



Exploring the experiences of healthcare workers in managing medical supply shortages in public hospitals in Abuja

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DOI: <https://doi.org/10.66856/ijssh.2026.8.2.8090>

Abstract

Background: Medical supply shortages remain a major challenge within public healthcare institutions in developing countries, particularly in Nigeria, where inadequate funding, weak procurement systems, and unstable supply chains continue to affect healthcare delivery. These shortages place significant pressure on healthcare workers who must provide patient care under constrained conditions. This study explored the experiences of healthcare workers in managing medical supply shortages in public hospitals in Abuja and examined the coping strategies adopted in response to these shortages.

Methods: The study adopted a qualitative research design guided by the interpretivist research philosophy. Data were collected through semi-structured interviews with healthcare workers including doctors, nurses, pharmacists, and laboratory personnel in selected public hospitals in Abuja. A total of 30 participants were recruited using purposive sampling, while 25 validated responses were analysed using thematic analysis.

Results: The findings revealed that healthcare workers experience emotional stress, frustration, increased workload, ethical dilemmas, and reduced job satisfaction due to medical supply shortages. The study also found that healthcare workers adopt coping strategies such as rationing of supplies, improvisation of clinical procedures, teamwork, collaboration, and prioritization of emergency cases to sustain healthcare delivery.

Conclusion: The study concludes that persistent medical supply shortages negatively affect healthcare workers and healthcare service delivery, while adaptive coping strategies are continuously used to maintain patient care in public hospitals in Abuja.

Keywords: Medical supply shortages, healthcare workers, coping strategies, public hospitals, Abuja, healthcare delivery, qualitative study

Introduction

Healthcare systems across the world depend heavily on the availability of adequate medical supplies to ensure effective patient care and efficient hospital operations. Medical supplies such as medicines, gloves, syringes, laboratory materials, surgical instruments, and protective equipment are essential for healthcare delivery and patient safety. However, shortages of these resources remain a major challenge in many developing countries where healthcare institutions often operate under financial and logistical constraints. Across Sub-Saharan Africa, recurring shortages of essential medical items continue to affect healthcare service delivery and place increasing pressure on healthcare workers responsible for patient care (Ojo & Martins, 2022; Nwosu *et al.*, 2024) ^[19, 20].

In many African countries, weak healthcare financing, unstable supply chains, poor procurement systems, and increasing healthcare demand have contributed to persistent shortages of medical resources within public hospitals. These shortages became more visible following public health emergencies and economic challenges that disrupted healthcare supply systems in several countries. According to Ahmed and Sule (2024) ^[2], inadequate medical supplies in public healthcare institutions reduce operational efficiency and create serious barriers to quality healthcare delivery. Similarly, Afolayan *et al.* (2025) ^[1] explained that frequent shortages of medicines and healthcare consumables increase delays in treatment and negatively affect patient outcomes in resource-constrained hospitals.

In Nigeria, public hospitals continue to experience challenges relating to the availability and distribution of

essential medical supplies. Many hospitals struggle to maintain consistent stock levels of medicines, diagnostic materials, and emergency healthcare items due to procurement inefficiencies, inadequate funding, inflation, and poor inventory management practices (Lawal & Ibrahim, 2021) ^[9]. These conditions often affect the quality and timeliness of healthcare services delivered to patients. Healthcare workers including doctors, nurses, pharmacists, and laboratory personnel are therefore required to manage patient care under difficult operational conditions where essential medical items may be unavailable or insufficient. Public hospitals in Abuja play an important role in delivering healthcare services to a growing population. However, healthcare workers in these facilities frequently encounter medical supply shortages that complicate their professional responsibilities and daily healthcare operations. In many situations, healthcare professionals are compelled to improvise treatment methods, ration limited supplies, postpone procedures, or request patients to obtain medical items externally. These experiences may create emotional stress, frustration, ethical concerns, and reduced job satisfaction among healthcare workers (Ezeani & Bakare, 2023). Bello *et al.* (2025) ^[1, 13] further noted that prolonged shortages of healthcare resources contribute to burnout and declining service efficiency among healthcare professionals in public hospitals.

Although previous studies have examined healthcare supply chain challenges and hospital resource management in Nigeria, limited attention has been given to the lived experiences of healthcare workers managing medical supply shortages in public hospitals within Abuja. Most existing

studies focus mainly on policy, financing, and administrative challenges while giving less attention to the personal experiences and coping strategies of frontline healthcare personnel. This creates an empirical gap in the literature. The understanding of the experiences of healthcare workers is important because they possess direct knowledge of operational difficulties and practical strategies used to manage resource shortages in hospitals. Therefore, this study seeks to explore the experiences of healthcare workers in managing medical supply shortages in public hospitals in Abuja.

Problem Statement

The availability of adequate medical supplies is essential for effective healthcare delivery, patient safety, and efficient hospital operations. However, many public hospitals in Nigeria continue to experience persistent shortages of essential medical resources such as medicines, surgical materials, laboratory consumables, diagnostic equipment, and personal protective items. These shortages have become a major concern within the healthcare sector because they directly affect the ability of healthcare professionals to provide timely and quality patient care. Existing evidence suggests that weak procurement systems, inadequate healthcare funding, inflation, poor inventory management practices, and unstable supply chains continue to contribute to recurring shortages of medical supplies in Nigerian public hospitals (Lawal & Ibrahim, 2021; Ahmed & Sule, 2024) ^[2]. The problem is particularly serious for healthcare workers who are directly involved in patient treatment and hospital operations. Doctors, nurses, pharmacists, and laboratory personnel are frequently compelled to work under difficult conditions where essential medical resources are unavailable or insufficient. In many situations, healthcare workers are forced to ration limited supplies, improvise treatment procedures, delay medical interventions, or request patients to purchase healthcare items externally. These conditions may increase emotional stress, workplace frustration, burnout, and ethical dilemmas among healthcare professionals while also reducing the quality and efficiency of healthcare delivery (Ezeani & Bakare, 2023) ^[13]. Persistent medical supply shortages may further weaken patient trust in public healthcare institutions and negatively affect patient outcomes.

In spite of the increasing concerns about healthcare resource shortages in Nigeria, much of the existing literature has focused mainly on healthcare financing, logistics, procurement systems, and policy-related challenges. Limited empirical attention has been given to the lived experiences of healthcare workers who directly manage these shortages in public hospitals, particularly within Abuja. As a result, there is insufficient understanding of how healthcare workers experience these shortages, the coping strategies they adopt, and the effects of these challenges on their professional responsibilities and wellbeing. This represents a significant contextual and empirical gap in the literature.

Failure to understand the experiences of healthcare workers may limit efforts aimed at improving healthcare supply management and strengthening service delivery within public hospitals. Since frontline healthcare workers interact directly with healthcare systems and patients daily, their experiences can provide valuable insights into operational weaknesses and practical solutions for addressing medical

supply shortages. Therefore, this study seeks to explore the experiences of healthcare workers in managing medical supply shortages in public hospitals in Abuja.

Research Objective

The study explores the experiences of healthcare workers in managing medical supply shortages in public hospitals in Abuja. Specifically, the study seeks to:

1. Explore the experiences of healthcare workers in managing medical supply shortages in public hospitals in Abuja and:
2. Examine the coping strategies adopted by healthcare workers in response to medical supply shortages in public hospitals in Abuja.

Significance of the Study

This study is important because it contributes to knowledge on healthcare resource management and healthcare delivery in public hospitals. The exploration of this experiences of healthcare workers managing medical supply shortages in Abuja, the study provides insight into the operational challenges faced by frontline healthcare professionals in resource-constrained environments (Ezeani & Bakare, 2023) ^[13].

The findings may help healthcare administrators and policymakers develop better procurement systems, inventory management practices, and supply chain strategies to improve the availability of essential medical supplies in public hospitals. Ahmed and Sule (2024) ^[2] noted that effective healthcare supply systems are necessary for improving healthcare efficiency and patient outcomes.

The study is also significant because it highlights the emotional and professional effects of medical supply shortages on healthcare workers, including stress, frustration, and burnout, which may affect service delivery and staff performance (Ezeani & Bakare, 2023) ^[13]. In addition, the study fills a gap in existing literature by focusing on the lived experiences of healthcare workers in Abuja public hospitals, an area that has received limited empirical attention (Nwosu *et al.*, 2024) ^[19].

Theoretical Underpinning and Literature review

This study situates on two key theories such as the Systems Theory and the Job Demands–Resources (JD-R) Theory to explain both the structural causes of medical supply shortages and their effects on healthcare workers.

The Systems Theory (Bertalanffy, 1968) ^[6] explains organisations as interconnected parts working together. In hospitals, units like procurement, pharmacy, administration, and clinical departments are linked, so failure in one area affects the whole system. In this study, it shows that weaknesses in supply chains and procurement processes lead to medical supply shortages, reflecting broader system inefficiencies rather than isolated problems. Equally, the Job Demands–Resources (JD-R) Theory (Demerouti *et al.*, 2001) ^[11] explains that stress arises when job demands are high and resources are low. Job demands refer to physical and emotional pressures, while job resources include tools and materials needed for effective work. In this study, medical supply shortages increase job demands while reducing available resources, leading to stress, burnout, and lower job satisfaction among healthcare workers

Healthcare Workers

Healthcare workers refer to all professionals involved in the delivery of health services, including doctors, nurses, pharmacists, laboratory scientists, and community health officers. They play a central role in diagnosing, treating, and managing patient care within healthcare facilities. In public hospitals, healthcare workers often operate under high workload conditions, especially in developing countries where staffing and resources are limited. Studies in Nigeria show that healthcare workers in public hospitals are frequently exposed to occupational stress, inadequate infrastructure, and resource constraints, which affect their performance and wellbeing (Esu *et al.*, 2023). Their experiences are crucial in understanding how healthcare systems function, particularly in environments where shortages of essential medical supplies are common.

Medical Supply

Medical supply refers to all essential items required for the effective delivery of healthcare services. These include drugs, consumables, diagnostic tools, surgical instruments, personal protective equipment, and other clinical materials used in patient care. Adequate availability of medical supplies is essential for quality healthcare delivery, while shortages often lead to delays in treatment, compromised care, and increased workload for healthcare workers. In many developing countries, including Nigeria, poor procurement systems, weak logistics, and inadequate funding contribute to frequent shortages of medical supplies in public hospitals (Ojo & Martins, 2022) [20]. These shortages directly affect hospital efficiency and patient outcomes.

Public Hospitals in Abuja

Public hospitals in Abuja are government-owned healthcare institutions that provide affordable and accessible medical services to the population. They include primary, secondary, and tertiary health facilities that serve as major points of healthcare delivery for residents. These hospitals often experience high patient turnout due to their affordability, which places additional pressure on limited resources and infrastructure. Evidence shows that public hospitals in Abuja face challenges such as inadequate staffing, irregular drug supply, and weak healthcare logistics systems, all of which affect service delivery quality (Okechukwu *et al.*, 2020[22]; Oyekale, 2021). Despite these challenges, they remain the backbone of healthcare provision for most citizens.

Experiences of healthcare workers in managing medical supply shortages in public hospitals in Abuja

Healthcare workers in public hospitals often operate under conditions where essential medical supplies are not consistently available. Medical supply shortages refer to the insufficient or irregular availability of drugs, consumables, diagnostic materials, surgical tools, and protective equipment required for effective patient care. These shortages disrupt normal clinical routines, delay treatment processes, and increase the pressure placed on healthcare professionals to deliver care under constrained conditions.

Empirical studies indicate that healthcare workers in resource-limited settings frequently experience both emotional and professional strain when managing such shortages. Moyimane *et al.* (2021) [17] observed that

healthcare providers in rural African hospitals often experience moral distress when they are unable to provide standard care due to lack of essential supplies. This distress arises from the conflict between professional responsibility and practical limitations within the healthcare environment. Similarly, Aldhufairy *et al.* (2022) [4] found that inadequate availability of medical resources increases workload intensity and reduces job satisfaction among healthcare staff in under-resourced hospitals. Ndwandwe *et al.* (2026) [18] further noted that repeated exposure to shortages contributes to burnout, reduced motivation, and emotional exhaustion among healthcare professionals.

The Job Demands–Resources (JD-R) Theory (Demerouti *et al.*, 2001) [11] provides a strong explanation for these experiences. The theory argues that workplace stress emerges when job demands are high while job resources are insufficient. In this context, the responsibility of continuously attending to patients represents high job demands, while the lack of adequate medical supplies represents insufficient job resources. The imbalance between these two conditions explains why healthcare workers experience emotional fatigue, ethical pressure, and reduced job satisfaction when managing supply shortages in public hospitals.

Coping strategies adopted by healthcare workers in response to medical supply shortages in public hospitals in Abuja

Healthcare workers adopt several coping strategies to manage medical supply shortages and ensure continuity of healthcare delivery. Coping strategies refer to adaptive responses used by individuals to manage stressful or resource-constrained working conditions. In public hospital environments, these strategies are shaped by urgency, patient demand, and the need to maintain service delivery despite systemic limitations.

Empirical findings show that healthcare workers often rely on both formal and informal coping mechanisms. Opoku *et al.* (2021) [23] found that staff in African healthcare facilities frequently share medical supplies across departments or facilities to manage shortages and sustain service delivery. Cooke *et al.* (2021) [9] reported that healthcare workers often modify standard clinical procedures and develop practical “workarounds” when essential materials are unavailable, especially in infection prevention and emergency care settings. Ndwandwe *et al.* (2026) [18] further highlighted that prioritization strategies, such as focusing on emergency cases and rationing limited medicines, are commonly used to manage scarce healthcare resources effectively.

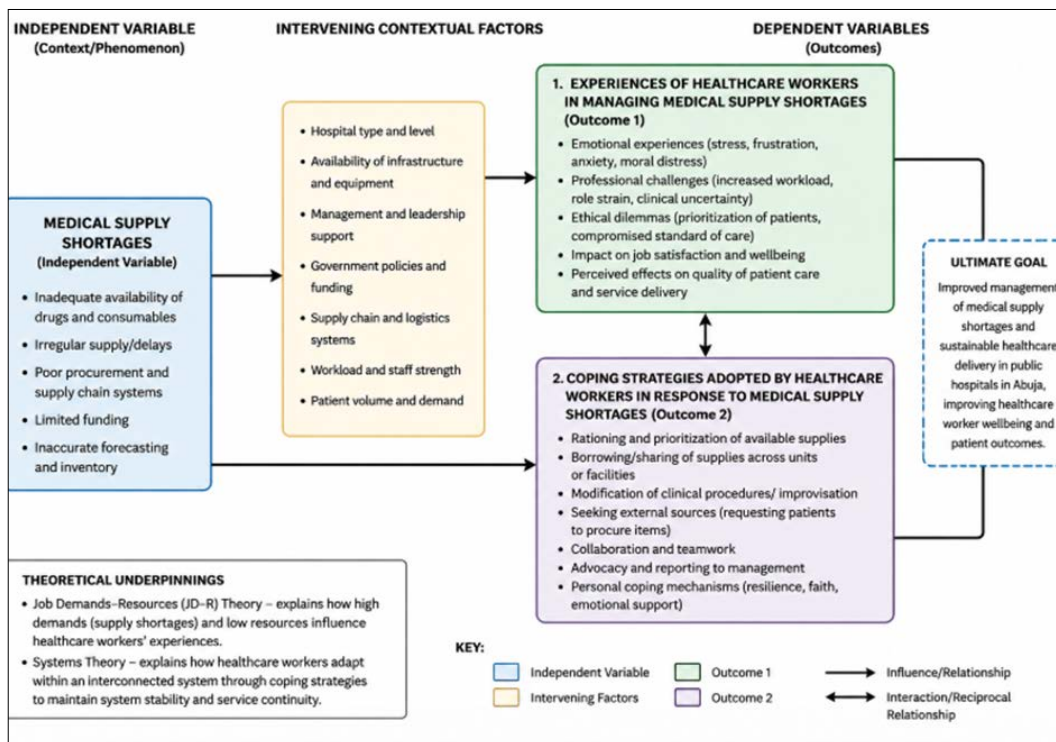
The Systems Theory (Bertalanffy, 1968) [6] helps explain these coping behaviours by viewing healthcare institutions as interconnected systems where each component depends on the other. When the supply chain or procurement system fails, the clinical workforce adapts by developing coping mechanisms to maintain system stability and ensure continuity of care. These adaptive responses reflect the effort of the healthcare system to maintain equilibrium despite structural weaknesses in resource allocation and supply management.

Conceptual Framework

The conceptual framework guides the exploration of how healthcare workers experience and respond to medical supply shortages in public hospitals in Abuja. The

framework positions medical supply shortages as the central issue influencing healthcare workers' experiences and the coping strategies adopted to sustain patient care. It also recognizes

That factors such as staffing levels, funding, leadership support, and supply chain systems may shape both experiences and responses within the hospital environment. Figure 1 presents the framework of the study.



Source: Author's construct, 2026

Fig 1: Conceptual Framework of Healthcare Workers' Experiences and Coping Strategies in Response to Medical Supply Shortages in Public Hospitals in Abuja.

The conceptual framework in Figure 1 shows how medical supply shortages shape both the experiences and coping responses of healthcare workers in public hospitals in Abuja. Shortages of essential items such as drugs and consumables contribute to stress, ethical pressure, heavy workload, and reduced job satisfaction among staff. At the same time, they lead to coping actions such as rationing supplies, improvising procedures, teamwork, and prioritising urgent cases. The framework also acknowledges that hospital conditions like staffing, funding, leadership, infrastructure, and supply systems can influence how severe the shortages are and how workers respond. The Job Demands-Resources Theory explains the stress experienced under limited resources, while Systems Theory shows how breakdowns in hospital supply systems trigger adaptive responses to maintain care delivery.

Methodology

Research Philosophy

This study is guided by an interpretivist research philosophy, which focuses on understanding social reality through the lived experiences and meanings individuals assign to their situations. This approach is appropriate because the study seeks to explore how healthcare workers experience and manage medical supply shortages in public hospitals in Abuja. Interpretivism allows for a deeper understanding of subjective experiences, emotions, and workplace realities rather than numerical measurement (Creswell & Poth, 2018) [10].

Research Design

A qualitative research design was adopted to enable an in-depth exploration of healthcare workers' experiences and coping strategies. This design is suitable for examining complex healthcare challenges where meaning, perception, and context are central to understanding the phenomenon (Creswell & Poth, 2018) [10].

Study Area

The study was carried out in selected public hospitals in Abuja, Nigeria. Abuja, as the Federal Capital Territory, has a network of public healthcare facilities including primary, secondary, and tertiary hospitals that serve a large and diverse population. These hospitals frequently experience high patient inflow and recurring shortages of essential medical supplies, making them a relevant setting for the study.

Study Population

The population of the study consists of healthcare workers in selected public hospitals in Abuja. These include doctors, nurses, pharmacists, and laboratory personnel who are directly involved in patient care and medical supply use.

Sample Size and Sampling Technique

A total of 30 healthcare workers were initially recruited using purposive sampling. This sampling technique was used because it allows the selection of participants with direct experience of medical supply shortages. However, only 25 participants' responses were fully validated and

included in the final analysis. The final sample size was considered adequate for qualitative research, where emphasis is placed on depth and richness of information rather than statistical representation (Patton, 2015) [25].

Data Collection Method

Data were collected using a semi-structured interview guide. This allowed participants to freely express their experiences while ensuring that key issues such as supply shortages, emotional experiences, and coping strategies were consistently explored.

Data Analysis

Thematic analysis was used to analyze the data. This involved transcription of interviews, coding of responses, and identification of recurring themes related to healthcare workers’ experiences and coping mechanisms. Thematic analysis is widely used in qualitative research because it helps organize and interpret patterns in participants’ narratives (Braun & Clarke, 2006) [7].

Reliability and Trustworthiness

Trustworthiness was ensured using the criteria of credibility, transferability, dependability, and confirmability. Credibility was achieved through prolonged engagement with participants and member checking, where participants

Reviewed summaries of their responses for accuracy. Transferability was ensured by providing a clear description of the study context and participants. Dependability was achieved through a well-documented research process that allows for an audit trail. Confirmability was ensured by grounding findings in participants’ responses and reducing researcher bias through systematic coding and theme verification (Lincoln & Guba, 1985) [15].

Ethical Considerations

Ethical approval was obtained from relevant hospital authorities. Participation was voluntary, and informed consent was obtained from all participants. Confidentiality and anonymity were strictly maintained throughout the study.

Results

Demographic Profile of Respondents

The demographic profile of the 25 healthcare workers who participated in the study includes gender, age, professional category, years of work experience, and educational qualification. These characteristics provide background information that helps in understanding the perspectives and experiences shared by participants regarding medical supply shortages in public hospitals in Abuja.

Table 1: Demographic Profile of Healthcare Workers in Selected Public Hospitals in Abuja (N = 25)

Variable	Category	Frequency (n=25)	Percentage (%)
Gender	Male	11	44.0
	Female	14	56.0
Age Group	21–30 years	6	24.0
	31–40 years	10	40.0
	41–50 years	7	28.0
	51years and above	2	8.0
Professional Category	Doctor	6	24.0
	Nurses	10	40.0
	Pharmacists	4	16.0
	Laboratory Personnel	5	20.0
Years of Experience	1–5 years	5	20.0
	6–10 years	9	36.0
	11–15 years	7	28.0
	15 years and above	4	17.0
Educational Qualification	Diploma	4	16.0
	Bachelor’s Degree	13	52.0
	Master’s Degree	6	24.0
	Others	2	8.0

Source: Field Data, 2026

The results in Table 1 show that female respondents constituted the majority of participants. Most respondents were between 31 and 40 years of age and had between 6 and 10 years of work experience. Nurses formed the largest professional group in the study, while most participants possessed at least a bachelor’s degree qualification. These characteristics suggest that the respondents had sufficient professional exposure and practical experience to provide

meaningful insights into the management of medical supply shortages in public hospitals in Abuja.

Reliability and Trustworthiness of the Study Objectives

To ensure the quality and credibility of the findings, the study applied several trustworthiness measures across the two research objectives. These measures focused on credibility, dependability, transferability, and confirmability throughout the data collection and analysis process.

Table 2: Reliability and Trustworthiness of the Study Objectives

Research Objective	Trustworthiness Criterion	Application in the Study
Explore the experiences of healthcare workers in managing medical supply shortages in public hospitals in Abuja	Credibility	Semi-structured interviews and prolonged engagement with participants were used to obtain detailed and accurate experiences from healthcare workers
	Dependability	A consistent interview guide and systematic thematic analysis process were applied throughout the study
	Transferability	Detailed descriptions of the study setting, participants, and hospital conditions were provided to support applicability to similar contexts.
Examine the coping strategies adopted by healthcare workers in response to medical supply shortages in public hospitals in Abuja	Credibility	Interview recordings, transcripts, and coding procedures were carefully reviewed to ensure findings reflected participants' views rather than researcher bias.
	Credibility	Participants were encouraged to openly discuss practical coping mechanisms used during shortages, while member checking was used to verify responses
	Dependability	Similar coding and theme development procedures were followed across all interviews to maintain consistency in interpretation
	Transferability	Rich explanations of coping strategies and workplace realities were provided to allow comparison with other healthcare environments
	Confirmability	Themes and interpretations were cross-checked against participant narratives to ensure objectivity and accuracy of findings.

Source: Field Data, 2026

The results presented in Table 2 show that the study maintained strong trustworthiness standards across both research objectives. Credibility was achieved through detailed interviews and participant verification of responses, while dependability was ensured through the consistent use of interview and analysis procedures. Transferability was supported by providing detailed contextual information about the hospitals and participants, and confirmability was maintained by ensuring that findings were grounded in participants' experiences rather than researcher assumptions. These measures improved the reliability and quality of the study findings.

Objective One: Explore the Experiences of Healthcare Workers in Managing Medical Supply Shortages in Public Hospitals in Abuja

The analysis of participants' responses revealed several experiences faced by healthcare workers in managing medical supply shortages. The major themes identified include emotional stress and frustration, increased workload pressure, ethical dilemmas in patient care, and reduced job satisfaction.

Theme 1: Emotional Stress and Frustration

Participants explained that frequent shortages of medical supplies created emotional stress and frustration during patient care. Many respondents reported feeling helpless when essential items were unavailable during emergencies. One nurse stated:

"It becomes emotionally draining when patients need urgent treatment and the required materials are not available. Sometimes we feel helpless."

A doctor also noted:

"The constant shortages create frustration because we know what should be done medically, but we cannot always provide it."

Theme 2: Increased Workload and Pressure

Healthcare workers reported that shortages increased their workload because they had to spend additional time searching for supplies, making alternatives available, or explaining situations to patients and relatives.

A laboratory officer explained:

"We spend extra time trying to manage limited resources, and this increases pressure on staff during busy periods."

Another participant stated:

"Instead of focusing fully on patient care, we are sometimes forced to look for basic materials needed to work."

Theme 3: Ethical Challenges in Patient Care

Participants indicated that shortages often created ethical concerns, especially when they had to prioritise certain patients over others due to limited supplies.

One pharmacist shared:

"There are situations where you must decide who receives the available medicine first, and that can be very difficult emotionally."

A nurse added:

"Sometimes we know the right treatment, but because supplies are not enough, we improvise. It raises ethical concerns."

Theme 4: Reduced Job Satisfaction

Some participants explained that persistent shortages negatively affected their motivation and satisfaction at work.

One respondent stated:

"Working under these conditions affects morale because healthcare workers want to provide quality care but lack the needed resources."

Another participant remarked:

"The shortages make the work environment discouraging, especially when patients blame staff for problems beyond our control."

Objective Two: Examine the Coping Strategies Adopted by Healthcare Workers in Response to Medical Supply Shortages in Public Hospitals in Abuja

The findings showed that healthcare workers adopted several coping strategies to manage shortages and maintain healthcare delivery. The major themes identified include rationing of supplies, improvisation of procedures, teamwork and collaboration, and prioritization of emergency cases.

Theme 1: Rationing of Available Supplies

Participants explained that limited supplies were carefully rationed to ensure that available items lasted longer and reached patients in urgent need.

One doctor stated:

“We try to manage the available materials carefully by using them only for the most critical cases.”

A pharmacist added:

“Rationing has become part of daily practice because supplies are often insufficient.”

Theme 2: Improvisation in Clinical Procedures

Healthcare workers reported that they frequently improvised when standard medical materials were unavailable.

One nurse explained:

“Sometimes we use alternative methods or substitute materials just to continue treatment and avoid delaying care.”

Another participant noted:

“Improvisation is common because stopping treatment completely may put patients at greater risk.”

Theme 3: Teamwork and Collaboration

Participants highlighted teamwork as an important coping mechanism during shortages. Staff often shared available resources across departments to sustain patient care.

A laboratory personnel stated:

“Departments support each other by sharing available supplies whenever shortages occur.”

Another respondent said:

“Good teamwork helps reduce the pressure because staff cooperate to find temporary solutions.”

Theme 4: Prioritization of Emergency Cases

Healthcare workers indicated that emergency and critical cases were usually prioritised whenever supplies were limited.

One doctor explained:

“When supplies are scarce, emergency patients are attended to first before less critical cases.”

A nurse also stated:

“We focus on patients whose conditions are life-threatening because resources are not enough for everyone immediately.”

The findings across both objectives show that medical supply shortages significantly affect the emotional wellbeing and professional experiences of healthcare workers while also encouraging adaptive coping mechanisms aimed at sustaining healthcare delivery in public hospitals in Abuja.

Discussion of Findings

Objective One: Explore the Experiences of Healthcare Workers in Managing Medical Supply Shortages in Public Hospitals in Abuja

Guided by the Job Demands–Resources (JD-R) Theory developed by Demerouti *et al.* (2001) ^[11], the findings revealed that healthcare workers experience emotional stress, frustration, increased workload, ethical dilemmas, and reduced job satisfaction when managing medical supply shortages in public hospitals in Abuja. The JD-R Theory explains that stress and burnout occur when workplace demands are high while the resources needed to perform effectively are insufficient. In this study, healthcare workers continue to face heavy patient demands despite shortages of medicines, consumables, and other essential medical supplies. Participants explained that the inability to access required materials during patient care creates feelings of helplessness and emotional exhaustion. These findings support the study of Moyimane *et al.* (2021) ^[17], who found that healthcare workers in resource-constrained hospitals often experience emotional distress when they are unable to provide adequate patient care due to limited resources. Similarly, Aldhufairy *et al.* (2022) ^[4] reported that shortages of healthcare materials increase workplace stress and negatively affect job satisfaction among healthcare professionals.

The findings further showed that shortages increase workload pressure because healthcare workers spend additional time searching for materials, improvising procedures, and communicating shortages to patients and relatives. Participants also explained that these shortages create ethical challenges, especially when they are forced to ration scarce resources among patients. These findings are consistent with Ndwandwe *et al.* (2026) ^[18], who observed that persistent shortages of medical supplies increase operational pressure and contribute to burnout among healthcare workers in public hospitals. Similarly, Chersich *et al.* (2021) ^[8] found that inadequate healthcare resources during crisis situations significantly increased emotional fatigue and psychological pressure among frontline healthcare workers in African hospitals. In another empirical study, Okafor and Adeyemi (2023) ^[21] reported that healthcare workers in Nigerian public hospitals experienced high levels of frustration and professional dissatisfaction due to recurring shortages of drugs and medical consumables.

Additional prior studies also support these findings. Shanafelt *et al.* (2020) ^[28] explained that inadequate workplace resources contribute to emotional exhaustion and stress among healthcare professionals, particularly in demanding healthcare environments. Likewise, Aiken *et al.* (2024) ^[3] noted that insufficient hospital resources negatively affect healthcare workers’ morale, wellbeing, and quality of patient care. The findings therefore confirm the assumption of the JD-R Theory that imbalance between job demands and available resources contributes to stress, emotional exhaustion, and reduced workplace satisfaction.

Behaviourally, the findings suggest that prolonged exposure to resource shortages affects healthcare workers’ emotional wellbeing, motivation, morale, and workplace attitudes. Continuous stress and frustration may reduce commitment, increase emotional exhaustion, and negatively influence interpersonal relationships with patients and colleagues. The findings indicate that healthcare workers may gradually

develop emotional fatigue and reduced psychological resilience when workplace demands consistently exceed available resources.

From a managerial perspective, the findings imply that hospital management and healthcare administrators need to strengthen workplace support systems, improve supply chain efficiency, and ensure the regular availability of essential medical supplies. Managers should also provide emotional support mechanisms, stress management programmes, and effective communication systems to reduce burnout among healthcare workers. Addressing resource shortages may improve employee morale, job satisfaction, and the overall quality of healthcare service delivery in public hospitals.

Objective Two: Examine the Coping Strategies Adopted by Healthcare Workers in Response to Medical Supply Shortages in Public Hospitals in Abuja

Anchored on Systems Theory developed by Bertalanffy (1968)^[6], the findings showed that healthcare workers adopt several coping strategies to sustain healthcare delivery despite shortages of medical supplies. Systems Theory explains that organisations function as interconnected systems where failure in one component affects the operations of the entire structure. In this study, weaknesses in procurement systems, supply chains, and inventory management create shortages that disrupt healthcare delivery in public hospitals. In response, healthcare workers develop adaptive strategies such as rationing of available supplies, improvisation of clinical procedures, teamwork and collaboration, and prioritization of emergency cases to maintain continuity of patient care.

These findings support Opoku *et al.* (2021)^[23], who found that healthcare workers in resource-limited healthcare systems frequently ration supplies and collaborate across departments to sustain service delivery. The findings also agree with Cooke *et al.* (2021)^[9], who reported that healthcare workers often develop practical workarounds and substitute procedures when medical resources are insufficient. Furthermore, Ndwandwe *et al.* (2026)^[18] observed that prioritization of emergency cases is a common adaptive strategy used in under-resourced hospitals to manage limited healthcare resources effectively. Similarly, Kalu *et al.* (2022)^[4] found that healthcare workers in Nigerian public hospitals relied heavily on teamwork, informal coordination, and supply-sharing practices during periods of medical shortages. Another empirical study by Moyo and Chikandiwa (2021)^[16] revealed that healthcare professionals in Zimbabwean public hospitals adopted improvisation and emergency prioritization strategies to sustain patient care under severe supply constraints.

Additional prior studies support these findings. Reason (2022) argued that organisations often develop adaptive operational behaviours to maintain functionality when systems experience disruptions. Likewise, Senge (2020) explained that institutions function as interconnected systems where individuals continuously adjust their actions to respond to operational weaknesses and maintain organisational stability. The findings therefore support Systems Theory by showing that healthcare workers continuously adjust their behaviour and operational practices to maintain stability and functionality within the healthcare system despite structural supply challenges.

From a behavioural perspective, the findings show that healthcare workers demonstrate resilience, adaptability, teamwork, and problem-solving behaviour when responding to medical supply shortages. The coping strategies identified reflect a strong sense of professional responsibility and commitment to patient care despite difficult working conditions. These adaptive behaviours help healthcare workers maintain healthcare delivery and reduce the negative effects of operational disruptions within hospitals. Managerially, the findings imply that hospital administrators should encourage collaborative work environments, strengthen interdepartmental coordination, and develop contingency plans for managing medical supply shortages. Management should also invest in efficient procurement systems, emergency inventory policies, and staff training programmes that prepare healthcare workers to respond effectively during resource shortages. Strengthening institutional systems may reduce operational disruptions and improve continuity of healthcare services in public hospitals.

Implications of the Study

The findings of this study present important theoretical, policy, and societal implications regarding the management of medical supply shortages in public hospitals in Abuja.

Theoretical Implications

The study contributes to existing healthcare management and organisational behaviour literature by supporting the relevance of the Job Demands–Resources (JD-R) Theory and Systems Theory in explaining healthcare workplace challenges and adaptive responses. The findings confirmed the assumptions of the JD-R Theory that high job demands combined with inadequate workplace resources contribute to stress, emotional exhaustion, and reduced job satisfaction among healthcare workers. In addition, the findings support Systems Theory by demonstrating that healthcare institutions operate as interconnected systems where failures in procurement and supply chain processes trigger adaptive coping behaviours among healthcare workers to sustain healthcare delivery. The study therefore expands the application of these theories within the context of public healthcare institutions in developing countries.

Policy Implications

The findings suggest the need for stronger healthcare policies aimed at improving procurement systems, supply chain management, and healthcare funding within public hospitals. Policymakers should prioritise the development of efficient inventory monitoring systems and emergency supply frameworks to reduce recurring shortages of essential medical supplies. The findings also indicate the importance of policies that support healthcare worker wellbeing through workplace support programmes, stress management initiatives, and improved working conditions. Strengthening healthcare logistics and accountability systems may improve healthcare efficiency and patient care delivery in public hospitals.

Societal Implications

The study highlights the broader social consequences of medical supply shortages on healthcare delivery and public wellbeing. Persistent shortages of essential medical supplies may reduce the quality and timeliness of healthcare services,

thereby affecting patient safety and public confidence in government healthcare institutions. The findings also show that healthcare workers continue to demonstrate resilience and commitment despite difficult working conditions, which is important for sustaining healthcare services within society. Addressing medical supply shortages may therefore improve healthcare access, patient outcomes, and overall public trust in the healthcare system.

Conclusion

The study explores the experiences of healthcare workers and the coping strategies adopted in response to medical supply shortages in public hospitals in Abuja.

The study found that medical supply shortages significantly affect healthcare workers emotionally, professionally, and operationally. Healthcare workers experience stress, frustration, increased workload, ethical dilemmas, and reduced job satisfaction due to the persistent lack of essential medical supplies. The findings further revealed that despite these challenges, healthcare workers adopt several coping strategies such as rationing supplies, improvising clinical procedures, teamwork, and prioritising emergency cases to sustain patient care. The study therefore concludes that persistent shortages of medical supplies place considerable pressure on healthcare workers and healthcare delivery systems, while also forcing healthcare professionals to continuously adapt to difficult working conditions in public hospitals.

Recommendations

The recommendations are based on the findings of the study and are intended to improve healthcare supply management and support healthcare workers in public hospitals in Abuja.

- 1. Strengthening Procurement and Supply Chain Systems:** Hospital management and government health authorities should strengthen procurement procedures, inventory management systems, and supply chain coordination to reduce recurring shortages of essential medical supplies in public hospitals.
- 2. Increased Healthcare Funding:** Government should increase funding allocation to the healthcare sector to ensure consistent availability of medicines, consumables, diagnostic materials, and emergency medical supplies in public healthcare institutions.
- 3. Establishment of Emergency Supply Systems:** Public hospitals should develop emergency reserve systems and contingency plans for managing critical medical supplies during periods of shortage or supply disruption.
- 4. Staff Support and Wellbeing Programmes:** Hospital administrators should introduce staff support programmes such as stress management initiatives, counselling services, and employee wellbeing interventions to reduce burnout and emotional exhaustion among healthcare workers.
- 5. Training and Capacity Development:** Healthcare workers should receive regular training on resource management, emergency response strategies, and adaptive healthcare practices to improve their ability to manage shortages effectively.

6. Improvement in Interdepartmental Collaboration:

Hospital management should encourage stronger teamwork, communication, and collaboration across departments to improve resource-sharing practices and continuity of healthcare delivery during supply shortages.

Limitations of the Study

This study was limited to selected public hospitals in Abuja, which may restrict the generalization of the findings to other regions or private healthcare institutions in Nigeria. The study also relied on qualitative responses from a relatively small sample of healthcare workers, meaning the findings reflect participants' personal experiences and perceptions. In addition, time and resource constraints limited the number of hospitals and participants included in the study.

Directions for Future Research

Future studies may adopt a mixed methods or quantitative approach to examine the broader impact of medical supply shortages on healthcare performance and patient outcomes across different regions in Nigeria. Further research may also compare experiences between public and private hospitals or explore the role of technology and digital supply chain systems in reducing medical supply shortages within healthcare institutions.

Declarations

The authors declare that there is no conflict of interest regarding the publication of this study. Ethical approval was obtained from relevant hospital authorities, and informed consent was obtained from all participants before data collection.

Funding

This research received no specific grant from any funding agency in the public, commercial, or non-profit sectors.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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