

Electronic hand hygiene quality and duration monitoring in pre-school children: a feasibility study

ABSTRACT

Background: Hand hygiene is regarded as the most important measure to prevent spread of infectious diseases. The aim of this study was to assess the feasibility of a prototype application in an electronic device in educating, stimulating and monitoring hand hygiene quality in young children. Method: A pre-school was provided with an interactive hand hygiene application for two months. The device features an online administrator dashboard for data collection and for monitoring the children's hand washing steps and duration. A good hand washing is defined as hand washing which comprise all of the steps outlined in the World Health Organization (WHO) guidelines. Results: The prototype managed to capture 6882 hand wash performed with an average of 20.85 seconds per hand wash. Washing hands palm to palm was the most frequent (79.9%) step performed, whereas scrubbing fingernails and wrists were the least (56%) steps performed. Conclusions: The device is a good prototype to educate, stimulate and monitor good hand hygiene practices. However, other measures should be undertaken to ensure sustainability of the practices.

Keyword: Device; Hand hygiene; Monitoring; Pre school