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Evaluation of Institutional Policies for the Prevention of Healthcare-Associated Infections in General Referral Hospitals in Ituri Province, DR. Congo

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Abstract:

- ***Introduction:***
This study aimed to evaluate institutional policies and practices for the prevention of healthcare-associated infections (HAIs) in the general referral hospitals (GRHs) of Ituri Province, Democratic Republic of the Congo.

- ***Methods:***
A descriptive and analytical quantitative approach was adopted, involving 356 healthcare professionals from 18 GRHs. Data were collected using a structured questionnaire and analyzed with SPSS, employing statistical tests such as chi-square and odds ratios (OR) with 95% confidence intervals.

- ***Results:***
The findings reveal significant disparities between faith-based and public hospitals. A written policy for infection control was reported in 57.9% of faith-based hospitals compared to only 15.7% of public hospitals (OR = 0.25; 95% CI: [0.15–0.41]; p = 0.000). Similarly, the availability of functional committees, meeting minutes, and information systems was significantly higher in faith-based institutions (p < 0.05). Hand hygiene was identified as the main preventive measure (38.8%), with no significant difference between hospital types (p = 0.094), while additional precautions were more frequently implemented in faith-based hospitals (OR = 0.43; CI: [0.20–0.91]).

- ***Conclusion:***
Public hospitals exhibit major structural and functional deficiencies in the fight against HAIs, underscoring the urgent need for reforms in governance, staff training, and provision of adequate equipment. An effective response to HAIs requires a systemic and integrated approach, mobilizing institutional, human, and material resources in a coordinated manner to ensure quality care and patient safety across all hospitals in Ituri Province.

Keywords: *Institutional Policies, Prevention, Healthcare-Associated Infections, General Referral Hospitals, Ituri.*

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I. INTRODUCTION

Healthcare-associated infections (HAIs), also known as nosocomial infections, represent a major public health issue in hospital systems, particularly in low-resource countries. According to the World Health Organization (WHO, 2016), approximately 7 out of 100 patients in high-income countries and 15 out of 100 in low- and middle-income countries acquire at least one HAI during their hospitalization. These infections lead to increased morbidity, mortality, length of hospital stay, and healthcare costs (Allegranzi *et al.*, 2022; Cassini *et al.*, 2019).

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The prevention of HAIs largely depends on the existence and rigorous implementation of evidence-based institutional policies, including surveillance protocols, staff training, hand hygiene, sterilization, and waste management (WHO, 2021; Boyce & Pittet, 2017). However, numerous studies have shown that in developing countries, such policies are often inadequate, poorly understood, or weakly implemented (Bagheri Nejad *et al.*, 2020; Irek *et al.*, 2019).

In the Democratic Republic of the Congo (DRC), research indicates that the prevalence of HAIs is high, especially in secondary and tertiary care facilities, sometimes exceeding 20% in certain hospitals (Mawazo *et al.*, 2018; Kimbini *et al.*, 2020). These alarming figures are attributed to unfavorable structural conditions such as the lack of potable water, insufficient protective equipment, staff overwork, and limited access to continuous training (Kpanake *et al.*, 2019; Toko *et al.*, 2022).

Ituri Province, located in eastern DRC and affected by recurring armed conflicts, presents a particularly vulnerable environment for patient safety. The General Referral Hospitals (GRHs), which represent the intermediate level of the national healthcare pyramid, face not only a massive influx of displaced and wounded patients but also limited human and material resources (MSF, 2023; IRC, 2021). This crisis context exacerbates the risks of cross-transmission and makes HAI prevention particularly challenging (Uwamahoro *et al*., 2020; Asefa *et al*., 2023).

Although several national policies for infection prevention and control (IPC) have been developed by the Congolese Ministry of Public Health (Ministry of Health, DRC, 2017), their actual uptake and implementation at the local level remain largely unknown. Studies by Mutombo *et al.* (2021) indicate that in certain areas, hospital hygiene committees are non-functional, and hygiene audits are rare or nonexistent. Furthermore, awareness and training efforts are often sporadic and insufficiently evaluated (Mabika *et al.*, 2022).

Thus, despite national-level efforts, the lack of monitoring and evaluation mechanisms, ongoing security instability, and weak hospital leadership undermine the effectiveness of HAI control policies in Ituri's GRHs (Kayembe *et al*., 2020; Tumba *et al*., 2021; Kassa *et al*., 2022). Therefore, an in-depth analysis of these policies is essential to identify existing gaps, understand barriers to implementation, and propose context-specific improvement strategies.

II. METHODOLOGY

- *Study Type, Approach, and Setting*

This study adopted a descriptive and analytical quantitative approach, aimed at assessing the implementation of healthcare-associated infection (HAI) control policies in the general referral hospitals (GRHs) of Ituri Province, Democratic Republic of the Congo. It is based on the collection and analysis of primary data obtained from a sample of healthcare professionals directly involved in patient care. The survey was conducted in all 18 GRHs located across the various health zones of Ituri. These hospitals represent the second tier of the national healthcare pyramid in the DRC. They provide specialized services, including surgical, obstetric, and referred patient care. Their strategic position within the provincial health system makes them key actors in the prevention and control of HAIs, particularly in a fragile healthcare environment marked by structural, logistical, and security challenges.

- *Study Population, Sampling, Data Collection, and Analysis*

The study population consisted of all healthcare personnel (including doctors, nurses, midwives, laboratory technicians, etc.) working in the 18 General Referral Hospitals (GRHs) across the health zones of Ituri Province. A total sample of 356 healthcare professionals was selected using a stratified proportional sampling method, with random selection within each hospital to ensure adequate representativeness. Data were collected through a structured questionnaire covering knowledge, practices, and perceptions regarding healthcare-associated infection (HAI) prevention policies, as well as the existing institutional frameworks in place. Prior to full deployment, the tool was pretested for clarity and reliability. Following data collection, the analysis was performed using SPSS software. Descriptive statistics were used to summarize the respondents' sociodemographic and professional characteristics. To identify associations between hospital type (faith-based vs. public) and various components of HAI prevention policy implementation and practice, bivariate analyses were conducted using Odds Ratios (OR) and p-values, with a 95% confidence interval. A p-value less than 0.05 was considered statistically significant.

- *Ethical Considerations*

This study strictly adhered to ethical standards governing research involving human participants. Ethical approval was obtained from the Ethics Committee of the Great Lakes University of Kisumu and the Higher Institute of Medical Techniques (ISTM) of Nyankunde, along with prior administrative authorization from the provincial health authorities and the management of the participating general referral hospitals. Participation by healthcare professionals was based on free, informed, and voluntary consent, after they were fully informed of the study's objectives, procedures, and implications. Anonymity, data confidentiality, and respect for the rights, dignity, and integrity of participants were strictly maintained throughout the data collection and processing phases.

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III. RESULTS

Table 1 Descriptive Characteristics of Healthcare Professionals' Age and Years of Experience

	N	Minimum	Maximum	Mean	Std. Deviation
Age	356	20	69	35.1461	10.53745
Year of experience	356	1	40	8.77	8.199

The analysis of the table shows that participants' ages range from 20 to 69 years, with a mean age of 35.15 years (standard deviation = 10.54), indicating a relatively young population, mostly at the beginning or middle of their careers. Regarding professional experience, respondents reported between 1 and 40 years of service, with an average of 8.77 years (standard deviation = 8.20), reflecting a notable diversity in terms of seniority.

Table 2 Demographic Characteristics of the Respondents

Variables N=356	Frequency	Percent
Sex		
Male	182	51,12
Female	174	48,88
Marital Status		
Single	146	41,01
Married	197	55,34
Widower	10	2,81
Divorce	3	0,84
Professional title		
Doctor	38	10,67
Midwife	39	10,96
Nurse	226	63,48
Care assistant	12	3,37
Laboratory technician	32	8,99
Pharmacy technician	2	0,56
Others*	7	1,97

Others*: *Odontostomatology Technician, Anesthesiologist-Reanimation and Ophthalmologist)*

The table shows a male predominance, with 51.12% men compared to 48.88% women. The majority of respondents are married (55.34%), followed by single individuals (41.01%), while widowed and divorced participants account for 2.81% and 0.84%, respectively. Regarding professional title, the table indicates a strong representation of nurses (63.48%). Physicians (10.67%) and midwives (10.96%) follow in proportion, while other categories such as laboratory technicians (8.99%), nursing assistants (3.37%), and pharmacy technicians (0.56%) are less represented. Finally, 1.97% of respondents belong to other specialized fields such as anesthesiology, ophthalmology, or dental surgery.

Table 3 Institutional Policy and Mechanism for Monitoring Nosocomial Infectionsy

			Public		Confessionnal				
		N=356	n=105 (29.5%)	%	n=251 (70.5%)	%	OR	CI 95%	p-value
Existence of a written hospital infection control policy	Yes	262	56	15.7	206	57.9	0.2497	[0.1513-0.4120]	0.000
	No	59	31	8.7	28	7.9	3.3364	[1.8780-5.9273]	
	Don't know	35	18	5.1	17	4.8	2.8479	[1.4042-5.7757]	
Presence of infection control guidelines posted in each department	Yes	235	52	14.6	183	51.4	0.3646	[0.2271-0.5851]	0.000
	No	96	44	12.4	52	14.6	2.76004	[1.6853-4.5213]	
	Don't know	25	9	2.5	16	4.5	1.377	[0,5883-3,2231]	
Do you have an operational plan for hospital infection control committee meetings?	Yes	85	25	7.0	60	16.9	0.9948	[0.5828-1.6979]	0.931
	No	204	59	16.6	145	40.7	0.9376	[0.5921-1.4849]	
	Don't know	67	21	5.9	46	12.9	1.1141	[0.6268-1.9805]	
	Yes	148	34	9.6	114	32.0	0.5755	[0.3567-0.9258]	0.024
	No	204	71	19.9	133	37.4	1.8527	[1.1487-2.9883]	

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Do you have the minutes of the last meeting?	Don't know	4	0	0.0	4	1.1	–	[–]	
Existence of a hospital infection control operational committee (see last meeting minutes)	Yes	210	52	14.6	158	44.4	0.5775	[0.3644-0.9152]	0.002
	No	94	27	7.6	67	18.8	0.9506	[0.5655-1.5980]	
	Don't know	52	26	7.3	26	7.3	2.8481	[1.5615-5.1948]	
Existence of a hospital infection information system	Yes	203	43	12.1	160	44.9	0.3945	[0.2474-0.6289]	0.000
	No	103	38	10.7	65	18.3	1.623	[0.9962-2.6440]	
	Don't know	50	24	6.7	26	7.3	2.5641	[1.3930-4.7199]	
Existence of an information processing mechanism	Yes	84	29	8.1	55	15.4	1.3598	[0.8068-2.2918]	0.084
	No	168	40	11.2	128	36.0	0.5913	[0.3714-0.9416]	
	Don't know	104	36	10.1	68	19.1	1.4041	[0.8604-2.2914]	

A written policy for the prevention of healthcare-associated infections (HAIs) was reported by 57.9% of staff in faith-based hospitals, compared to only 15.7% in public facilities, with an Odds Ratio (OR) of 0.25; 95% CI: [0.15–0.41]; p = 0.000, indicating a highly significant difference. Similarly, the presence of posted guidelines in departments was more frequent in faith-based hospitals (51.4% vs. 14.6%), with an OR = 0.36; CI: [0.23–0.58]; p = 0.000. In contrast, the possession of an operational plan for HAI committee meetings did not show a significant difference between the two groups (OR = 0.99; CI: [0.58–1.69]; p = 0.931).

Regarding the availability of meeting minutes, faith-based hospitals again stood out (32% vs. 9.6%), with an OR = 0.58; CI: [0.36–0.92]; p = 0.024. The existence of an operational HAI control committee was also more frequent in faith-based facilities (44.4% vs. 14.6%), as shown by an OR = 0.58; CI: [0.36–0.91]; p = 0.002. Furthermore, an infection information system was present in 44.9% of faith-based hospitals compared to 12.1% in public ones (OR = 0.39; CI: [0.25–0.63]; p = 0.000), illustrating a clear disparity. Finally, although the observed difference regarding the existence of a data processing mechanism was less pronounced (OR = 1.36; CI: [0.81–2.29]; p = 0.084), the trend still favored faith-based institutions.

Table 4 The most Common ways of Preventing Nosocomial Infections in the Hospital

The most common ways of preventing nosocomial infections in your hospital	**Total**		**Public**						
	n	**%**	**n**	**%**	**n**	**%**	**OR**	**CI 95%**	**p-value**
Hand hygiene	138	38.8	47	13.2	91	25.6	1.4248	[0.8969-2.2633]	0.094
Use of personal protective equipment	81	22.8	21	5.9	60	16.9	0.7958	[0.4549-1.3923]	
Hygiene and sanitation of the hospital environment	66	18.5	24	6.7	42	11.8	1.4744	[0.8394-2.5898]	
Specific prevention measures and additional precautions	54	15.2	9	2.5	45	12.6	0.4292	[0.2016-0.9136]	
Training and awareness-raising	17	4.8	4	1.1	13	3.7	0.7251	[0.2308-2.2775]	
Total	**356**	**100.0**	**105**	**29.5**	**251**	**70.5**			

Reported practices for the prevention of nosocomial infections in hospitals show that hand hygiene is cited as the most common method by 38.8% of respondents, with a higher proportion in faith-based hospitals (25.6%) compared to public ones (13.2%). However, the difference is not statistically significant (OR = 1.42; 95% CI: [0.89–2.26]; p = 0.094). The use of personal protective equipment (PPE) was reported by 22.8% of participants, with no significant difference between the two types of facilities (OR = 0.80; CI: [0.45–1.39]). Environmental hygiene and hospital sanitation were mentioned by 18.5% of healthcare workers, with an OR of 1.47 (CI: [0.84–2.59]), indicating a slight, though not significant, trend in favor of faith-based institutions.

In contrast, specific prevention measures and additional precautions (e.g., isolation, targeted protocols) were significantly more frequently reported in faith-based hospitals (12.6%) compared to public ones (2.5%), with an OR = 0.43; CI: [0.20–0.91], reflecting a statistically significant difference in favor of faith-based facilities. Finally, training and awareness-raising activities were rarely mentioned (4.8% overall), with no notable distinction between the two groups (OR = 0.73; CI: [0.23–2.28]).

IV. DISCUSSION

- *Sociodemographic Characteristics of Respondents (Tables 1 and 2)*

The results of this study revealed that the surveyed healthcare professionals had an average age of 35.15 years (±10.54), with extremes ranging from 20 to 69 years. Similarly, their years of professional experience ranged from 1 to 40 years, with an average of 8.77 years (±8.20). These data indicate a predominantly young population, most of

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whom have been in service for less than 10 years, although some professionals have extensive experience. These findings are consistent with those observed in other African contexts. For example, a study conducted in Burkina Faso by Hien *et al.* (2013) on nosocomial infection prevention reported a mean age of 33 years and an average experience of 7.5 years, also illustrating a relatively young group of providers. Similarly, in Mali, Zeroual (2012) found an average age of 34.8 years and 8.2 years of experience. Moreover, a study conducted in public hospitals in Dakar, Senegal, by Ndiaye *et al.* (2017) reported a mean age of 36 years, but with slightly more professional experience (around 11 years), possibly due to greater job stability and lower turnover in the studied facilities.

These findings suggest that in many African countries, health facilities employ mostly young professionals, which may represent both an opportunity for improving practices through targeted training and a challenge, particularly in terms of experience sharing and adherence to proper hospital hygiene practices. The wide range of experience observed in our study (standard deviation = 8.20) highlights the need to tailor continuing education programs to varying seniority levels to ensure consistent application of infection prevention measures regardless of experience.

The study also found a relatively balanced gender distribution among professionals, with 51.12% men and 48.88% women, indicating a certain level of gender parity in healthcare professions within the surveyed facilities. In terms of marital status, the majority of respondents were married (55.34%), followed by single individuals (41.01%), with widowed and divorced professionals being underrepresented (2.81% and 0.84%, respectively). This demographic structure could reflect potential social stability, often linked to greater professional commitment.

Regarding professional titles, most participants were nurses (63.48%), followed by midwives (10.96%), physicians (10.67%), and laboratory technicians (8.99%). Other categories such as nurse aides, pharmacy technicians, and other specialists accounted for less than 6% of the sample. This strong representation of nurses reflects their central role in the healthcare system, particularly in day-to-day clinical care and hygiene implementation.

These findings align with trends observed in several African studies. In Mali, Zeroual (2012) also noted a slight male predominance (52%) and a high proportion of nurses (60%), indicating a similar dominant professional profile. In Burkina Faso, Hien et al. (2013) reported a similar composition with strong nurse involvement in nosocomial infection prevention. Similarly, in the Democratic Republic of Congo, a study by Kakisingi *et al.* (2020) in Goma found 62% of respondents were nurses and the majority were married (57%), closely matching our data.

These comparisons confirm that health systems in the region rely heavily on nursing staff, reinforcing the need to focus training and awareness strategies for infection prevention on this professional group. Furthermore, the gender parity observed in our study reflects a trend toward greater inclusivity, which could facilitate the spread of best practices, provided that training approaches are adapted to the professionals' diverse profiles.

- *Institutional Policies for HAI Prevention (Table 3)*

This study revealed significant institutional disparities between faith-based and public hospitals regarding healthcare-associated infection (HAI) prevention and control policies in Ituri Province. A written HAI control policy was reported in 57.9% of faith-based hospitals compared to only 15.7% of public hospitals (OR = 0.25; 95% CI: [0.15–0.41]; p = 0.000). Similarly, service-level posted guidelines were more frequently available in faith-based hospitals (51.4%) than in public hospitals (14.6%) (OR = 0.36; CI: [0.23–0.58]; p = 0.000), suggesting better dissemination of procedures.

The availability of meeting minutes from hygiene committee sessions was also higher in faith-based hospitals (32%) than in public ones (9.6%), with a significant difference (OR = 0.58; CI: [0.36–0.92]; p = 0.024). Additionally, the existence of a functional HAI control committee was reported in 44.4% of faith-based hospitals compared to 14.6% of public hospitals (OR = 0.58; CI: [0.36–0.91]; p = 0.002). Finally, faith-based hospitals were also better equipped with information systems for reporting and monitoring HAIs (44.9% vs. 12.1%), with a highly significant difference (OR = 0.39; CI: [0.25–0.63]; p = 0.000). These findings underscore a major institutional gap disadvantaging public hospitals in terms of HAI prevention governance and structure.

These observations are consistent with the findings of Mujuru *et al.* (2019) in Zimbabwe, who reported that faith-based hospitals often benefit from stronger governance frameworks due to better-managed resources, external support (technical and financial partners), and greater accountability in care management. Similarly, a study conducted across several sub-Saharan African countries by Amegah *et al.* (2022) revealed that faith-based hospitals had more operational organizational arrangements for managing HAIs compared to public facilities, owing to better internal discipline and administrative autonomy.

The deficiencies observed in Ituri's public hospitals including the absence of written protocols, lack of hygiene committee meetings, and non-existent surveillance systems corroborate the analyses of Allegranzi *et al*. (2022) and Tartari *et al*. (2020). These authors emphasized that the implementation of WHO-defined essential HAI prevention components remains limited in many low-resource countries, especially in fragile settings.

Furthermore, Suen *et al*. (2021) and Musa *et al*. (2023) confirm that public health facilities in developing countries face systemic failures that hinder effective HAI management. These include a lack of leadership, supervision, qualified human resources, and evaluation mechanisms, all of which compromise a safety culture in healthcare settings.

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Thus, the findings of this study contribute to a growing body of scientific evidence emphasizing the urgent need to strengthen HAI governance in public hospitals by establishing written policies, functional committees, and appropriate surveillance systems, as recommended by the World Health Organization.

➢ *Key Findings on HAI Prevention Practices (Table 4)*

Regarding nosocomial infection prevention methods, hand hygiene emerged as the most frequently mentioned strategy among healthcare professionals (38.8%). This practice was more often reported in faith-based hospitals (25.6%) than in public ones (13.2%), although the difference was not statistically significant (OR = 1.42; 95% CI: [0.89–2.26]; p = 0.094). The use of personal protective equipment (PPE), the second most cited practice (22.8%), also showed no significant difference between the two hospital types (OR = 0.80; CI: [0.45–1.39]).

In contrast, specific prevention measures and additional precautions (such as isolating infected patients or applying enhanced protocols) were much more frequently reported in faith-based hospitals (12.6%) than in public hospitals (2.5%), with a statistically significant difference (OR = 0.43; CI: [0.20–0.91]; p < 0.05). Environmental hygiene and hospital sanitation were also cited by 18.5% of respondents, with comparable levels between the two types of facilities (OR = 1.47; CI: [0.84–2.59]). Finally, training and awareness-raising activities were very rarely mentioned (4.8%) and showed no notable difference between the groups (OR = 0.73; CI: [0.23–2.28]), indicating a general deficiency in capacity-building programs.

These results point to uneven and often inadequate implementation of good HAI prevention practices, with a relative advantage for faith-based hospitals.

The findings are consistent with those of Pittet *et al.* (2021) and Allegranzi *et al.* (2022), who noted that despite the universal recognition of hand hygiene as a priority measure for HAI prevention, its implementation remains inconsistent, particularly in low-resource settings. In public facilities, the lack of supplies (water, soap, hand sanitizer), staff overload, and absence of supervision contribute to non-compliance with hygiene protocols (Haque *et al.*, 2021; Nzanzu *et al*., 2018).

The observed gap in additional precautions in favor of faith-based hospitals aligns with observations by Askarian *et al*. (2021) and Olowokure *et al.* (2020), who reported that these institutions, often supported by international partners or held to internal quality standards, are more inclined to implement advanced WHO recommendations such as isolation, targeted surveillance, and the limitation of unnecessary invasive procedures.

The very low proportion of professionals mentioning training and awareness (4.8%) confirms a major skills development gap in HAI prevention, also documented by Abdullahi *et al*. (2022) and Katembo *et al.* (2021). These authors argue that the lack of continuous training programs and post-training follow-up is a major barrier to sustainably improving practices in hospitals in developing countries. This gap is particularly concerning in a context like Ituri, where healthcare infrastructure is fragile and exposed to increased risks of cross-transmission due to high patient density and mobility.

From a broader perspective, WHO (2016, 2022) emphasizes the need to combine institutional actions (committees, protocols, indicators) with behavioral strategies (training, motivation, reminders) to ensure effective HAI prevention policies. The absence of such synergy in Ituri's public hospitals appears to contribute to their relatively poorer performance in infection prevention. This study therefore highlights a disparity in the implementation of preventive practices between hospital types, with better compliance observed in faith-based facilities. However, the low emphasis on continuous training and systemic approaches across all surveyed institutions underscores the need for sustained investment in training, supervision, and availability of material resources for effective HAI prevention.

V. CONCLUSION

This study provided a comparative assessment of institutional policies and practices for the prevention of healthcare-associated infections in the general referral hospitals of Ituri Province. The findings revealed a significant disparity between faith-based and public hospitals, with the former demonstrating better organizational structures, more functional governance, and greater compliance with international recommendations. The identified gaps in public hospitals such as the absence of written policies, limited committee activity, lack of information systems, and insufficient ongoing training undermine the quality and safety of care. These observations point to the urgent need to strengthen institutional and operational capacities to address HAI-related risks, especially in a region already weakened by security crises.

REFERENCES

[1]. Abdullahi, A., Musa, H. M., & Abdulkadir, M. (2022). *Barriers to infection prevention and control in low-resource healthcare settings: A qualitative study*. BMC Health Services Research, 22(1), 143. https://doi.org/10.1186/s12913-022-07566-3

[2]. Allegranzi, B., et al. (2022). *Global update on infection prevention and control in health care: WHO report 2022*. World Health Organization.

[3]. Allegranzi, B., Tartari, E., Kilpatrick, C., et al. (2022). *Global implementation of WHO infection prevention and control minimum requirements in health care facilities*. *The Lancet Infectious Diseases*, 22(6), e174-e184.

[4]. Amegah, A. K., Effah, M., & Sam, J. (2022). *Healthcare-associated infections in sub-Saharan Africa: Institutional dynamics and challenges*. Journal of Hospital Infection, 124, 1–8.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25jun1745

[5]. Asefa, A., Teshome, Y., & Hailemariam, M. (2023). *Infection prevention practices in resource-limited settings: A systematic review*. *BMC Health Services Research*, 23, 541.

[6]. Askarian, M., Rezazadeh, A., & Lamy, L. (2021). *Compliance with standard precautions among healthcare workers: A systematic review and meta-analysis*. International Journal of Environmental Research and Public Health, 18(22), 11980.

[7]. Bagheri Nejad, S., Allegranzi, B., Syed, S. B., Ellis, B., & Pittet, D. (2020). *Health-care-associated infection in Africa: A systematic review*. *Bulletin of the World Health Organization*, 98(7), 446–456.

[8]. Boyce, J. M., & Pittet, D. (2017). *Guideline for hand hygiene in health-care settings*. *Infection Control & Hospital Epidemiology*, 38(5), 693–710.

[9]. Cassini, A., Plachouras, D., Eckmanns, T., et al. (2019). *Burden of six healthcare-associated infections on European population health*. *PLoS Medicine*, 16(1), e1002812.

[10]. Haque, M., Sartelli, M., McKimm, J., & Abu Bakar, M. (2021). *Infection prevention and control in low-resource settings: Current challenges and future prospects*. Infection and Drug Resistance, 14, 947–956.

[11]. Hien, H., Drabo, M. K., Zoungrana, J., & Traoré, A. (2013). Connaissances, attitudes et pratiques du personnel de santé sur les infections nosocomiales au Burkina Faso. *Santé Publique*, 25(2), 173–180.

[12]. IRC. (2021). *Health services in crisis zones: Challenges in eastern DRC*. Internal Report.

[13]. Irek, E. O., Irek, M. C., & James, O. (2019). *Implementation challenges of nosocomial infection prevention programs in African hospitals*. *African Journal of Infectious Diseases*, 13(1), 1–8.

[14]. Kakisingi, C., Bahati, S. A., & Mukalay, A. (2020). Évaluation des connaissances et pratiques des soignants en matière d'hygiène hospitalière dans les structures sanitaires de Goma, RDC. *Revue Médicale des Grands Lacs*, 12(3), 85–94.

[15]. Kassa, F. A., Tsegaye, A., & Ayele, M. (2022). *Hospital infection control programs in Sub-Saharan Africa: A review*. *Journal of Infection and Public Health*, 15(10), 1021–1029.

[16]. Katembo, A., Kalonda, J., & Mutombo, M. (2021). *Nosocomial infection control: Analysis of policy gaps in Congolese hospitals*. Pan African Medical Journal, 40, 115.

[17]. Kayembe, J. M., Ilunga, B. K., & Balamba, P. (2020). *Leadership and infection control in Congolese hospitals*. *Pan African Medical Journal*, 35, 112.

[18]. Kimbini, G. C., Nkulu, M. K., & Lelo, D. N. (2020). *Nosocomial infections in DR Congo: An underestimated burden*. *Health Science Journal*, 14(5), 1–6.

[19]. Kpanake, L., Mullet, E., & Sorum, P. (2019). *Attitudes of healthcare workers toward nosocomial infections in West Africa*. *Journal of Infection in Developing Countries*, 13(1), 12–18.

[20]. Mabika, C., Bompangue, D., & Shama, D. (2022). *Formation et pratiques de prévention des IAS en RDC: un état des lieux dans les hôpitaux secondaires*. *Revue Médicale des Grands Lacs*, 6(2), 55–63.

[21]. Mawazo, A., Moke, M., & Mutombo, P. (2018). *Prevalence of healthcare-associated infections in Eastern DRC hospitals*. *Journal of Global Infectious Diseases*, 10(3), 125–129.

[22]. Ministère de la Santé RDC. (2017). *Guide national de prévention et de contrôle des infections associées aux soins*. Kinshasa: Programme National de Lutte contre les Infections Nosocomiales (PNLIN).

[23]. MSF. (2023). *Nosocomial risk in humanitarian settings: Case studies from Ituri*. Médecins Sans Frontières Report.

[24]. Mujuru, H., Chandiwana, N., & Gombe, N. T. (2019). *Comparison of infection control systems in public and mission hospitals: Lessons from Zimbabwe*. African Journal of Health Sciences, 36(3), 45–53.

[25]. Musa, O. I., & Akande, T. M. (2023). *Infection control infrastructure in public healthcare facilities in West Africa: A neglected priority*. Journal of Infection in Developing Countries, 17(2), 189–195.

[26]. Mutombo, L., Kaputu, V., & Mukwege, D. (2021). *Infection control policies in conflict-affected health zones of DRC: Reality or fiction? African Health Sciences*, 21(1), 123–130.

[27]. Ndiaye, P., Diouf, E., & Diedhiou, A. (2017). Évaluation des pratiques d'hygiène hospitalière dans les hôpitaux publics de Dakar, Sénégal. *Journal Africain des Sciences de la Santé*, 17(2), 112–121.

[28]. Nzanzu, J. P., Bagalwa, M., & Mateso, N. (2018). *Évaluation des mesures de prévention des infections nosocomiales dans un hôpital général de référence de l'Est de la RDC*. Revue de Médecine et Pharmacie Tropicale, 28(4), 331–336.

[29]. Olowokure, B., Rudge, J. W., & Phengxay, M. (2020). *Infection prevention and control systems: A comparative analysis in resource-constrained settings*. Journal of Infection Prevention, 21(1), 12–19.

[30]. Pittet, D., Allegranzi, B., & Sax, H. (2021). *Hand hygiene and patient safety: Progress and challenges*. The Lancet Infectious Diseases, 21(10), e302–e313.

[31]. Suen, L. K. P., & So, Z. Y. F. (2021). *Organizational readiness and infection control practices in underfunded health systems*. Journal of Nursing Management, 29(6), 1690–1699.

[32]. Tartari, E., Tomczyk, S., & Allegranzi, B. (2020). *Implementation of the WHO infection prevention and control core components in 88 countries: A global situational analysis*. The Lancet Infectious Diseases, 20(7), 872–879.

[33]. Toko, L., Lunguya, O., & Kayembe, J. (2022). *Challenges of infection prevention in Congolese hospitals: A multicenter survey*. *Infection Prevention in Practice*, 4(3), 100212.

[34]. Tumba, D., Mangbinda, M., & Musafiri, B. (2021). *Fonctionnalité des comités d'hygiène hospitalière dans les HGR du Nord-Est de la RDC*. *Santé Publique*, 33(4), 501–508.

[35]. Uwamahoro, M., Ntambara, J., & Uwizeye, M. (2020). *Hospital infection prevention in crisis*

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settings: Evidence from Great Lakes Region. *International Journal of Health Planning and Management*, 35(6), 1372–1383.

[36]. WHO. (2021). *Global report on infection prevention and control*. Geneva: World Health Organization.

[37]. World Health Organization. (2016). *Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level*.

[38]. World Health Organization. (2022). *Global report on infection prevention and control*. Geneva: WHO.

[39]. Zeroual, A. (2012). Connaissances, attitudes et pratiques des agents de santé vis-à-vis de la prévention des infections nosocomiales dans les hôpitaux de Bamako (Mali) [Thèse de doctorat, Université de Bamako].