The Cochrane Library
Much More Than a Collection of Systematic Reviews
Dónal O'Mathúna, BSc(Pharm), MA, PhD
Associate Professor, College of Nursing
Helene Fuld Health Trust National Institute for EBP in Nursing and Healthcare
Director, Cochrane Affiliate, The Ohio State University
https://www.cochranelibrary.com/
<table>
<thead>
<tr>
<th>Cochrane Reviews</th>
<th>Cochrane Protocols</th>
<th>Trials</th>
<th>Editorials</th>
<th>Special collections</th>
<th>Clinical Answers</th>
<th>Other Reviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1</td>
<td>665</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

6 Cochrane Reviews matching "hand-washing" in Title Abstract Keyword

Did you mean: handy | Rand | band

Cochrane Database of Systematic Reviews
Issue 3 of 12, March 2020

Select all (6) Export selected citation(s) Show all previews

Order by: Relevancy

1

**Hand washing promotion for preventing diarrhoea**
Regina I Ejemot-Nwadiaro, John E Ehiri, Dachi Arikpo, Martin M Meremikwu, Julia A Critchley
Intervention Review 8 September 2015 Open access Update pending

Show PICOs BETA Show preview
Advanced Search

Did you know you can now select fields from Search manager using the $ button (next to the search box)?

Search manager lets you add unlimited search lines, view results per line and access the MeSH browser using the new MeSH button.

- Title Abstract Keyword ▼
- AND ▼ Author ▼ John Smith
- AND ▼ Publication Type ▼ systematic review
- NOT ▼ Title Abstract Keyword ▼ "hospital based"

Clear all
Hand washing promotion for preventing diarrhoea
Regina I Ejemot-Nwadiaro, John E Ehiri, Dachi Arikpo, Martin M Meremikwu, Julia A Critchley
Intervention Review 8 September 2015 Open access ▲ Update pending ▼
Show PICO(s) ▼ Show preview ▼
Cochrane Database of Systematic Reviews

Hand washing promotion for preventing diarrhoea

Cochrane Systematic Review - Intervention | Version published: 08 September 2015  see what's new
https://doi.org.proxy.lib.ohio-state.edu/10.1002/14651858.CD004265.pub3

Abstract

Available in  English | Français | 简体中文

Background

Diarrhoea accounts for 1.8 million deaths in children in low- and middle-income countries (LMICs). One of the identified strategies to prevent diarrhoea is hand washing.

Objectives
Hand washing promotion for preventing diarrhoea

Review question

This Cochrane Review summarises trials evaluating the effects of promoting hand washing on the incidence of diarrhoea among children and adults in day-care centres, schools, communities, or hospitals. After searching for relevant trials up to 27 May 2015, we included 22 randomized controlled trials conducted in both high-income countries (HICs) and low- and middle-income countries (LMICs). These trials enrolled 69,309 children and 148 adults.

How does hand washing prevent diarrhoea and how might hand washing be promoted

Diarrhoea causes many deaths in children below five years of age, mostly in LMICs. The organisms causing diarrhoea are transmitted from person to person through food and water contaminated with faeces, or through person-to-person contact. Hand washing after defecation, or after cleaning a baby's bottom, and before preparing and eating food, can therefore reduce the risk of diarrhoea. Hand washing can be promoted through group or individual training on hygiene education, germ-health awareness, use of posters, leaflets, comic books, songs, and drama.

What this review says

Hand washing promotion at child day-care facilities or schools in HICs probably prevents around 30% of diarrhoea episodes (high quality evidence), and may prevent a similar proportion in schools in LMICs (low quality evidence). Among communities in LMICs hand washing promotion prevents around 28% of diarrhoea episodes (moderate quality evidence). In the only hospital-based trial included in this review, hand washing promotion also had important reduction in the mean episodes of diarrhoea (moderate quality evidence).
Authors' conclusions

Implications for practice

Hand washing promotion leads to reduction in diarrhoea episodes in both child day-care centres in high-income countries and among communities living in LMICs by about 30%. The challenge is to find ways of encouraging people to maintain hand washing habits in the longer term.

Implications for research

The findings of this Cochrane Review show that further research to determine the efficacy of hand washing intervention in preventing diarrhoea will be unnecessary in child day-care centres in high-income countries and in communities in LMICs, although only one trial was conducted in Africa.

More trials conducted in child day-care centres or schools in LMICs are needed to enhance our ability to generalize the intervention effects. The need to conduct research that is of longer follow-up duration and uses a structured method of assessing the primary outcome is pertinent, since it has been observed that arbitrary use of methods may have significant effect on precision of estimates. Outcome assessors should be blinded so as to reduce the bias in estimates of effect size.

Evidence of hand washing on diarrhoea incidence in hospital based settings is still limited as we only found one trial that met the inclusion criteria. Therefore, further research in this area would be warranted.
Summary of findings for the main comparison. Summary of findings table 1

Hand washing at child day-care centres and schools compared to no intervention

**Patient or population:** Children  
**Settings:** Child day-care centres or schools  
**Intervention:** Hand washing promotion (provision of hand washing materials)  
**Comparison:** No intervention

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Illustrative comparative risks* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No. of participants (trials)</th>
<th>Quality of the evidence (GRADE)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Assumed risk</td>
<td>Corresponding risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No intervention</td>
<td>Hand washing promotion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Episodes of diarrhoea</td>
<td>High income countries</td>
<td>Rate ratio 0.70 (0.58 to 0.85)</td>
<td>4664 (3 trials)</td>
<td>high$^{1,2,3,5}$</td>
</tr>
<tr>
<td></td>
<td>4 episodes per 100 children per year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 episodes per 100 children per year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2 to 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low or middle-income countries</td>
<td>Rate ratio 0.66 (0.43 to 0.99)</td>
<td>45,380 (2 trials)</td>
<td>low$^{1,3}$</td>
</tr>
<tr>
<td></td>
<td>22 episodes per 100 children per year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 episodes per 100 children per year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(9 to 22)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand washing behaviour</td>
<td>—</td>
<td>—</td>
<td>Not pooled 1845 (3 trials)</td>
<td>low$^{9,10,11}$</td>
</tr>
</tbody>
</table>

The basis for the **assumed risk** is provided in footnotes. The **corresponding risk** (and its 95% CI) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).  
CI: confidence interval; RR: risk ratio.
1 Hand washing promotion for preventing diarrhoea
Regina I Ejemot-Nwadiaro, John E Ehiri, Dachi Ariko, Martin M Meremikwu, Julia A Critchley
Intervention Review 8 September 2015 Open access Update pending
Show PICO5 BETA Show preview
Coronavirus (COVID-19): infection control and prevention measures

4 March 2020

This Special Collection is one of two collections on COVID-19, and it focuses on infection control and prevention measures. See also the companion Special Collection: Coronavirus (COVID-19): evidence relevant to critical care.

The 2019 Coronavirus outbreak (COVID-19) was declared a global Public Health Emergency by the World Health Organization (WHO) on 30th January 2020.

In order to ensure immediate access to Cochrane Reviews of potential relevance, this Cochrane Library Special Collection assembles Cochrane Reviews identified as most directly relevant to the prevention of infection. It includes reviews that evaluate the effects of interventions referenced in the WHO interim guidance for the 2019 coronavirus outbreak (28 January 2020), as well as other potentially relevant reviews from three Cochrane Networks: Cochrane Public Health and Health Systems, Cochrane Musculoskeletal, Oral, Skin and Sensory, and Cochrane Acute and Emergency Care. Many reviews in this collection have associated Cochrane Clinical Answers (CCAs), with links provided.

This Special Collection will be updated to ensure it remains applicable as the situation changes, and as WHO guidance evolves. It will also draw on the knowledge of Cochrane groups in affected regions.

The different natures of pathogens and their modes of transmission compared with what is currently known about COVID-19 may limit the applicability of the evidence summarized in these reviews. Please note that the reviews included in this Special Collection summarize evidence, and their inclusion does not mean that the interventions reviewed have been shown to be an effective prevention measure.

(Updated 10 March 2020; removed CCA from 'Personal protective equipment for preventing highly infectious diseases due to exposure to contaminated body fluids in healthcare staff')
Clinical Answer:

When children up to the age of 15 years attending child daycare centers/schools where handwashing promotion was conducted were compared with children in centers/schools where no such promotion took place, high-quality evidence in high income countries showed that the incidence of diarrhea was lower with promotion (2 versus 4 per 100 children) and low-quality evidence in low/middle income countries similar effects (15 versus 22 per 100 children developed diarrhea). A similar result was seen when handwashing promotion in community settings was compared with no promotion (2 versus 3 per 100 children [moderate-quality evidence]). The components of the handwashing promotion interventions varied across studies, including group meetings/training, posters, handouts, provision of facilities, instruction health professionals, demonstrations and videos.
<table>
<thead>
<tr>
<th>#</th>
<th>Clinical Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How do gefitinib and afatinib compare with other cytotoxic chemotherapy regimens for treatment of people with advanced epidermal growth factor receptor mutation non-small-cell lung cancer? &lt;br&gt; Sera Tort, Kiwon M Fong &lt;br&gt; 12 December 2017</td>
</tr>
<tr>
<td>2</td>
<td>In people with acute deep vein thrombosis, what are the benefits and harms of thrombolysis? &lt;br&gt; Minali Yadava &lt;br&gt; 13 February 2017</td>
</tr>
<tr>
<td>3</td>
<td>For older people living in care homes, what are the effects of interventions to optimize prescribing? &lt;br&gt; Jane Burch, Sera Tort &lt;br&gt; 29 July 2017</td>
</tr>
<tr>
<td>4</td>
<td>In adults with major trauma, what are the benefits and harms of helicopter emergency medical services? &lt;br&gt; Dane Gruenewald</td>
</tr>
</tbody>
</table>
Plain Language Summaries
Available on www.Cochrane.org without a subscription, as well as in the Cochrane Library.
Published each month to summarize selected new reviews. [https://www.cochrane.org/evidence/podcasts](https://www.cochrane.org/evidence/podcasts)
Journal Club

Materials to host a journal club based on a Cochrane review. [https://www.cochranelibrary.com/cdsr/journal-club](https://www.cochranelibrary.com/cdsr/journal-club) to sign up.

List of journal clubs from the Schizophrenia Review Group: [https://schizophrenia.cochrane.org/journal-club](https://schizophrenia.cochrane.org/journal-club)
Cochrane Classmate
A collection of learning activities to include in classrooms as exercises for students to complete and help reviewers.
https://classmate.cochrane.org/
Innovative programs for systematic reviewers and users of reviews are under development and being rolled out by Cochrane all the time. Keep up-to-date at: [https://community.cochrane.org/help/tools-and-software/project-transform](https://community.cochrane.org/help/tools-and-software/project-transform)
Cochrane Membership

Membership of the Cochrane Collaboration is open to anyone who can make various levels of commitment. Membership opens access to various training materials, support and other resources. [https://www.cochrane.org/join-cochrane](https://www.cochrane.org/join-cochrane)
Thank you!

Comments or Questions?

Dónal O’Mathúna

omathuna.6@osu.edu