

Sanitation, health & hygiene

Development of a Framework for hand hygiene assessment

A WRC-funded study developed a framework for hand hygiene assessment.

Handwashing beneficial for health

Hands, as one of the main vehicles of the faecal-oral transmission route of diarrhoeal disease, especially the hands of mothers and other caregivers, play a significant role in prevention and minimising of sanitation-related diseases.

Interventions

Information related to the impacts of the different approaches to hygiene improvement and hand hygiene interventions on changing hand hygiene behaviours in South Africa were limited. As a result, little was known regarding the most appropriate hygiene promotion interventions for different contexts in South Africa, and the effectiveness of the health and hygiene promotion initiatives were not well understood.

Framework for hand hygiene assessment

This report emanated from the WRC project called *The Effectiveness of Handwashing*, which aimed to assess, through developing a scientifically suitable method, the handwashing and hand hygiene behaviours in South Africa. A framework was defined as the *theoretical models used to explain, predict and change human hand hygiene behaviour*.



Theoretical frameworks used in this manner have evolved from those which determined behaviour using the environment and events, to those which used cognitive factors and reasoning as determining variable of hygiene behaviour, to more recent frameworks which took a broader approach of combining environment, trigger, barriers, emotions and other factors as determining variables of hygiene behaviours.

Determining variables, as referred to in this report, were those variables which determine hand hygiene behaviours. The theory underlying the hand hygiene assessment framework was that to change hand hygiene behaviours, a change of one or more determining variables of hand hygiene were necessary.

Components of the framework

The three components of the hand hygiene assessment Framework were developed to address one of the research hypotheses' of the assessment: The manner in which an individual washed their hands (Hand Hygiene Technique) during a hand hygiene demonstration would be influenced by six indices, namely:

- Cultural influence;
- Media exposure;
- Household socio-economic status;
- Service environment;
- Hygiene knowledge; and
- Social profile of the individual.

Each index, in turn, would be determined by one or more indicators of hand hygiene behaviours: the 'cleanliness' of an individual's hands (i.e. the bacterial counts on a individual's hands) would be determined by the manner in which the individual washed their hands; and the bacterial counts in the water which was used to practice hand hygiene during the hand hygiene demonstration.

The framework was focused exclusively on hand hygiene, and provided a structure for the capturing and analysis of data collected during the assessment. Two 'benchmarks' of hand hygiene were used in the Framework, against which the hand hygiene variables (indicators, indices and determinants) were assessed: the microbiological assessed levels of bacterial counts on interviewee hands and the observed hand hygiene technique of an individual.

Data collected to populate the variables in the framework were collected using a triangulation approach, combining qualitative, quantitative and microbiological information to determine these variables of hand hygiene. In-field data to populate the variables in the framework were collected using two data collection tools, namely a hand hygiene *observation* and a hand hygiene *interview*.

Implementation

The testing of the framework clearly demonstrated that the Framework and underlying process and tools provide details of which hand hygiene variable determine hand hygiene in the sample sites. The testing of the Framework also showed that measuring the effectiveness of hand hygiene interventions in South Africa may be more difficult than initially anticipated and may rely on a number of variables, which were not yet clear at this point in time. What was clear was that hand hygiene in South Africa showed significant difference with what had been found in international literature, with many gaps in the local and international understanding of hand hygiene.

The framework was tested using data from three study sites in the Tshwane metropolitan municipality, namely an urban, peri-urban and rural study setting. The sites were selected based on the perceived economic status and service levels to reflect a diversity of individuals. This would ensure that the framework was not limited to capturing hand hygiene behaviours of a single sector and group in the country.

Implications

The hand hygiene assessment framework has the potential to:

- Provide information which could guide future hand hygiene interventions to ensure the most effective and efficient technologies and messages and issues of concern to ensure sustainable behaviour;
- Provide a structured manner of collecting hand hygiene baseline data against which the effectiveness of hand hygiene interventions can be assessed;
- Provide a scientific manner of assessing hand hygiene behaviours and interventions using standardised methods, tools and data analysis processes;
- Provide information which can inform future sanitation-related and development policy and strategic intervention; and
- Standardise hand hygiene assessment.

If practitioners continue to use and refine the framework, it has the potential to become the standard hygiene assessment Framework in the country.

Further reading:

To obtain the report, *Development of a Framework for Hand Hygiene Assessment* (WRC Report No. 1886/1/11) contact Publications at Tel: (012) 330-0340; Fax: (012) 331-2565; Email: orders@wrc.org.za or Visit: www.wrc.org.za to download a free copy.