**Comparing the Effectiveness of WHO Formula Alcohol-Based Hand Sanitizer Produced in Kathmandu to Commercially Available Alcohol-Based Hand Sanitizer at the International Friendship Children's Hospital**

Nicholas TG1, Caroll J1, Shrestha A2, Pokhrel A2, Shakya SC2, Lane N3

1School of Medicine and Dentistry, King's College London, London, United Kingdom, 2International Friendship Children's Hospital, Kathmandu, Nepal, 3Institute of Health Policy, Management and Evaluation, University of Torronto, Canada.

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**Background**

The study compared the bactericidal effectiveness of the WHO Formulation-1 hand sanitizer made by untrained hospital staff in non-sterile conditions, to that of commercially available Dettol® hand sanitizer.

**Methods**

A convenience sample of 39 hospital staff at International Friendship Children's Hospital (IFCH) in Kathmandu, with each hand tested separately (total n = 78). The study was run at the end of hospital shifts and subjects were instructed not to wash/sanitize their hands immediately prior to participation. Each subjects’ right hand served as a control to their left hand with respect to palm area and concentration of bacteria. The CFU reduction count was calculated as the difference between the CFU count pre-sanitization and the CFU count post-sanitization. Wilcoxon signed-rank tests were used to compare median CFU reduction counts among hands sanitized with WHO-1 vs. Dettol®.

**Results**

No differences exist in the bactericidal properties of WHO-1 versus Dettol®. The WHO Formulation-1 hand sanitizer produced at IFCH in Kathmandu using a modified protocol had comparable bactericidal properties to commercially produced Dettol®.

**Conclusions**

The modifications to the WHO protocol examined in this study can be applied to produce inexpensive and effective hand sanitizer in other global health settings with similar material and human resource constraints.

**Keywords:** bacterial effectiveness; bacterial properties; Dettol®; hand sanitizer; hospital staff; WHO protocol.