

## Direct observation of hand hygiene compliance among healthcare workers in a teaching hospital of Rome

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### Background

Hand hygiene with alcohol-based hand rub is widely recognized the most effective procedure to prevent pathogen cross-transmission and to control healthcare-associated infections. Unfortunately, adherence to WHO recommendations is often inadequate.

This study evaluated hand hygiene compliance by direct observation in the main ICU unit of the “Umberto I” teaching hospital of Sapienza University of Rome to quantify hand hygiene compliance rates and to promote adherence to recommended practices.

### Methods

For a 6-month period, four nurses and two physicians performed covert observations, filling out an anonymous questionnaire developed according to the WHO Guidelines for Hand Hygiene in Health-Care.

The check sheet focused on four possible interactions between healthcare workers and patients, with hand hygiene opportunities before and after each interaction.

Compliance rates were described as the number of hand rubs performed divided by the number of opportunities.

$\chi^2$  test and two-sample test of proportions were used in the statistical analysis.

### Results

We collected a total of 2274 hand hygiene opportunities. The average overall compliance was 34.5%.

The proportion of compliance after interactions with patients was higher than before ( $p < 0.001$ ). Generally, nurses' and physicians' compliance rates were similarly low with few professional behavioral differences; also before invasive procedures, which require the most effective aseptic technique, compliance rates were still low (19.1% vs 17.4%); instead, nurses' compliance rates were significantly higher than physicians after invasive procedures (74.7% vs 48.6%,  $p < 0.001$ ) or after device manipulations (58.0% vs 31.5%,  $p = 0.001$ ).

### Conclusions

The study shows a low hand hygiene compliance in all eight investigated indications, particularly before interactions. To improve the compliance rates, we scheduled feedback sessions with the ICU staff to highlight the importance of performing hand hygiene also before approaching patients.

### Key messages:

- Hand hygiene compliance is suboptimal in every WHO recommendation we investigated.
- Feedback sessions with the ICU staff are scheduled to improve the overall compliance rate.