

Publication

Assessing the impact of drinking water and sanitation on diarrhoeal disease in low- and middle-income settings : systematic review and meta-regression

JournalItem (Reviews, Editorials, Rezensionen, Urteilsanmerkungen etc. in einer wissenschaftlichen Zeitschrift)

ID 2664951

Author(s) Wolf, J.; Prüss-Ustün, A.; Cumming, O.; Bartram, J.; Bonjour, S.; Cairncross, S.; Clasen, T.; Colford, J.M.; Curtis, V.; De France, J.; Fewtrell, L.; Freeman, M. C.; Gordon, B.; Hunter, P. R.; Jeandron, A.; Johnston, R. B.; Mäusezahl, D.; Mathers, C.; Neira, M.; Higgins, J. P. T.

Author(s) at UniBasel [Wolf, Jennyfer](#) ; [Mäusezahl, Daniel](#) ;

Year 2014

Title Assessing the impact of drinking water and sanitation on diarrhoeal disease in low- and middle-income settings : systematic review and meta-regression

Journal Tropical medicine and international health

Volume 19

Number 8

Pages 928-942

Keywords water, sanitation, diarrhoea, global burden of disease, risk estimates

Mesh terms Developing Countries; Diarrhea, prevention & control; Drinking Water, standards; Humans; Income; Sanitation, standards; Water Quality; Water Supply, standards

OBJECTIVE: To assess the impact of inadequate water and sanitation on diarrhoeal disease in low- and middle-income settings. **METHODS:** The search strategy used Cochrane Library, MEDLINE & PubMed, Global Health, Embase and BIOSIS supplemented by screening of reference lists from previously published systematic reviews, to identify studies reporting on interventions examining the effect of drinking water and sanitation improvements in low- and middle-income settings published between 1970 and May 2013. Studies including randomised controlled trials, quasi-randomised trials with control group, observational studies using matching techniques and observational studies with a control group where the intervention was well defined were eligible. Risk of bias was assessed using a modified Ottawa-Newcastle scale. Study results were combined using meta-analysis and meta-regression to derive overall and intervention-specific risk estimates. **RESULTS:** Of 6819 records identified for drinking water, 61 studies met the inclusion criteria, and of 12 515 records identified for sanitation, 11 studies were included. Overall, improvements in drinking water and sanitation were associated with decreased risks of diarrhoea. Specific improvements, such as the use of water filters, provision of high-quality piped water and sewer connections, were associated with greater reductions in diarrhoea compared with other interventions. **CONCLUSIONS:** The results show that inadequate water and sanitation are associated with considerable risks of diarrhoeal disease and that there are notable differences in illness reduction according to the type of improved water and sanitation implemented.

Publisher Blackwell Science

ISSN/ISBN 1360-2276

edoc-URL <http://edoc.unibas.ch/dok/A6288961>

Full Text on edoc No;

Digital Object Identifier DOI 10.1111/tmi.12331

PubMed ID <http://www.ncbi.nlm.nih.gov/pubmed/24811732>

ISI-Number WOS:000338936600005

