



Enhancing hand hygiene compliance in a tertiary care center: A multidimensional improvement journey.

Authors: Islahi Sana*, Singh Suyash, Singh Sweta, Garg Pragati, Gupta Shefali, Suhal Jitendra, Kumar Pankaj



Department of Microbiology, All India Institute of Medical Sciences, Raebareilly, UP

islahi.sana@gmail.com, 9598790784*

Introduction

➤ Hand hygiene is a critical and effective measure in preventing healthcare-associated infections.

➤ Compliance with hand hygiene practices serves as one of the quality indicators of the hospital infection control department. However, adherence to proper hand hygiene practices often remains suboptimal in many healthcare settings.

Aims & Objectives

➤ To assess and improve the Hand Hygiene Adherence Rate (HHAR) among healthcare workers in a newly established tertiary care center through regular rounds, audits, training sessions, and awareness programs.

Materials & Methods

Study design : Prospective observational study

Study Period : Two year (Nov 2022–Sep 2024)

➤ The Direct Observation method, regarded as the gold standard, was used to monitor hand hygiene practices.

➤ A baseline hand hygiene audit was conducted in November 2022 in the Medical ICU (MICU), including 20 faculty members, yielding an initial compliance rate of 39.39%.

➤ Interventions included monthly training sessions for junior residents, nursing officers, and healthcare workers, using presentations, hands-on sessions, and demonstrations.

➤ We calculated the overall Hand Hygiene Adherence Rate (HHAR), profession-specific HHAR (e.g., doctors, nurses, and others), and moment-specific HHAR (for each WHO moment). Statistical analysis, using chi-square tests, assessed the significance of changes over time.

SR. NO.	DATE	OPPORTUNITIES	ACTION	TOTAL COMPLIANCE (%)
1	01-11-2022	21	0	0
2	02-11-2022	18	4	22.2
3	03-11-2022	20	8	40
4	04-11-2022	20	7	35
5	05-11-2022	16	8	50
6	07-11-2022	10	2	20
7	09-11-2022	14	7	50
8	10-11-2022	10	5	50
9	11-11-2022	15	2	13.3
10	12-11-2022	9	3	33.3
11	14-11-2022	9	3	33.3
12	15-11-2022	14	7	50
13	16-11-2022	11	7	63.4
14	17-11-2022	16	8	50
15	18-11-2022	10	2	20
16	19-11-2022	12	3	25
17	21-11-2022	13	6	46.2
18	22-11-2022	18	9	50
19	23-11-2022	14	7	50
20	24-11-2022	18	10	55.6
21	25-11-2022	10	4	40
22	26-11-2022	13	6	46.2
23	28-11-2022	19	11	55
24	29-11-2022	18	7	38.9
25	30-11-2022	15	7	46.7

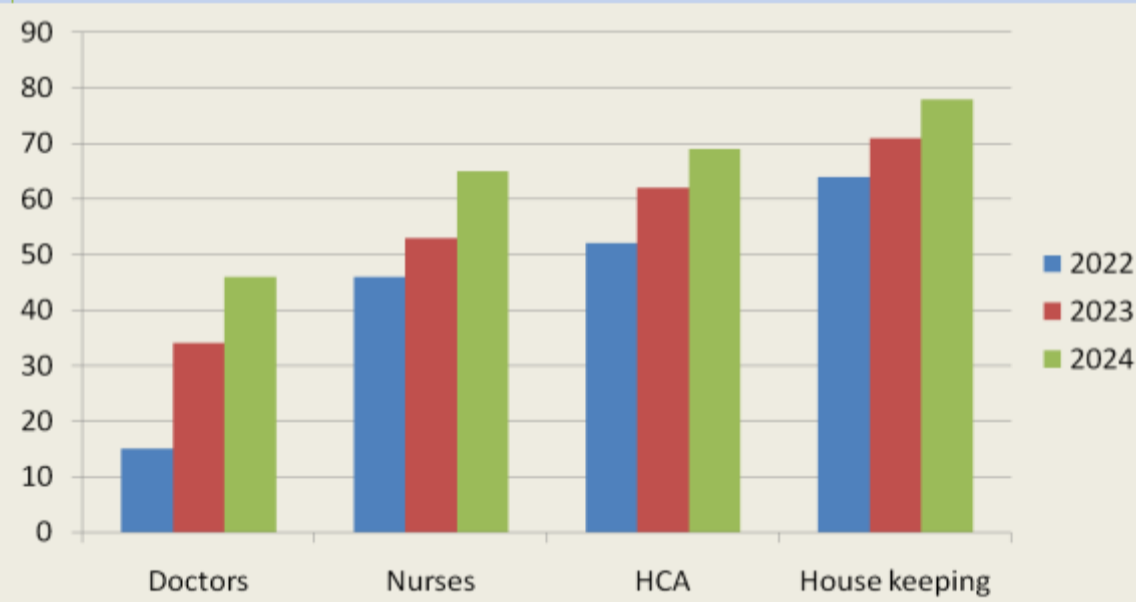
BASELINE HAND HYGIENE ADHERENCE RATE (HHAR)

$$\text{HHAR (\%)} = \text{Compliance (\%)} = \frac{\text{Actions}}{\text{Opportunities}} \times 100$$

$$= \frac{143}{363} \times 100$$

$$= 39.39\%$$

So, the compliance for the month of November 2022 was **39.39 %**



Hand hygiene compliance by healthcare workers in AIIMS Raebareilly, for periods 2022 to 2024

Years	Hand hygiene opportunities	Hand hygiene actions	Percentage compliance
2022	363	143	39.39
2023	912	502	55.04
2024	1124	725	64.50

Hand hygiene compliance AIIMS Raebareilly and overall compliance for period 2022 to 2024

GRADES	HHAR (%)
Extremely Poor	<20
Very Poor	21-40
Poor	41-50
Fair	51-60
Good	61-70
Very Good	71-80
Excellent	>80

GRADING OF HAND HYGIENE ADHERENCE RATE

Results

➤ Over a two-year period (Nov 2022–Sep 2024), the HHAR showed a progressive increase, reaching 64.50% by September 2024, 49 faculty members included in the final analysis.

➤ Profession-specific and moment-specific HHCAR improvements were statistically significant ($p < 0.05$).

Conclusions

➤ The hand hygiene compliance rate in our tertiary care center improved significantly over the study period, highlighting the impact of structured training and awareness initiatives on infection control practices.

References:

1. Damini N. Manual of infection prevention and control. Oxford: OUP Oxford; 2011.
2. World Health Organization.(2009).WHO Guidelines on hand hygiene in health care: First Global Patient Safety Challenge Clean Care Is Safer Care. (On line) available from <https://www.ncbi.nlm.nih.gov/books/NBK144018/>. (Accessed October, 2022)
3. Hand hygiene. “Measuring hand hygiene adherence: overcoming the challenges.” Oakbrook terrace: The Joint Commission;2019.