



ORIGINAL

Influence of a multiple intervention program for hand hygiene compliance in an ICU[☆]

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KEYWORDS

Hygiene;
Safety;
Hand washing;
Health education;
Cross-infection

Abstract

Objective: To assess compliance with hand hygiene (HH) in ICU workers before (P1) and after (P2) implementation of a HH promotion program and distribution of an alcoholic solution for HH, and to analyze factors independently associated to HH before and after patients care.

Design: Observational evaluation for 50h of was carried out during each period of the study (P1 and P2); the number of opportunities for HH (before and after patients care) was registered. Educational program (6 months): poster campaign, educational meetings with staff about HH, and the provision of alcohol hand rubs.

Setting: ICU in a secondary level hospital.

Participants: Healthcare workers in the ICU.

Interventions: A quasi-experimental design was used to evaluate compliance with HH before and after implementation of the educational program.

Variables: Dependent variable: HH compliance before–after patients care; independent variables that might be associated to compliance (including the educational program).

Results: In P1, there were 338 opportunities for HH both before and after patients care, versus 355 in P2 (before and after patients care). The hand-washing rate was significantly higher in P2 than in P1 (prior to patient care: 45.3% and 34.9%, respectively, and after patient care: 63% and 51.7%, respectively). In the multivariate analysis, the educational program, together with other variables, was significantly associated to HH before and after patients care.

Conclusion: There was a significant increase in compliance with hand hygiene among the ICU personnel during the educational phase, both before and after patients care.

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PALABRAS CLAVE

Higiene;
Seguridad;
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horizontal

Influencia de un programa de intervención múltiple en el cumplimiento de la higiene de manos en una unidad de cuidados intensivos

Resumen

Objetivo: Evaluar el cumplimiento de las recomendaciones sobre «higiene de manos» (HM) en una unidad de cuidados intensivos (UCI) en una fase previa (F1) y posterior (F2) a la intervención descrita y analizar los factores asociados de forma independiente al cumplimiento de dichas recomendaciones (antes y después del contacto con el paciente).

Diseño: Cincuenta horas de observación en F1 y F2; programa de intervención (PI) (6 meses) que incluye la distribución de dispensadores de solución alcohólica.

Ámbito: UCI de un centro asistencial de segundo nivel.

Participantes: Personal sanitario de la UCI.

Intervenciones: Estudio cuasi experimental que evalúa la situación antes y después de un PI para mejorar el cumplimiento de la HM.

Variables de interés: Variable dependiente: cumplimiento de la HM antes-después del contacto con el paciente; variables independientes que pudieran influir en dicha pauta (entre ellas el PI).

Resultados: En F1 se recogieron 338 oportunidades para la HM (antes y después del contacto con el paciente); la HM se realizó en 118 (34,9%) y 175 (51,7%), respectivamente. En F2 se observaron 355 oportunidades (antes y después del contacto con el paciente), realizándose la HM en 161 (45,3%) y 224 (63%), respectivamente. En el análisis multivariado la presencia de un PI se asoció de forma independiente, junto con otras variables, con la realización de la HM antes y después del contacto con el paciente.

Conclusiones: La introducción de un PI sobre HM en una UCI aumenta de forma estadísticamente significativa el porcentaje de actos de HM antes y después del contacto con el enfermo.

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Introduction

Nosocomial infections (NIs) are a determinant factor in reference to patient safety, since they increase morbidity–mortality, the healthcare costs per disease process, and prolonged hospital stay, and are moreover correlated to antibiotic resistance phenomena.^{1–4} NIs acquire particular relevance in hospital admission areas such as Intensive Care Units (ICUs), where their incidence is 2–5 times higher than in the rest of the hospital population,^{4,5} reaching incidences of 17%, with attributable mortality rates of 20–50%.

In 1847, Semmelweis conducted the first experimental study showing that appropriate hand hygiene (HH) prevents puerperal infection and maternal mortality. Posteriorly, different studies have shown HH compliance to reduce the frequency of NIs and reinforce patient safety in all situations—from the most advanced healthcare systems to the least privileged healthcare settings.^{6–11}

The 57th Assembly of the World Health Organization (WHO), held in May 2004, approved the creation of an international alliance to improve patient safety. The Alliance for Patient Safety was founded shortly afterwards, in October of that same year, with recognition of the universal need to improve HH in healthcare institutions, and the development of a strategy included in the *WHO Guidelines on Hand Hygiene in Healthcare (advanced draft)*, under the heading “Clean hands are safe hands”.¹²

Although there is sufficient evidence to establish a time relationship between improved HH practices and a reduction in the incidence of NIs,^{13,14} in routine clinical practice adequate compliance with the established HH recommendations

remains low and rarely exceeds 40–50%, even under study conditions.^{11,15–17} The strategies used to improve HH compliance include educational programs targeted to healthcare workers, modifications in the equipment used for such hygiene, and social pressure exerted by patients and their families upon healthcare workers—demanding compliance with the measures of asepsis.^{18–20}

The introduction of alcohol derivatives has been shown to significantly improve the HH compliance rates, by allowing faster and safer disinfection of the hands.^{20–23}

Taking into account the above, and considering the importance of NIs in the ICU and the benefits of HH compliance among healthcare workers in preventing such infections, the present study was designed to evaluate HH compliance among the ICU healthcare personnel in a phase prior to (P1) and after (P2) the introduction of an intervention program associated to the supply of an alcoholic solution for HH, and to analyze the factors independently associated to compliance with such recommendations, both before and after contact with the patient.

Subjects and method

An interventional or quasi-experimental before–after study without a control group was designed, evaluating the situation before and after the intervention described below.

Study setting

The study setting comprised the ICU of a second level hospital center (Santa María del Rosell Hospital in Cartagena,

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