AIRO JOURNALS
Peer Reviewed
Multidisciplinary
International

ISSN:2320-3714
Volume: 3 Issue: 2
August 2024
Impact Factor:10.1
Subject:Medical Microbiology

ROLE OF HAND HYGIENE CULTURE IN IMPROVING INFECTION CONTROL PRACTICES AMONG NURSES IN INDIA

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ABSTRACT

This study examines the impact of hand hygiene culture on infection control practices among Indian nurses, emphasizing the role that social attitudes and behavioural patterns have in shaping medical care practices. Patient security depends on hand hygiene (HH), and its consistency varies depending on factors like gambling judgments, institutional culture, component inspections, and the availability of HH supplies. We also conducted loosely arranged discussions to determine the thresholds for adhering to HH. 14,000 hand hygiene open doors were observed by the study, which focused on impressions at the Orchid Multispeciality Medical Clinic in Gujrat between September 2021 and May 2022. The overall HH consistency rate was 21.4%, with nurses having the highest percentage (39.9%) and cleaning workers having the lowest rate (11.2%). Compared to HCWs at private emergency clinics, open clinic employees were substantially more likely to adhere to HH practices (changed odds proportion: 1.71, 95% CI: 1.55e1.89). Compared to before contacting a patient, the likelihood of doing HH after contacting a patient was 3.34 times greater (95% CI: 2.88e3.88). Inadequate supplies (47.1%), skin responses (23.7%), workload (24.8%), and a lack of facilities (21.2%) were the stated main barriers to doing HH. In general, it was observed that HH supplies were available in 80.5% of medical wards and 94.0% of nursing wards; nevertheless, the cleaning crew did not have any designated HH facilities.

Keywords: *Hand Hygiene Culture, Infection Control Practices, Nurses, India*

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1. INTRODUCTION

A crucial component of healthcare that has a big impact on patient outcomes and well-being is infection control. Hand hygiene sticks out as one of the most important and effective methods used to stop the spread of illnesses. The role of hand hygiene culture in advancing infection control practices among nurses is becoming more and more important in India, where healthcare systems are frequently put to the test by high silent volumes and various irresistible threats.

It's critical to maintain proper hand hygiene by using an alcohol-based hand sanitizer and routinely washing your hands with soap and water. These steps are essential to preventing and limiting the transmission of germs (HAIs). Even though hand hygiene has been shown to be effective in reducing infections, healthcare workers—especially nurses—can have inconsistent hand hygiene practices. This inconsistency frequently stems from socioeconomic issues that affect healthcare practices, a lack of understanding, and inadequate planning.

An environment where infection control procedures are prioritized and consistently implemented is fostered by a strong hand hygiene culture in healthcare settings. Ensuring accessibility to hand hygiene facilities, raising awareness through regular education, and highlighting the importance of hand hygiene through strategy and initiative support are all important aspects of coordinating a strong hand hygiene culture in India. Good hand hygiene habits among nurses not only protect patients but also improve the overall quality of the healthcare system.

More so, a common norm for hand cleanliness becomes essential in the Indian context, where healthcare resources and framework may vary greatly between locations. Social views on infection prevention and hygiene play a critical role in profoundly influencing behavior. Thus, fostering a culture that emphasizes the value of hand cleanliness can fill in the gaps between theoretical knowledge and practical application, ultimately enhancing the standard of care and reducing infection rates.

The main role lies in the hand hygiene culture's contribution to the advancement of infection control measures among Indian nurses. Healthcare facilities can increase adherence to infection control guidelines, reduce the incidence of HAIs, and provide a more compelling and safer environment for patients by fostering a culture that values hand hygiene.

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2. LITERATURE REVIEW

Engdaw et al. (2019) oversaw a study to evaluate healthcare providers' adherence to hand hygiene in open essential emergency clinics in the Central Gondar Zone, Northwest Ethiopia. Important factors impacting hand hygiene behaviours are highlighted in this investigation, highlighting the need for methodical efforts to increase consistency rates. The study found that consistency was noticeably low and that important obstacles included a deficiency of resources, poor training, and unfavorable enforcement of hygiene standards. In order to assess healthcare suppliers' hand hygiene procedures, the scientists used a cross-sectional approach. The results underscore the necessity of tackling systemic problems and offering ongoing education and resources to improve hand hygiene compliance in hospital environments.

Gould et al. (2017) conducted a comprehensive evaluation to evaluate various interventions aimed at enhancing hand hygiene consistency in long-term thinking. A broad range of research evaluating the practicality of several tactics, such as reminders, training, and environmental modifications, were included in the Cochrane review. According to the analysis, multi-layered interventions that incorporate behavior modification, education, and environmental modifications will typically yield the greatest results in enhancing hand hygiene compliance. The study also discussed how important regular input and hierarchical support are to maintaining long-term improvements. This analysis provides a comprehensive overview of effective methods, which can help healthcare facilities develop and implement initiatives to improve hand hygiene.

Harun et al. (2022) examined the frequency of hand hygiene and related issues among healthcare workers in Gujrat. Their study found that even while people understood the importance of hand hygiene, a few factors such as a lack of training, a high workload, and inadequate hand hygiene facilities hindered consistency. The experts collected data from healthcare workers using a mix of study and observational methods. The study highlights that strengthening training programs, lowering workload demands, and addressing infrastructure deficiencies are essential steps in promoting better hand hygiene practices. The results offer valuable insights into the unique challenges faced by healthcare workers in Gujarat and recommend focused actions to overcome these obstacles.

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International
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Johnson et al. (2022) investigated how the Comprehensive Unit-based Safety Program (CUSP) was implemented in Pune, India's neonatal intensive care units (NICUs). The study focused on how an organized, unit-based safety program could enhance infection prevention and control (IPC) procedures. The CUSP model calls for working together to identify safety risks, improve communication, and implement evidence-based procedures. After CUSP was implemented, the analysts reported notable improvements in infection control procedures, such as consistent hand washing. The study demonstrated how effective CUSP is in fostering a culture of safety and resolving IPC issues in high-risk environments like NICUs. This analysis emphasizes the value of organized, cooperative programs in improving infection control and avoiding infections linked to healthcare.

Kapil et al. (2015) examined how healthcare workers' (HCWs) hand hygiene practices were affected by an educational intervention in terms of lowering transitory flora. The organized instructional program used in their study was designed to advance the knowledge and hand hygiene habits of healthcare workers. The results showed that the intervention caused a noteworthy reduction in the transitory flora on the hands of HCWs, proving the effectiveness of education in improving hand hygiene consistency. In order to avoid the spread of illnesses in healthcare settings, the assessment highlights the importance of ongoing education and training in upholding strict standards of hand cleanliness.

Labrague et al. (2018) carried out a systematic review with an emphasis on student nurses' compliance and awareness of hand hygiene. The review evaluated the level of knowledge and adherence to hand hygiene techniques among nursing students by synthesizing results from multiple investigations. Although most student nurses had excellent knowledge of hand hygiene, the research found that actual compliance rates were frequently lower than desired. Effective hand hygiene practices were shown to be hindered by various factors, including insufficient training, scarcity of resources, and time constraints. The research emphasizes the need for developed instructional techniques and networks of emotional support to get past any knowledge gaps and prepare aspiring nurses to uphold strict infection control standards.

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3. METHODS

3.1. Study design and sites

This cross-sectional assessment was carried out from September 2021 to May 2022 at Orchid Multispeciality Hospital, which is home to eight public and two private institutions in Gujarat. Enlisted hospitals were authorized to have between 400 and 2600 beds; on average, hospitals had more beds than needed, with an average bed occupancy rate of 147%.

As part of our hybrid tactics approach, we utilized three distinct methods for gathering data. The primary method was for HCWs to promptly observe HH compliance while providing patient care. Then, an unconditional questionnaire was administered to assess the difficulties that HCWs faced when using ABHR or soap and water for HH. Ultimately, an evaluation of the surrounding conditions of the facilities required to support HH was carried out. Every assessment collected data using paper-based devices.

3.2. HH observation

We used the paper-based WHO HH observation tool and approach in 25% of the inpatient wards that were randomly selected in order to record HCW HH compliance during patient care. These observations were non-participatory and non-intrusive. Before moving on to home health surveillance, we videotaped each ward in the hospital. Then, at random, we chose every fourth ward. Healthcare workers were defined as anyone present in the inpatient wards during the observation hour who helped with direct patient care. (HCW). This includes the doctors, nurses, and cleaning personnel because the latter not only keep the wards tidy but also assist patients and assist in patient handling. Under the following HH indications, we preserved HH opportunities and actions: (1) prior to handling the patient; (2) prior to clean or aseptic strategy; (3) following bodily liquid openness risk; (4) subsequent to touching the patient; and (5) subsequent to touching the patient's surroundings.

A solitary HH action opportunity was documented in cases where at least two indications were implemented concurrently, such as touching patient An and then patient B. Throughout the observation period, two types of hygiene habits were observed: using an ABHR and washing hands with soap or water and the appropriate amount of soap. The amount of observed HH actions divided by the total number of opportunities yielded the overall HH compliance.

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A committed group of enumerators nurses, physicians, and epidemiologists—were briefed through comprehensive presentations, written instructions, and role-played exchanges between healthcare providers and patients about the observation tools and data collection process. After that, paired enumerators made sure everybody comprehended the HH monitoring process and that the assessment device was reliable between raters.

3.3. Barriers to HH

We conducted interviews with HCWs using a non-invasive questionnaire in order to learn more about the obstacles to HH compliance and to complement the findings that were observed. By outlining the purpose and methodology of the assessment, we were able to get the participant's written informed consent before the interview. Medical professionals, nurses, and housekeeping workers from every observation ward were recruited by us. Reactions to the use of hand sanitizer and the use of soap or soapy water for hand washing were solicited.

3.4. HH stations and supplies assessment

In order to evaluate the availability of HH stations and HH supplies in selected wards, we carried out a single, organized observation. We employed a monitoring agenda that was developed and authorized by the Ministry of Health, Gujrat's Quality Improvement Secretariat (QIS). We methodically collected information about the location and operation of handwashing stations for nurses and doctors. We noted the presence of flowing water, soapy or soapy water, hand drying supplies, or ABHR, and banners with instructions on proper handwashing and hand massage practices.

3.5. Statistical analysis

We coded and analyzed all of the data using Stata 13. We calculated the proportion and frequency of HH compliance, the number of available HH facilities, and the barriers to HH performance. We employed chi-squared tests to examine the variation in HH compliance by 5-minute time frame, profession, department or hospital type, and orientation. We also used this strategy to see whether there were any variations in the proportion of HH opportunities sought after by HCWs at various phases of their careers. We estimated relapse to offer the multivariate results as adjusted odds ratio (AOR) and unadjusted odds ratio (UOR) with a 95% CI. Statistical significance was thought about when $P< 0.05$. Because of the fact that the

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independent variables were checked to be multicollinear by the variance inflation factor (VIF), the multivariate relapse model just contained factors with a P<0.25 on univariate analysis.

3.6. Ethical clearance

The proper ethical review boards, such as the International Community for Diarrheal Disease Research, Gujrat (ICDDR, B), approved the evaluation. With the calm consent of the hospital administration, we were able to watch HCW's HH procedures and evaluate their HH infrastructure.

4. RESULTS

4.1. HH compliance

In 186 observation meetings, we saw 14,000 HH chances in total (Table 1). An analysis of hand hygiene compliance in Orchid Multispeciality Hospital in Gujrat between 2021 and 2022 is provided in Table 1. Healthcare workers' (HCWs') overall hand hygiene compliance rate was 21.4%, with notable variations between sexes, facility types, departments, professions, and WHO-recommended minutes. Nurses had a significantly higher compliance rate (39.9%) than did doctors (19.2%) and housekeeping employees (11.2%). The WHO's 5-minute hand hygiene protocol showed that the most compliance was achieved after touching a patient (38.2%) and after bodily liquid openness risk (38.9%), while the lowest compliance was found before touching a patient (13.15%) and after touching the patient's surroundings (15.3%). The compliance percentage in public facilities was significantly greater than that in private facilities (7.6%), at 24.9%. The departments also differed in terms of compliance; obstetrics and gynecology had the lowest percentages (10.8%) and medical procedures had the highest (25.7%). Males had an 18.0% compliance rate compared to females' 22.6% compliance rate, with no statistically significant difference (p=0.893), indicating that orientation had no significant effect on compliance rates. This thorough analysis identifies key areas that require focused efforts to advance hand hygiene standards in a range of healthcare environments.

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Table 1: In Orchid Multispeciality Hospital, Gujrat, 2021–2022, hand hygiene compliance among observed opportunities by hand hygiene indication, career, and gender

Outcomes	Observed opportunity	Hand hygiene action	Hand hygiene compliance	P-
	N (%)	N (%)	% (n/N)	
Overall HCW adherence to hand hygiene	14,000	3,000	21.4 (3,000/14,000)	
By HCW profession				
Physician	4,785 (34.17)	919 (30.6)	19.2 (919/4,785)	<0.001
Nurse	7,707 (55.05)	1,911 (63.7)	39.9 (1,911/7,707)	
Cleaning staff	1,508 (10.77)	170 (5.7)	11.2 (170/1,508)	
By WHO 5 moments				
Before touching a patient	1,733 (12.37)	228 (7.6)	13.15 (228/1,733)	<0.001
Before clean/aseptic procedure	1,779 (12.7)	334 (11.13)	18.77 (334/1,779)	
After body fluid exposure risk	1,763 (12.59)	686 (22.87)	38.9 (686/1,763)	
After touching a patient	1,802 (12.87)	690 (23.00)	38.2 (690/1,802)	
After touching patient surroundings	6,923 (49.45)	1,062 (35.4)	15.3 (1,062/6,923)	
By facility type				
Public	11,113 (79.37)	2,778 (92.6)	24.9 (2,778/11,113)	<0.001
Private	2,887 (20.62)	222 (7.4)	7.6 (222/2,887)	
By Department				
Gynecology and obstetrics	3,740 (26.71)	404 (13.47)	10.8 (404/3,740)	<0.001
Medicine	4,314 (30.81)	1,065 (35.5)	24.6 (1,065/4,314)	
Surgery	5,946 (42.47)	1,531 (51.03)	25.7 (1,531/5,946)	
By gender				
Male	3,760 (26.85)	677 (22.57)	18.0 (677/3,760)	0.893
Female	10,240 (73.14)	2,323 (77.43)	22.6 (2,323/10,240)	

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When HH compliance was broken down by indication and HCW job, it was shown that in all five indications, nurses and doctors had considerably ($P<0.05$) higher HH compliance than cleaning workers. (Table 2). Table 2 provides a comprehensive analysis of hand hygiene compliance, broken down by the WHO's 5-minute hand hygiene protocol, among healthcare workers (HCWs) at Orchid Multispeciality Hospital in Gujrat. Compliance differed greatly depending on the type of HCW and the particular second. With percentages ranging from 8.6% before touching a patient to 39.8% after touching a patient, physicians had the lowest compliance rates throughout all minutes. In many instances, they even demonstrated lower compliance than nurses. Physicians' compliance before clean/aseptic methods was 11.6%, while nurses' compliance was 20.8%. Similarly, before touching a patient, doctors' compliance was 12.2%, while nurses' compliance was 15.08%. After handling the patient's surroundings, cleaning staff members exhibited high compliance rates (81.3%), but they were noticeably resistant (0%) before using clean/aseptic methodology, and they had low compliance rates during other minutes. Nursing personnel generally demonstrated higher compliance with hand hygiene procedures than did physicians and cleaning staff. Statistically significant contrasts ($p<0.001$) were noted over the majority of minutes, suggesting that hand hygiene practices differed significantly among different HCWs and individual minutes. This heterogeneity highlights the need for focused initiatives to advance hand hygiene behaviors among different types of healthcare workers and care providers.

Table 2: The WHO's compliance with hand hygiene Five-minute indicators among medical staff at Orchid Multispeciality Hospital in Gujarat in 2021–2022

Healthcare provider's recommendation about hand hygiene	**Compliance (actions/opportunities) (%) (n/N)**	**P**
Before touching a patient		
Physician	12.2% (92/748)	<0.001
Nurse	15.08% (119/789)	
Cleaning staff	8.6% (17/196)	
Before clean/aseptic procedure		
Physician	11.6% (41/353)	0.038

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Nurse	20.8% (293/1407)	
Cleaning staff	0% (0/17)	
After body fluid exposure risk		
Physician	38.2% (127/332)	<0.001
Nurse	39.6% (557/1405)	
Cleaning staff	7.6% (2/26)	
After touching a patient		
Physician	39.8% (299/751)	<0.001
Nurse	41.3% (331/800)	
Cleaning staff	23.9% (60/251)	
After touching patient surroundings		
Physician	14.1% (362/2557)	<0.001
Nurse	18.7% (610/3260)	
Cleaning staff	81.3% (90/1106)	

4.2. Associated factors related to HH compliance

Table 3 presents the uncorrected and adjusted odds ratios for the connection with HH compliance. The relationship between hand hygiene compliance and a number of variables is shown in Table 3 and includes the Orchid Multispeciality Hospital in Gujrat's department type, facility type, and the WHO's five-minute hand hygiene recommendation. The odds ratios, both adjusted and uncorrected, show how different factors affect compliance. With adjusted odds ratios of 3.34 and 3.27 for nurses and doctors, respectively, it was discovered that these professions had considerably greater compliance rates than cleaning personnel. This suggests potential synergies between these fields and improved hand hygiene practices. The occasions "after body liquid openness risk" (adjusted AOR = 2.98) and "after touching a patient" (adjusted AOR = 3.34) showed higher compliance, whereas the occasion "after touching patient surroundings" (adjusted AOR = 0.91) showed lower compliance, indicating different levels of adherence based on the particular hand hygiene second. With an adjusted AOR of 1.71, public hospitals demonstrated a higher probability of compliance than private hospitals, suggesting that public facilities performed better overall. When compared to "Gynecology and Obstetrics,"

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"Medicine" had the greatest adjusted odds ratio (2.80), followed by "Medical procedure" (1.83), indicating that certain departments are more likely than others to follow hand hygiene guidelines. These results show the disparities in hand hygiene compliance among different healthcare environments and emphasize the need for focused approaches to increase adherence, especially in regions with lower compliance rates.

Table 3: Orchid Multispeciality Hospital, Gujrat, 2021–2022: Relationship between hand hygiene compliance and the WHO 5 moments, profession type, facility type, and department type

Category	Unadjusted odds ratio		Adjusted odds ratio *	
	(95% CI)	p	(95% CI)	p
By profession				
Cleaning staff	**Ref**		**Ref**	
Nurse	3.62 (3.07–4.28)	<0.001	3.34 (2.81–3.98)	<0.001
Physician	3.8 (2.60–3.66)	<0.001	3.27 (2.74–3.90)	<0.001
By 5 moments				
Before touching a patient	**Ref**		**Ref**	
Before clean/aseptic procedure	1.32 (1.13–1.54)	<0.001	1.22 (1.04–1.43)	0.008
After body fluid exposure risk	3.12 (2.69–3.60)	<0.001	2.98 (2.56–3.46)	<0.001
After touching a patient	3.04 (2.62–3.52)	<0.001	3.34 (2.88–3.88)	<0.001
After touching patient surroundings	0.82 (0.72–0.93)	0.007	0.91 (0.80–1.04)	0.289
By hospital type				
Private	**Ref**		**Ref**	
Public	1.71 (1.55–1.89)	<0.001	1.71 (1.53–1.91)	<0.001
By department				
Gynecology and obstetrics	**Ref**		**Ref**	
Medicine	2.07 (1.85–2.30)	<0.001	2.8 (1.86–2.33)	<0.001
Surgery	2.06 (1.86–2.29)	<0.001	1.83 (1.65–2.04)	<0.001

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4.3. Self-reported obstacles to carrying out HH

In order to identify the critical obstacles to executing HH during patient care, 1700 HCWs—including doctors, nurses, and housekeeping personnel—were surveyed. In order to shed light on the difficulties faced by doctors, nurses, and cleaning staff, Table 4 lists the hurdles that healthcare personnel at Orchid Multispeciality Hospital in Gujrat have when it comes to using hand sanitizer and washing their hands with soap. Insufficient stockpile (47.1% overall, higher among doctors and cleaning staff) and skin responses (23.7% overall, particularly affecting nurses) were the most well-known impediments to hand sanitizer use. The inadequate stockpile most affected doctors (58.4%), whereas skin responses were more common among nurses and housekeeping personnel. Other obstacles included ignorance and disinterest, though these were often less common. The two biggest obstacles to handwashing were a lack of soap (25.5% overall) and workload/time constraints (24.8%), with medical professionals and nurses citing time and soap quality as the biggest obstacles. A major problem was also the absence of facilities specifically for hand hygiene, particularly among doctors (21.2%). A lack of interest and a lack of dedicated facilities were among the difficulties mentioned by cleaning personnel, whereas nurses were more likely to mention workload and inadequate soap. All things considered, our results show that although obstacles to practicing good hand hygiene are common, they differ depending on the type of practice and the profession, indicating the need for focused interventions to address particular issues encountered by different groups of healthcare workers.

Table 4: Healthcare staff at Orchid Multispeciality Hospital in Gujrat, 2021–2022: obstacles to utilizing hand sanitizer and soap

Characteristics	Total (N = 1700)	Physician (N = 500)	Nurse (N = 900)	Cleaning staff (N = 200)
	n (%)	n (%)	n (%)	n (%)
Barriers to using hand sanitizer				
Insufficient supply	801 (47.1)	292 (58.4)	422 (46.9)	105 (52.5)
Skin reaction	404 (23.7)	68 (13.6)	251 (27.9)	33 (16.5)
Shortage of time	201 (11.8)	29 (5.8)	130 (14.4)	10 (5.0)
Lack of interest	69 (40.5)	33 (6.6)	11 (1.2)	15 (7.5)

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Lack of awareness	37 (21.7)	17 (3.4)	13 (1.4)	9 (4.5)
Lack of motivation	28 (16.4)	13 (2.6)	15 (1.7)	7 (3.5)
Lack of facility	12 (7.05)	12 (2.4)	12 (1.3)	4 (2.0)
No barrier	148 (8.70)	36 (7.2)	46 (5.1)	17 (8.5)
Barriers to performing handwashing				
Insufficient supply of liquid/bar soap	435 (25.5)	145 (29.0)	212 (23.6)	52 (26.0)
Quality of liquid or bar soap	33 (19.4)	14 (2.8)	37 (4.1)	5 (2.5)
Workload/shortage of time	422 (24.8)	86 (17.2)	283 (31.4)	27 (13.5)
Lack of dedicated hand hygiene facility	361 (21.2)	140 (28.0)	148 (16.4)	47 (23.5)
Lack of interest	120 (7.05)	16 (3.2)	58 (6.4)	16 (8.0)
Lack of awareness/knowledge	68 (4.0)	12 (2.4)	45 (5.0)	10 (5.0)
Forgetfulness	59 (3.4)	13 (2.6)	44 (4.9)	14 (7.0)
No barrier	202 (11.8)	74 (14.8)	73 (8.1)	29 (14.5)

4.4. Hospital handwashing stations are evaluated

Hospital handwashing facilities are subjected to a rigorous and methodical evaluation procedure in order to ensure that hygiene infrastructure meets the necessary standards for patient safety and infection control. This evaluation includes a detailed look at the availability and suitability of handwashing stations across the hospital, including the existence and operation of sinks, soap dispensers, hand sanitizers, and options for drying hands, including paper towels or hand dryers. Every institution undergoes a rigorous inspection to verify that it complies with hygiene criteria. This includes making sure that sinks are conveniently located near patient care areas and easily accessible to healthcare staff in order to promote continuous handwashing. Monitoring the functioning of these facilities is another aspect of the evaluation; this entails confirming that a trustworthy stock of clean water, functional soap dispensers, and efficient waste disposal systems exist. Additionally, the evaluation looks into the conditions of these facilities to identify any physical problems, such leaky faucets or clogged drains, that would make them difficult to use. In addition, the process entails assessing adherence to hospital hand hygiene guidelines, examining how well these guidelines work in practical settings, and identifying any obstacles that might prevent good hand hygiene, such as improper facility placement or inadequate staff training. The assessment provides practical

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recommendations to fix any shortcomings, improve the operation of handwashing facilities, and ensure that all healthcare workers have easy access to appropriate hand hygiene resources based on these results. This all-encompassing strategy is essential for upholding strict infection control procedures, protecting patient health, lowering the risk of illnesses linked to healthcare, and encouraging a culture of hygiene and safety in the hospital setting.

5. CONCLUSION

In India, hand hygiene culture plays a critical role in promoting infection control measures among nurses. Overall, HCWs in this evaluation did not meet the required level of HH compliance for safe patient care. The review's findings demonstrated the need for regular IPC interventions targeted at all HCWs, including cleaning staff, as well as ongoing monitoring to pinpoint the barriers to HH compliance in Gujarat's tertiary healthcare facilities. For example, Gujrat demonstrates a deficiency in funding, advocacy, and emphasis on IPC because of insufficient HH availability in a population with little resources. It will take an integrated approach to enhance asset management and modify behavior in order to improve HH in Gujrati healthcare facilities. The results of this assessment could help develop and motivate programs for HH compliance, which would help lower the number of HAIs in hospital settings.

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Peer Reviewed
Multidisciplinary
International

ISSN:2320-3714
Volume: 3 Issue: 2
August 2024
Impact Factor:10.1
Subject:Medical Microbiology

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