

Hand washing understanding and behaviour by Australian consumers.

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Abstract

Correct hand washing procedures with soap and water have been a major part of public health campaigns since the 19th century. More recently the importance of thoroughly drying hands has also been recognised. A national survey of 1250 respondents commissioned by the Food Safety Information Council found that 98% of males and 97% of females correctly recognised that it was safe to handle food after washing their hands using soap and water and drying thoroughly. However, 42% of males and 30% females also thought it was safe to handle food after just rinsing their hands under water and 32% males and 24% of female thought it was safe to handle food after washing and drying their hands without using soap. Despite nearly all respondents recognising the correct method of washing and drying hands they are not necessarily putting that knowledge into practice. In an observational study of 200 people washing their hands in the public toilets of a food hall carried out on 11 October 2002 only 20% of females and 7% of males observed used the correct procedure of washing their hands for at least 10 seconds, rubbing soap all over their hands, rinsing and drying for 10 seconds with a clean towel or 20 seconds with a hand dryer. 8% of females and 29% of males failed to wash their hands at all after going to the toilet. The most common problem was washing hands for less than the required ten seconds, failing to use soap and not drying hands for sufficient time.

Introduction.

The OzFoodnet Working Group (2002) estimates that of food poisoning in Australia could reach as high as 7 million cases every year. It is difficult to estimate exactly how much of this food poisoning is due to consumer handling. This is mainly because it is difficult to obtain data due to the under-reporting of food poisoning and that incidents originating in the home are likely to affect only a few people. According to Redmond and Griffith (2003) estimations of food borne disease outbreaks that have been associated with food prepared or consumed in the home range from 12% in the UK to approximately 50% in New Zealand. Food poisoning may be due to either poor food handling at retail or poor food handling by the consumer however it is probably best to consider a whole of food chain process where food poisoning in the home is likely to be an unlucky combination of both. For example food can be contaminated prior to purchase by a food handler and then not cooked sufficiently by the consumer.

Australia has a rigorous set of food safety standards established as part of the Food Standards Code by Food Standards Australia New Zealand and these standards are enforced by the state and territory health departments. However these standards only apply to food for sale and once the food is in the hands of the consumer the only way of ensuring that it is handled correctly is through public education campaigns. The Food Safety Information Council is a partnership of government agencies, industry and professional groups with the objective of educating consumers about safe food handling practices. It was founded in 1997 as the Food

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Safety Campaign Group because of concerns that, even if food manufacturers and retailers were adhering stringently to the food safety standards, that the incidence of foodborne disease would not reduce. Each year, in November, the Food Safety Information Council runs Food Safety Week as a central focus for food safety messages. Food Safety Week occurs in late Spring just prior to temperature increases and the period when Australians are more likely to entertain at home or in the outdoors. Previous years' Food Safety Week themes have included BBQs and picnics, fridge food safety, and eating out.

The Food Safety Information Council has six simple key messages:

- 1 Keep hot food steaming hot.
- 2 Keep cold food refrigerated.
- 3 Cook food properly.
- 4 Separate raw and cooked foods.
- 5 Keep kitchen and utensils clean.
- 6 Wash hands with soap and dry thoroughly.

In 2002 the focus of the Week was to reach school aged children with simple food safety messages, including correct hand washing methods. The secondary audience for the week was the population as a whole. The overall budget for the Week was only \$28,000 (however the in kind contribution from members amounted to a value of \$200,000) and an innovative means of attracting media attention was needed. So it was decided to carry out a qualitative research study of hand washing behaviour to observe if people did wash and dry their hands correctly.

Prior to Food Safety Week and just after it Newspoll Market Research² was commissioned by the Food Safety Information Council to conduct a national telephone poll on four key messages including knowledge of correct hand washing methods. The findings of both studies were used in media material for Food Safety Week.

The outcome of the 2002 campaign was highly successful:

- TV and radio news reports and interviews reached a total of 4.9 million people in all states and territories.
- Press coverage reached an audience of 14.5 million.
- Community service announcements on radio ran 2,590 times on 253 commercial stations.
- The television community service announcement reached an audience of 2.6million.

Materials and methods

The National Health and Medical Research Council (2001,1-4) recommends that child care workers and children in child care wash their hands by:

- Using liquid soap and running water.
- Rubbing hands vigorously and counting to ten.
- Washing hands all over including backs of hands, wrists, between fingers and under fingernails.
- Rinsing hands while counting to ten.

² The Newspoll telephone survey was funded by Department of Health and Ageing and the hand washing study was funded by Food Standards Australia New Zealand.

- Turning off the tap using paper towel.
- Press dry hands with a new paper towel or individual cloth towel.

The Food Safety Standards (Food Standards Australia New Zealand 2000) require food handlers to:

- use the hand washing facilities provided;
- thoroughly clean his or her hands using soap or other effective means, and warm running water; and
- thoroughly dry his or her hands on a single use towel or in another way that is not likely to transfer pathogenic micro-organisms to the hands.

The Food Safety Information Council recommends that consumers wash their hands under running water using soap for at least 10 seconds, rubbing hands and rinsing and then drying thoroughly for at least 10 seconds with a clean towel or 20 seconds with a hand dryer. Their initial message of washing hands thoroughly was amended to take into account more recent studies about the need to thoroughly dry hands (Patrick et al 1997).

The Newspoll telephone survey was conducted nationally among 1250 respondents aged 18 years and over (a survey for under 18 year olds was not available). Respondents were selected by means of a stratified random sample process which included:

- a quota set for each capital city and non-capital city area. Within each of these areas a quota set for each telephone area code;
- random selection of household telephone numbers drawn from current telephone listings for each area code;
- random selection of an individual in each household by a "last birthday" screening question.

Interviewing was conducted by telephone by fully trained and personally briefed interviewers. The Benchmark study was conducted between 1-3 November 2002 and the post campaign study between 13-15 December 2002. To ensure the sample included those people who tend to spend a lot of time away from home, Newspoll operated a system of call backs and appointments. To reflect the population distribution, results were post-weighted to Australian Bureau of Statistics data on age, age left school, sex and area.

Respondents were asked "To ensure that your hands are clean before handling food, is it safe or unsafe to...?"

- Rinse your hands under warm water
- Wash your hands in water and dry thoroughly
- Wash you hands using soap and dry with a clean hand towel.

The observational study was a carried out on 11 October 2002 in the public toilets at a suburban shopping centre in Canberra. This was the last day of the school holidays and the mall was busy with parents and children. A total of 200 people were observed (102 female and 98 male). A male observer was located in the male toilets and a female observer in the female toilets. Both wore identification and a fact sheet was available should anyone enquire (however during the survey only one person asked what the survey was about). The mall anagement ensured that there were sufficient stocks of soap and paper towel, however one of the two hand dryers in the male toilets was not working. The public toilets were located next

to the food hall and the survey occurred in late morning, so it would be assumed that many of those surveyed would be going to eat lunch shortly after.

The following practices were observed:

- Time spent washing hands (none, under 10 seconds and over 10 seconds).
- Whether soap was used and whether it was dabbed on or rubbed all over hands.
- Whether hand were dried on paper towel and time taken (none, under 10 seconds and over 10 seconds).
- Whether hand were dried with a hand dryer and time taken (none, under 10 seconds and over 10 seconds).

While the survey was of the general public it was also noted whether any were obviously food handlers, for example whether they were wearing a food outlet uniform or apron.

Results and discussion

Newspoll survey findings

The results of the Newspoll telephone survey showed an almost universal recognition of the correct method for handwashing with 97% recognising, prior to Food Safety Week, that it was safe to handle food after washing hands with soap and water and drying thoroughly (Figure 1). This recognition rate moved to 98% after the week but this small movement is not statistically valid according to Newspoll. There was no statistically valid difference in the recognition of this message between age and gender or between regions within Australia.

Figure 1

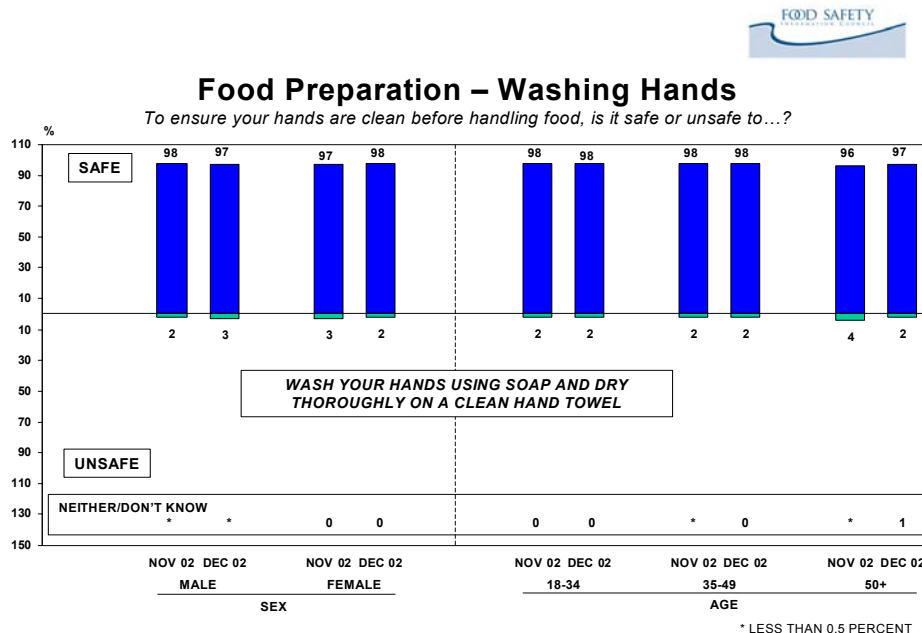
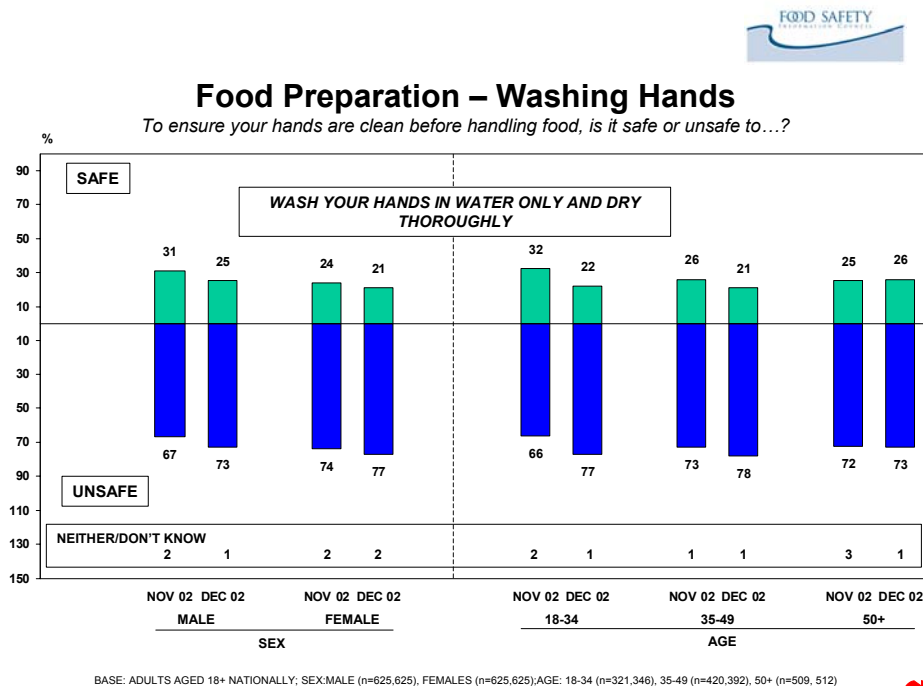


FIGURE 4.3f BASE: ADULTS AGED 18+ NATIONALLY; SEX: MALE (n=625,625), FEMALES (n=625,625); AGE: 18-34 (n=321,346), 35-49 (n=420,392), 50+ (n=509, 512)

However, a significant number (31% males and 24% of female) also thought it was safe to handle food after washing their hands in water and drying their hands thoroughly but not

using soap (Figure 2). After Food Safety Week there was a 3% improvement (up to 73%) in male recognition and a 3% improvement (up to 77%) in female recognition that it was unsafe to wash and dry hands without using soap. There was an improvement in recognition that this was not safe of 7% (up to 77%) in under the 34 year olds, an improvement of 5% (up to 78%) in the 35 to 50 years age group and an improvement of only 1% (up to 73%) in the over 50 years age group.

Figure 2

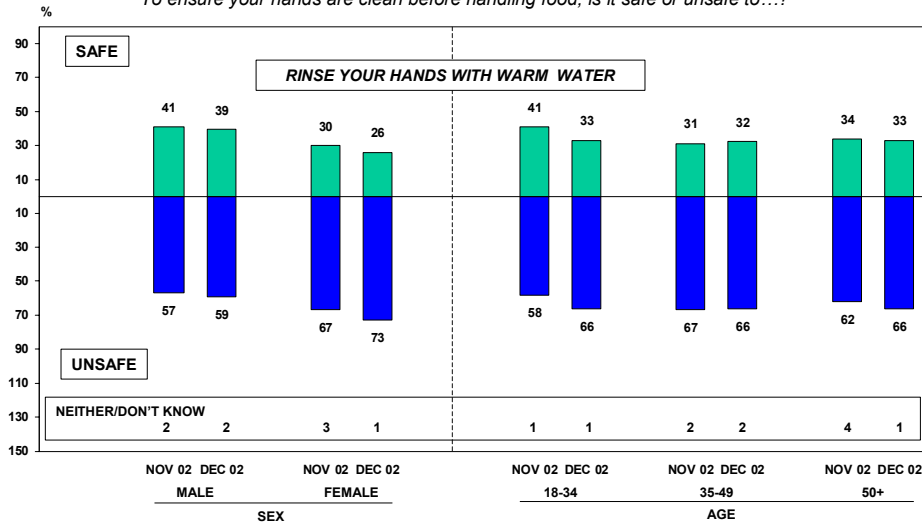


Even more disturbing was the finding that 41% of males and 39% females also thought it was safe to handle food after just rinsing their hands with warm water (Figure 3). After Food Safety Week there was a 2% improvement (up to 59%) in male recognition and a 6% improvement (up to 73%) in female recognition that it was unsafe just to rinse hands. After Food Safety Week there was an improvement in recognition that this was not safe of 6% (up to 66%) in under the 34 year old age group and an improvement of only 1% (up to 66%) in over 50 years age group. There was a decrease of 1% (down to 66%) in the 35 to 50 years age group but this was not considered statistically valid by Newspoll.

Figure 3

Food Preparation – Washing Hands

To ensure your hands are clean before handling food, is it safe or unsafe to...?



BASE: ADULTS AGED 18+ NATIONALLY; SEX: MALE (n=625,625), FEMALES (n=625,625); AGE: 18-34 (n=321,346), 35-49 (n=420,392), 50+ (n=509, 512)

Observational study

Despite nearly all respondents (98%) in the Newpoll research recognising the correct method of washing hands with soap and water and drying thoroughly they may not be not necessarily putting that knowledge into practice.

The Food Safety Information Council's observational study of 200 people washing their hands in the public toilets of a food hall found that only 20% of females and 7% of males observed used the correct procedure of washing their hands for at least 10 seconds, rubbing soap all over their hands, rinsing and drying for 10 seconds with a clean towel or 20 seconds with a hand dryer. 8% of females and 29% of males observed failed to wash their hands at all after going to the toilet.

Only 23% of females and 15% of males washed their hands for more than the recommended 10 seconds. 31% of females and 27% of males used soap and rubbed it all over their hands. 17% of females and 3% of males dried their hands on paper towel for more than 10 seconds. 3% of females and 4% males that used hand dryers used them for the required 20 seconds or more.

The most common problem observed was washing hands for less than the required ten seconds, failing to use soap and not drying hands for sufficient time.

The best performers were primary school aged girls who all washed their hands. However, only 50% of the primary school aged girls washed their hands for the correct time and only 55% of this age group used soap correctly.

The worst performers were males of all age groups with 29% of males observed failed to wash hands at all and only 31% of those observed used any soap.

While it was not the intent of the study to specifically observe food handlers, 6.5% of those observed were noticeably food handlers (for example they wore a uniform or apron). Of those only one washed their hands correctly for more than 10 seconds, used soap and dried their hands correctly. They may have washed their hands again when back at their food premises in the food hall, yet a benchmark survey by Food Standards Australia New Zealand in late 2001 found that many food businesses were not following proper personal hygiene practices to ensure the safety of their food, with 17% not having sufficient hand washing facilities, 7% with no soap or hand cleanser and 14% with no warm running water (Food Standards Australia New Zealand 2001).

It was interesting that young children of pre-school or early primary age were observed to try to do the right thing with hand washing and drying, using soap, but were often hurried by their parents. This may reflect the outcome of the hand washing education programs used in early childhood centres and kindergartens such as the Germbusters program of the Southern Public Health Unit network in Queensland (Queensland Health [1998]).

Conclusions

The combination of the Newspoll national telephone survey and the observational survey shows that there is a gap between public recognition of the correct hand washing and drying method and actual behaviour. This is not unusual in public health education campaigns, for example anti-smoking or healthy eating campaigns, where it can take a long time for a health message to result in behavioural change. Redmond and Griffith (2003:135), in their review of consumer food safety studies, cite a number of other examples of food safety research where there is a discrepancy between participant reporting and actual behaviour.

The Newspoll study indicates a lower understanding of food safety messages in 18 to 34 year age group. This is an age group that is often higher risk taking than older age groups.. The 35 to 49 year old age group had the best hand washing knowledge which may be linked to the fact that this is an age group more likely to have children at home although the Newspoll survey found no statistically valid difference between parents and those without children. Males in all age groups had a lower knowledge of correct hand washing than females. This may be due to the fact the women, especially in older age groups, may be more likely to be the household cook and to have had home economics education in their school years. However, food safety knowledge and behaviour in younger male age groups could be a concern as they are more likely to take on less stereotypical roles in the households of the future which could lead to an increase in food safety risks

Nevertheless there has been a considerable increase in the recognition of the need to wash hands correctly from the last national survey held in Australia in 1997 where 18.4% did not know the importance of washing their hands before preparing food and 42.6% of respondents did not wash their hands correctly before preparing food (Jay, Comar and Govenlock 1998).

This research indicates that there is an ongoing need for consumer food safety messages until behaviour is more closely matched to understanding of key food safety messages such as correct hand washing. This knowledge will also be reflected among professional food handlers because, if good food handling begins at home, it should also be reflected in the workplace. There is also the need to point out benefits of safe food handling to encourage behaviour change.

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