

Promoting Evidence-Based Nursing Practice – Handwashing in the Community Setting (Hand-washing & Community Nursing)

ABSTRACT

The increased complex and acute medical care needs of people being cared for in the community require community nurses to improve infection control and hand hygiene practices.

Hand hygiene for infection control is an important issue for all health providers and community nurses who face the unique circumstance where the clinical setting is in the client's own home. In 2001 a clinical audit was undertaken and involved assessing 123 client care episodes provided by 21 South Australian district nurses. The audit revealed that nurses rely on using the facilities provided by the client for hand hygiene and in the main nurses 'make do' when facilities, tools, inclination or time were inadequate. From analysis of the audit and comparison with overseas studies it was recommended that to meet best practice standards for infection control for community clients, nurses needed education in the area of hand hygiene and the tools to do the job. The audit also identified the need for further research into this area of practice.

In 2001, 21 South Australian district nurses participated in a clinical audit to review hand hygiene practice. A review of the literature revealed that in health care settings, hand-washing practice was poor and district community nursing was no exception(1). This paper will present the findings of a clinical audit concerning the hand hygiene practice of two groups of nurses in a South Australian district nursing organisation in March and April 2001.

WHY IS HAND WASHING NOT DONE PROPERLY?

The reasons given by nurses as to why hand washing was not done properly included lack of education, lack of time due to workload and staff shortages, lack of conveniently located and adequate hand-washing facilities and fear of skin damage from hand washing. Some potential difficulties in the client home setting included limited availability of hot/cold running water, no elbow taps, poor hygiene standards in the home, soap provided being unsuitable, contaminated or not available, towels provided being unsuitable, unclean or contaminated and no pedal bin(1). Rhinehart and Friedman state that improvements could be made to hand hygiene in the home setting through appropriate supervision and staff appraisal programs that target competent assessment and feedback practices of community health nurses. Responsibility for the provision of hand washing supplies should be taken on by the organization and not the individual nurse(2).

Other authors advocated the promotion of hand-washing practice and involvement of staff in education planning about hand-washing practice. Gould et al(3) studied the practice of hand-hygiene of British community nurses and noted the necessity to include nurses in hand hygiene research and to seek their opinion - not just use them as subjects. The British study (3) found that nurses in that study group were reliant on soap and towels provided by the client and found that on many occasions the nurses were not able to perform hand hygiene properly and sometimes they were unable to perform any hand preparation at all. That study identified that towels were either not provided or too soiled for use on half the occasions assessed. Their findings indicated that cross-infection was a significant risk to community clients. They concluded that, "...hand hygiene by nurses depends to a large extent on the availability and supply of suitable soaps, antiseptics, towels and access to sinks. ...hands were often still damp after

attempts to dry them and were frequently sore, conditions known to contribute to cross infection and disincentive to hand hygiene"

WHAT DO NURSES NEED IN THE HOME SETTING?

Most care in home requires a routine or social hand wash (4). This removes transient micro-organisms, which are readily picked up from the environment and can be easily washed off. Resident micro-organisms which always live on the skin rarely cause infection unless invasive procedures are performed (2, 5). Rhinehart and Friedman suggested district nurses need antimicrobial soap, in a small refillable container, which is completely emptied and thoroughly cleaned before refilling. They also suggested that nurses have single-use towelettes for removing visible soil, a waterless, alcohol based hand washing product, paper towels for drying hands, skin lotion to help prevent chapped skin and a bag to carry these hand care supplies in.

WHEN SHOULD DISTRICT NURSES WASH THEIR HANDS?

Rhinehart and Friedman recommends that nurses perform a routine hand-wash before significant client contact, especially before invasive procedures, before care of high infection risk clients, like those who are frail, elderly, mal-nourished or immunosuppressed, as well as for clients with a known infection. They should do so between tasks on the same client, after gloves are removed, after hand contamination with body secretions or touching potentially contaminated surfaces and equipment and when visibly soiled. Nurses need to remember to wash hands after personal toilet and before handling food and medication (2).

The recommended method for washing hands² is to wet hands before applying liquid soap to prevent skin damage from direct soap on the skin, rub the hands together vigorously for about fifteen seconds until all soil is removed. All areas of the hands should be covered and attention paid to the thumb, back of hand and fingertips, which are often missed. Rinse and turn tap off with the towel, dry completely with paper towels or clean single use cloth towel and dispose of the paper towel in a way that does not re-contaminate the hands (2).

Thorough drying by paper towel is efficient and cost effective(6). Using brisk friction, including the often overlooked web spaces, health workers can remove transient bacteria and old dead skin cells. Drying must be complete. Friction, warmth and moisture draw bacteria from the deeper layers of the skin to the surface to be removed in the process(6). Paper towel use is recommended because a cloth towel can be contaminated(7). Hands must be regularly moisturised to avoid damage to skin, which has also been shown to reduce the number of bacteria on hands(7). Most hand-rub products currently used in health care are alcohol based and supplied as a liquid, gel or foam(8). Hand preparation products should always have an emollient to protect skin from dryness. The solution should be in contact with the hands for 20 to 30 seconds(9).

SA COMMUNITY HAND-WASHING STUDY

The South Australian clinical audit of hand washing practice required the voluntary participants to complete a four-page survey tool, provided to each nurse participating, to record hand washing behaviour for six client visits. This survey tool included a page explaining the 25 fields to facilitate correct recording of data. The survey tool also included a

questionnaire that included questions about hand health and education. An area was provided for comments. The survey tool and questionnaire were returned by 21 nurses who recorded 123 client care episodes.

RESULTS - HAND-WASHING BEHAVIOUR

In analysing the results of the survey a comparison with Gould's British study was made. In comparison, the use of soap by South Australian nurses who participated in the audit were more frequent than that of their British counterparts. The South Australian audit showed that soap was used in 79% pre-care and 71% post-care episodes. The British study showed that soap was used in 53% of all care episodes(3). This study also revealed that British nurses used water alone in 21% of episodes. The South Australian audit recorded one nurse using water alone. It was noted that the use of single-use towelettes was high in the South Australian study with the Medi-Prep wipe used in 22% of pre-care and 20% of post-care episodes.

Medi-Prep towelettes are anti-microbial wipes recommended by the manufacturer for cleaning and soothing cuts and grazes (10). These towelettes are not a waterless hand preparation as recommended in the literature (8, 11, 12) and yet many district nurses use them as a waterless hand preparation for nursing care and often before and after wound care. The use of these towelettes before wound care was 21.8% and after wound care was 16.4%. The literature identified the need for a waterless hand preparation in the home setting (1, 3), and community nurses in South Australia demonstrated this by using the only option available to them.

On 67 contacts 55% of nurses used a pre-used bar of soap, which could have been contaminated (4, 7). Only in 7% of contacts did nurses turn the tap off with a towel, to prevent re-contamination of the hands after washing and drying them (8). Fresh towel access was highlighted as a major issue for district nurses as only 38% had access to a clean towel for hand hygiene, which was viewed as compromising the hand de-contamination process. Complete hand drying was 85%. Microorganism transfer can occur from damp surfaces, and staff could wipe their hands on their clothing if not dry (perhaps instinctive but not good nursing practice) as has been observed in studies overseas(6) and was indicated by one nurse in the questionnaire. Washing hands after glove use was 100%. The survey showed that 76% of nurses surveyed did not moisturise at all during the survey. Nurses may need further education and discussion about this important aspect of hand care.

RISK FACTORS IN HAND HYGIENE BEHAVIOR OF NURSES FOR CLIENTS WITH AN INFECTION

Of the client episodes recorded 15 clients had infections. Data for these clients was analysed separated from the main data to highlight the gaps in best practice for clients identified as most vulnerable in the cross infection chain, as vectors and recipients of pathogenic microorganism transfer. Of the 15 client visits, in 67% of episodes no clean soap was available, in 80% taps were turned off without using a towel and after hand drying, and for 27% no fresh towel was available (Table 2). One nurse used a Medi-Prep towelette only.

The audit revealed that the reason for the client visit influenced hand washing behaviour. The use of soap pre-care and post-care was higher for wound care visits than other visit reasons. Access to use of a new soap was also higher for wound and other visits than medication visits. Single-use towelette use was higher for medication and other visits than wound care.

Use of the towelette in post-care hand care for wound care visits was the lowest overall.

QUESTIONNAIRE

The two main issues raised by the questionnaire were firstly, eight nurses (38.1%) including a nurse with dermatitis said their hands were dry or cracked and, secondly, the need for updated education. In some instances nurses reported washing hands between nine and 36 times a day, using a wide variety of hand-cleansers, which would naturally have detrimental effects to un-treated hands. Of interest two nurses reported that if a towel was not available they shook and air dried their hands and one nurse reported using her skirt.

CONCLUSION

This study reveals that hand hygiene in the survey group was below best practice standards. However, the audit analysis indicates that the hand care practices of the South Australian group were similar to the British study(3). The audit has identified the need for a review of hand hygiene practices and products used by nurses in the community.

RECOMMENDATIONS

- 1) It is recommended that adequate resources to enable cleansing, drying and moisturising of hands be made available in the form of a portable hand hygiene kit. The kit should include a sachet of liquid antimicrobial soap, and an alcohol based waterless hand hygiene product. The kit should also include single-use towelettes such as the Medi-Preps wipe for use prior to efficient hand washing. The kit should also include paper towels to allow for effective hand drying and a hand moisturiser should also be included in the kit.
- 2) Education in the areas of infection control and best practice hand hygiene would be regularly provided at organisation level and should specifically address practice in the home setting.
- 3) Organisations should periodically review hand hygiene practice.

REFERENCES

- 1 Ward, D. (March 2000) 'Delivering effective infection control in the community setting – facing the challenge' *Journal of Community Nursing* Vol. 14; issue 10, 22-27.
- 2 Rhinehart, E., Friedman, M. (1999) Chapter 3- Patient Care Practices' *Infection Control in Home Care* Aspen Publishers Inc. USA, pp15-21.
- 3 Gould, D., Gammon, J., Donnelly, M., Batiste, L., Ball, E., DeMelo, A., Carneiro, M.S., Alidad, V., Miles, R., Halablab, M. (Jan 2000) 'Improving hand hygiene in community healthcare settings: the impact of research and clinical collaboration' *Journal of Clinical Nursing* Vol.9 (1) p95-102
- 4 Carroll, A. (2001) 'Hand washing for health-care workers in domestic care settings' *British Journal of Community Nursing* Vol.6, No.5 p217-223.
- 5 Gould, D. (1991) 'Skin Bacteria – What is normal?' *Nursing Standard* Sept. 18. Vol.5, No. 52. P26-28
- 6 Gould, D. (Nov 1994) 'The significance of hand drying in the prevention of infection' *Nursing Times*, Vol 90, No 47, 33-34.
- 7 Larson, E., (1995) '*APIC Guideline for Hand Washing and Hand Antisepsis in Health-Care Settings*' Association for Professionals in Infection Control and Epidemiology, inc. copied from *Am J Infect. Control* 23:251-269, 1995
- 8 Page, S. (Feb-Apr 2001) 'Handwashing is out – hand hygiene is in!' *Vermont Nurse Connection* 4(1):7.
- 9 Gould, (2000) 'Hand Decontamination' *Nursing Standard* Vol. 15 No.6 p45-50
- 10 *Patient information leaflet Medi-Prep Antiseptic Cleansing Wipes*. Seton Products Ltd., St Johns Road Bootle, Merseyside, L20 8NJ.
- 11 Jones, R., Jampani, H., Mulberry, G., Rizer, R. (2000) 'Moisturizing Alcohol Hand Gels for Surgical Hand Preparation' *AORN Journal*, Vol. 71 (3), p584-599
- 12 Larson, E. (1989) 'Hand washing – It's essential even when you use gloves' *American Journal of Nursing* July, p934-939

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