Effect of a health education intervention on intestinal parasitic infections in Bolivian children

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Backgrounds:
Intestinal parasitic infections (IPI) are a major health issue for children of low- and middle-income countries. Water, sanitation and hygiene (WASH) practices are crucial for preventing IPI. The aim of the study was to evaluate the effects of a school-based health education intervention on handwashing behavior and IPI prevalence in children

Methods:
This is a randomized intervention trial in 8 primary schools in rural communities over the course of 3 school years; preliminary results from the first two years of the trial are here presented. Schools were randomly selected and assigned in a 1:1 ratio to intervention or control (no intervention) groups. For each school year, the intervention included 14 school-based educational sessions and 2 skit events, involving children aged 8-12 years. Knowledge, attitude and practice questionnaire and handwashing at key events was assessed at the beginning and end of each school year. IPI prevalence was assessed with repeated cross-sectional parasitology surveys 12 months apart, involving a minimum of 50 children for each school

Results:
At baseline, no significant differences between intervention and control schools were present in the proportion of children who washed their hands at key events (7.2% vs 9.3%, $p = 0.28$), in IPI (79.4% vs 75.3%, $p = 0.3$) and multiple parasitic infections (MPI) prevalences (47.6 vs. 38.6; $p = 0.051$). At the end of the second year, the percentage of children who washed their hands at key events was significantly higher in the intervention schools (75.4% vs 12.1%, $p < 0.001$), and the prevalence of IPI and MPI in the intervention schools were respectively about 25% and 15% lower than in the control schools (respectively, 42.9% vs 67.8%, $p < 0.001$; 16.1% vs 31.6%, $p < 0.001$)

Conclusions:
A school-based health education intervention could achieve significant changes in hand-washing behaviors and reduction in the prevalence of IPI in children. The third year survey results are needed to confirm these findings

Key messages:
- An health education intervention on water, sanitation and hygiene (WASH) practices can reduce the risk of IPI infection in children.
- An health education intervention on water, sanitation and hygiene (WASH) practices could be configured as a sustainable long-term approach to intestinal parasitic infections control in children.