The role played by a range of psychological variables in nurses’ handwashing behaviour

An investigation into the factors that predict nurses’ handwashing behaviour and interventions that might increase compliance with hand hygiene

**Authors** Declan Hanna, DClinPsych, BSc, is clinical psychologist, department of clinical psychology, Belfast City Hospital; Martin Dempster, PhD, BSc, is lecturer in health psychology, school of psychology, Queen’s University Belfast; Mark Davies, DClinPsych, BSc, is consultant clinical psychologist, department of clinical psychology, Belfast City Hospital.


**Background** Psychological models of behaviour change are used to predict patients’ health behaviours but have rarely been used to explore healthcare professionals’ health related behaviour.

**Aim** To explore the association between self reported handwashing and a range of psychological variables in a sample of nurses in a large acute hospital.

**Method** A cross-sectional correlation design was used. Anonymous surveys asked nurses at a large acute hospital about demographic information, length of NHS service and training. Participants used a visual analogue scale to report the frequency at which they thought they achieved handwashing recommendations over three months. Regression analysis was used to explore the relative importance of potential predictors of handwashing behaviour. Results Nurses in this study were more likely to wash their hands if they perceived it to be important and if they thought their workplace helped them in doing so. The best predictor of perceived importance was how strongly a nurse believed that poor handwashing practice contributes to the spread of infection.

**Conclusion** In this study, psychological variables such as perception of importance, perception of workplace support, occupational stress and perception of risk were important predictors of handwashing behaviour.

**Background** Good hand hygiene is an integral aspect of infection control, although handwashing rates among healthcare professionals remain low. Studies have reported rates of handwashing from 63% (Randle et al, 2006) to 9% (Feather et al, 2000).

Attempts to improve handwashing include: education (Pittet et al, 2000); providing decontaminant materials (Teare et al, 2001); and giving feedback on handwashing performance (Larson et al, 1997). These interventions often modify the working environment or emphasise the risks of not adhering to guidelines. How poor hand hygiene contributes to the spread of infection should be emphasised in all interventions to increase handwashing.

**Aims**

- Interventions to increase nurses’ perception of the importance of handwashing and measures that influence their perception of the supportiveness of their employer – such as initiatives to reduce stress – may contribute to longer term changes in handwashing.
- How poor hand hygiene contributes to the spread of infection should be emphasised in all interventions to increase handwashing.
- More research should examine the role of other psychological processes in infection control.

**Method** A cross-sectional correlation design was used. Participants were sampled from a large acute hospital with cardiology, dermatology, general medicine, haematology, nephrology, oncology, respiratory, surgery and urology wards. The research team attended ward rounds and team meetings to give an overview of the study and distribute questionnaire packs. These contained information on the study and reassured participants of anonymity. Questionnaires asked for demographic information on gender, age, ethnic background, specialist, length of time worked in the NHS and whether their post required hands on contact with patients. Participants were given a statement on handwashing recommendations and asked to rate the frequency at which they thought they achieved this over a three month period using a 10cm visual analogue scale (VAS), with 0 representing “never” and 10 for “always follow recommendation”. Such scales have been shown to be reliable and valid measures of subjective experience (Folstein and Luria, 1973).

**Practice Points**

- Interventions to increase nurses’ perception of the importance of handwashing and measures that influence their perception of the supportiveness of their employer – such as initiatives to reduce stress – may contribute to longer term changes in handwashing.
- How poor hand hygiene contributes to the spread of infection should be emphasised in all interventions to increase handwashing.
- More research should examine the role of other psychological processes in infection control.
The assistance nurses perceived their employer gave in relation to handwashing; their perceptions of risk to self and others associated with not performing handwashing in accordance with guidelines; and the degree to which they believed that handwashing contributed to reducing infection transmission.

Respondents were asked if they had received any formal training in handwashing techniques and, if so, the nature of this. Two standard scales were also used: Nursing Stress Scale (Gray-Toft and Anderson, 1981) – a 34 item scale designed to measure occupational stress in nurses; and Generalised Self-Efficacy Scale (Schwarzer and Jerusalem, 1995) – a 10 item self report scale that assesses an individual’s belief in their ability to respond to “novel or difficult situations” and to overcome obstacles.

**RESULTS**

Of the 237 questionnaires distributed, 76 (32%) were returned. Participants’ average age was 34.3 years. Seventy-three women and three men responded. Most participants (92%) were European, 4% were Asian and three did not specify their ethnicity. Average length of NHS service was 12.9 years (range 0.5–37). All roles required “hands on” patient contact.

One way analysis of variance (ANOVA) was used to investigate the effects of demographic variables: gender (p=0.708), ethnicity (p=0.522) and job title (p=0.828) were not significantly associated with self reported handwashing. Sixty seven respondents (88%) said they had received handwashing training, usually provided by infection control staff (n=25; 37%). All roles required “hands on” patient contact.

The sample reported that they observed handwashing guidelines and occupational stress were more likely to observe handwashing guidelines and occupational stress. The nurses were more likely to wash their hands if they perceived it to be important and thought their workplace helped them to do it. The secondary regression shows that other factors should be considered when creating interventions. The best covariate of perceived importance was how strongly a nurse believed that poor handwashing contributed to infection transmission, so this should be emphasised in all interventions. Nurses who saw their employers as supportive were more likely to observe handwashing guidelines and occupational stress reduced the perception of their degree to which their workplace assisted handwashing.

**DISCUSSION**

The nurses were more likely to wash their hands if they perceived it to be important and thought their workplace helped them to do it. The secondary regression shows that other factors should be considered when creating interventions. The best covariate of perceived importance was how strongly a nurse believed that poor handwashing contributed to infection transmission, so this should be emphasised in all interventions. Nurses who saw their employers as supportive were more likely to observe handwashing guidelines and occupational stress reduced the perception of their degree to which their workplace assisted handwashing.

**REFERENCES**


