

The implications of healthcare professionals wearing jewelry on patient care biosafety

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Introduction: Many studies have linked the use of personal adornments and accessories with increased risk of transferring microorganisms. **Objectives:** This study analyzed the use of jewelry among healthcare professionals and its implications on the residual bacterial load of hands and rings after hand washing. **Methods:** I) Observational prevalence study to verify whether nursing professionals wear personal accessories during healthcare assistance, and II) Intentional contamination of the hands, with and without a ring, with *Lactobacillus casei*, and sanitization (n = 20) with Group 1 - 70 % alcohol hand sanitizer; Group 2 - hand washing (water and liquid soap); and Group 3 - no hand hygiene (control). The bacterial load of both hands and rings was measured by counting colony forming units. **Results:** Nursing workers frequently wear jewelry, mainly represented by wedding rings, wristwatches, and earrings. Nonetheless, no differences were found in bacterial contamination between hands with and without a ring. Washing the hands with water and liquid soap showed the lowest bacterial load ($p < 0.001$). Hygiene with 70 % alcohol also reduced the bacterial load in comparison to the control group ($p < 0.001$). **Conclusions:** Contrary to the guidelines, many nursing workers wear jewelry in the workplace. Although hands with and without a ring exhibited similar microbial load, rings appeared as a potential source of bacterial contamination, reinforcing the need to remove jewelry during working hours. Hand hygiene using alcohol, or water and liquid soap significantly decreased the bacterial load on the participants' hands.

Keywords: Hospital Infection, Jewelry, Health workers, Biohazard, Biosafety.

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