

The fundamental role of educational intervention on improving health care workers' knowledge, attitude and practice towards infection control precautions

Abstract

To evaluate the role of educational intervention on health care workers' (HCWs) compliance to infection control precautions and cleaning of frequently touched surfaces at critical care units, forty-nine HCWs at 2 intensive care units (ICUs) and one neonatology unit at Fayoum University hospital were evaluated for knowledge, attitude and practice (KAP) towards standard precautions as well as obstacles affecting their compliance to standard precautions before and after a 32-hour purposed-designed infection control education program. A structured self-administrated questionnaire as well as observational checklists were used. Assessment of Environmental cleaning was investigated by observational checklist, ATP bioluminescence and aerobic bacteriological culture for 118 frequently touched surfaces. Pre-intervention assessment revealed that 78.6% of HCWs were with good knowledge, 82.8% with good attitude and 80.8% had good practice. Obstacles identified by HCWs were as follow: making patient-care very technical (65.3%), deficiency of hand washing facilities (59.2%), skin irritation resulting from hand hygiene products (51%), and unavailability of PPE (38.8%). High significant improvements of knowledge, attitude and practice were detected after one month of educational intervention ($P < 0.001$). During the pre-interventional period only 30.5% of surfaces were considered clean versus 97.45% post intervention ($P < 0.05$). The highest Median ATP bioluminescence values were obtained from telephone handset, light switches and blood pressure cuffs. *Staphylococcus aureus* was the most commonly isolated organism followed by *Enterococcus* spp. and *Escherichia coli* (52, 38 and 19 surfaces respectively). In conclusion, training of HCWs on standard precautions should be considered a mandatory element in infection control programs.

Key words: education; behaviour; infection control; disinfection; medical equipment; Egypt