Hand decontamination: what interventions improve compliance

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Authors' objectives
The objective suggested by the review question was to determine what interventions improve hand decontamination practice among health professionals.

Searching
MEDLINE and CINAHL were searched from 1988 to 2000. The search terms were reported; two of them were specific to interventions ('education' and 'feedback'). Reference lists were also searched, but it was unclear whether this applied to all studies identified or only those included in the review. Inclusion was restricted to English language publications.

Study selection
Study designs of evaluations included in the review
No inclusion criteria were specified for the study design. The included studies used an action research approach or a positivist paradigm, which are qualitative research methods.

Specific interventions included in the review
Studies of interventions aimed at improving hand decontamination practice among health professionals were eligible for inclusion. The interventions used in the included studies were single or multiple, and involved staff education, promotional activities, feedback, focus group seminar and patient education.

Participants included in the review
Studies were eligible for inclusion if they were hospital-based and the majority of the participants were nurses. The included studies were conducted in the UK or the USA. No further details were given.

Outcomes assessed in the review
The outcome of interest was improvement in hand decontamination practice. The included studies reported hand decontamination (presence or frequency), knowledge, attitudes, nosocomial infection, sharps use and glove use. These were measured in various ways, such as by observation, questionnaires, infection surveillance, soap use and telephone interview.

How were decisions on the relevance of primary studies made?
The author did not state how the papers were selected for the review. It appeared that only one reviewer conducted this review.

Assessment of study quality
The author stated that appropriate critiquing tools were used, but no details were provided. The author did not state how the papers were assessed for validity.

Data extraction
The author did not state how the data were extracted for the review.

Methods of synthesis
How were the studies combined?
The author conducted a narrative synthesis of themes that emerged from the included studies, combined with his clinical judgment and experience.
How were differences between studies investigated?
The findings were grouped according to the main themes identified, i.e. education and feedback, and also according to whether the interventions had a single or multiple components.

Results of the review
Seven studies were included. The number of participants was not reported.

The findings from the individual studies were inconsistent. The major theme was education, which was used in six studies but described in detail in only one. Three studies used single-component education interventions; health professional education showed no improvement in two studies, whereas one study of patient education did show an improvement in staff hand washing. Overall, in the four studies that showed some improvement, this declined after cessation of the intervention in two of the studies. Education combined with feedback in two studies showed improvement, but there was evidence of subsequent decline in one study. The one study without an education component found that focus group seminar and feedback had minimal effect. In general, the four studies of multiple interventions were more successful than single-component interventions.

Authors' conclusions
The author concluded that the findings could be used cautiously to improve hand decontamination practice using a combination of interventions.

CRD commentary
The review question appeared to ask what interventions improve practice, but the direction taken in the review was more applicable to a question about why an intervention does or does not work. The inclusion criteria were not entirely appropriate to either question. The inclusion criteria were imprecisely defined (e.g. hand decontamination had to be the main focus and the majority of the participants had to be nurses) and the types of studies sought were not pre-specified. This may have opened the review to selection bias, particularly as it appears to have been conducted by only one person. The search for studies was not extensive, and language and publication bias may have influenced which studies were identified. The databases searched would not be considered sufficient to identify reports of qualitative research. It is notable that the two most common themes (education and feedback) identified in the included studies were the only intervention descriptors that were used as search terms. No reassurance of an adequate quality assessment of the included studies was provided, and the study details given were insufficient. The author's reserved conclusion is partially due to the limitations of the evidence presented, but also owes itself to the lack of both a clear question and rigorous review methodology.

Implications of the review for practice and research
Practice: The author stated that educational interventions must be ongoing. Selection of a suitable and tailored approach, and optimal timing of delivery, need to be considered. A link nurse could help facilitate both education and feedback in the clinical setting.

Research: The author stated that more research is needed into factors that influence motivation. In addition, a naturalistic paradigm might provide greater understanding of compliance and motivation.

Bibliographic details

Indexing Status
Subject indexing assigned by NLM
Attitude of Health Personnel; Education, Nursing, Continuing /standards; Guideline Adherence /standards; Handwashing /standards /methods; Health Knowledge, Attitudes, Practice; Inservice Training /standards; Motivation; Nursing Staff /psychology /education; Patient Education as Topic /standards; Practice Guidelines as Topic; Program Evaluation; Renal Dialysis /nursing

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**Record Status**
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.