A COUPLE OF SQUIRTS A DAY KEEPS THE DOCTOR AWAY. A CLUSTER RANDOMIZED CONTROLLED TRIAL OF ALCOHOL-BASED HANDRUBS FOR PREVENTION OF INFECTION DISEASE IN CHILDREN

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Background and Aims: This first cluster randomized controlled trial in a developing country setting sought to investigate if the use of alcohol-based handrub (ABH) reduced the incidence of acute diarrhoea (ADD) and respiratory infection (ARI) in children under five years. Handwashing with soap and water is known to be effective to prevent these illnesses, but alternatives are needed for settings where it is impractical.

Methods: The trial was performed in childcare centres with limited tap water availability located in six Colombian towns. Participants were randomly assigned to use ABH as a complement to handwashing (intervention arm: 21 centres/794 children); or to continue previous handwashing practices (control arm: 21 centres/933 children). Cases were identified through teacher-reported signs and symptoms of illness. Adverse events were monitored. Hazard ratios were obtained using Cox proportional hazards multivariate regression shared frailty models.

Results: Child-days of surveillance totalled 336,038. Attribution rate was 14%. For both diseases the hazard ratio did not differ during the first trimester of the trial. However, after this period the hazard ratios favour the intervention arm. The respective estimated risk of ADD for the second and third trimesters among children in the intervention group was 55% and 44% of the risk in the control group (p<0.001). The respective estimated risk of ARI for trimesters two and three among children in the intervention group was 80% and 69% of the risk in the control group (p<0.001). No adverse events occurred.

Conclusions: Alcohol-based handrub gels effectively prevent acute diarrhoea and respiratory infection and are safe. These results corroborate the findings of studies done in more affluent societies. National public health policies for prevention of these diseases should consider use of gels. Further research about the cost-effectiveness of ways to facilitate long-term behaviour change and technology adoption in diverse cultural contexts is needed.

References:


31. Wintrebert CMA. Statistical modelling of repeated and multivariate survival data. Leiden: Leiden University Medical Center (LUMC), Leiden University; 2007.


