

SCHOOL-BASED WATER, SANITATION AND HYGIENE INTERVENTIONS

KALEIDOS RESEARCH

AN EFFECTIVE MEANS TO PROMOTE HYGIENIC BEHAVIOUR AMONGST SCHOOL CHILDREN

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Why do we need WASH interventions at schools? Despite the many global efforts that have been made to improve access to water, sanitation and hygiene (WASH), countless people still rely on unimproved water-sources, do not use improved sanitation facilities and practice open defecation¹. Almost 1.87 million deaths a year occur as a result of poor WASH conditions². Most of these deaths happen among children under five. However, school-aged children are likewise affected by inadequate WASH conditions through poor school environments that often facilitate the spread of diseases. It is expected that by improving WASH conditions at schools by increasing water quality and quantity, hygiene education, providing soap and improving latrine hygiene will not only reduce child mortality and lead to better health outcomes, but may also promote gender equality, decrease school absence rates and improve hygiene practices³.

School-based WASH interventions do not only concentrate on improving health of school children, but also focus on the development of life skills and aim to involve caregivers, communities, governments and other institutions to collaborate to improve WASH conditions.

KEY MESSAGES

- Clear majority of school-based WASH interventions show to be effective.
- Simple, quick and affordable interventions with a strong impact on child health are favourable. This subsequently limits the number of hygiene behaviours that are of interest to study.
- Only few evaluations assessed the sustainability of the intervention.

But do these improved WASH conditions in schools actually effect school children? Do they indeed change their hygiene behaviour because of these interventions? This factsheet explores to what extent school-based WASH approaches in primary schools lead to an improved hygiene behaviour in primary school pupils.

STUDYING WASH INTERVENTIONS

A literature search revealed 17 studies in the grey and academic literature that studied the effect of WASH interventions in primary schools⁴. These studies mainly assessed three (or less) hygiene

1 WHO, & UNICEF. (2013). *Progress on sanitation and drinking-water*. World Health Organization.

2 Blanton, E., Ombeki, S., Oluoch, G. O., Mwaki, A., Wannemuehler, K., & Quick, R. (2010). Evaluation of the role of school children in the promotion of point-of-use water treatment and handwashing in schools and households--Nyanza Province, Western Kenya, 2007. *Am J Trop Med Hyg*, 82(4), 664-671. doi:10.4269/ajtmh.2010.09-0422

3 Mooijman, A. (2012). *Water, Sanitation and Hygiene (WASH) in Schools*. New York: Unicef. Retrieved from https://www.unicef.org/publications/files/CFS_WASH_E_web.pdf

4 Three academic databases were searched from 2006 until 2016: PubMed, Embase and Scopus. Grey literature (evaluation reports) was also searched using similar terms where possible; these electronic sources included: Google, WHO, UNICEF, WASH in schools, Planet Water, SIMAVI, ICR and WaterAid.

behaviours 1) handwashing with soap; 2) water treatment, handling and storage and; 3) safe use of toilets and urinals. Handwashing behaviour was the most common evaluated intervention.

Just teaching children facts about health risks and bad hygiene practices will not change their hygiene practices effectively. Learning practical life skills helps children to change behaviour and so reduce risks and prevent WASH related diseases. Many programs structure their interventions around three factors: knowledge of hygienic behaviour, attitude towards hygiene, and actual practice. For example, teaching school pupils that certain illnesses can result from not washing hands with soap after toilet use. Or training students to feel responsible to be clean and healthy. But also, educating children how to wash their hands to prevent illness and infection.

WASH INTERVENTIONS PROVEN TO BE EFFECTIVE

The majority of school-based WASH interventions showed to be effective. Figure 1 gives an overview of the results of the studies, indicating that on all three aspects of hygienic behaviour –

handwashing, water treatment and safe use of toilets - most interventions found a positive effect. The studies conclude that a significant part of the pupils changed their knowledge, attitude, and or behaviour as a result of a WASH intervention at school.

HANDWASHING MOST POPULAR INTERVENTION

Handwashing programmes appear to be the most popular type of WASH intervention. This may be explained by the fact that handwashing interventions are seen as the simplest, quickest and often most affordable to implement. Simultaneously they have the strongest impact on improving child health. Other aspects of hygiene behaviours at schools, as identified by Unicef (2012)⁵ such as female and male hygiene, waste management and water drainage, water treatment, handling and storage and food hygiene are addressed to a much lesser extent in interventions. This means that many hygiene behaviours are either not evaluated or not part of WASH interventions.

5 Mooijman, A. (2012). Water, Sanitation and Hygiene (WASH) in Schools. New York: Unicef. Retrieved from https://www.unicef.org/publications/files/CFS_WASH_Web.pdf

INTRODUCING ACTIVITIES IN WASH INTERVENTION IN SCHOOLS: PLANET WATER (2014)

Planet Water implemented a program in primary schools that intended to improve health outcomes for children by providing access to safe drinking water, handwashing facilities, and water-health and hygiene education.

Child-friendly activities, such as games, drama, song and dance were added to regular WASH activities. Activity-based WASH programmes aim to engage and encourage pupils to participate to the programme by making WASH interventions more attractive for school-aged children.

The evaluation indicated that the Planet Water program has a substantial, positive impact on improving WASH outcomes. School children who benefitted from Planet Water’s interventions demonstrated higher scores in water-health and hygiene practices compared to children in schools that not participated in this program.

Source: PlanetWater. (2014). *Building Healthy Communities through Clean Water and Hygiene Education Programs: An impact evaluation report*. Retrieved from <http://www.planet-water.org/wp-content/themes/Planet-Water/media/PW%20Impact%20Evaluation%20Report.pdf>.

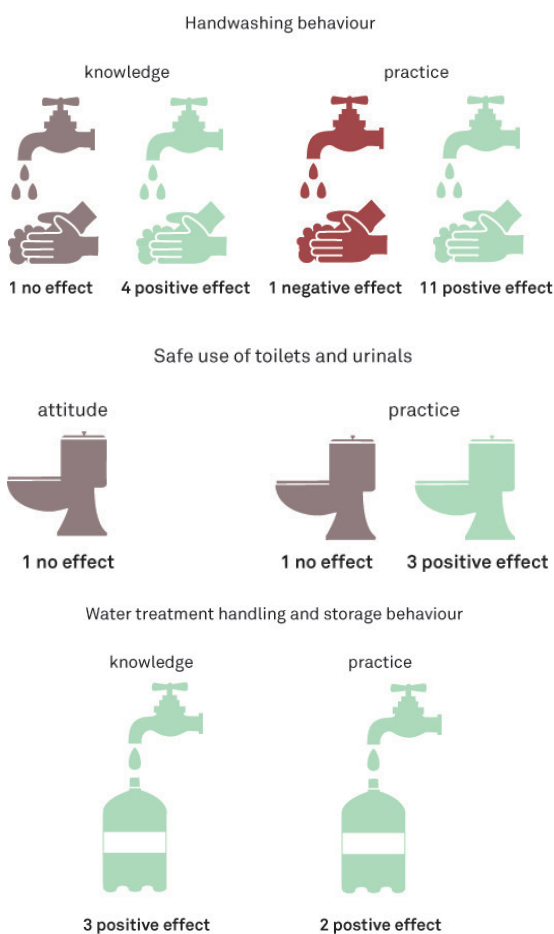


FIGURE 1. Overview of the results of the evaluations of the selected articles

SUSTAINABILITY: DOES THE BEHAVIOUR STICK?

Once pupils learn what good hygienic behaviour is and how to practice it, does this behaviour become a habit? There were only few studies that assessed whether the changes in hygiene behaviour lasted, or whether the students returned to their old habits when the program ended. Group handwashing programmes appear to be more effective and sustainable compared to “regular” handwashing interventions. Additionally, simultaneous efforts on motivating the students to use the latrines and practice handwashing, together with encouraging teachers and school management, was highlighted to ensure that pupils keep practicing their good hygienic behaviour.

BEST PRACTICES

What factors can be identified in these interventions that lead to success? The literature points to the following aspects:

- Children have a habit of imitating behaviours of others. Active group promotion and demonstrations on how to properly practice handwashing encourages children to wash their hands. Including the children in the development of those activities will inspire them even more to practice handwashing correctly⁶.
- Creativity is an effective way of creating awareness. For instance, using art work to portray good hygiene behaviour is a way in which creativity can be used. Visualizing those drawings on the walls of toilet block will help to position hygiene practices in the minds of the pupils⁷.
- Placing handwashing tanks right in front of the toilets will make it easy for children to remember to wash their hands. It will not only help children to remember to practice handwashing, but it will simply allow them to do so⁶.
- Finally, the development of WASH committees in schools have led to success in WaSH interventions. Those committees are formed by students who teach their peers on various hygiene and sanitation practices and orga-

nize several tasks. For example, they make schedules for pupils to fill the handwashing tanks with water and ensure that the toilets are cleaned⁷.

WHAT DOESN'T WORK?

Lessons can also be learned from these studies. What does not work, when trying to improve hygienic behaviour under primary school children?

- The presence of clean toilets may stimulate children to use the toilets at school more frequent. However, if attention is focused on clean toilets, but not on handwashing, hands tend to become more contaminated. Therefore, it is recommended that hand hygiene should simultaneously be addressed when providing school latrines⁸.
- Even though in many cases handwashing practices increased, it appeared that soap was often not used. Neglecting the use of soap after handwashing seriously influences the effect of the handwashing practice. Ensuring the use of soap in schools is more complex than it seems. It is advised that NGO agencies and education authorities should support the schools on this issue, as it is too complex for individual schools to tackle^{9,10}.
- Finally, differences in the uptake of the intervention may be due to a diversity of pre-existing, non-measured confounding variables, including the level of community engagement, school management and the success of the delivery of the programme¹¹.

CALL TO ACTION

- Future WASH interventions should focus on ways to implement sustainable use of soap in schools.
- Forthcoming evaluations should take the lessons learned into consideration when evaluating school-based WASH interventions.
- Other key hygiene behaviours should be assessed in order to provide a comprehensive overview of the effects of all hygiene behaviours.

6 Chittleborough, C., Nicholson, A. L., Basker, E., Bell, S., & Campbell, R. (2012). Factors influencing hand washing behaviour in primary schools: Process evaluation within a randomized controlled trial. *Health Educ Res*, 27(6), 1055-1068. doi:10.1093/her/cys061

7 Limange, J., Shatunka, M., & Chulu, F. D. (2013). Evaluation report: End-Term Performance Evaluation for the USAID/Zambia School Water Supply and Hygiene (WASH) and Quality Education Project. Retrieved from http://pdf.usaid.gov/pdf_docs/PA00JMR8.pdf

8 Greene, L. E., et al (2012). Impact of a school-based hygiene promotion and sanitation intervention on pupil hand contamination in Western Kenya: a cluster randomized trial. *Am J Trop Med Hyg*, 87(3), 385-393. doi:10.4269/ajtmh.2012.11-0633

9 O'Reilly, C. E., et al (2008). The impact of a school-based safe water and hygiene programme on knowledge and practices of students and their parents: Nyanza Province, western Kenya, 2006. *Epidemiol Infect*, 136(1), 80-91.

10 Mathew, K., et al (2009). The sustainability and impact of school sanitation, water and hygiene education in southern India. *Waterlines*, 28(4), 275-292.

11 Freeman, M. C., et al (2012). Assessing the impact of a school-based water treatment, hygiene and sanitation programme on pupil absence in Nyanza Province, Kenya: a cluster-randomized trial. *Trop Med Int Health*, 17(3), 380-391. doi:10.1111/j.1365-3156.2011.02927.x