Assessment of anti-bacterial effectiveness of hand sanitisers commonly used in South Africa

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INTRODUCTION

Hand sanitisers are used as an alternative to hand washing in reducing the number of viable microorganisms when soap and water is not readily available; but are only effective if hands are not heavily soiled or greasy. Hand hygiene plays a vital role in reducing infections in various settings, particularly in hospitals.

AIM

To investigate the anti-bacterial effectiveness of hand sanitisers commonly used in hospital settings and commercially available to the public.

OBJECTIVES

To identify the commonly used hand sanitisers sold both on the local market and in public healthcare facilities; and to determine the anti-bactericidal level of the identified hand sanitisers.

METHODS

This was an experimental design study. A mapping exercise was done to select and procure different hands sanitisers (n=18) sold at retailers, including pharmaceuticals. Five microorganisms implicated in hospital-acquired infections were selected and tested against each hand sanitiser: *Escherichia coli, Enterococcus faecalis, Klebsiella pneumoniae, Pseudomonas aeruginosa and Staphylococcus aureus.*

RESULTS AND DISCUSSION

Four of eighteen hand sanitisers (22 %) were most effective against all tested bacterial species, and another four (22 %) was not effective at all. The zone of inhibition was mainly observed on liquid form hand sanitisers (n=5) than the gel. Hand sanitisers (n=7) with a label claim of 99.99% were all effective against *E. coli* only. The minimum inhibitory concentration (MIC) was observed in almost all hand sanitisers (n=11) in gel form. Only one hand sanitiser failed the MIC test.

CONCLUSION

This study showed that only a fifth of hand sanitisers were effective against selected microorganisms. Also, this study demonstrated that further investigations into labelling claims are warranted as those claiming 99.9% effectiveness only inactivated one of the five microorganisms commonly reported in HAIs.