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Original Research Article**Assessment of hand hygiene levels among healthcare professionals in India****Rohin Rameswarapu^{*1}, Surendranath Sai K² and Sameer Valsangkar³**¹Health Sector Consultant, India²Associate Professor, Department of Community Medicine, Prathima Institute of Medical Sciences, India³Public Health Consultant, Catholic Health Association of India, India***Correspondence Info:**

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Abstract

Introduction: Hand hygiene, either by hand disinfection or hand washing remains to be most pivotal in controlling infection in healthcare settings. Simple preventive measures have been proven effective to contain infections. The exiguity on studies done in healthcare settings in India has galvanized us to undertake this study on hand hygiene assessment among nurses in a healthcare setting in India

Materials and methods: A cross sectional study was done in one of leading organization in preventive and promotive healthcare in India. . Hand Hygiene Self-Assessment Framework 2010 by World Health Organization was the tool used for the study. The tool had 5 components envisaging education and training, system change, institutional safety, reminders and evaluation and feedback for hand hygiene. Data was entered in Microsoft Excel and percentages were derived.

Results: Among 120 medical rooms, 57% of the medical rooms had basic hygiene, while 32% had intermediate hygiene levels and 11% of the medical rooms had advanced hygiene levels.

Conclusion: An advanced level of hand hygiene program with elements of infection control should be offered to the all the professionals working in healthcare setting. Cultural and behavioural issues would play in role in low compliance despite of the efforts to improve quality of healthcare.

Keywords: Hand hygiene levels, best practices, quality care

1.Introduction

Hand hygiene, either by hand disinfection or hand washing remains to be most pivotal in controlling infection in healthcare settings. Simple preventive measures have been proven effective to contain infections[1].The importance of hand hygiene is been continuously exemplified and it has been proved that training sessions on hand hygiene has resulted in sustained improvement[2][3][4]. The common cause of nosocomial infections in developed countries were associated to prolonged stay in the hospital, surgical procedure, medications and inadequate hand hygiene[5][6].It is been documented that 1 in 20 patients are affected by health care associated infections (HAI). Majority of the infections have found to be spreading by health care workers. University of Geneva Hospital was the first

which reported that there was significant reduction of nosocomial infection with compliance to hand hygiene[7].

Although a lot has been done to create the awareness regarding hand hygiene, it been found that healthcare staff is still yet to comply and adhere with guidelines[8].The various other factors that might increase the adoption of hand hygiene practices are positive role modelling and use of performance indicators[9]. Also it should be ensured that there is availability of disinfectants, sanitizers and soap for disinfection of hands. Healthcare staff should be emphasised that wearing gloves is not a substitute for hand hygiene as contamination can occur during removal of glove. The exiguity on studies done in healthcare settings in India has galvanized us to

undertake this study on hand hygiene assessment among nurses in a healthcare setting in India and recommend measures to improve the compliance of hand hygiene.

2. Materials and Methods

The present study is a cross sectional study done in one of leading organization in preventive and promotive healthcare in India. The organization provides healthcare services to various multinational organization of banking, automobile, pharmaceutical and information & technology industries. The organization has a healthcare staff of 449 and comprised of doctors and nurses. All the healthcare staff of the organization participated in the study. Individuals on leave and who were not available for duties were excluded from the study. Health care staff was providing their services across 120 medical rooms or occupational health centres across 10 cities in India. The study was conducted for 3 months from October – December, 2014. Hand Hygiene Self-Assessment Framework 2010 by World Health Organization was the tool used for the study. The tool had 5 components envisaging education and training, system change, institutional safety, reminders and evaluation and feedback for hand hygiene. Total score was 500 with 100 points to each component. Tool was administered via email and data was collected. During the entire process, adequate privacy and comfort was ensured. Data was entered in Microsoft Excel and percentages were derived.

3. Results

Out of sample of 449 subjects, 373 participated in the study. Among 373, 112 were paramedical staff and 261 were medical doctors. All of them, claimed to have received formal training on hand hygiene. Among 120 medical rooms, 57% of the medical rooms had basic hygiene, while 32% had intermediate hygiene levels and 11% of the medical rooms had advanced hygiene levels.

The five components of the Hand Hygiene Self-Assessment Framework showed that reminders in the workplace scored the highest of 67% followed by system change 64%. Evaluation and feedback was the next to score 62%, followed by institutional safety climate scoring 58%. Education and training scored the least at 55%.

4. Discussion

The present study found that education and training was indeed a neglected area, which needs to be strengthened. Having workshops and hand

hygiene focused programmes have shown success in a sustained improvement in compliance with hand hygiene[6]. Institutional safety climate component also needs to be looked into, giving priority to regular meetings and adhering to a plan for continuous improvements in healthcare delivery. Although most of the staff was willing and committed to support activities and events related to hand hygiene, they lacked leadership and dedicated teams. There has been emphasis on the role of champions as a key to the success of infection control. They play the role of cheerleaders, which could significantly contribute to creating positive culture across the organization and outside. It also helps to motivate the patients to be aware and follow measures of hand hygiene. Although system change scored the second highest, it is an essential component in the having sustainability and assuring that the best practices are followed in the medical rooms. It is a decree that a hand rub to be used after each consultation and an alcohol based hand rub would require only 20 seconds[10]. To ensure that these components achieve success at all levels, it is quintessential to have strategies which could include all stake holders. Hand hygiene reminders in the form of flyers, mailers, posters and standees play a decisive role in motivating individuals to adhere to etiquettes[7]. Persistence and perseverance is the key in achieving best practices in healthcare.

5. Recommendations

An advanced level of hand hygiene program with elements of infection control should be offered to the all the professionals working in healthcare setting, once at the time of employment and then yearly thereafter. There should also be national campaigns at all levels to enable implementation, adaptability and sustainability of hand hygiene improvement efforts[11]. There is also a continual need to ensure that hand sanitizers, alcohol rubs and hand wash should be available to use at all times. Reminders ensure that the hand hygiene compliance is achieved and maintained.

6. Conclusion

Although hand hygiene etiquettes have been exemplified at regular intervals and efforts to improve hand hygiene was made by introducing quick alcohol based rubs, it still is been lacking to motivate healthcare professionals as described in the study. Cultural and behavioural issues would play in role in low compliance despite of the efforts to improve quality of healthcare.

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