

Original Article

# Assessment of Knowledge and Factors Affecting Preventive Practices Against Nosocomial Infections Among Healthcare Professionals in a Teaching Hospital in Ondo State, Nigeria

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## ABSTRACT

Nosocomial infections constitute major public health problem globally and are on the increase despite efforts in ensuring hospital infection control, contributing significantly to morbidity and mortality. The aim of the present study was to evaluate the factors influencing the preventive practices against nosocomial infection in a teaching hospital setting in Nigeria. A cross-sectional descriptive survey using quantitative method was adopted among 172 health care professionals. Researcher developed questionnaire was used to collect data. Data was analysed using descriptive statistics while hypotheses were tested using multinomial logistic regression and 5% level of significance. Findings showed that the Mean age of the respondents (36.63±4.78) were with a modal age of 18-30years (55.8%). Majority of the respondents 149(86.6%) has good knowledge of nosocomial infection. Respondents practiced separation of patients with communicable diseases, proper use of PPE, proper hand hygiene, proper handling of contaminated materials, proper disposal of contaminated materials, regular use of gloves, adequate bed spacing, and hand washing before and after procedure. Unfavourable work environment 166 (96.5), short staffing; 152 (88.4%), excessive workload, 150 (87.2%) and lack of Knowledge of nosocomial infection 142 (82.6%) were factor affecting preventive practice against NI, with unfavorable work environment (OR: 0.007, CI: 15.479-24842.6 p 0.001) most likely to affect respondent's overall level of preventive practices. In conclusion the study highlights the critical factors influencing healthcare workers' preventive practices against nosocomial infections (NIs) in a healthcare setting, addressing these barriers requires targeted interventions, such as enhancing supervision, ensuring adequate staffing, providing necessary equipment, and fostering a supportive work environment

**Keywords:** Healthcare professionals, Knowledge, Nosocomial Infections, Prevention practices

## INTRODUCTION

Nosocomial infections are a global public health problem associated with significant morbidity, mortality, as well as the burden and cost of the health system.<sup>1</sup> The burden of nosocomial infections particularly affects countries with low and middle economic development. Nosocomial infection also known as hospital-acquired infection (HAI) is one of

the common problems and difficulties faced by hospitals in all countries around the world. The fact that health is wealth does not exclude health workers despite the fact that they are professionally shouldered with the responsibilities of providing health care to the people.<sup>2</sup> Adequate knowledge of health-care associated infections and some measures to curb the festering of such ailments among health workers will surely bring to the fore the professional

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acumen and improve the efficacy of health administration and better the lots of the society. Nosocomial infections are a major public health problem globally and are on the increase despite efforts in hospital infection control measures and contribute significantly to morbidity and mortality.<sup>2</sup> According to the Ministry of Health,<sup>3</sup> nosocomial infection is the infection acquired after the client's admission to hospital and manifested during hospitalization or after discharge, provided that it can be related to hospitalization or hospital procedures. Since infections are not limited to the hospital environment, the terminology Healthcare-Associated Infection has been considered more appropriate. Nosocomial infections (NI) are of great epidemiological relevance by raising the morbidity and mortality rates, extending the length of stay of patients in hospital and thus burdening the cost of treatment.<sup>4-5</sup> These infections not only lead to increased morbidity and mortality rates but also place a significant financial burden on the healthcare system.<sup>6</sup> Factors such as inadequate healthcare infrastructure, lack of adherence to infection control protocols, insufficient training of healthcare workers, and poor hygiene practices are believed to contribute to the persistence of nosocomial infections.<sup>7</sup> However, the specific factors that most significantly influence preventive practices against these infections in Nigerian teaching hospitals are not well understood. This lack of understanding hinders the development of effective strategies to mitigate the risk of nosocomial infections, ultimately compromising patient safety and healthcare quality.

While there has been extensive research on the general prevalence and impact of nosocomial infections in Nigerian hospitals, there is a noticeable gap in the literature regarding the specific factors that influence preventive practices against these infections in teaching hospitals. Most studies focus on broad issues such as infection rates and the effectiveness of existing protocols, but there is limited empirical evidence on the unique challenges faced by healthcare workers in teaching hospitals when it comes to implementing preventive measures.<sup>8</sup> Additionally, the role of contextual factors such as healthcare worker attitudes, hospital

policies, and resource availability in shaping these preventive practices has not been adequately explored.<sup>9</sup> Addressing this gap is crucial for developing targeted interventions that can improve infection control practices and reduce the incidence of nosocomial infections in teaching hospitals in Nigeria. This study therefore is set to investigate into factors influencing preventive practices against Nosocomial Infections in a Teaching Hospital in Nigeria.

## **MATERIALS AND METHODS**

### **Research Design and Study Setting**

This study employed a cross-sectional descriptive design. It was carried out University of Medical Sciences Teaching Hospital Ondo, Ondo State. It is a tertiary health facility in Ondo state, Nigeria. The hospital is a teaching hospital which is located at the Centre of Akure, the capital city of Ondo state in Ondo central senatorial district, south western Nigeria. The hospital is involved in the training of nursing, midwifery, physiotherapy, pharmacy, medical laboratory, audiometry and medical students as well as residency training program for medical doctors in different disciplines. The study was carried out from November 2023 to July 2024.

### **Target population, Sample Size/Sampling Technique**

Target population for the study was staff of the hospital which include; nurses, health assistant, doctors, pharmacist, radiographers, and medical laboratory scientists. The sample size for the study was determined using the Taro Yamane's (1973) formula which yielded a sample size of 188. The sampling technique that was adopted for this research was the simple random sampling technique. This method ensured that all the staff had equal chance of being selected.

### **Instruments for Data Collection**

Two instruments were used for the data collection namely a semi-self-developed-structured and validated questionnaire and an observational checklist. The questionnaires consisted of the following sections: Section A: This was used to gather social-demographic data of respondents and

comprised of 9 items. Section B: Elicited information on the level of respondents' knowledge about nosocomial infections. The level of knowledge was measured using the mean score; a mean score of 1.0-8.0; poor knowledge, 8.10-16.20; fair knowledge and 16.3-26.96 good knowledge. Section C: this section elicited information about the respondent's preventive practices against nosocomial infection.

The observational checklist consisted of a total of nine (9) items which were observed by the researcher among the respondents during the course of the study.

#### Validity and reliability

Face and content validity technique was used to ascertain the validity of the research instrument. The instrument was critically reviewed by experts in the field of public health and statistics, for appropriate structuring of the questions to ensure internal consistency and suitability towards achieving the research objectives. Test-retest method was used to determine the reliability of the instrument. The instrument was administered to them and re-administered after two weeks to the target population. Their responses from the first and second pre-test administration was analysed using Pearson Product Moment Correlation technique,<sup>30</sup> which yielded a reliability coefficient of 0.81.

#### Ethical considerations

Ethical clearance with (reference number UNIMEDTHC/ERC/23/099) was obtained from the ethics and research committee of university of medical sciences teaching hospital, Ondo state, Nigeria. The researcher obtained informed consent from the respondents. Informants/Participants had the right to remain anonymous. Principles of confidentiality and anonymity were maintained throughout the study. No personal details appeared on the instrument of data collection (questionnaire).

#### Data Collection

The researcher recruited and trained two research assistants for one day on the appropriate ways of signing the consent forms, filling the questionnaires, and how to generally administer the questionnaires.

For the study proper, participants were approached to obtain individual informed consent, following, the self-administered questionnaires were given to the participants to fill and were collected immediately by the research assistants and handed over to the researcher. The data was collated over a period of five days with the distribution of 38 questionnaires per day.

#### Data Analysis

Data was entered and analyzed by using Statistical Package for the Social Sciences software (SPSS) version 26.0 while results were analysed at 95% confidence limit.

## RESULTS

Findings revealed the socio-demographic characteristics of the respondents. The Mean age of the respondents was (36.63±4.78) with a modal age of 18-30years (55.8%). Most 93(54.1%) of the respondents were single, married 76(44.2%), Majority 164(95.3%) of the respondents were Christians. Majority 147(85.5%) of the respondents had attained tertiary educational level, Majority 132(76.7%) of the respondents were nurses. See table 1

Table 2 shows the respondent's knowledge of NI. Majority 166(96.5%) of the respondents have heard about NI. Majority 162(94.2%) stated that NI is an infection acquired in the hospital. Majority (96.5%) stated that NI is also referred to as hospital acquired infection, Majority 140(81.4%) stated that NI is caused by improper hygiene, Majority 154(89.5%) stated that the standard precaution for NI was hand hygiene. Majority 151(87.8%) stated STI, UTI (1.7%), respiratory infection 10(5.8%), surgical site infection 8(4.7%). and 17(9.9%) stated prolonged

Table 3, shows the mean knowledge score of the respondents regarding nosocomial infection. It showed that 3(1.8%) with 8.00 ± 1.73 had poor knowledge, 20(11.6%) with 16.20 ± 2.46 had fair knowledge while majority 149(86.6%) with 26.96 ± 3.45 of the respondent's had good knowledge of nosocomial infection

Table 4 shows the observational checklist of the

respondent's practices towards prevention of nosocomial infection. It was observed that the respondents practiced separation of patients with communicable diseases 172(100.0%), proper use of PPE 164 (95.4%), proper hand hygiene 172 (100.0%), proper handling of contaminated materials 157 (91.3), proper disposal of contaminated materials 170(98.8%), regular use of gloves 172(100.0%), adequate bed spacing 172(100.0%), hand washing before and after procedure 172(100.0%), hand washing before a patient and after a patient 169(98.3%).

Table 5, shows the factors influencing the preventive practices against NI. Large majority 166 (96.5) of the respondents stated unfavourable work environment, followed by short staffing; 152 (88.4%), excessive workload, 150 (87.2%) and Knowledge of nosocomial infection 142 (82.6%) were factors influencing their preventive practices against NIs while least factors were Cultural beliefs; 95 (55.2%)

Table 6, shows the multinomial logistic regression analysis of the relationship between factors influencing the preventive practices against nosocomial infection and their overall level of preventive practices. The findings showed that only unfavorable work environment (Fair: OR: 0.007, CI: 15.479-24842.6 p 0.001) had been shown to likely affect respondent's overall level of preventive

Table 1: Socio-demographic characteristics of the participants

S/N	Variables	Options	Frequency (n)	Percentage (%)	
1	Age (years)	18 -30	96	55.8	
		Mean age	31 -40	25	14.5
		(36.63±4.78)	41 -50	27	15.7
		Above 50	24	14.0	
2	Gender	Male	12	7.0	
		Female	160	93.0	
3	Marital status	Single	93	54.1	
		Married	76	44.2	
		Divorced	0	0.0	
		Widow	3	1.7	
4	Ethnicity	Igbo	3	1.7	
		Hausa	6	3.5	
		Yoruba	157	91.3	
		Others	6	3.5	
5	Religion	Christianity	164	95.3	
		Islam	8	4.7	
6	Academic qualification	Primary education	5	2.9	
		Secondary education	20	11.6	
		Tertiary education	147	85.5	
7	Length of service (Years)	0-5	99	57.6	
		6-10	33	19.2	
		11 -15	3	1.7	
		16 -20	7	4.1	
8	Professional area	Above 20	30	17.4	
		Health assistant	19	11.0	
		Nurse	132	76.7	
		Medical doctor	15	8.7	
9	Employment status	Others	6	3.5	
		Permanent	92	53.5	
		Contract	80	46.5	

Table 2: Knowledge of Nosocomial Infections

S/N	Variables	Options	Frequency (n)	Percentage (%)
1	Heard about nosocomial infection (NI)	Yes	166	96.5
		No	6	3.5
2	Nosocomial infection is ...	Infection in the hospital	162	94.2
		STI	7	4.1
		Chronic diseases	3	1.7
		All of the above	0	0.0
3	NI is also referred to as	Hospital acquired infection	166	96.5
		Communicable diseases	3	1.7
		Non-communicable disease	3	1.7
		Chronic diseases	0	0.0
4	Cause of NI	Cigarette smoking	9	5.2
		Lead poisoning	0	0.0
		Improper hygiene	140	81.4
		None of the above	23	13.4
5	Standard precaution for NI	Good illumination	12	7.0
		Good haircut	0	0.0
		Hand hygiene	154	89.5
		Tight hospital security	6	3.5
6	Areas where one can be exposed to NI in the hospital	Reception	3	1.7
		Wards	24	14.0
		Laboratory	5	2.9
		All of the above	140	81.4
7	NI is caused by	Bacteria	12	7.0
		Viruses	2	1.2
		Parasites	0	0.0
		Fungi	12	7.0
8	Who is at risk of NI	All of the above	146	84.9
		Health workers	3	1.7
		Patients	26	15.1
		Visitors	3	1.7
9	Example of nosocomial infection except	All of the above	140	81.4
		UTI	3	1.7
		Respiratory infection	10	5.8
		Surgical site infection	8	4.7
10	Effect of NI except	STI	151	87.8
		Prolonged hospital stay	17	9.9
		High hospital cost	69	40.1
		Spread of infection	20	11.6
		None of the above	66	38.4

**Table 3 Classification of level of knowledge respondents regarding nosocomial infection**

Knowledge level	Mean	Standard deviation	Frequency (n)	Percentage (%)	
Poor	1.0	8.00	1.73	3	1.8
Fair	8.1	-16.20	2.46	20	11.6
Good	16.3	-26.96	3.45	149	86.6
Total	25.38	5.33	172	100	

**Table 4: Observational checklist of respondents practice towards prevention of nosocomial infections**

S/N	Statements	Yes n(%)	No n(%)
1	Isolation of patients with communicable diseases	172 (100.0)	0 (0.0)
2	Proper use of personal protective equipment	164 (95.4)	8 (4.6)
3	Practice of proper hand hygiene	172 (100.0)	0 (0.0)
4	Proper handling of contaminated materials	157 (91.3)	15 (8.7)
5	Proper disposal of contaminated materials	170 (98.8)	2 (1.2)
6	Regular use of gloves	172 (100.0)	0 (0.0)
7	Adequate bed spacing	172 (100.0)	0 (0.0)
8	Hand washing before and after each procedure	172 (100.0)	0 (0.0)
9	Hand washing before attending to a patient and after attending to a patient	169 (98.3)	3 (1.7)

**Table 5: Factors Influencing the Preventive Practices against Nosocomial Infection**

S/N	Variables	Yes n(%)	No n(%)	Total n(%)
1	Excessive workload	150 (87.2)	22 (12.8)	172 (100.0)
2	Lack of supervision	157 (91.3)	15 (8.7)	172 (100.0)
3	Cultural belief	95 (55.2)	77 (44.8)	172 (100.0)
4	Short staffing	152 (88.4)	20 (11.6)	172 (100.0)
5	Availability of equipment	128 (74.4)	44 (25.6)	172 (100.0)
6	Distance to necessary facility	133 (77.3)	39 (22.7)	172 (100.0)
7	Unfavorable work environment	166 (96.5)	6 (3.5)	172 (100.0)
8	Knowledge of nosocomial infection	142 (82.6)	30 (17.4)	172 (100.0)

**Table 6: Analysis of the Relationship between Factors Influencing the Preventive Practices against Nosocomial Infection and their Overall Level of Preventive Practices**

Preventive practices	B	Wald	P-value	OR	CI Lower	Upper
Excessive workload				1		
	9.742-10.712	0.000	0.986	17024.692	0.000	2003.81
Lack of supervision				1		
	1.046	0.000	0.999	2.846	0.000	0.000
Cultural belief				1		
	33.111	0.001	0.971	239927.440	0.000	0.000
Short staffing				1		
	11.114	0.001	0.977	67079.516	0.000	24.497
Availability of equipment				1		
	9.583	0.000	0.948	14511.380	0.000	0.000
Distance to necessary facility				1		
	-1.031	0.000	0.999	0.357	2.548	487.39
Unfavorable work environment				1		
	-0.346	0.004	0.999	0.708	0.000	4753.88
Knowledge of nosocomial infection				1		
	10.765	0.000	0.984	47337.228	0.002	2318.24
Excessive workload				1		
	9.430	0.002	0.968	12454.464	0.000	126136
Lack of supervision				1		
	10.313	0.001	0.980	30113.273	0.046	6.045
Cultural belief				1		
	9.293	0.002	0.963	10865.811	0.003	282.43
Short staffing				1		
	-4.981	0.000	0.001	0.007	0.007	0.007
Availability of equipment				1		
	-42.843	0.012	0.912	1.255	0.000	2589114
Distance to necessary facility				1		
	-0.858	0.000	0.999	0.424	4.066	4867.48
Unfavorable work environment				1		
	-0.835	0.000	0.998	0.434	0.000	2124644

## DISCUSSION

The study's findings revealed the respondents' mean knowledge scores regarding nosocomial infections (NIs). It showed that majority, 149 (86.6%), demonstrated good knowledge with a mean score of  $26.96 \pm 3.45$ . This indicates that the majority of respondents have a strong understanding of nosocomial infections, which is crucial in the prevention and control of these infections.<sup>10,11</sup> Most participants were aware of NIs, correctly identifying them as infections acquired in the hospital, commonly referred to as hospital-acquired infections (HAIs). These findings align with those reported by Irene and Daniel who found that 88.7% of health workers were familiar with NIs and recognized that proper hand hygiene could prevent them.<sup>12</sup> Similarly, Mba et al., found that most respondents had heard of NIs and understood them as hospital-acquired infections.<sup>13</sup> This understanding is vital as healthcare-associated infections significantly contribute to patient morbidity and mortality.<sup>14</sup> Furthermore, Irene and Daniel noted that 79% of respondents demonstrated good knowledge of NIs, specifically mentioning cholera, urinary tract infections (UTIs), and pneumonia as examples.<sup>12</sup> This is consistent with other studies that have highlighted the importance of healthcare workers' knowledge in identifying and preventing NIs.<sup>15</sup> The high knowledge level observed in the current study is likely due to the respondents being healthcare workers, who are expected to have a more comprehensive understanding of nosocomial infections. This finding is consistent with Mba et al., who reported that 93.3% of respondents demonstrated adequate knowledge of NIs.<sup>13</sup> The elevated awareness observed in this study may also be attributed to the heightened focus on infectious diseases during the COVID-19 pandemic in 2020, which increased awareness of infectious diseases, particularly those to which healthcare workers are exposed.<sup>16,17</sup>

In terms of preventive practices, the majority of respondents reported washing their hands even after using gloves, washing hands before and after direct patient contact, wearing masks and glasses during invasive and body fluid procedures, using personal

protective equipment (PPE) when handling linens, frequently using hand sanitizer, strictly adhering to aseptic techniques, isolating patients with communicable diseases in separate rooms, avoiding the use of the same needle and syringe for multiple patients, and following the World Health Organization (WHO) "Five Moments for Hand Hygiene." These practices are consistent with global recommendations for infection prevention.<sup>18,19,20</sup>

However, a minority of respondents reported recapping needles after use and before disposal, which is concerning as it poses a risk of needle-stick injuries and subsequent exposure to NIs. This issue has been highlighted in other studies, which emphasize the dangers of needle-stick injuries and the importance of safe needle disposal practices.<sup>21,22</sup>

The findings of the current study are in agreement with those of Irene and Daniel, who observed that most healthcare workers in their study practiced proper hand hygiene after patient care, regularly used gloves, frequently sanitized their hands, consistently used PPE, disinfected surfaces regularly, and adhered to the "Five Moments for Hand Hygiene."<sup>12</sup> Additionally, the practice of isolating patients with communicable diseases in separate rooms, as reported in this study, is crucial because these diseases can be transmitted through airborne droplets, potentially putting other patients and staff at risk of NIs.<sup>23</sup> It is of concern that a minority of respondents reported recapping needles after use and disposal, as this practice can increase the risk of needle-stick injuries for those handling medical waste. However, the study noted that most healthcare workers avoided recapping needles due to the fear of accidentally pricking themselves and being exposed to NIs. Moreover, the consistent use of gloves reported by most respondents in this study aligns with the findings of Wilson et al., who found that 96% of nurses regularly used gloves during patient care.<sup>24</sup>

The study's findings, revealed that the majority (95%) of respondents demonstrated good preventive practices against nosocomial infections (NIs). This high level of preventive behavior may be attributed to the heightened awareness and vigilance resulting from the COVID-19 pandemic, which significantly

affected healthcare workers (HCWs) and emphasized the importance of infection control measures.<sup>17 25</sup> Additionally, the strong preventive practices observed may be influenced by a hospital culture that prioritizes patient safety and infection prevention.<sup>19</sup> The study's results align with the findings of Ntambara et al., who reported that 83% of respondents adhered to infection control procedures.<sup>26</sup> The observed practices in the current study included patient isolation for communicable diseases, proper use of personal protective equipment (PPE), rigorous hand hygiene, careful handling and disposal of contaminated materials, regular use of gloves, adequate bed spacing, and consistent hand washing before and after patient contact. These practices are critical for reducing the risk of hospital-acquired infections (HAIs).<sup>14</sup> The findings also resonate with the study by Wilson et al., which reported that most respondents properly used PPE, maintained adequate bed spacing, and practiced hand hygiene before and after patient care.<sup>24</sup> Similarly, Haile et al., documented that HCWs regularly used gloves and handled contaminated materials appropriately, further reinforcing the importance of these practices in preventing NIs.<sup>27</sup> The good preventive practices observed at UNIMEDTH Akure may also reflect the influence of past disease outbreaks, such as COVID-19, which exposed many HCWs to the risks of infection and led to increased awareness and adherence to preventive measures.<sup>16 26</sup> This increased awareness and improved practice underscore the need to sustain the ongoing education and reinforcement of infection control protocols to protect both healthcare workers and patients.

The present study identified several factors that influence healthcare workers' (HCWs) preventive practices against nosocomial infections (NIs), including excessive workload, lack of supervision, cultural beliefs, short staffing, availability of equipment, distance to necessary facilities, unfavorable working environments, and knowledge of NIs. These findings align with previous research, which has similarly identified these factors as significant barriers to effective infection control practices.<sup>27 24 29 13</sup> Maitanmi and Anise, highlighted

that factors such as workload, lack of supervision from the infection control department, cultural beliefs, insufficient in-service training, inadequate hospital equipment, language barriers, part-time employment, and distance from necessary facilities all impacted the preventive practices of HCWs.<sup>29</sup> These challenges are compounded by insufficient support from hospital management, which can create an unsupportive work environment, further hindering effective infection prevention. Similarly, Haile et al., identified that limited resources, uncomfortable or inadequate equipment, skin irritation from PPE, forgetfulness, and insufficient management support contributed to non-compliance with standard precautions for infection prevention.<sup>27</sup> These findings underscore the multifaceted challenges HCWs face in adhering to infection control practices, which are critical for preventing the spread of NIs. Moreover, Wilson et al., also emphasized the role of organizational factors such as supervision, staffing levels, and resource availability in influencing compliance with infection control protocols.<sup>24</sup> The consistency of these findings across various studies suggests that addressing these barriers requires a comprehensive approach, including improving supervision, enhancing resource availability, and fostering a supportive work environment. The study's findings suggest that addressing these barriers is crucial for improving HCWs' adherence to infection prevention practices. This requires a multi-faceted approach that includes better supervision, sufficient staffing, availability of necessary equipment, and regular education on NIs.<sup>14 19</sup> Additionally, fostering a supportive work environment and addressing cultural beliefs can enhance compliance with standard precautions, ultimately reducing the incidence of NIs in healthcare settings.<sup>21</sup>

## CONCLUSION

The study highlights the critical factors influencing healthcare workers' preventive practices against nosocomial infections (NIs) in a healthcare setting. The findings reveal that while a majority of respondents demonstrate good preventive practices, various barriers, including excessive workload, lack of supervision, cultural beliefs, short staffing, and

insufficient resources, significantly impact adherence to infection control protocols. These challenges are consistent with those identified in previous studies, underscoring the need for a comprehensive approach to improve compliance with standard precautions. Addressing these barriers requires targeted interventions, such as enhancing supervision, ensuring adequate staffing, providing necessary equipment, and fostering a supportive work environment. Additionally, continuous education on NIs and infection control measures is crucial to reinforce knowledge and practice among healthcare workers. The study underscores the importance of a holistic strategy to mitigate the risks associated with NIs, ultimately improving patient safety and healthcare outcomes.

### Recommendations

- 1. Strengthen Supervision and Oversight:** Implement regular and structured supervision to ensure that healthcare workers adhere to infection control protocols. This could include routine audits, feedback mechanisms, and mentorship programs to reinforce best practices.
- 2. Increase Staffing Levels:** Address short staffing by recruiting additional healthcare personnel to reduce the workload and ensure that staff have sufficient time to adhere to infection prevention measures.
- 3. Enhance Resource Availability:** Ensure that healthcare facilities are adequately equipped with the necessary supplies and resources, such as personal protective equipment (PPE), sanitizers, and sterilization tools, to facilitate proper infection control practices.
- 4. Foster a Supportive Work Environment:** Cultivate a work environment that encourages adherence to infection control practices by addressing cultural beliefs and providing psychological support for staff facing burnout or stress due to high workloads.

### Limitations

- 1. Self-Reported Data:** The reliance on self-reported data from healthcare workers might introduce bias, as participants may overestimate their adherence to preventive practices due to social desirability or fear of judgment.

**2. Limited Generalizability:** The study's findings may be specific to the healthcare setting in which it was conducted, making it difficult to generalize the results to other hospitals or regions with different resources, staffing levels, or cultural contexts.

**3. Sample Size and Sampling Method:** The small sample size and the purposive sampling method may limit the representativeness of the findings, as the study may not have captured the full range of experiences and perspectives of all healthcare workers in the setting.

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