



Research Paper

Knowledge, Attitude And Practice Of Infection Control Among Midwives In University Of Port Harcourt Teaching Hospital, Rivers State Nigeria.

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Abstract

Background: Healthcare-associated infections (HCAs) pose a significant risk to patients, particularly in delivery settings. Midwives play a critical role in preventing HCAs by adhering to proper infection control protocols. This study aimed to assess the knowledge, attitude, and practice (KAP) of infection control among midwives at University of Port Harcourt Teaching Hospital Rivers State, Nigeria.

Methods: A cross-sectional study design was employed. Eighty-seven (87) midwives were recruited through simple random sampling and completed a self-administered questionnaire titled; Attitude and Practice of Infection Control among Midwives Questionnaire (APICMQ) was used to assess their KAP of infection control. Data collected were stored and analysed using statistical package for Social Sciences Software Package (SPSS Version 25). Analysis of socio-demographic variables such as age, sex, and educational attainment were expressed in frequencies and percentages. The Inferential statistics used were chi-squares and regression. Statistical significance was inferred at $p < 0.05$.

Results: Results showed that majority of respondents (38.4%) had strong knowledge of infection prevention and control. Also, findings showed that majority of respondents (37.7%) had strong positive and good attitude towards infection prevention and control. Meanwhile, the practice of midwives towards infection prevention and control were good but not sufficient. However, there was gap between knowledge and practice, as adherence to recommended compliance with standard precautions was strongly agreed by respondents but there were lapses.

Conclusions: The study findings revealed the current state of KAP regarding infection control among midwives at University of Port Harcourt Teaching Hospital. This information can be used to identify areas for improvement and develop targeted interventions to enhance infection control practices and ensure patient safety. The study recommended amongst others that regular training sessions and workshops for midwives at University of Port Harcourt Teaching Hospital should be organized to ensure they are up-to-date with the latest infection control protocols and guidelines. These training sessions should cover topics such as hand hygiene, personal protective equipment (PPE) usage, environmental cleaning, waste management, and standard precautions for various procedures.

Keywords: Knowledge, Attitude, Practice, Infection Control, Midwives

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I. Introduction

The World Health Organization (WHO) highlighted the significance of infection control measures in 2011, particularly in healthcare settings, to protect vulnerable individuals such as patients with weakened immune systems (WHO, 2011). Infection prevention and control (IPC) is a practical, evidence-based approach that is universally relevant and requires constant action at all levels of the health system (WHO, 2011). Admasu et al. (2013) reported that standard precautions, including hand hygiene and use of personal protective equipment, are effective in preventing occupational exposure incidents and associated infections. The WHO

states that most healthcare-associated infections are preventable through good hand hygiene, and their guidelines support hand hygiene promotion and improvement in healthcare facilities worldwide. Hand hygiene improvement programs can prevent up to 50% of avoidable infections acquired during healthcare delivery and generate economic savings on average 16 times the cost of implementation (Benedetta, 2017). Healthcare workers can be a source of infection transmission to patients and are constantly exposed to pathogenic microorganisms. In 2002, the WHO reported that 2.5% of HIV cases and 40% of hepatitis B and C cases among healthcare workers worldwide are the result of occupational exposure (WHO, 2001). According to the Joint United Nations Program on HIV/AIDS, about 34 million people are infected with HIV worldwide, with the majority living in Asia and Africa. Healthcare infections are a major public health concern and cause significant morbidity, mortality, and economic burden. The endemic burden of healthcare-associated infection is significantly higher in low- and middle-income countries than in high-income countries, particularly in patients admitted to intensive care units and in neonates (WHO, 2017).

Healthcare infections are often transmitted by healthcare personnel who fail to adhere to proper hand hygiene and glove-changing procedures. Nurses, who have more contact with patients, are at a higher risk of acquiring and transmitting pathogens (Amoran & Onwube, 2013). Despite the effectiveness of standard precautions, compliance is often low. Formal training on basic infection control practices for all healthcare personnel is beneficial. The Joint Commission on Accreditation of Healthcare Organization (JACO) and the Centre for Disease Control and Prevention (CDC) recommend guidelines for nurses to follow when caring for patients. Hand hygiene is a crucial first step in successful infection control. A study in Geneva hospitals showed that increased hand hygiene compliance reduced hospital-acquired infections. However, studies in the USA, Ethiopia, and Nigeria reported poor adherence to hand hygiene guidelines. The successful application of infection prevention and control strategies depends on the knowledge, attitude, and practice (KAP) of nurses. Therefore, identifying existing infection prevention and control KAP among nurses is the first step in developing and implementing a successful infection prevention and control strategy.

Statement of the Problem

Infection control, particularly among midwives, is crucial in healthcare settings like University of Port Harcourt Teaching Hospital, where it significantly impacts hospital-acquired infection rates. Concerns arise from observed gaps in knowledge, attitudes, and practices related to infection control among midwives, contributing to high infection rates (Jain, et al. 2012; Hayeh & Esena, 2013; Mishta, et al 2014). These gaps could increase infection rates among mothers and newborns, posing a public health challenge. The lack of systematic studies compounds the problem, making it difficult to ascertain its extent or develop targeted interventions. Therefore, a detailed investigation into midwives' infection control attitudes and practices at University of Port Harcourt Teaching Hospital is urgently needed to ensure the safety and well-being of mothers and newborns.

Aim of the study

The aim of the study was to determine the knowledge, attitudes and practices of midwives regarding infection prevention and control at University of Port Harcourt Teaching Hospital Rivers State.

Specific Objectives of the study

The specific objectives of this study were to:

1. ascertain the knowledge level of midwives in infection prevention and control at University of Port Harcourt Teaching Hospital Rivers State.
2. determine the attitude of midwives in infection prevention and control at University of Port Harcourt Teaching Hospital Rivers State.
3. assess the practices of midwives in infection prevention and control at University of Port Harcourt Teaching Hospital Rivers State.
4. ascertain the level of compliance with standard precaution in infection prevention and control among midwives at University of Port Harcourt Teaching Hospital Rivers State.

1.5 Research questions

1. What is the knowledge level of midwives in infection prevention and control at University of Port Harcourt Teaching Hospital Rivers State?
2. What is the attitude of midwives in infection prevention and control at University of Port Harcourt Teaching Hospital Rivers State?
3. What are the practices of infection prevention and control among midwives at University of Port Harcourt Teaching Hospital Rivers State?
4. What is the level of compliance with standard precautions among midwives in infection prevention and control at University of Port Harcourt Teaching Hospital Rivers State?

Significance of the study

The present study on the attitude and practice of infection control among midwives University of Port Harcourt Teaching Hospital, will be of immense benefit and holds significant implications for several reasons:

Improving Patient Safety: The primary significance of this study lies in its potential to enhance patient safety. By identifying gaps in infection control practices, the study would lead to interventions that reduce the risk of hospital-acquired infections, thereby improving the safety of mothers and newborns.

Enhancing Midwifery Practice: The study could also contribute to the professional development of midwives. By shedding light on their attitudes and practices, the study could inform training and education programs, helping midwives to enhance their infection control skills.

Informing Policy and Practice: The findings of this study would inform policy and practice at University of Port Harcourt Teaching Hospital and similar settings. They could lead to changes in protocols and procedures, contributing to more effective infection control. The study would also reveal what is necessary for informing hospital, school management, policy and decisionmakers. The information which the research study will bring out can be used to deal with factors leading to midwives' non-compliance to Infection Prevention guidelines in health facilities.

II. Methods and Materials

A quantitative, cross sectional descriptive survey design was utilized to determine the level of knowledge, attitudes, practices and compliance with standard precautions of midwives in infection prevention and control at University of Port Harcourt Teaching Hospital. In this study the target population was midwives working in gynaecology, obstetrics and general surgery departments/wards at University of Port Harcourt Teaching Hospital. All clinical midwives in University of Port Harcourt Teaching Hospital will to participate in the study were included while those unwilling to participate in the study will be excluded. Also excluded were those on leave (annual, maternity, casual) and on night duty during the time of study. The sample size of the study consisted of 87 midwives on call/duty in gynaecology, obstetrics and general surgery departments/wards at University of Port Harcourt Teaching Hospital. Simple random sampling method was applied where respondents were selected from gynaecology, obstetrics and general surgery departments. This sample was determined from Taro Yamane's Formula.

$$n = N / \left[\frac{1 + Ne}{e^2} \right]$$

Where,

n = Sample Size

N = Population of the study = 98

e = Level of Significance = 0.05

1 = Theoretical constant

Substituting the values in the formula gives us approximately 98 as the sample size for the study.

Assuming a 10% non-response rate

$$\frac{98}{1 + 98(0.05)^2} = \frac{98}{1 + 98 \times 0.025} = \frac{98}{1.245}$$

$$N = 78.9 \sim 79$$

Considering a 10% attrition rate for unfilled and rejected questionnaire, we have

$$10 \times 79 / 100 = 7.8 \sim 8$$

Total sample size (n) = 79 + 8 = 87.

The instrument for data collection was pre-tested self-structured questionnaire titled: Attitude and Practice of Infection Control among Midwives Questionnaire (APICMQ). The instrument consisted of five sections. The face and content validity of the instrument was established by three experts in health research. Cronbach Alpha was used to determine the reliability coefficient of 0.87 for the instrument. The researcher utilized a pre-test self-developed validated questionnaire to collect data. After ethical permission, Directors of Midwifery and Nursing Services, University of Port Harcourt Teaching Hospital, Rivers State was communicated. The researcher visited the selected wards/department for introduction, approval and sought appointment for collection of data. The purpose of the research was explained to the participants, clarifications and explanations were made before the administration of the instrument. Data collection was done daily during each shift for 12 weeks between October 2023 and February 2024. Assented midwives completed the questionnaire during their break periods using an average of 35 – 45 minutes, completed questionnaires were collected and collated. Data collected were stored and analysed using statistical package for Social Sciences Software Package (SPSS Version 25). Analysis of socio-demographic variables such as age, sex, and educational attainment were expressed in frequencies and percentages. The Inferential statistics used were mean and chi-squares. Statistical significance was inferred at $p < 0.05$.

Research Question 1:What is the knowledge level of midwives in infection prevention and control at University of Port Harcourt Teaching Hospital, Rivers State?

Table 1:Knowledge level of midwives in infection prevention and control

2:Knowledge level of midwives in infection prevention and control (n=87)

S/N	ITEMS	SA	A	D	SD	MEAN	DECISION
1	I am aware of the standard infection prevention and control guidelines.	46	30	9	2	3.38	Strongly Agree
2	I regularly wash my hands before and after attending to each patient.	61	18	8	0	3.61	Strongly Agree
3	I always use personal protective equipment (PPE) when necessary.	32	25	20	10	2.90	Agree
4	I am knowledgeable about the different types of infections that can occur in a healthcare setting.	50	16	8	13	3.18	Strongly Agree
5	I understand the importance of patient isolation in preventing the spread of infections.	37	24	17	9	3.02	Strongly Agree
6	I am confident in my ability to educate patients and their families about infection prevention.	34	29	15	9	3.01	Strongly Agree
7	I know how to properly dispose of medical waste to prevent the spread of infections.	39	18	23	7	3.02	Strongly Agree
8	I am aware of the vaccination protocols to prevent common infections.	31	29	20	7	2.97	Agree
9	I understand the role of antibiotics in controlling infections and the risks of antibiotic resistance	24	39	22	2	2.98	Agree
10	I participate in regular training and updates on infection prevention and control.	30	24	20	13	2.82	Agree
Grand Mean		38.4%	32.7%	18.6%	8.3%	3.09	Strongly Agree

Source: (Researchers' Primary Data, 2024), Criterion = 2.50, Key: SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

Data from Table 1 above shows that majority of respondents (38.4%) had strong knowledge of infection prevention and control. 32.7% of respondents agreed their knowledge level of infection prevention and control. 18.6% disagreed on their knowledge level of infection prevention and control the while 8.3% of respondents responded to strongly disagreed. However, the grand mean of the responses stood at 3.09 which is greater than the criterion mean of 2.50. This implies that midwives' knowledge level on infection prevention and control at University of Port Harcourt Teaching Hospital, Rivers State was high.

Research Question 2: What is the attitude of midwives in infection prevention and control at University of Port Harcourt Teaching Hospital, Rivers State?

Table 2:Attitude of midwives in infection prevention and control

2: Attitude of midwives in infection prevention and control (n=87)

S/N	ITEMS	SA	A	D	SD	MEAN	DECISION
1	I believe that following infection prevention and control guidelines is essential in my work	32	28	15	12	2.92	Agree
2	I feel confident in my ability to prevent and control infections in my healthcare setting.	39	32	9	7	3.18	Strongly Agree
3	I think that using personal protective equipment (PPE) is necessary for the safety of both myself and my patients.	37	40	7	3	3.28	Strongly Agree
4	I feel that it's important to stay updated on the latest infection prevention and control protocols.	32	27	20	8	2.95	Agree
5	I believe that patient education about infection prevention is a crucial part of my role as a midwife	19	30	32	6	2.71	Agree
6	I feel that proper disposal of medical waste is a key factor in preventing the spread of infections.	40	32	10	5	3.23	Strongly Agree
7	I believe that vaccinations are an effective method for preventing common infections.	29	23	19	16	2.75	Agree
8	I feel that understanding the role of antibiotics and the risks of antibiotic resistance is important in my profession.	30	34	13	10	2.97	Agree
9	I am committed to participating in regular training and updates on infection prevention and control.	34	28	16	9	3.00	Strongly Agree
10	I believe that my actions can make a significant difference in preventing the spread of infections in my healthcare setting	36	26	13	12	2.99	
Grand Mean		37.7%	34.5%	17.7%	10.1%	3.00	Strongly Agree

Source: (Researchers' Primary Data, 2024),Criterion = 2.50, Key: SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

Data presented on Table 2 above shows that majority of respondents (37.7%) had strong positive and good attitude towards infection prevention and control. Also, 34.5% of respondents responded agreed to the items addressing attitude towards infection prevention and control. However, 17.7% disagreed on their attitude towards infection prevention and control the while 10.1 % of respondents responded to strongly disagreed. However, the grand mean of the responses was 3.00 which is greater than the criterion mean of 2.50. This implies that midwives at University of Port Harcourt Teaching Hospital, Rivers State had positive and good attitudes towards infection prevention and control.

Research Question 3: What are the practices of infection prevention and control among midwives at University of Port Harcourt Teaching Hospital, Rivers State?

Table 3: Practices of infection prevention and control among midwives

Table 3: Practices of infection prevention and control among midwives (n=87)

S/N	ITEMS	SA	A	D	SD	MEAN	DECISION
1	I wash my hands before and after attending to each patient.	34	28	19	6	3.03	Strongly Agree
2	I use personal protective equipment (PPE) when necessary	30	37	15	5	3.06	Strongly Agree
3	I follow the standard infection prevention and control guidelines in my daily practice	36	22	19	10	2.97	Agree
4	I isolate patients when necessary to prevent the spread of infections.	43	21	11	12	3.09	Strongly Agree
5	I educate patients and their families about infection prevention.	37	23	12	15	2.94	Agree
6	I properly dispose of medical waste to prevent the spread of infections.	43	29	11	4	3.28	Strongly Agree
7	I adhere to the vaccination protocols to prevent common infections	38	30	9	10	3.10	Strongly Agree
8	I use antibiotics responsibly to control infections and prevent antibiotic resistance.	36	26	19	6	3.06	Strongly Agree
9	I participate in regular training and updates on infection prevention and control.	28	34	14	11	2.91	Agree
10	I take steps to stay updated on the latest infection prevention and control protocols.	42	31	5	9	3.22	Strongly Agree
Total		42.2%	32.3%	14.1%	10.2%	3.07	Strongly Agree

Source: (Researchers' Primary Data, 2024), Criterion = 2.50, Key: SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

The analysed data presented on Table 3 above which addressed the practices of infection prevention and control among midwives shows that majority of respondents (42.2%) strongly agreed on practices of infection prevention and control. Also, 32.3% of respondents responded agreed to the items addressing practices of infection prevention and control. However, 14.1% disagreed on their practices of infection prevention and control the while 10.2 % of respondents responded to strongly disagreed. However, the grand mean of the responses was 3.07 which is greater than the criterion mean of 2.50. This implies that midwives at University of Port Harcourt Teaching Hospital, Rivers State strongly agreed on practices of infection prevention and control.

Research Question 4: What is the level of compliance with standard precautions among midwives in infection prevention and control at University of Port Harcourt Teaching Hospital, Rivers State?

Table 4: Level of compliance with standard precautions among midwives in infection prevention and control

4: Level of compliance with standard precautions among midwives in infection prevention and control (n=87)

S/N	ITEMS	SA	A	D	SD	MEAN	DECISION
1	I adhere to the standard precautions for patient placement.	37	29	20	1	3.17	Strongly Agree
2	I comply with hand hygiene guidelines before and after patient care	33	37	15	2	3.16	Strongly Agree
3	I use personal protective equipment (PPE) as per the standard precautions	29	24	27	7	2.86	Agree
4	I follow respiratory hygiene/cough etiquette in my practice.	43	37	5	2	3.39	Strongly Agree
5	I adhere to safe injection practices as per the standard precautions.	41	35	4	7	3.26	Strongly Agree
6	I comply with guidelines for the handling of patient-care equipment and instruments/devices	39	40	6	1	3.32	Strongly Agree
7	I follow the standard precautions for the handling of laundry.	35	31	12	9	3.06	Strongly Agree
8	I adhere to the guidelines for environmental cleaning	36	41	6	4	3.25	Strongly Agree
9	I comply with the standard precautions while handling	45	29	8	5	3.31	Strongly Agree

10	patient specimens. I follow safe disposal practices for sharps and infectious waste.	43	40	3	1	3.44	Strongly Agree
Total		43.8%	39.4%	12.2%	4.5%	3.22	Strongly Agree

Source: (Mercy Primary Data, 2024), Criterion = 2.50, Key: SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

The data analyzed and presented on Table 4 above which addressed the level of compliance with standard precautions among midwives in infection prevention and control shows that the majority of respondents (43.8%) strongly agreed on level of compliance with standard precautions among midwives in infection prevention and control. Also, 39.4% of respondents responded agreed to the items addressing level of compliance with standard precautions among midwives in infection prevention and control. However, 12.2 % disagreed while 4.5 % of respondents responded to strongly disagreed on items addressing the level of compliance with standard precautions among midwives in infection prevention and control. However, the grand mean of the responses stood at 3.22 which is greater than the criterion mean of 2.50. This implies that midwives at University of Port Harcourt Teaching Hospital, Rivers State strongly agreed on level of compliance with standard precautions among midwives in infection prevention and control.

III. Discussion of Finding

Knowledge level of midwives in infection prevention and control

The findings from the results showed that the respondents have a strong level of knowledge on infection prevention and control. Data from Table 1 above shows that majority of respondents (38.4%) had strong knowledge of infection prevention and control. 32.7% of respondents agreed their knowledge level of infection prevention and control. 18.6% disagreed on their knowledge level of infection prevention and control the while 8.3% of respondents responded to strongly disagreed. However, the grand mean of the responses stood at 3.09 which is greater than the criterion mean of 2.50. This implies that midwives' knowledge level on infection prevention and control at University of Port Harcourt Teaching Hospital, Rivers State was high. This finding is similar with findings of Freahiywot, Eshetu and Workie (2015), and Amoran and Onwube (2013) which all revealed that their respondents had good knowledge of infection prevention and control.

Attitude of midwives in infection prevention and control

The findings of the study showed that respondents had positive and good attitudes towards infection prevention and control. Data presented on Table 2 above shows that majority of respondents (37.7%) had strong good attitude towards infection prevention and control. Also, 34.5% of respondents responded agreed to the items addressing attitude towards infection prevention and control. However, 17.7% disagreed on their attitude towards infection prevention and control the while 10.1 % of respondents responded to strongly disagreed. However, the grand mean of the responses was 3.00 which is greater than the criterion mean of 2.50. This implies that midwives at University of Port Harcourt Teaching Hospital, Rivers State had good attitudes towards infection prevention and control. This finding is in line with the finding from health institutions from Bahir Dar City which revealed 55.6% of health care workers had good attitude (Kelemua & Gebeyaw, 2014). This finding is higher when compared with finding from teaching hospital in Zabol by Hamed, Abbas, Nosratollah & Ebrahim (2015) which revealed 33% of HCWs had good attitude to infection prevention and control. This difference may be due to variation in setting of the study and it also may be due to difference in knowledge of HCWs towards infection prevention and control. High compliance to hand washing in this study was similar to the findings of Nobile (2002), where 60% of nurses decontaminate their hands at start of shift and 72.5% before and after contact with patients. The finding of this study is also in line with some Nigerian studies (Ekwere & Okafor, 2013, and Amoran & Onwube), hand hygiene compliance was reported among nurses.

Practices of infection prevention and control

Generally, the results showed that 42.2% of respondents strongly agreed practices of infection prevention and control. The analysed data presented on Table 3 above which addressed the practices of infection prevention and control among midwives shows that majority of respondents (42.2%) strongly agreed on practices of infection prevention and control. Also, 32.3% of respondents responded agreed to the items addressing practices of infection prevention and control. However, 14.1% disagreed on their practices of infection prevention and control the while 10.2 % of respondents responded to strongly disagreed. However, the grand mean of the responses was 3.07 which is greater than the criterion mean of 2.50. This implies that midwives at University of Port Harcourt Teaching Hospital, Rivers State strongly agreed on practices of infection prevention and control. This finding from this study is same when compared with the finding from Zabol Teaching Hospital by Hamed et al. (2015) which showed 34% of the study participants occasionally practice infection prevention and control. This finding is lower when compared with finding from a study by Kelemua and Gebeyaw (2014) which revealed 87.5% of the study participants had good practice.

Level of compliance with standard precautions

Findings show that respondents strongly agreed on level of compliance with standard precautions among midwives in infection prevention and control. The data analyzed and presented on Table 4 above which addressed the level of compliance with standard precautions among midwives in infection prevention and control shows that the majority of respondents (43.8%) strongly agreed on level of compliance with standard precautions among midwives in infection prevention and control. Also, 39.4% of respondents responded agreed to the items addressing level of compliance with standard precautions among midwives in infection prevention and control. However, 12.2 % disagreed while 4.5 % of respondents responded to strongly disagreed on items addressing the level of compliance with standard precautions among midwives in infection prevention and control. However, the grand mean of the responses stood at 3.22 which is greater than the criterion mean of 2.50. This implies that midwives at University of Port Harcourt Teaching Hospital, Rivers State strongly agreed on level of compliance with standard precautions among midwives in infection prevention and control. The current study does agree with these previous findings as majority of the nurses had high level of compliance with standard precautions. This finding was similar to Haridi et al. (2014) as well as to other studies that had good compliance.

5.3 Conclusion

This study assessed the knowledge, attitude, and practice of infection control among midwives at University of Port Harcourt Teaching Hospital, Rivers State. The findings suggest that midwives possessed strong knowledge as well as positive attitudes towards infection control. Also, practice of midwives towards infection prevention and control were good but not sufficient. However, there was gap between knowledge and practice, as adherence to recommended compliance with standard precautions was strongly agreed by respondents but there were lapses.

5.4 Recommendations

Based on the findings and conclusion of this study, the following recommendations are made:

1. Regular training sessions and workshops for midwives at University of Port Harcourt Teaching Hospital, Rivers State should be organized to ensure they are up-to-date with the latest infection control protocols and guidelines. These training sessions should cover topics such as hand hygiene, personal protective equipment (PPE) usage, environmental cleaning, waste management, and standard precautions for various procedures.
2. Government and hospital management board should establish and enforce strict protocols for infection control practices within the maternity ward and delivery rooms. These protocols should be based on evidence-based guidelines and should be mandatory for all midwives to follow. Regular audits and monitoring should be conducted to ensure compliance with the protocols.
3. Hospitals should foster a culture of safety and accountability within the midwifery team at University of Port Harcourt Teaching Hospital, Rivers State. Encourage open communication, reporting of breaches, and a non-punitive approach to addressing lapses in infection control practices. Midwives should be empowered to speak up and escalate concerns regarding potential risks or breaches in infection control measures.
4. The hospital management should ensure that midwives at University of Port Harcourt Teaching Hospital, Rivers State have access to all necessary resources for effective infection control practices. This includes adequate supplies of PPE, hand hygiene facilities, disinfectants, and appropriate waste disposal systems. Regular assessments should be conducted to identify and address any resource gaps or deficiencies that may hinder proper infection control practices.

References

- [1]. Admasu, T. E., Edward, A. S., & Limmsay, M. E. (2013). Infection control knowledge, attitude and practice among health workers in Addis Ababa, Ethiopia. *Infection Control & Hospital Epidemiology*, 34(7), 778-784.
- [2]. Amoran, O. & Onwube, O. (2013). Infection control and practice of standard precautions among health care workers in Northern Nigeria. *Journal of Global Infectious Diseases*, 5: 156-163.
- [3]. Freahiywot, A. T., Eshetu, H. E. & Workie, Z. W. (2015). Knowledge, practice and associated factors towards prevention of surgical site infection among nurses working in Amhara Regional State Referral Hospitals, Northwest Thiopia. *Surgical Research Practice*, 5: 1-6.
- [4]. Haridi, H. K., Al-Ammar, A. S. & Al-Mansour, M. I. (2016). Compliance with infection control standard precautions guidelines: a survey among dental healthcare workers in Hail Region, Saudi Arabia. *J Infect Prev* 2016;17(6): 268–76.
- [5]. Hayeh, P.A. & Esena, R.K. (2013). Infection prevention and control practices among health workers at Ridge regional hospital in Accra Ghana. *International Journal of health science & research*, 3(8):47-55.
- [6]. Jain, M., Dogra, V., Mishra, B., Thakur, A., & Loomba, P.S. (2012). Infection control practices among doctors and nurses in a tertiary care hospital. *Ann Trop Med Pub Med public health*, 5(1):29-33.
- [7]. Kelemua, G. & Gebeyaw, T. (2014). Assessment of knowledge, attitude and practice of health care workers on infection prevention in Health Institute Bahir Dar City Administration. *Scientific Journal of Public Health*, 2: 384-393.
- [8]. WHO(2010-2011). National guidelines on hand hygiene for prevention of hospital-acquired infection (HAI).
- [9]. WHO. (2001). Manual Infection prevention and control policies and guidelines. [Online]. Available at: <https://www.spc.int/phs/PPHSN/Activities/PICNet/SECTIONS -1-6.pdf>.
- [10]. WHO. (2017). Patient safety Ndola Central Hospital, Zambia in partnering with Guy's and St. Thomas' Foundation Trust, London.