



## Issue 174 | Jan 16, 2015 | Focus on Handwashing Research

### **A Summary of Handwashing Research in 2014 – The Global Public-Private Partnership for Handwashing (PPPHW)**

In 2014, 26 peer reviewed handwashing studies that focused on developing countries were published. Global PPPHW Secretariat Director Layla McCay prepared this summary and Pavani Ram, University at Buffalo, reviewed it. WASHplus Knowledge Resources Specialist Dan Campbell conducted the literature search.

#### **What We Have Learned about Handwashing in 2014: A Summary**

**Measurement of handwashing behavior:** Based on a review of numerous studies using structured observation to measure behavior, hands are washed with soap after approximately 19 percent of events that involved using the toilet or coming into contact with a child's excreta.<sup>1</sup>

**Behavior change communication:** The much-awaited results from the Super-Amma campaign, a handwashing behavior change intervention based on emotional drivers such as nurture and disgust, have started to come in. These results show that this approach to handwashing promotion has lasting impact and is achieving the diffusion of handwashing as a social norm.<sup>2, 3</sup> The campaign provides further confirmation that the knowledge of handwashing benefits is linked to its practice<sup>4, 5</sup> and that women's participatory groups<sup>6</sup> and handwashing education in schools,<sup>7</sup> including students' involvement in hygiene and sanitation clubs,<sup>9</sup> are good settings in which to build that knowledge into action. Furthermore, the mere act of checking whether households have soap seems to increase their handwashing behavior.<sup>10</sup>

**Handwashing hardware:** The studies reviewed provide further evidence that the availability of appropriate handwashing stations and soap in schools,<sup>7</sup> healthcare centers,<sup>8</sup> and in the home<sup>12, 13</sup> increases handwashing prevalence, as does having piped water and functioning sewage mechanisms.<sup>14</sup> Research provided further evidence that soap and ash are equally effective at cleaning hands,<sup>15</sup> and that 4g of moringa oleifera leaf powder shows promise as an effective alternative to soap or ash for handwashing.<sup>16</sup>

**Benefits of handwashing:** A review estimated that handwashing with soap reduces the risk of diarrhea by 40 percent.<sup>1</sup> Excluding the studies that could theoretically have been biased (or unblinded)—researchers knowing which people were exposed to handwashing interventions and which were not— handwashing with soap was estimated to reduce the risk of developing diarrhea by 23 percent.<sup>1</sup> Further evidence showed that having soap in the home reduces children’s episodes of diarrhea, acute respiratory infections, eye infections, helminth infections, and school absences.<sup>18,19,20,21</sup> It was found that good handwashing interventions in school also reduce school absences (but only for girls in one study)<sup>7</sup> and that school-based interventions reduce episodes of diarrhea in preschool-aged siblings.<sup>17</sup>

**Contamination:** Various studies measured hands contaminated with rhinovirus,<sup>22</sup> E coli,<sup>5, 25</sup> and helminth eggs.<sup>23</sup> One study inversely correlated prevalence of handwashing with the amount of influenza virus found on household surfaces.<sup>24</sup> A final study showed that in the rural areas hands revert to baseline levels of contamination within one hour after handwashing with soap.<sup>26</sup>

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