

## Hand hygiene in Chiropractic training: When knowledge, attitudes and practices do not meet

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Proper hand hygiene has been described as an important barrier in the defense against hospital acquired infections, along with the spread of antimicrobial resistance in the bacteria that cause these infections. Research has shown that although healthcare workers understand the principles and importance of hand hygiene, they do not always practice proper hand hygiene.

The aim of this pre-post intervention study was to monitor the changes in the bacterial population on the hands of chiropractic students at a Chiropractic Clinic pre and post a hand hygiene education intervention. Sixty participants completed the World Health Organization hand hygiene survey to determine their hand hygiene knowledge, attitude and practices (KAP), and had their hands sampled to quantify the bacterial population present. The bacterial population was quantified using flow cytometry and reported as total, live and dead bacteria present.

The survey answers showed that the participants reported knowledge, attitudes and practices did improve after the education intervention (presentations and posters in toilets and consultation rooms). The microbiological data showed that although there was a decrease in the total bacterial population after the intervention, the portion live cells increased after the intervention. Comparing the change in microbiological data with the change in KAP answers provided (pre- and post-intervention), showed that although the participants understood the importance of proper hand hygiene practices, it was not supported by the microbiological data. The data showed that the effectiveness of hand hygiene education need to be monitored using a microbiological method to properly combat the spread of infections.