying on occasional cash gifts from nurses or patients, reinforcing their desire for wage improvements to prevent attrition.

Monitoring reports on WASH/IPC implementation across ten regions in Ghana corroborate these findings, citing poor hospital environmental hygiene, overworked and underpaid cleaners, inadequate materials, and limited knowledge of IPC protocols among staff, including cleaners (IPCAP Survey, GHS, 2021).

The findings in this study also aligns with evidence from Curryer et al. (2021) and Smith et al. (2023), who found that resource deficits significantly impede hospital cleaning in Sub-Saharan Africa. Their studies detail instances where health workers resorted to unsanctioned dilution of cleaning agents due to shortages. Afesi-Dei et al. (2023) similarly reported that insufficient resources and heavy workloads compromise cleaners' perceived control, contributing to

performance gaps and heightened infection risks. Jin et al. (2020) further noted that inadequate resources obstruct cleaners' ability to meet expected standards, while Tan et al. (2020) observed that gaps between protocol awareness and implementation are common in resource-constrained settings. Although resource availability is critical, structural challenges such as low pay and understaffing continue to impede sustained compliance (Afesi-Dei et al., 2023). Conversely, WHO (2020) reports that providing adequate resources and training leads to improved compliance with IPC protocols.

Another significant barrier to cleaners' perceived control was the behaviour of patients, visitors, and some staff. Cleaners described frequent disruptions to their cleaning routines, including refusal by patients' relatives to vacate areas requiring cleaning. These findings support Dancer (2021), who notes that such interruptions reduce cleaning efficiency and elevate infection transmission risks. Curryer et al. (2021) likewise report that visitor non-adherence to hospital protocols impedes cleaners' ability to work effectively.

A lack of managerial support further constrained cleaners' perceived control. Participants indicated that management failed to provide adequate training, appropriate tools, fair treatment, motivation, and inclusion in decision-making processes. They reported being excluded from stakeholder meetings related to hospital hygiene, waste management, and IPC, suggesting their perspectives were undervalued. Dancer (2023) and WHO (2022) similarly identify managerial neglect, insufficient resource allocation, and low remuneration as contributors to dissatisfaction and reduced motivation among cleaners. Kitsios and Kamariotou (2021) also found that workers in low-autonomy jobs frequently report reduced job satisfaction and poorer mental health. These findings point to broader organisational and systemic constraints that limit cleaners' control. Riyanto et al.

(2021) emphasise that organisational support—including adequate resources, fair compensation, and rest opportunities—enhances perceived control, while Tenza et al. (2022) show that systemic challenges such as poor management and understaffing undermine compliance, even with sufficient training. Chan et al. (2020) further argue that existing support mechanisms are insufficiently institutionalised to achieve sustained impact.

Overall, cleaners' perceived behavioural control is markedly constrained by the work environment, resource limitations, exclusion from decision-making, and poor remuneration. In line with Ajzen's framework, scarce resources, inadequate training, low pay, and unsupportive institutional policies weaken perceived behavioural control, making compliance with cleaning protocols difficult. Consequently, even when cleaners hold positive attitudes or perceive supportive social norms, their intention to adhere to protocols is diminished unless these structural barriers are addressed.

5.5 Intention to Adhere to Cleaning Protocols

This theme examined the cleaners' intention to adhere to hospital environmental cleaning protocols. Cleaners described their daily routines, including sweeping, dusting, mopping, emptying waste bins, and disinfecting surfaces. They demonstrated a basic understanding of infection control practices such as hand hygiene, appropriate use of personal protective equipment (PPE), and disinfection of patient care areas.

All participants acknowledged that cleaning protocols are essential for preventing the spread of infections and affirmed their competence in performing these tasks. They also recognised that complying with the protocols is a mandatory component of their role. While many cleaners

expressed that their decisions were influenced by interactions with others—particularly in relation to the occasionally toxic work environment—others indicated that respectful relationships and positive communication strengthened their resolve to comply. Cleaners emphasised that timely access to adequate cleaning materials was a key determinant of their willingness to follow protocols.

Additionally, all participants expressed a desire for formal training and certification, believing these would qualify them for benefits available to professional staff, such as improved salaries and annual leave. For at least one cleaner, the possibility of being absorbed into permanent employment served as a major source of motivation for consistent adherence.

The findings suggest that cleaners' intention to comply is shaped by their perceptions of the importance and effectiveness of cleaning protocols, their confidence in their own knowledge and skills, and their sense of the significance of their role. Perceptions of how others viewed their work, their occupational status, and conditions of employment also influenced their decision-making. These insights align with Alshagrawi and Alhodaithy (2024), who found that workers are more inclined to follow protocols when they believe such practices are beneficial. Similarly, Jukola and Gadebusch Bondio (2023) reported that compliance in healthcare settings is often tied to a sense of responsibility toward colleagues, patients, and visitors.

The data also revealed that the outcomes of cleaning practices often varied depending on the individual performing the task. Some cleaners reported that colleagues occasionally adopted personal methods that deviated from standard protocols, believing these approaches were more efficient. H. Zhang et al. (2023) support this observation, noting that while urban cleaners tend to adopt standardised and globally influenced methods, rural cleaners often rely on traditional techniques rooted in basic sanitation practices.

Cleaners also suggested that the low-status nature of their work negatively affected their motivation to comply with protocols. They described feelings of stigmatisation when staff, managers, or patients treated them as inferior. Gebreeyessus (2022) similarly argues that hospital cleaners are often marginalised and their work undervalued, leading to stress and reduced job satisfaction.

These findings are consistent with studies by Afesi-Dei et al. (2023) and Elling et al. (2022), who reported that non-compliance among cleaners stemmed from inadequate supplies, low status, limited supervision, poor working conditions, and insufficient training.

Within the TPB framework, intention is the most immediate predictor of behaviour. The data indicate that cleaners' behavioural intentions were influenced by their attitudes, perceived expectations of others, and the facilitators or constraints affecting their ability to act. Overall, most cleaners expressed strong motivation to comply with protocols based on their knowledge, experience, and sense of professional responsibility. Others emphasised the importance of adequate supplies, positive interpersonal relationships, and the hope of securing permanent employment as additional motivators.

5.5 Evaluation of the Theory of Planned Behaviour Applied to Hospital Environmental Cleaners

The Theory of Planned Behaviour (TPB) provided the guiding theoretical framework for this study. It informed the development of the study objectives and the interview guide, focusing on the four key constructs: attitude, subjective norms, perceived behavioural control, and behavioural intention.

The findings initially highlighted cleaners' routine activities, care responsibilities, and support roles within the hospital, offering insight into both their core duties and additional tasks involving patient assistance.

Four themes emerged that aligned with the selected constructs of the TPB. The theme addressing attitudes and beliefs reflected cleaners' recognition of the importance of their role in infection prevention. Their positive evaluation of their work contributed to their adherence to cleaning protocols, consistent with Ajzen's assertion that favourable attitudes increase the likelihood of performing a behaviour.

Under subjective norms, cleaners reported receiving both positive and negative feedback from supervisors, staff, and patients. While some felt appreciated for their diligence, others experienced criticism and disrespect. Nevertheless, these social pressures did not deter them from following the protocols. According to TPB, the influence of significant others can either encourage or discourage compliance; in this study, cleaners believed they needed to meet the expectations of multiple stakeholders, and both encouraging and discouraging feedback motivated them to maintain protocol adherence.

Perceived behavioural control was reflected through the multiple challenges cleaners faced, particularly inadequate materials, low wages, heavy workloads, and poor working conditions. Ajzen posits that behavioural control is shaped by perceived ability and resource availability. Although cleaners generally believed they had the requisite knowledge and skills, the persistent lack of cleaning materials limited their ability to perform tasks effectively.

Finally, the study found that all cleaners expressed a clear intention to follow the hospital environmental cleaning protocols. In the TPB model, intention is influenced by attitude, subjective norms, and perceived behavioural control, although these factors may vary in strength. The themes that emerged from this study closely mirror the constructs of the theoretical model and reinforce the relevance of TPB in understanding cleaners' perceptions and behaviours.

5.6 Chapter Summary

This chapter has demonstrated that the study's findings align closely with those reported in previous research, with only minimal variations observed. The results highlight the cleaners' general willingness to adhere to safety and infection prevention protocols, particularly when adequate guidance and supervision are provided; an outcome consistent with existing literature. The study further revealed that the cleaners' knowledge and awareness of hygiene and safety principles played a crucial role in shaping their compliance behaviours, especially given their understanding of the risks associated with poor cleaning practices. In addition, the norms and expectations that cleaners held regarding environmental cleaning were found to influence how they interpreted and navigated their roles, mirroring patterns identified in earlier studies. Finally, the chapter discussed the challenges the cleaners encountered in their daily work, many of which reflect common issues widely documented across similar settings; particularly in many healthfacilities in LMIC countries such as Ghana.

CHAPTER SIX
SUMMARY, CONCLUSION AND RECOMMENDATION

6.0 Introduction

This is the final chapter of the paper. Here, an overview of the entire research is presented then, the major findings and discussion of the study is recapitulated. After this, cessation of the research is made based on the major findings. Implications of the study is also drawn. Finally, recommendations and suggestions are made to mitigate and address the major issues of the study. The main issues presented treated in each chapter of the study are highlighted here in summary.

6.1 Overview of the study

The study adopted a qualitative approach to explore the perception of cleaners on their hospital environmental cleaning practices at Tema General Hospital. The study sought to give further insight into the cleaners' beliefs and perceptions, social pressures, expectations, and challenges in performing hospital environmental cleaning which will provide insight into their intention toward their cleaning practices and interventions to modify their behaviours. The problem statement which is the engine of the study was stated. The purpose of the study and the specific objectives, what the study sort to find out also followed. The second chapter presented literature under the major issues of the study. The theoretical framework of the study was revealed also. A number of articles were reviewed under the concept of hospital environmental cleaning, perceptions, and challenges they presented. The third chapter describes the method to be adopted for the study. It provided an outline of the research design, research setting, target population, sampling technique, sample size, data gathering procedure, and data analysis. It also highlights the ethical considerations and methodological rigor. The study was targeted at fifteen cleaners at Tema General Hospital. They

were recruited and interviewed. The fourth chapter presented the findings. After the interview, the recorded audio was transcribed verbatim and then analyzed. From the analysis, four major themes were generated with subthemes and codes. Then the fifth chapter dissected these findings, juxtaposing it with existing literature to find similarities and disparities.

6.2 Summary of the study

The study was to explore the perception of cleaners on hospital environmental cleaning practices at the Tema General Hospital. The findings of the study revealed that the cleaners acknowledged the hospital environmental cleaning practices and they were willing to follow them. Their willingness to adhere to the cleaning protocols was as a result to their knowledge and awareness of patient safety, the importance of their role at the hospital and the negative effect of doing otherwise. However, an identification factors including monitoring, guidance, supervision and interpersonal relationship among the cleaners, staff, and patients as contributory factors that affect the performance of cleaners. It was also highlighted that feedback and recognition from staff and patients in the forms of appraisal, appreciation, and criticism helped cleaners improve their performance. Another discovery highlighted several factors that hindered the cleaners from fully complying with the cleaning practice. These were; low pay, lack of cleaning materials, lack of managerial support, workload, absence of motivation, and poor work environment and conditions. The findings show that they were demotivated due to low pay. Also, when they are exhausted from heavy loads of work, they tend to overlook some safety measures just to get work done. Additionally, the absence of appropriate cleaning materials forces them to compromise on cleaning practices leading to poor adherence to cleaning protocols. Despite all these, the cleaners were forced to comply with the cleaning practices due to fear of being reported to the authorities and the

possibility of losing their jobs because they were casual workers. Ultimately, the environmental cleaning practices were explored and methods the cleaners adopted in delivering their services was highlighted. It was revealed that they had a step-by-step procedure to help ensure maximum disinfection. Even so, factors such as patients' visitors not leaving on time interrupt their work and consequently disrupt consistent compliance to the cleaning practices.

6.3 Research Implications

These findings have significant implications for both academia and policymaking. First of all, they highlight the need for further research into the role the hospital as an organization plays in a hygienic hospital environment. With these findings, it is evident that sanitation issues in the hospital are entirely the responsibility of cleaners. There is a lack of specific structural support from hospital administration or authorities. As the findings revealed that lack of cleaning materials, workload due to staffing level, and dissatisfaction with pay are the major obstacles that cause inconsistency in the adherence to cleaning protocols. These are major issues to be addressed by the hospital authorities.

Moreover, the research sheds light on the need to explore other contributory factors that affects the performance of cleaners and their adherence to cleaning practices. The findings show that the reported challenges are not enough basis to account for poor hospital environmental cleaning practices. Considering their immense contribution to HAIS, it is imperative to conduct further quantitative studies into their actual cleaning practices. Further studies into how to regularize their cadre as other professional cleaners in high-income countries will lead to streamlining their conditions of service.

6.4 Recommendations

Based on the findings of this study, there are several recommendations for addressing the hospital environmental cleaning practices at the Tema General Hospital in the Tema metropolis. Few of them are highlighted below;

6.4.1 Local supply chains

The cleaners at the Tema General Hospital received their cleaning materials from their agency,; they faced shortages causing undue delay in carrying out their tasks. Therefore, it is imperative for their employer to collaborate with the hospital manangement to supplement thier stocks during periods of shortage. This will also improve resource sharing across departments.

6.4.2 On boarding of cleaners into facility or government payroll

Ghana health service should consider allowing facilities to employ them since the cleaners are often on contract as casual workers and therefore lack job security. This could provide more stability for the workers and potentially improve the overall efficiency and quality of their services to the hospital.

6.4.3 Salary adjustments and incentives

The cleaners report revealed that they are not paid by government but the hospital through various agencies since they are casual workers on contract. As salary adjustment may not be overly complicated. So, it is suggested that the hospital and its related agencies increase the salary of the cleaners, providing incentive packages through any form as compensation to the cleaners for their work overtime and other challenges they face.

6.4.4 Management/Institutional support

Most of the difficulties the cleaners face is as a result of inadequate managerial support. It is imperative that hospital management assess the needs of cleaners and involve in discussion and decision making processes in collaboration with their employer. This will provide assurance that they have management backing in matters concerning their work. Provision of amenities such as rest areas, is key to ensuring that they are able to take breaks during working hours. Since the tema General hospital cleaners are outsourced workers, it is imperative that hospital management consider increasing the number of cleaners subcontracted to ensure adequate distribution of cleaners per workload and improve on low staffing levels.

6.4.5 Systemic change

The Ministry of Health and Ghana Health Service may consider reviewing their entire policy approach to hospital cleaning and sanitation with focus on the cleaning personnel. Cleaners should have opportunity to enroll in structured and formal IPC training with professional certification accompanied by conditions of service such as paid leave, health insurance, and unionization. This may improve their level of engagement and commitment to their work. Then, the cleaners may feel more valued since special attention will be given to them like the other uni of the hospital. Additionally,

6.5 Insight Gained

The researcher noted that, hospital environmental cleaners' in the Tema General Hospital had a fair knowledge of their cleaning protocols, and their role in ensuring the cleanliness of the facility. Some of them played both cleaning and nursing roles by helping the patients. They have a somewhat cordial relationship with other professional staff and their supervisors. Despite their poor work

conditions, inadequate work materials, work overload and low pay, their attitude towards their cleaning practices is significant.

6.6 Limitation

The study was conducted in one secondary healthcare facility in Greater Accra which may not represent adequately the cleaners' perception across the region. This study may be replicated in all health facilities across the region.

6.7 Conclusion

This study examined cleaners' perspectives, the social norms governing their work, and the determinants of adherence to environmental cleaning protocols at Tema General Hospital. The findings demonstrate that cleaners possess substantive knowledge of hospital environmental cleaning practices and articulate a strong sense of responsibility for patient safety and the smooth functioning of clinical services. Their self-reported dispositions reflect professional pride and an appreciation of the risks associated with lapses in cleaning; however, the translation of this knowledge and disposition into consistent practice is contingent on workload, resource availability, and organizational support.With respect to social norms, cleaners' daily decisions are shaped by ward-level routines, peer expectations, and supervisory oversight. Hierarchical clinical cultures and ad hoc directives from clinical staff influence task sequencing and prioritization, while informal standards of "acceptable cleanliness" and norms around rationing scarce supplies further structure how protocols are interpreted and enacted. Handover practices and the local definition of what constitutes "good enough" cleaning operate as powerful, if tacit, guides to behavior.Multiple factors enable or hinder effective environmental cleaning. Enablers include structured and periodic

training, clear and accessible standard operating procedures, supportive and consistent supervision, adequate staffing, reliable supplies and functioning equipment, and recognition of quality work. In contrast, supply interruptions, equipment breakdowns, high patient volumes, informal training, communication gaps across staff cadres, limited control over workspaces, and low remuneration undermine both performance and morale.Motivational dynamics mirror these structural conditions. Cleaners are motivated by their commitment to patient and personal safety, timely and respectful feedback, supportive supervision, safe working conditions, and hope of future onboarding to hospital payroll. Demotivators include chronic material shortages, perceived disrespect or stigma, punitive or inconsistent supervisory practices, shifting or unclear standards, limited career progression, and wage dissatisfaction. Collectively, these factors clarify the intentions behind cleaners' adherence or nonadherence to recommended protocols.

In sum, cleaners at Tema General Hospital understand and value high environmental cleaning standards, yet social norms, resource constraints, and organizational conditions largely determine whether intentions translate into consistent practice. Interventions that combine material resourcing with respectful, participatory management are most likely to enhance protocol adherence and sustain hygiene improvements, complementing ongoing national initiatives aimed at strengthening compliance through training and education.

APPENDICES

APPENDIX A: ETHICAL CLEARANCE

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
5th July 2024

My Ref. GHS/RDD/ERC/Admin/App/24/309
Your Ref. No.

Joana Adede Ocansey
Kpone Polyclinic
P. O. Box 1
Kpone

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

GHS-ERC Number	**GHS-ERC: 043/06/24**
Study Title	Standard Hospital Environmental Cleaning Practices: Perceptions of Cleaners at the Tema General Hospital, Tema, Ghana
Approval Date	5th July 2024
Expiry Date	4th 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

APPENDIX B: INTRODUCTORY LETTER

UNIVERSITY OF GHANA

SCHOOL OF NURSING AND MIDWIFERY
COLLEGE OF HEALTH SCIENCES

Ref: 11007743

13th May, 2024.

The Medical Director,
Tema General Hospital,
P.O. Box CO 14,
Tema.

Dear Sir/Madam,

LETTER OF INTRODUCTION – JOANA ADEDE OCANSEY

I write to introduce to you **Joana Adede Ocansey**, MPhil Nursing student in the Department of Adult Health Nursing, School of Nursing and Midwifery, University of Ghana, Legon.

The Scientific Review Committee of the School has approved the thesis topic: **"Standard Hospital Environmental Cleaning Practices: Perceptions of Cleaners at the Tema General Hospital"**.

As part of the school's requirement, **Joana Adede Ocansey** is required to obtain ethical clearance before embarking on the data collection.

I hope the committee will consider its approval and grant her ethical clearance to enable her to undertake her study.

Thank you.

Yours faithfully,

Charles Klutse
Administrator

INTEGRI PROCEDAMUS

P. O. Box LG 43, Legon, Accra, Ghana | Tel: +233 (0) 303 970 801
Email: nursing@ug.edu.gh | Website: www.nursing.ug.edu.gh

UG

APPENDIX C: SUPPORT LETTER

UNIVERSITY OF GHANA
DEPARTMENT OF ADULT HEALTH
SCHOOL OF NURSING

11007743

Ref. No.:.....

13th May, 2024.

Ghana Health Service Ethics Review Committee,
Research and Development Division,
P.O. Box MB190,
Accra.

Dear Sir/Madam,

SUPPORT LETTER – JOANA ADEDE OCANSEY

I write in support of the application for ethical clearance for **Joana Adede Ocansey,** MPhil Nursing student in the Department of Adult Health Nursing, School of Nursing and Midwifery, University of Ghana, Legon.

Joana Adede Ocansey is undertaking research topic: **"Standard Hospital Environmental Cleaning Practices: Perceptions of Cleaners at the Tema General Hospital,"** as part of the requirement for the MPhil programme.

She is humbly seeking ethical approval for her research, and I highly recommend her proposal for your consideration and approval.

Thank you.

Yours faithfully,

Mr. Eric Tornu
Supervisor

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

APPENDIX D: PARTICIPANT INFORMATION SHEET

PARTICIPANT INFORMATION SHEET

Title of the study: Standard Hospital Environmental Cleaning Practices: Perceptions of Cleaners at the Tema General Hospital, Tema

Principal Investigator: Joana Adede Ocansey

Address: School of Nursing and Midwifery, University of Ghana, Legon. P. O. Box LG 84, Accra

Tel: +233(0)244252105 Email: imadededanso76@gmail.com

General Information about research

The purpose of this study is to explore the factors that influence Tema General Hospital cleaner's intention to practice standard hospital environmental cleaning.

This study is solely for academic purposes and is fully funded by the principal investigator. Researcher will use mainly interviews to gain in-depth insight into the individual experiences of cleaners in their beliefs, social influences and challenges that inform their intention to carry out standard hospital environmental cleaning practices.

Participant Involvement

"As a participant, you have been selected to voluntarily take part in this study as you have satisfied the criteria for selection and participation. I will be grateful if you would provide your personal experiences in the standard hospital environmental cleaning practices during the interview session. As a participant you are encouraged to provide honest responses as there are no right or wrong answers. If you agree to partake in this interview session, you will be required to sign or thumbprint a consent form indicating your willingness to take part in the study.

The interview will be recorded with your permission in private and will last between 30 to 60 minutes. Any clarification and questions will be explained thoroughly and promptly".

Possible risks and discomforts: As a participant in the study, some of the interview questions may be sensitive and arouse emotions such as distress or feeling overwhelmed. Participants will be encouraged to notify the researcher if any of such negative feelings is experienced.

The interview session will be paused to enable the participant to relax and calm down. The interview will proceed if the participant feels much better and can continue with the session.

However, if the participant is unable to calm down and continue with the interview, the participant will be urged to call the psychological support number provided. The interview may progress if the participant feels much better and by the assessment of the researcher as well as the willingness of the participant to carry on with the interview. Participant who may not want to proceed with the interview will be allowed to withdraw without any repercussions.

Possible benefits: The decision and willingness of the participant to participate in this study will help the researcher to gain understanding on the experiences of cleaner's beliefs, social influence and challenges that inform their intention to carry out standard hospital environmental cleaning practices.

The outcome and findings of the study will inform policy direction towards policies that improve the conditions necessary for them to practice according to standards.

Costs: There will be no cost implication to the participant for participating in this study.

Compensation: A food refreshment package will be provided as compensation for their participation in the study.

Confidentiality: All information obtained from the participant will be held in confidence and disclosure of such information will only be with the due permission of the participant. Specific identifiers such as participant name will not be captured to maintain anonymity and confidentiality of the participant's data. Delinking of participants details from their data will be ensured by giving each participant a unique code during the data collection process. All data collected about the participant will be kept secured under lock and in the researcher's office filling cabinet.

Sharing of participant Information/Data: All data obtained from participant will only be made accessible to the researcher, supervisors, the School of Nursing and Midwifery of the University of Ghana, the Tema General Hospital and any other academic journal that will grant permission for publication of this study. In the course of discussion of the study findings or publishing, participant personal information or identifiers will be omitted unless with consent from participant. Data stored electronically will be protected securely with a password to minimize unauthorized access. Hard and electronic data will be disposed-off after a period of 5-10 years through burning.

Voluntary participation and right to withdraw from study: Participation in this study is voluntary. All participants will be encouraged to ask questions to gain clarity on their roles and responsibilities prior to participating in this study. Participants who agree to partake in this study can withdraw at any time of the study. Withdrawal from the study will have no negative impact on the participant.

Recording of Interview: Researcher will record the interview session to facilitate transcription of the data and analysis. Responses from the participants will be anonymous. Thus, names and other identifiers such as area of residence or hospital where data is collected will be withheld. Agreement of the participant to have the interview session recorded will require their consent by ticking one of the boxes below: ( ) YES, I agree to the recording of the interview ( ) NO, I do not agree to the recording of the interview

Contact Persons for Further Enquiry/Questions

For any other information or enquiry on ethical issues and rights as a participant, please contact;

Name: Joana Adede Ocansey (Student/Principal Investigator)

School of Nursing and Midwifery

University of Ghana, Legon

Contact: +233(0)244252105 / Email:imadededanso76@gmail.com

Name: Professor K. K Addo (Supervisor) Noguchi

Memorial Institute for Medical Research,

University Of Ghana, Legon, Accra.

Telephone: (Landline and Mobile): +233 (0)302940422/ +233 (0)243334869

Email: kaddo@noguchi.ug.edu.gh

Name: Nana Abena Apatu (GHS ERC Administrator)

Telephone: +233(0)503539896

Email: ethics.research@ghs.gov.gh (ethics issues only)

APPENDIX E: CONSENT FORM

PARTICIPANT INFORMED CONSENT FORM

STUDY TITLE: Standard Hospital Environmental Cleaning Practices: Perceptions of Cleaners at the Tema General Hospital, Tema

PARTICIPANT'S STATEMENT AND SIGNATURE / THUMBPRINT

I acknowledge that, I have thoroughly read or have had the information on the Participants' Information Sheet read and satisfactorily explained to me in a language I understand:

(English [ ] Twi [ ] Other [ ] {Specify ..... })

I declare that I have fully understood the contents and purpose of the said sheet as well as any potential consequences of the study. I have also been informed and I understand that, I am at liberty to change my mind or to withdraw from the study at any time even after consenting on this form. I have also been made to understand that, I shall be given a copy of the information sheet as well as the signed / thumb printed copy of the consent form for my personal keeping before proceeding with the interview session.

I voluntarily agree to take part in this study.

Name or Initials of Participant ..... ID Code.....

Participants' Signature ..... OR Thumb Print .....

Date .....

INTERPRETER'S STATEMENT AND SIGNATURE

I have interpreted the purpose and contents of the Participants' Information Sheet to the afore-mentioned participant to the best of my ability in the (English [ ], Twi [ ] Other [ ] {Specify … ..... } language to his/ her understanding.

All questions and further clarifications from the participant have been addressed by the researcher and answers were also interpreted to the satisfaction of the participant.

Name of Interpreter .....

Signature of Interpreter ..... Date .....

WITNESS STATEMENT AND SIGNATURE

I was present when the purpose and contents of the Participants' Information Sheet was read and satisfactorily explained to the participant in the (English [ ], Twi [ ] Other [ ] {Specify ..... }language to the understanding of the participant.

I confirm that participant was given the opportunity to ask questions and seek clarifications where appropriate before consenting voluntarily to partake in this research.

Name .....

Signature ..... OR, Thumb Print .....

Date .....

INVESTGATOR'S \ STATEMENT AND SIGNATURE

I certify that the participant has been given enough time to read/ have enough insight about this study. All questions and clarifications provided as raised by the participant.

Researcher's name:

Signature ..... Date .....

APPENDIX F: INTERVIEW GUIDE

STANDARD HOSPITAL ENVIRONMENTAL CLEANING PRACTICES: PERCEPTIONS OF CLEANERS AT THE TEMA GENERAL HOSPITAL

Data Collection Instrument

Interview Guide

Introduction

I am Joana Adede Ocansey, a nursing student at the University of Ghana, Legon. The topic of my research is "Experience of Cleaners in Standard Hospital Environmental Cleaning" at this hospital. This interview is a part of school work for the University of Ghana so kindly try and answer the questions as much as you can. Also, please feel free to ask questions about things you do not understand or are not clear to you. Pls, feel free to skip any of the question you do not feel comfortable to answer. Nothing will happen if you skip it. Be rest assured that every word spoken here will be kept a secret/ confidential , and you will not be identified by anything you say in this interview. I am willing and ready to answer any question and provide explanation to what I have just said.

Thank you.

Background Characteristics

1. How old are you? ……
2. Sex (M / F)
3. Marital status (a) Married (b) Single (c) Divorced (Co-habiting)
4. Educational background: (a) None (b) Middle School (c) JHS (d) SHS (e) Tertiary

5. Employment status: (a) Government (b) Private (c) Facility

6. How long have you worked here? (a) less than 5 years (b) more than 5 years

Beliefs About Standard Hospital Environmental Cleaning

1. What do you think of the standard cleaning protocols?

2. What do you think of the importance of keeping the hospital environment clean?

3. How do you think the cleaning you do influences IPC and the patients' wellbeing?

4. Can you describe any positive or negative experiences you have had in connection with your cleaning duties in this hospital?

Social Influences in Cleaners' Standard Cleaning Practices

1. Can you describe any expected behaviors concerning cleanliness and hygiene that influence your behavior as a cleaner?

2. How do you feel about the attitudes and opinions of others towards environmental cleaning and hygiene at the hospital

3. What kind of support or feedback do you receive from management, colleagues, supervisors and other staff regarding your cleaning duties?

4. Can you describe any negative or positive influence others have had on how you perform your duties?

Challenges In Cleaners' Standard Cleaning Practices

1. Can you describe any kind of training participated in since you came to work here as a cleaner?

2. What cleaning items are available to you to do your work as expected?

3. Can you describe any challenges or obstacles you face in maintaining the cleanliness of the hospital environment?

4. How confident do you feel in your ability in following the protocols and guidelines?

Cleaners' Intention Towards Standard Hospital Environmental Cleaning

1. What motivates you to engage in standard environmental cleaning practices?

2. How committed are you to following the standard cleaning protocols and guidelines provided by the facility?

3. Are there any factors that you feel will influence your willingness to abide by the guidelines and protocols and improve on your cleaning behavior in the future?

4. What changes or initiatives do you think would enhance your environmental cleaning practices at Tema General Hospital?

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