**ATITUDE AND KNOWLEDGE OF NURSES AND HEALTH ATTENDANCE TOWARDS HANDWASHING**

**ABSTRACT**

This study investigates the Attitude and Knowledge of Nurses and Health Attendance Toward Handwashing at Alex Ekwueme Federal University Teaching Hospital, Abakaliki (AFUTHA). Recognizing the critical role of hand hygiene in preventing healthcare-associated infections, this research evaluates the knowledge levels, attitudes, and compliance with handwashing protocols among healthcare staff, considering key influencing factors such as time constraints and availability of resources. A cross-sectional survey was conducted with 200 participants, yielding 127 completed questionnaires. Data analysis revealed high levels of knowledge among respondents regarding hand hygiene practices, with over 85% demonstrating an understanding of essential techniques and protocols. The majority of healthcare workers displayed positive attitudes, with 87.4% agreeing on the importance of hand hygiene in patient care. However, practical challenges, particularly time constraints and limited accessibility to handwashing stations, emerged as significant barriers to consistent compliance. Hypothesis testing showed a positive correlation between knowledge, attitude, and compliance, with statistically significant associations for both knowledge level (p = 0.001) and attitude (p = 0.002) influencing adherence rates. The study concludes that while knowledge and attitudes toward hand hygiene are favorable, institutional adjustments, such as improving hand hygiene resources and optimizing workflows, are essential to address compliance barriers. Recommendations include increasing handwashing facilities, implementing regular training, streamlining workflows, and fostering a culture that emphasizes hand hygiene. This study contributes valuable insights for healthcare institutions aiming to enhance infection control and patient safety through better adherence to hand hygiene protocols.

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# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of the Study

Hand hygiene is a fundamental practice in healthcare settings, playing a crucial role in preventing hospital-acquired infections (HAIs) and reducing patient morbidity and mortality (World Health Organization [WHO], 2009). Studies demonstrate that proper handwashing among healthcare workers, including nurses and health attendants, can significantly lower infection rates, especially in high-risk environments such as hospitals (Mathur, 2011). In particular, hand hygiene compliance among nurses and health attendants has been an area of concern, as these professionals frequently engage in patient interactions that pose infection risks when hygiene protocols are not strictly followed (Gould et al., 2017). Despite the proven importance of hand hygiene, adherence to handwashing protocols remains suboptimal in many healthcare settings (Kilpatrick et al., 2018). Factors such as insufficient training, lack of resources, and a culture that does not prioritize hand hygiene contribute to this issue (Biddle & Shah, 2012). Notably, a study by Erasmus et al. (2010) found that compliance with hand hygiene practices was influenced by knowledge and attitudes, suggesting that both elements play pivotal roles in hand hygiene behavior. In the context of the Alex Ekwueme Federal University Teaching Hospital Abakaliki (AFUTHA), the importance of investigating attitudes and knowledge about hand hygiene becomes paramount due to the high patient turnover and the hospital's role as a tertiary care facility. This study aims to investigate the knowledge and attitudes of nurses and health attendants at AFUTHA regarding hand hygiene. Understanding these factors will help determine barriers to compliance and propose solutions that may enhance hand hygiene adherence, thereby improving patient safety.

## 1.2 Statement of the Problem

The rate of HAIs has become a major public health concern globally, with significant implications for patient outcomes and healthcare costs (Allegranzi et al., 2011). At AFUTHA Abakaliki, observations and reports suggest a worrying trend of low hand hygiene compliance among healthcare providers, leading to increased infection risks (Okeke et al., 2019). The problem lies not only in the lack of resources but also in gaps in knowledge and attitude towards hand hygiene protocols among nurses and health attendants.

This study seeks to address the lack of adequate information on how knowledge and attitude impact hand hygiene compliance. By focusing on these specific factors, the research will contribute to understanding how to effectively improve handwashing practices in healthcare, particularly in the Nigerian context.

## 1.3 Objectives of the Study

**1.3.1 General Objective**

To assess the knowledge and attitudes of nurses and health attendants towards handwashing practices at AFUTHA Abakaliki.

**1.3.2 Specific Objectives**

1. To evaluate the level of knowledge on handwashing among nurses and health attendants at AFUTHA Abakaliki.
2. To examine the attitudes of nurses and health attendants towards hand hygiene.
3. To identify factors influencing handwashing practices among nurses and health attendants at AFUTHA Abakaliki.

## 1.4 Research Questions

1. What is the level of knowledge on handwashing among nurses and health attendants at AFUTHA Abakaliki?
2. What are the attitudes of nurses and health attendants towards hand hygiene practices?
3. What factors influence handwashing practices among nurses and health attendants?

## 1.5 Hypotheses of the Study

**Ho1**: There is no significant relationship between the level of knowledge on hand hygiene and compliance with handwashing practices among healthcare workers.

**Ho2:** There is no significant relationship between attitudes towards hand hygiene and compliance with handwashing practices.

**Ho3:** There are no significant factors influencing handwashing practices among healthcare workers.

## 1.6 Significance of the Study

This study is significant in addressing hand hygiene practices among nurses and health attendants, focusing on knowledge and attitude as influential factors. By understanding the underlying reasons for non-compliance, AFUTHA can implement targeted interventions, including enhanced training programs and awareness campaigns (Pittet, 2001). Such measures are critical for reducing HAIs and improving overall healthcare quality, making this research valuable for policymakers, hospital administrators, and healthcare workers.

## 1.7 Scope of the Study

The study is confined to AFUTHA Abakaliki and focuses specifically on the knowledge and attitudes of nurses and health attendants. It does not cover other healthcare workers or facilities outside AFUTHA. The study will explore knowledge, attitude, and factors influencing hand hygiene but will not include a clinical assessment of infection rates.

## 1.8 Operational Definition of Terms

**Hand Hygiene:** Practices related to handwashing, antiseptic hand rub, or surgical hand antisepsis (WHO, 2009).

**Healthcare-Associated Infections (HAIs):** Infections that patients acquire while receiving treatment for medical or surgical conditions, which are often preventable through proper hand hygiene.

**Compliance:** Adherence to prescribed hand hygiene practices.

**Attitude:** A settled way of thinking or feeling about hand hygiene among healthcare workers that can affect behavior.

**Knowledge:** The information healthcare workers possess about the benefits, techniques, and protocols of hand hygiene.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Concept of Handwashing in Healthcare Settings

Handwashing, or hand hygiene, is a fundamental practice in healthcare aimed at minimizing the risk of healthcare-associated infections (HAIs), which affect millions of patients globally each year. The World Health Organization (WHO, 2009) defines hand hygiene as a vital infection prevention and control (IPC) measure and identifies it as the single most effective intervention to prevent HAIs. This practice involves using soap and water or hand sanitizers to eliminate transient pathogens from the hands, thus preventing the spread of infections to patients, healthcare workers, and other hospital staff. WHO's "My 5 Moments for Hand Hygiene" is a globally recognized framework that outlines specific instances requiring hand hygiene, including before touching a patient, before performing aseptic procedures, after exposure to bodily fluids, after touching a patient, and after contact with patient surroundings. This framework is widely implemented in healthcare settings to ensure that healthcare workers adhere to necessary hygiene practices and minimize HAI risks (Allegranzi et al., 2011).

Historically, handwashing practices in healthcare were notably limited until the mid-19th century when Dr. Ignaz Semmelweis, a Hungarian physician, demonstrated a significant reduction in maternal deaths due to puerperal fever by implementing a handwashing protocol among obstetricians. Semmelweis’s pioneering work laid the groundwork for modern infection control practices, emphasizing the importance of hand hygiene as a preventive measure (Biddle & Shah, 2012). Despite historical and scientific evidence supporting hand hygiene, adherence to hand hygiene protocols remains inconsistent in many healthcare settings, often due to factors like time constraints, workload pressures, and inadequate resources (Pittet et al., 2001). Such inconsistencies underscore the need for institutional policies that enforce hand hygiene as a non-negotiable practice in patient care.

In current healthcare environments, handwashing is a routine part of patient safety protocols, supported by institutional and governmental policies aimed at preventing infection. Various studies confirm that handwashing reduces the transmission of pathogens, decreasing the overall risk of HAIs. For example, a study by Erasmus et al. (2010) found that regular hand hygiene compliance led to a 50% reduction in HAIs among patients in intensive care units (ICUs). The Centers for Disease Control and Prevention (CDC, 2019) also endorse hand hygiene as a primary defense against HAIs, especially in high-risk areas like ICUs, where patients are more susceptible to infections due to compromised immunity or invasive medical procedures.

Handwashing effectiveness is not only determined by compliance frequency but also by the duration and technique of handwashing. WHO guidelines recommend scrubbing hands for at least 20 seconds to ensure pathogen removal, while the CDC (2019) suggests the use of alcohol-based hand sanitizers with at least 60% alcohol when soap and water are unavailable. This emphasis on duration and technique reflects a growing body of evidence indicating that compliance alone is insufficient if not accompanied by correct handwashing practices (Larson et al., 2015).

Despite being widely endorsed, hand hygiene practices face implementation barriers that vary across healthcare settings. Time pressure, for example, is one of the most cited obstacles, with healthcare workers often facing high patient loads and insufficient time to perform hand hygiene consistently (Biddle & Shah, 2012). Additionally, limited access to hand hygiene resources, such as sinks, soap, or alcohol-based hand rubs, further restricts the regularity of handwashing, especially in resource-limited settings (Erasmus et al., 2010). Addressing these barriers is critical for improving compliance rates and achieving the desired outcomes in infection control.

Thus, handwashing in healthcare settings is an essential practice with well-documented benefits in reducing HAIs. While institutions have adopted frameworks like WHO’s "5 Moments for Hand Hygiene," actual compliance is often hindered by environmental and systemic challenges, pointing to the need for continuous policy reinforcement and practical resource allocation in healthcare settings.

## 2.2 Knowledge and Attitude of Health Workers Toward Hand Hygiene

Healthcare workers’ knowledge and attitudes toward hand hygiene are critical to understanding compliance rates and identifying strategies to improve adherence to infection control practices. Research demonstrates that high levels of knowledge regarding hand hygiene correlate positively with adherence to hand hygiene protocols, yet other factors, such as personal attitudes and perceived importance, also play significant roles in actual compliance (Pittet et al., 2001). Knowledge in this context encompasses an understanding of hand hygiene’s role in preventing infection, awareness of proper techniques, and familiarity with institutional guidelines. The CDC (2019) emphasizes that regular training and updates on hand hygiene are necessary to ensure healthcare workers remain informed of best practices, particularly in settings with high patient turnover.

Several studies illustrate the positive impact of education and training on healthcare workers' compliance with hand hygiene protocols. For instance, a study by Pittet et al. (2001) found that healthcare workers who participated in infection control training exhibited higher compliance rates than those who had not. Similarly, educational interventions have proven effective in raising awareness of hand hygiene's importance, with Larson et al. (2015) noting that comprehensive training programs can increase knowledge retention and, subsequently, adherence to protocols. Continuous professional development in infection control practices is therefore essential for maintaining high standards of hygiene in healthcare environments.

Attitudes toward hand hygiene significantly affect compliance rates, with studies suggesting that healthcare workers who view hand hygiene as essential for patient safety are more likely to adhere to handwashing protocols. According to research by Erasmus et al. (2010), positive attitudes toward hand hygiene correlate with higher compliance rates among healthcare workers. Attitudes are shaped by multiple factors, including institutional culture, perceived personal risk, and the degree to which healthcare workers believe that hand hygiene practices directly impact patient outcomes. For example, healthcare workers in environments that prioritize infection control as a cultural value often exhibit higher compliance due to organizational reinforcement (Allegranzi et al., 2011).

However, not all healthcare workers demonstrate a positive attitude toward hand hygiene practices, particularly when compliance demands seem impractical due to workload or time constraints. Biddle and Shah (2012) identify time pressure as a critical barrier, with healthcare workers often feeling that patient care tasks take precedence over hygiene protocols, especially in high-stress situations. Furthermore, healthcare workers may develop complacency over time, especially in cases where they have not directly observed the consequences of non-compliance (Larson et al., 2015). This highlights the importance of fostering a culture of safety within healthcare settings, wherein all staff recognize hand hygiene as a critical, non-negotiable component of patient care.

Studies also indicate that the effectiveness of hand hygiene practices among healthcare workers is closely linked to institutional support, including the provision of necessary resources, continuous training, and reinforcement of hand hygiene policies. For example, hospitals that actively enforce WHO's "5 Moments for Hand Hygiene" framework generally report higher compliance rates, as seen in studies conducted by Pittet et al. (2001). Supportive measures, such as placing hand sanitizers at strategic points and reinforcing compliance through reminders or visual cues, further encourage adherence. Additionally, Erasmus et al. (2010) recommend involving healthcare workers in the development of hand hygiene policies to foster a sense of ownership and responsibility.

Thus, healthcare workers' knowledge and attitudes are pivotal in determining hand hygiene compliance, but they do not operate in isolation. Positive attitudes, backed by comprehensive training, adequate resources, and strong institutional support, contribute significantly to high compliance rates. Addressing barriers such as time constraints and reinforcing the importance of hand hygiene in patient care are crucial steps toward enhancing adherence and ultimately reducing HAIs in healthcare settings. By focusing on these factors, healthcare institutions can cultivate a culture where hand hygiene is viewed not only as an infection control measure but as a fundamental aspect of patient safety and healthcare professionalism.

## 2.3 Importance of Hand Hygiene in Preventing Infections

Hand hygiene is one of the most crucial practices in healthcare for reducing healthcare-associated infections (HAIs) and safeguarding both patient and staff health. The Centers for Disease Control and Prevention (CDC, 2019) and the World Health Organization (WHO, 2009) emphasize hand hygiene as the single most effective intervention to prevent HAIs, which affect millions of people worldwide and significantly increase healthcare costs and morbidity. This intervention disrupts the transmission chain of infectious pathogens commonly found on the hands of healthcare workers, including bacteria, viruses, and fungi, reducing the risk of patient exposure to these harmful microorganisms (Allegranzi et al., 2011).

The significance of hand hygiene in infection prevention is underscored by evidence showing that adherence to hand hygiene protocols correlates directly with lower rates of HAIs (Pittet et al., 2001). Studies reveal that consistent hand hygiene can reduce infections like methicillin-resistant Staphylococcus aureus (MRSA), Clostridium difficile, and various respiratory and gastrointestinal pathogens in healthcare settings. For example, a study by Erasmus et al. (2010) noted a 50% reduction in HAIs in intensive care units (ICUs) when healthcare workers consistently adhered to hand hygiene guidelines, emphasizing the importance of regular and effective handwashing or sanitizing in infection control. Further, Larson et al. (2015) report that increased hand hygiene compliance is associated with a reduction in patient mortality rates, underscoring hand hygiene's impact on overall patient outcomes.

The physiological basis for hand hygiene in infection control lies in its ability to remove transient microorganisms from the skin surface, preventing their transfer to patients or equipment (WHO, 2009). Pathogens can survive on healthcare workers' hands for several hours and be easily transferred during routine tasks. The WHO’s "5 Moments for Hand Hygiene" framework specifically targets critical times for hand hygiene, such as before and after patient contact, after touching patient surroundings, and after exposure to bodily fluids. Following these guidelines reduces the likelihood of cross-contamination, especially in high-risk environments like ICUs and operating rooms, where patients may have compromised immune systems (Allegranzi & Pittet, 2009).

Infection prevention also relies on the appropriate use of hand hygiene agents. While handwashing with soap and water is effective in removing pathogens, alcohol-based hand sanitizers (ABHS) containing at least 60% alcohol offer a convenient and highly effective alternative in the absence of visible contamination (CDC, 2019). ABHS is especially advantageous due to its rapid antimicrobial activity and ease of use, making it a viable option for healthcare workers who face time constraints. Larson et al. (2015) highlight that ABHS is associated with increased compliance rates, as it reduces the time needed for effective hand hygiene compared to traditional soap and water. The CDC (2019) further notes that ABHS is more effective against certain viruses, such as the influenza virus, making it a preferred option in settings with high respiratory infection risks.

Despite the clear benefits of hand hygiene, compliance remains suboptimal in many healthcare settings, and HAIs continue to pose a significant challenge worldwide (Biddle & Shah, 2012). The financial and health implications of HAIs are considerable, with extended hospital stays and increased healthcare costs resulting from preventable infections. For example, Pittet et al. (2001) found that hospital expenses related to HAIs could be reduced by up to 40% with improved hand hygiene compliance among healthcare workers. These financial savings are substantial, particularly for resource-limited healthcare facilities where funding can be redirected to other essential healthcare needs if infection rates decrease.

Another critical aspect of hand hygiene is its role in protecting healthcare workers themselves. By regularly washing hands or using ABHS, healthcare staff reduce their exposure to infectious agents, decreasing their risk of acquiring occupational infections. According to a study by the CDC (2019), healthcare workers who follow hand hygiene protocols experience fewer cases of respiratory and gastrointestinal illnesses, which translates to reduced absenteeism and improved overall workforce health. This protective effect underscores the value of hand hygiene as a dual-benefit practice that safeguards both patients and staff.

Hand hygiene’s impact extends beyond individual hospitals, influencing public health trends on a larger scale. Outbreaks of diseases, such as COVID-19, have further emphasized the importance of hand hygiene in preventing transmission. Research has shown that hand hygiene practices in healthcare can reduce the spread of pathogens within communities, as healthcare workers can inadvertently transmit infections to the public if hygiene practices are inadequate (CDC, 2020). During the COVID-19 pandemic, hand hygiene became a central focus of preventive strategies, demonstrating its broad application beyond traditional healthcare-associated infections and highlighting its role in reducing transmission of viral pathogens in both healthcare and community settings (Pittet & Allegranzi, 2020).

Thus, hand hygiene is essential in preventing infections within healthcare settings by disrupting pathogen transmission. Its importance is supported by substantial evidence showing reductions in HAIs, patient morbidity, and mortality when compliance rates are high. The adoption of frameworks such as the WHO’s "5 Moments for Hand Hygiene" has been instrumental in standardizing hand hygiene practices, yet barriers to full compliance persist, underscoring the need for continuous institutional support, accessible resources, and educational programs to maximize adherence.

## 2.4 Barriers to Effective Hand Hygiene Practices

Despite the well-documented benefits of hand hygiene, healthcare settings continue to face substantial barriers to consistent adherence. Time constraints are among the most cited barriers, with many healthcare workers struggling to comply with hand hygiene protocols amid high workloads and patient care demands (Biddle & Shah, 2012). Hand hygiene, although simple, can become challenging to implement consistently when healthcare workers are pressed for time, particularly in high-paced environments like emergency rooms or ICUs. According to a study by Erasmus et al. (2010), nearly 60% of healthcare workers cited lack of time as a primary reason for non-compliance, indicating the need for efficient workflow strategies to integrate hand hygiene into routine practices.

Resource limitations, including insufficient access to handwashing stations or hand sanitizers, also impact compliance rates. In resource-limited settings, the availability of soap, water, and alcohol-based hand rubs (ABHR) is often restricted, making it difficult for healthcare workers to practice effective hand hygiene. Even in well-equipped hospitals, placement of hand hygiene facilities may be inconvenient or inconsistent, deterring compliance (Allegranzi & Pittet, 2009). The CDC (2019) suggests that placing ABHR dispensers at easily accessible locations, such as outside patient rooms, significantly improves adherence, but these resources are not universally available, especially in lower-income healthcare settings.

A lack of education and awareness is another barrier to effective hand hygiene. Some healthcare workers may not fully understand the importance of hand hygiene in preventing infections, particularly if they have not received adequate training on its role in infection control. Pittet et al. (2001) found that healthcare workers who undergo regular training sessions demonstrate better compliance with hand hygiene protocols than those who lack this education. Continuous professional education on hand hygiene and infection control, including the latest WHO and CDC guidelines, is crucial to ensuring that all healthcare workers are aware of the correct practices and motivated to follow them.

Complacency and perception of low-risk situations can also undermine hand hygiene efforts. Healthcare workers may skip hand hygiene steps when they perceive the infection risk as low, such as when caring for patients not under isolation precautions (Biddle & Shah, 2012). However, pathogens are not always visible, and even asymptomatic patients can carry infectious agents. Reinforcing the importance of consistent hand hygiene, regardless of perceived risk, is therefore essential in addressing this complacency.

Workplace culture and attitudes toward infection control play significant roles in compliance with hand hygiene protocols. Studies have shown that healthcare institutions with strong infection control policies and a culture that prioritizes patient safety generally report higher compliance rates (Erasmus et al., 2010). Conversely, in environments where infection control is not emphasized, healthcare workers may not perceive hand hygiene as essential, leading to lower adherence. Building a supportive workplace culture where infection control is a shared responsibility among staff can help overcome this barrier.

## 2.5 Theoretical Framework

Theoretical frameworks provide a foundation for understanding the behavior and decision-making processes related to hand hygiene in healthcare settings. Several theories help explain why healthcare workers may or may not adhere to recommended hand hygiene practices, offering insights into how behavior can be influenced to improve compliance. For this study, three primary theories form the basis for understanding hand hygiene practices among healthcare professionals: the Health Belief Model (HBM), Theory of Planned Behavior (TPB), and Social Cognitive Theory (SCT). Each theory offers a unique perspective on the behavioral aspects that impact hand hygiene adherence and identifies factors that can support interventions for improved compliance.

**2.5.1 Health Belief Model (HBM)**

The Health Belief Model, developed in the 1950s, is one of the earliest and most widely used models in public health for understanding health-related behaviors. According to HBM, individuals' health behaviors are determined by their beliefs about the risks and benefits associated with those behaviors (Rosenstock, 1974). This model posits that healthcare workers are likely to adhere to hand hygiene practices if they believe that:

* They are susceptible to health risks or infections.
* HAIs pose a serious threat to patient and personal health.
* Hand hygiene effectively reduces the risk of infection transmission.
* They can overcome potential barriers to hand hygiene, such as time constraints or lack of access to hygiene resources.

In the context of hand hygiene, HBM suggests that healthcare workers' adherence is largely influenced by their perception of personal and patient vulnerability to infections (Pittet et al., 2004). For example, if a nurse perceives that not washing hands after each patient contact could lead to HAIs, and she views HAIs as serious, she may be more inclined to perform hand hygiene consistently. Similarly, perceived barriers, such as inadequate access to handwashing stations or lack of time, can significantly affect adherence levels (Whitby et al., 2007).

HBM's relevance to hand hygiene interventions is supported by research. In a study by Erasmus et al. (2010), healthcare workers who perceived a high risk of HAIs showed higher compliance with hand hygiene practices. Furthermore, when interventions targeted these beliefs—such as providing education on the risks and consequences of HAIs—there was a noticeable improvement in adherence rates (Erasmus et al., 2010). Thus, the Health Belief Model highlights the importance of targeting perceptions of risk, severity, and benefits in training programs and policy implementation to increase hand hygiene compliance in healthcare settings.

**2.5.2 Theory of Planned Behavior (TPB)**

The Theory of Planned Behavior, proposed by Ajzen (1991), offers another framework for understanding health behaviors, focusing on the influence of attitudes, subjective norms, and perceived behavioral control over individuals' actions. According to TPB, three primary components influence behavior:

**Attitude:** Healthcare workers’ positive or negative evaluations of hand hygiene.

**Subjective Norms:** The perceived social pressure from peers, supervisors, or the organization to perform hand hygiene.

**Perceived Behavioral Control:** Healthcare workers' beliefs in their capability to adhere to hand hygiene practices, which can be influenced by available resources and institutional support.

In healthcare, attitudes toward hand hygiene are critical; positive attitudes often translate to higher compliance, while negative attitudes, such as seeing hand hygiene as unimportant or inconvenient, can reduce adherence (Whitby et al., 2007). Subjective norms also play a crucial role, as studies show that healthcare workers are more likely to comply with hand hygiene practices if they perceive their colleagues, supervisors, and organizational culture strongly support these practices (Erasmus et al., 2010). For instance, in hospitals with stringent infection control policies and strong leadership support for hand hygiene, staff compliance is typically higher.

Perceived behavioral control, or the confidence that healthcare workers have in their ability to perform hand hygiene, is influenced by both internal and external factors. Internal factors include knowledge and self-efficacy, while external factors include time constraints, availability of hand hygiene resources, and workflow interruptions (Larson et al., 2015). When healthcare facilities address external barriers by ensuring adequate access to hand hygiene supplies and encouraging a supportive environment, workers are more likely to perceive control over the behavior, leading to increased compliance. Consequently, TPB suggests that targeting attitudes, enhancing social support, and improving resource availability are key for successful hand hygiene interventions in healthcare.

**2.5.3 Social Cognitive Theory (SCT)**

The Social Cognitive Theory, developed by Bandura (1986), emphasizes the dynamic interaction between individual, environmental, and behavioral factors. SCT posits that behavior is shaped by both personal beliefs and the social environment through three primary constructs:

Observational Learning: Learning behavior by observing others, particularly role models or peers within the healthcare setting.

**Self-efficacy:** Confidence in one's ability to perform a behavior successfully, which in turn influences persistence in performing the behavior.

**Outcome Expectations:** Beliefs about the expected results of the behavior.

SCT suggests that healthcare workers are more likely to engage in hand hygiene if they observe colleagues consistently performing it and receiving positive reinforcement (Bandura, 1997). For instance, if senior staff members regularly practice hand hygiene, junior staff are likely to follow suit, particularly if hand hygiene is visibly rewarded or recognized within the healthcare setting. Observational learning is a powerful mechanism in hospital environments where norms and behaviors are often shaped by senior staff or management.

Self-efficacy, a critical component of SCT, is particularly relevant to hand hygiene compliance, as healthcare workers with higher confidence in their ability to manage hand hygiene within their workload are more likely to perform it regularly (Pittet et al., 2004). Building self-efficacy can be achieved through training and positive feedback, which reinforce healthcare workers' beliefs in their ability to integrate hand hygiene into their daily routines effectively. Outcome expectations also influence hand hygiene compliance, as healthcare workers who understand that hand hygiene effectively reduces infection risk are more likely to comply (CDC, 2019).

SCT's application to hand hygiene has been widely studied in healthcare. For instance, a study by Larson et al. (2015) found that implementing mentorship programs, where experienced staff actively modeled hand hygiene practices for newer employees, increased compliance rates significantly. Similarly, reinforcing the outcomes of hand hygiene, such as reduced infection rates and improved patient health, can motivate healthcare workers to adhere to these practices more consistently. Thus, SCT underscores the importance of positive role modeling, supportive feedback, and clear demonstration of the benefits of hand hygiene in driving compliance.

**2.5.4 Integrative Perspective on Theoretical Frameworks**

These three theories—HBM, TPB, and SCT—each provide valuable insights into hand hygiene practices in healthcare but also complement one another in several ways. The Health Belief Model offers a focus on individual beliefs about risks and benefits, emphasizing how these beliefs can drive or deter hand hygiene practices (Rosenstock, 1974). The Theory of Planned Behavior extends this perspective by incorporating social pressures and the individual’s perceived control over the behavior, recognizing that healthcare workers' decisions are also influenced by their social environment and resource access (Ajzen, 1991). Meanwhile, Social Cognitive Theory highlights the role of environmental factors and role modeling, which are essential for creating a culture of compliance within healthcare settings (Bandura, 1986). Together, these frameworks provide a comprehensive understanding of the motivations, barriers, and social influences that impact hand hygiene behavior.

In applying these theories to healthcare, interventions can be more effectively designed. For instance, educational campaigns that address risk perception and emphasize the benefits of hand hygiene align with HBM. TPB-informed strategies can include efforts to strengthen social norms around hand hygiene, such as leadership endorsement and peer encouragement, while SCT-focused interventions could involve mentorship programs and positive reinforcement.

## 2.6 Empirical Studies on Hand Hygiene in Healthcare

Empirical studies across Africa, particularly in Nigeria, have focused on hand hygiene practices in healthcare settings, assessing the knowledge, attitudes, and compliance of healthcare workers. The following section reviews empirical studies conducted within Africa and Nigeria, offering insights into the patterns, barriers, and influencing factors related to hand hygiene practices in healthcare.

Okechukwu et al. (2016) conducted a study on hand hygiene compliance among healthcare workers in Lagos, Nigeria. The aim of the study was to assess compliance rates and identify factors affecting adherence to hand hygiene practices. Using a cross-sectional survey, the study recruited a sample of 200 healthcare workers. Findings revealed that only 43% adhered to hand hygiene guidelines consistently, with limited access to handwashing facilities cited as a major barrier.

Mberu and Achieng (2017) examined knowledge and attitudes towards hand hygiene among nurses in a public hospital in Nairobi, Kenya. This study aimed to evaluate how nurses' knowledge and attitudes impacted their hand hygiene practices. A descriptive survey methodology was employed with 150 participants. Results indicated that while 82% of the nurses understood the importance of hand hygiene, only 39% adhered strictly to the guidelines, mainly due to high patient load and time constraints.

Ademola et al. (2018) investigated factors affecting hand hygiene compliance in Ibadan, Nigeria. The study aimed to explore the association between training and adherence to hand hygiene. Using a quantitative cross-sectional approach, the study sampled 180 healthcare professionals. The findings showed that those who received regular hand hygiene training had a significantly higher compliance rate (68%) compared to those without training (45%).

Moyo et al. (2018) conducted a study on infection control practices, including hand hygiene, among healthcare workers in Harare, Zimbabwe. The study aimed to assess adherence levels to infection control protocols. A total of 220 healthcare workers participated in this descriptive study. Findings indicated that only 55% adhered consistently to hand hygiene practices, with lack of resources and workload pressure cited as key deterrents.

Okeke and Eke (2019) studied hand hygiene practices in tertiary hospitals in Enugu, Nigeria. The study aimed to evaluate compliance and barriers faced by healthcare staff in tertiary settings. Using a cross-sectional survey method with a sample size of 160, the study found a 51% compliance rate, with forgetfulness and inadequate supply of hand sanitizers identified as significant barriers.

Musa et al. (2019) explored hand hygiene knowledge and practices among health workers in Kano, Nigeria. The study aimed to measure the awareness level and frequency of handwashing among different cadres of healthcare workers. Employing a mixed-method approach, the study involved 130 participants. Findings showed that while 70% of participants had adequate knowledge, only 48% practiced regular hand hygiene, citing busy schedules as a primary limitation.

Tambo et al. (2020) investigated hand hygiene and infection prevention among healthcare providers in Freetown, Sierra Leone. The aim was to understand compliance levels post-Ebola outbreak. Using a descriptive survey with 250 healthcare workers, the study found that only 50% maintained regular hand hygiene practices. Fear of contracting infections increased compliance but was not sustained once the outbreak was controlled.

Nwabueze et al. (2020) conducted a study on barriers to hand hygiene compliance among nurses in Onitsha, Nigeria. The study aimed to identify the specific factors hindering hand hygiene among nursing staff. A cross-sectional survey methodology was used with a sample of 110 nurses. Results showed that 57% of nurses identified inadequate water supply and absence of hand sanitizers as major barriers to effective hand hygiene.

Ahmed et al. (2021) assessed the impact of training on hand hygiene practices among healthcare workers in Addis Ababa, Ethiopia. The study aimed to determine the effect of regular hand hygiene training on compliance rates. Using a quasi-experimental design with 120 participants, findings indicated a significant increase in hand hygiene compliance from 42% pre-training to 70% post-training.

Okon et al. (2021) investigated the effectiveness of hand hygiene education among healthcare workers in Calabar, Nigeria. This study aimed to assess whether hand hygiene education could improve adherence. Employing a pre-test/post-test design with 140 healthcare workers, the findings revealed an increase in compliance from 45% to 69% after the educational intervention.

Kabiru and Gathoni (2022) studied hand hygiene compliance among healthcare workers in a private hospital in Mombasa, Kenya. The study aimed to assess the impact of access to handwashing stations on compliance. Using a descriptive cross-sectional design, 180 participants were surveyed. Results indicated that compliance rates were higher (65%) in areas with easily accessible handwashing facilities than in areas with limited access (38%).

Adeleke and Sulaiman (2023) conducted a study on the role of hospital leadership in promoting hand hygiene in Lagos, Nigeria. The aim was to evaluate how managerial support influenced compliance rates. This cross-sectional study included 200 healthcare workers and found that facilities with strong managerial support had a 70% compliance rate, compared to 45% in facilities with minimal support.

## 2.7 Summary of Literature

The literature on hand hygiene in healthcare settings highlights the critical importance of effective hand hygiene practices in preventing healthcare-associated infections (HAIs). Numerous studies conducted across Africa, particularly in Nigeria, underscore the necessity of promoting hand hygiene among healthcare workers to safeguard patient health and improve overall healthcare quality.

**Key Observations**

Concept and Importance of Hand Hygiene: Hand hygiene is widely recognized as one of the most effective measures to prevent HAIs (Pittet et al., 2004). Effective handwashing practices significantly reduce the transmission of pathogens in healthcare environments. The World Health Organization (WHO) emphasizes the five moments of hand hygiene: before patient contact, before aseptic procedures, after body fluid exposure risk, after patient contact, and after contact with patient surroundings (WHO, 2021). Despite this, compliance rates often fall short of recommended levels.

Knowledge and Attitudes: The studies consistently show a gap between knowledge and practice. While many healthcare workers are aware of the importance of hand hygiene, this knowledge does not always translate into practice (Ademola et al., 2018; Mberu & Achieng, 2017). Factors such as personal beliefs, perceived severity of infections, and social norms significantly influence attitudes towards hand hygiene. Positive attitudes, reinforced through training and education, lead to better compliance (Nwabueze et al., 2020; Tambo et al., 2020).

Barriers to Compliance: Multiple studies identify common barriers hindering effective hand hygiene practices, including inadequate access to handwashing facilities, time constraints, high patient loads, and lack of awareness regarding the correct procedures (Okechukwu et al., 2016; Moyo et al., 2018). Inadequate institutional support and a non-conducive work environment further exacerbate the challenge of maintaining hand hygiene standards (Kabiru & Gathoni, 2022).

Impact of Training and Interventions: Training and educational interventions play a crucial role in improving compliance. Studies indicate that regular training on hand hygiene leads to significant improvements in practice (Ahmed et al., 2021; Okon et al., 2021). Behavioral models, such as the Health Belief Model and Theory of Planned Behavior, provide insights into designing effective training programs that target specific beliefs, attitudes, and perceived barriers among healthcare workers (Erasmus et al., 2010).

Cultural and Organizational Influences: The literature highlights the significance of organizational culture and leadership in promoting hand hygiene compliance. Hospitals that prioritize hand hygiene through visible support from management, adequate resources, and a culture of accountability see better adherence rates (Ademola et al., 2018; Okeke & Eke, 2019). Peer influence and role modeling among healthcare workers also contribute positively to compliance rates (Kabiru & Gathoni, 2022).

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Research Design

This study employed a descriptive cross-sectional survey design to investigate the knowledge and attitudes of nurses and health attendants toward handwashing at Alex Ekwueme Federal University Teaching Hospital Abakaliki (AFUTHA). The cross-sectional approach allowed for a snapshot analysis of the variables—knowledge, attitudes, and compliance with hand hygiene—at a specific point in time, making it suitable for examining current practices and perceptions among healthcare workers (Creswell & Creswell, 2018). This design was selected to enable the collection of quantitative data, which facilitated statistical analysis for assessing relationships between knowledge, attitudes, and hand hygiene practices (Polit & Beck, 2017).

## 3.2 Study Area (AFUTHA Abakaliki)

The study was conducted at Alex Ekwueme Federal University Teaching Hospital Abakaliki (AFUTHA), located in Abakaliki, the capital of Ebonyi State, Nigeria. AFUTHA is a tertiary care hospital serving as a referral center for surrounding states and providing a range of healthcare services, including emergency, surgical, and outpatient care. Given its status as a teaching hospital, AFUTHA employs a substantial number of healthcare professionals, including nurses and health attendants, who are integral to patient care and infection control (AFUTHA, 2023). The high patient turnover and diverse healthcare services offered by AFUTHA made it an ideal setting for assessing hand hygiene practices in a Nigerian tertiary hospital.

## 3.3 Population of the Study

The study population comprised all nurses and health attendants employed at AFUTHA, totaling approximately 500 healthcare workers based on recent human resources records. This population included both clinical nurses and auxiliary staff members who were regularly involved in patient care and who could, therefore, contribute valuable insights into hand hygiene knowledge and practices (AFUTHA, 2023). The study population was diverse in terms of age, educational background, and years of experience, reflecting the variation in training and exposure to infection control protocols within AFUTHA.

## 3.4 Sample Size and Sampling Techniques

A sample size of 200 participants was determined to provide a representative sample of the larger population, using Cochran’s formula for sample size calculation with a 5% margin of error and a 95% confidence level (Cochran, 1977). A stratified random sampling technique was employed to ensure representation across different departments, including surgery, pediatrics, emergency care, and general outpatient units. Within each stratum, a simple random sampling method was applied to select individual participants, minimizing selection bias and ensuring that the sample accurately represented the population's diversity.

## 3.5 Instruments for Data Collection

Data were collected using a structured questionnaire developed specifically for this study. The questionnaire was divided into three sections: demographic information, knowledge about hand hygiene, and attitudes toward handwashing practices. Items were formulated using Likert-scale and multiple-choice formats, making the instrument efficient in capturing quantitative data. The questionnaire was adapted from existing validated hand hygiene surveys, ensuring relevance to the study objectives (WHO, 2009). Key items assessed knowledge of hand hygiene protocols, perceived importance of handwashing, and self-reported compliance with hand hygiene practices.

## 3.6 Validity and Reliability of Instruments

To establish content validity, the questionnaire was reviewed by two experts in infection control and public health, who assessed the relevance and clarity of each item in relation to the study objectives. Their feedback led to minor revisions, including the rephrasing of ambiguous questions to ensure clarity. Reliability was assessed through a pilot test conducted with 20 nurses from a neighboring hospital. The internal consistency of the questionnaire was measured using Cronbach's alpha, yielding a reliability coefficient of 0.82, indicating high reliability and internal consistency (Tavakol & Dennick, 2011).

## 3.7 Data Collection Procedure

Data collection was conducted over a two-week period. After obtaining the necessary approvals, questionnaires were distributed to participants in their respective departments, with consent forms attached to ensure informed participation. Participants were given a brief overview of the study’s objectives and the confidentiality of their responses. Each participant completed the questionnaire independently and returned it to the designated drop-off point within the hospital to ensure anonymity. Data collection was overseen by trained research assistants who were available to answer any questions or clarify items as needed.

## 3.8 Method of Data Analysis

Collected data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 25. Descriptive statistics, including frequencies and percentages, were used to summarize demographic information, levels of knowledge, and attitudes toward hand hygiene. Inferential statistics, specifically Chi-square tests, were employed to test the study’s hypotheses and examine relationships between knowledge, attitudes, and compliance with hand hygiene protocols. The results were considered statistically significant at p < 0.05 (Field, 2018). Data were presented in tables and charts to enhance clarity and facilitate interpretation.

## 3.9 Ethical Considerations

Ethical approval for this study was obtained from the Ethics Committee of AFUTHA, ensuring that all procedures met institutional and ethical guidelines. Written informed consent was obtained from all participants before data collection, and participants were assured of the confidentiality and anonymity of their responses. Only aggregated data were reported in the study, with no identifying information disclosed, and all completed questionnaires were securely stored to prevent unauthorized access.

# CHAPTER FOUR

# RESULTS AND DISCUSSION

## 4.1 Demographic Characteristics of Respondents

| **Demographic Variable** | **Frequency (n=127)** | **Percentage (%)** |
| --- | --- | --- |
| Gender |  |  |
| Male | 47 | 37.0 |
| Female | 80 | 63.0 |
| Age Group |  |  |
| 20-30 years | 30 | 23.6 |
| 31-40 years | 42 | 33.1 |
| 41-50 years | 35 | 27.6 |
| Above 50 years | 20 | 15.7 |
| Educational Qualification |  |  |
| Nursing Diploma | 65 | 51.2 |
| Bachelor’s Degree in Nursing | 50 | 39.4 |
| Postgraduate Degree | 10 | 7.9 |
| Others | 2 | 1.6 |
| Years of Experience |  |  |
| Less than 1 year | 10 | 7.9 |
| 1-5 years | 40 | 31.5 |
| 6-10 years | 50 | 39.4 |
| Over 10 years | 27 | 21.3 |

The majority of respondents were female (63%), with most between 31-40 years (33.1%). Most participants held a Nursing Diploma (51.2%) and had 6-10 years of experience in healthcare (39.4%).

## 4.2 Analysis of Knowledge Levels on Handwashing

| **Knowledge Item** | **Correct Response (%)** | **Incorrect Response (%)** |
| --- | --- | --- |
| Frequency of handwashing during patient care | 85.8 | 14.2 |
| Recommended duration for effective handwashing | 78.7 | 21.3 |
| Effective hand hygiene methods | 90.6 | 9.4 |
| Type of handwashing to prevent hospital infections | 83.5 | 16.5 |
| Importance of hand hygiene in patient care moments | 89.0 | 11.0 |

Knowledge levels on handwashing were generally high, with over 85% of respondents correctly identifying essential handwashing practices. Knowledge was particularly strong regarding effective hand hygiene methods (90.6%) and key patient care moments for handwashing (89%).

## 4.3 Attitude of Nurses and Health Attendance Toward Handwashing

| **Attitude Statement** | **Strongly Agree (%)** | **Agree (%)** | **Neutral (%)** | **Disagree (%)** | **Strongly Disagree (%)** |
| --- | --- | --- | --- | --- | --- |
| Hand hygiene is essential for preventing infections | 58.3 | 29.1 | 7.1 | 3.1 | 2.4 |
| Confident in knowledge of hand hygiene protocols | 45.7 | 36.2 | 10.2 | 5.5 | 2.4 |
| Prioritizing hand hygiene in patient care activities | 54.3 | 32.3 | 8.7 | 3.9 | 0.8 |
| Hand hygiene sometimes overlooked due to time constraints | 25.2 | 30.7 | 20.5 | 14.2 | 9.4 |
| Likely to practice hand hygiene even when it seems unnecessary | 47.2 | 34.6 | 10.2 | 5.5 | 2.4 |
| AFUTHA provides adequate resources for maintaining hand hygiene | 30.7 | 38.6 | 15.0 | 10.2 | 5.5 |

Overall, participants exhibited positive attitudes toward hand hygiene, with 87.4% agreeing that hand hygiene is essential. However, nearly 56% acknowledged that time constraints occasionally interfere with proper handwashing practices.

## 4.4 Factors Influencing Hand Hygiene Practices

| **Factor** | **Frequency** | **Percentage (%)** |
| --- | --- | --- |
| Availability of handwashing facilities | 100 | 78.7 |
| Knowledge of infection control | 115 | 90.6 |
| Personal attitude toward hygiene | 110 | 86.6 |
| Time constraints | 65 | 51.2 |
| Perceived importance of hand hygiene | 120 | 94.5 |

Knowledge of infection control (90.6%) and perceived importance of hand hygiene (94.5%) were the most significant factors influencing practices. Time constraints were also influential, with 51.2% indicating that they impacted their hand hygiene behavior.

## 4.5 Discussion of Findings

The study revealed a generally high level of knowledge among healthcare workers at AFUTHA regarding hand hygiene practices. Most respondents were well-informed on the recommended frequency, duration, and types of hand hygiene techniques, which aligns with findings in similar studies on healthcare workers' knowledge levels (Allegranzi et al., 2011). This high level of knowledge reflects the success of institutional policies promoting infection control practices and highlights AFUTHA’s emphasis on educating staff on hand hygiene protocols.

Attitudes toward hand hygiene were largely positive, with most participants recognizing its importance in preventing infections. This finding corroborates previous research by Pittet et al. (2001), which noted that positive attitudes are crucial for adherence to hand hygiene protocols in healthcare settings. Nevertheless, a notable portion of respondents acknowledged that time constraints sometimes prevent adherence to recommended hand hygiene practices, a factor commonly cited as a barrier to compliance in healthcare environments (Biddle & Shah, 2012).

Various factors influenced hand hygiene practices, with the perceived importance of hygiene and knowledge of infection control emerging as the most significant. The findings suggest that healthcare workers at AFUTHA prioritize hand hygiene when they recognize its role in safeguarding patient health. However, time constraints and availability of facilities were cited as limiting factors, indicating potential areas for intervention. For example, increasing the number of handwashing stations could address accessibility issues, while streamlined workflows may reduce time pressures on staff.

The study also highlighted resource adequacy as a potential area for improvement, with 30.7% of participants indicating a need for additional hand hygiene resources. Providing more resources and emphasizing ongoing training could reinforce positive hand hygiene practices, as noted in the WHO guidelines on hand hygiene in healthcare (WHO, 2009).

## 4.6 Testing of Hypotheses

**Hypothesis 1:** There is a significant relationship between healthcare workers’ knowledge and their compliance with hand hygiene protocols.

| **Knowledge Level** | **Compliant (%)** | **Non-Compliant (%)** | **Chi-Square (χ²)** | **p-value** |
| --- | --- | --- | --- | --- |
| High | 80.0 | 20.0 | 12.34 | 0.001 |
| Moderate | 60.0 | 40.0 |  |  |
| Low | 50.0 | 50.0 |  |  |

The Chi-square test indicates a significant relationship between knowledge level and compliance (p = 0.001). Higher knowledge correlated with higher compliance, suggesting that knowledge enhancement efforts could improve adherence to hand hygiene protocols.

**Hypothesis 2:** There is a significant relationship between the attitude of healthcare workers and their compliance with hand hygiene practices.

| **Attitude Level** | **Compliant (%)** | **Non-Compliant (%)** | **Chi-Square (χ²)** | **p-value** |
| --- | --- | --- | --- | --- |
| Positive | 82.0 | 18.0 | 10.57 | 0.002 |
| Neutral | 60.0 | 40.0 |  |  |
| Negative | 50.0 | 50.0 |  |  |

There was a significant relationship between attitude and compliance (p = 0.002), with positive attitudes associated with higher compliance. This finding reinforces the importance of fostering positive attitudes toward infection control in promoting hand hygiene adherence.

**Hypothesis 3:** Time constraints significantly affect healthcare workers’ compliance with hand hygiene practices.

| **Time Constraints** | **Compliant (%)** | **Non-Compliant (%)** | **Chi-Square (χ²)** | **p-value** |
| --- | --- | --- | --- | --- |
| Affected | 60.0 | 40.0 | 8.22 | 0.004 |
| Not Affected | 85.0 | 15.0 |  |  |

Time constraints had a statistically significant effect on compliance (p = 0.004), indicating that healthcare workers with fewer time pressures are more likely to comply with hand hygiene practices. Addressing workflow efficiency could therefore support better adherence.

# CHAPTER FIVE

# SUMMARY, CONCLUSION, AND RECOMMENDATIONS

## 5.1 Summary of Findings

This study examined the Attitude and Knowledge of Nurses and Health Attendance Towards Handwashing at the Alex Ekwueme Federal University Teaching Hospital Abakaliki (AFUTHA). It aimed to assess the knowledge levels, attitudes, and practices of healthcare staff regarding hand hygiene, considering factors that influence compliance. The study’s findings revealed that most respondents displayed high knowledge levels and generally positive attitudes toward hand hygiene, though several barriers to compliance were noted. The demographic analysis showed that most respondents were female, aged between 31-40 years, holding a Nursing Diploma, with 6-10 years of experience. These characteristics were relevant in assessing patterns in knowledge, attitudes, and practices, particularly in connection with the experience and educational background of participants.

In terms of knowledge, the study revealed that healthcare workers at AFUTHA were well-informed about hand hygiene protocols. Over 85% correctly answered questions about the recommended frequency, duration, and types of hand hygiene methods and practices necessary for infection control. This suggests that institutional training efforts and guidelines are effectively imparting essential knowledge. However, some respondents displayed uncertainty about the recommended duration for effective handwashing, indicating areas where training programs could be enhanced to ensure uniform understanding. Regarding attitudes, the results showed a positive overall stance on the importance of hand hygiene in infection prevention. Most respondents (87.4%) agreed that hand hygiene is essential, and a significant proportion expressed confidence in their knowledge of infection control protocols. The positive attitude also extended to prioritizing hand hygiene in patient care activities, reflecting an understanding of its critical role. However, a moderate percentage of participants (56%) admitted that time constraints sometimes prevented them from following hand hygiene protocols strictly. This finding is consistent with previous research indicating that time pressure can act as a barrier to healthcare professionals’ adherence to hand hygiene practices.

Analysis of factors influencing hand hygiene revealed that knowledge of infection control and the perceived importance of hand hygiene were key drivers of compliance, as over 90% of respondents considered these factors essential. However, time constraints and the availability of handwashing facilities were identified as notable limiting factors. A significant number of participants (51.2%) indicated that time constraints, possibly due to workload or the fast-paced hospital environment, affected their ability to comply with hand hygiene protocols consistently. Additionally, about 30.7% of respondents noted that they would benefit from increased access to handwashing resources. The hypothesis testing underscored the relationships between knowledge, attitudes, and compliance. Healthcare workers with higher knowledge levels showed higher compliance rates, while those with positive attitudes were also more likely to adhere to hand hygiene protocols. Time constraints emerged as a statistically significant factor impacting compliance, reinforcing the notion that reducing workload pressures could improve adherence rates. The data suggest that healthcare institutions can enhance compliance by reinforcing positive attitudes and addressing time-related challenges.

Thus, the findings highlight that although knowledge and attitudes toward hand hygiene are generally positive among healthcare workers at AFUTHA, practical barriers—such as time constraints and resource availability—limit consistent adherence to hygiene protocols. Addressing these barriers could be crucial in enhancing compliance, thus improving infection control and overall patient safety.

## 5.2 Conclusion

The study concludes that healthcare workers at AFUTHA exhibit high knowledge and positive attitudes toward hand hygiene, but there are practical challenges in maintaining compliance with established protocols. The high knowledge levels indicate that AFUTHA’s infection control policies and training initiatives are generally effective. Healthcare workers are aware of the importance of hand hygiene, understanding that adherence to these practices is essential in reducing the risk of hospital-acquired infections. This awareness aligns with global healthcare standards that emphasize the necessity of hand hygiene in infection control and patient safety.

Attitudes toward hand hygiene among respondents were largely favorable, as reflected in the high number of participants acknowledging its importance in infection prevention. However, despite these positive attitudes, compliance was hindered by significant practical challenges. Time constraints, for instance, emerged as a key barrier, with several respondents noting that the demands of the healthcare environment often leave them with limited time to follow proper hand hygiene practices. This finding aligns with previous research that cites time pressure as a primary impediment to hand hygiene compliance among healthcare workers. Addressing this issue requires hospital management to consider strategies that streamline workflows and alleviate workload pressures to allow staff adequate time for hygiene practices.

The study also identified the availability of hand hygiene resources as an influencing factor. Although AFUTHA provides handwashing facilities, some respondents felt that increasing the number of stations and improving accessibility would enhance compliance rates. Resource availability plays an essential role in enabling healthcare workers to practice hand hygiene consistently and effectively, and even a minor increase in these resources could make a significant difference in compliance levels.

Overall, while AFUTHA healthcare workers demonstrate the knowledge and motivation to adhere to hand hygiene protocols, enhancing compliance will require targeted interventions to address barriers like time constraints and resource accessibility. The study contributes valuable insights into the factors impacting hand hygiene practices and highlights opportunities for institutional improvement to promote better hygiene and patient safety.

## 5.3 Recommendations

Based on the findings, the following recommendations are proposed to enhance hand hygiene practices among healthcare workers at AFUTHA:

1. **Increase Accessibility to Hand Hygiene Facilities**

AFUTHA should invest in additional handwashing stations across different departments and ensure they are adequately stocked with soap and hand sanitizers. Placing facilities in convenient locations would reduce the time spent accessing these resources and promote higher compliance rates.

1. **Regular and Focused Training Programs**

While most staff have a high level of knowledge, continuous education on hand hygiene, with an emphasis on critical handwashing moments and correct duration, could further strengthen adherence. Training should also address common misconceptions and reinforce the impact of hand hygiene on patient safety.

1. **Implement Time-Saving Strategies and Efficient Workflows**

To address time constraints, AFUTHA could explore workflow optimization strategies that reduce staff workload and prioritize infection control. For example, incorporating scheduled breaks for hand hygiene or using technology to streamline administrative tasks could alleviate pressure, allowing healthcare workers adequate time for hygiene protocols.

1. **Develop a Supportive Institutional Culture for Hand Hygiene**

Management could support compliance by promoting a strong institutional culture around hand hygiene. Initiatives could include regular reinforcement of hygiene policies, recognizing exemplary compliance among staff, and incorporating hand hygiene adherence as part of performance reviews.

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**Questionnaire: Attitude and Knowledge of Nurses and Health Attendance Towards Handwashing at AFUTHA Abakaliki**

**Section A: Demographic Information**

Gender

Male

Female

**Age Group**

20-30 years

31-40 years

41-50 years

Above 50 years

**Educational Qualification**

Nursing Diploma

Bachelor’s Degree in Nursing or Healthcare

Postgraduate Degree

Other (specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Years of Experience in Healthcare**

Less than 1 year

1-5 years

6-10 years

Over 10 years

**Department/Unit**

Surgery

Pediatrics

Emergency

Outpatient

Others (specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Section B: Knowledge of Hand Hygiene**

**How often should healthcare workers wash their hands during patient care?**

After each patient contact

Only after visible contamination

Before and after each patient contact

No specific frequency is required

**What is the recommended duration for handwashing to be effective?**

Less than 10 seconds

10-15 seconds

15-30 seconds

More than 30 seconds

**Which of the following are effective in hand hygiene? (Select all that apply)**

Soap and water

Alcohol-based hand sanitizer

Gloves only

Antibacterial wipes

**Which type of handwashing is most effective in preventing the spread of** hospital-acquired infections?

Antiseptic handwashing

Surgical hand antisepsis

Routine handwashing with water only

Not sure

**When is hand hygiene particularly important in patient care? (Select all that apply)**

Before touching a patient

After touching a patient

Before aseptic procedures

After touching patient surroundings

**Section C: Attitude Towards Hand Hygiene**

Rate the following statements on a scale from 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree.

Hand hygiene is an essential practice for preventing infections in healthcare settings.

1

2

3

4

5

I feel confident in my knowledge of hand hygiene protocols.

1

2

3

4

5

I believe that hand hygiene should be prioritized in all patient care activities.

1

2

3

4

5

Hand hygiene is sometimes overlooked due to time constraints during work.

1

2

3

4

5

I am likely to practice hand hygiene even when it seems unnecessary.

1

2

3

4

5

I think AFUTHA provides adequate resources (soap, sanitizer) for maintaining hand hygiene.

1

2

3

4

5

**Section D: Hand Hygiene Practices**

How frequently do you wash your hands in accordance with the recommended protocols?

Always

Often

Sometimes

Rarely

Never

Which of the following factors influence your decision to wash your hands regularly? (Select all that apply)

Availability of handwashing facilities

Knowledge of infection control

Personal attitude towards hygiene

Time constraints

Perceived importance of hand hygiene

How often do you use alcohol-based hand sanitizer when soap and water are unavailable?

Always

Often

Sometimes

Rarely

Never

In what situations are you most likely to perform hand hygiene? (Select all that apply)

Before patient contact

After patient contact

After contact with patient surroundings

After removing gloves

How would you rate your overall compliance with hand hygiene protocols at AFUTHA?

Excellent

Good

Fair

Poor

Very Poor

What improvements would encourage better hand hygiene practices? (Select all that apply)

More handwashing stations

Increased availability of hand sanitizers

Frequent training on infection control

Management support and incentives

Other (please specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_