



A comparison of oral health knowledge

This research summary compares oral health knowledge between dental professionals, other healthcare professionals and the public.

ABSTRACT

Title of original research: Mind the gap! A comparison of oral health knowledge between dental, healthcare professionals and the public

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Introduction: The importance of consistent, accurate and unambiguous messages is well documented in oral health promotion literature. Whether the reality of delivering messages in the field fulfils these principles is questionable.

Objective: This paper explores the perceptions of dental professionals, healthcare professionals and lay community members with regard to key oral health messages in order to highlight any inconsistencies and knowledge gaps between and within groups for disease risk factors.

Method: A questionnaire was administered to individuals who belonged to three groups: dental professionals, healthcare professionals and lay community members. The questionnaire established knowledge regarding risk factors for caries, periodontal disease and erosion (Fig. 1). The professional disciplines included dentists, orthodontists, hygienists, dental nurses, public health dietitians, general medical practitioners, pharmacists, health visitors and specialist and general nurses.

Results: The questionnaire returned 315 completed questionnaires with a response rate of 100%. The participants consisted of four orthodontists, 38 dental practitioners, six hygienists, 13 dental nurses, 11 public health dietitians, eight general medical practitioners, 51 specialist and general nurses, nine pharmacists and 175 lay community members. Thirty-five (57.4%) of the dental group answered the whole questionnaire correctly, identifying that all nine statements in Figure 1 were false. Twenty-two (27.8%)

and nine (5.1%) of the healthcare and lay community group answered the whole questionnaire correctly, respectively. The question of fluoride levels in children's toothpaste was the main reason for incorrect answers in the dental group. This can be explained by the fact that fluorosis as a result of excess fluoride use in infancy is a contentious issue. From a public health point of view, the risk of tooth decay and its consequences such as pain and extractions is greater than the small risk of fluorosis.

Conclusions: The results of this survey demonstrate a knowledge gradient from dental professionals through to healthcare professionals and then to lay members of the community. The knowledge base observed in the dental group is reflected in the other two groups as would be expected albeit with a significant gap between each group. As expected the dental professionals are generally well informed, but not as well informed as could be expected.

Please answer all questions

1. If I want to stop my teeth decaying, it is more important to cut down how much sugar I eat/drink, than to cut down how often I have it.

True/False/Don't know

2. If a drink says 'no added sugar' on the packaging, this means that it has no sugar in it, and that it is safe for my teeth.

True/False/Don't know

3. I should rinse out my mouth after brushing to remove all the toothpaste.

True/False/Don't know

4. All children should use a children's toothpaste with less fluoride in it than in an adult toothpaste.

True/False/Don't know

5. Mouthwashes are just as effective as flossing at preventing gum disease.

True/False/Don't know

6. If I brush my teeth for 3-5 minutes twice a day, I won't get any tooth decay.

True/False/Don't know

7. If my gums bleed, I should avoid brushing and flossing in these areas.

True/False/Don't know

8. Brushing my teeth straight after drinking a fizzy drink will protect them.

True/False/Don't know

9. When brushing my teeth, it is more important to brush the teeth themselves than around the gums.

True/False/Don't know

Fig. 1 Risk factor questions for the prevention of dental disease

AUTHOR Q&A

Q. Why did you undertake this research?

A. The Faculty of Health Sport and Science of the University of South Wales is primarily involved in training healthcare professionals, eg nurses, health visitors and midwives. With increasing emphasis on using healthcare teams to deliver preventive care we were ideally positioned to investigate the perceptions of healthcare professionals with regard to key oral health messages. To add another dimension to the study we thought it would be interesting to establish the perceptions of dental professionals and lay community members, thereby establishing patterns of knowledge between 'givers' and 'receivers' of messages.

Q. What would you like to do next to follow on from this work?

We would like to undertake qualitative investigations with healthcare professionals. Qualitative group studies could highlight practical obstacles to implementing recommendations to enhance oral health in the community. Take for example the recommendations to not rinse following toothbrushing with a fluoride toothpaste; would this be an acceptable behaviour in the eyes of the healthcare provider? Exploring the feelings/beliefs of healthcare professionals towards issues surrounding oral health behaviours could enlighten researchers so as to understand and/or resolve barriers.

EDITOR'S SUMMARY

A little knowledge is a dangerous thing, is, I believe, how the expression goes. Perhaps a rider to this could be that a confusion of knowledge is an even more dangerous thing. At the basic level the results of this piece of research are hardly surprising: that the more professional and educated one is the more likely one is to give the correct answers. However, by collating these predictable outcomes it does confront us with a host of questions about the state of our knowledge and crucially the status of our scientific or

evidence-based knowledge on various aspects of oral health and preventive advice.

The well respected and frequently updated text published by the *BDJ*, *The scientific basis of oral health education* is an attempt to clarify many of the preventive messages that benefit our patients. It may be that this concise book should have a greater prominence in all areas of dental professional, health professional and lay education in order to provide coherent messages and collaborative understanding. If this provides a route to solving one of the problems raised by this paper there are others which might not be so easily resolved.

Confusion over the correct, or currently thought to be correct, messages is common to all areas of health, diet being a glaringly obvious example in which what is good, bad or indifferent seems to vary on a daily or sometimes apparently hourly basis. How one 'de-clutters' not just the past messages learnt at dental school, postgraduate meetings or through other sources but the individual beliefs in these mantras is quite another matter and one that needs addressing if we are to move forwards effectively in terms of the promotion and improvement of oral health.

'Mind the gap' is famously used as an announcement on the London Underground warning passengers to step over the space at older stations caused by straight carriages when stopped against curved platforms. Modern stations are constructed to avoid this situation and we should perhaps heed this advance in the design of our messages thereby leaving no apertures for our advice to fall through.

Stephen Hancocks OBE,
Editor-in-Chief, *BDJ* portfolio

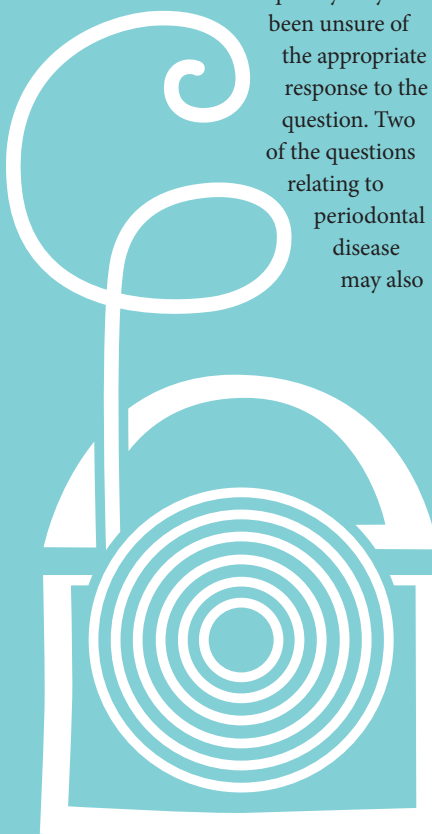


'FROM A PUBLIC HEALTH POINT OF VIEW, THE RISK OF TOOTH DECAY AND ITS CONSEQUENCES IS GREATER THAN THE SMALL RISK OF FLUOROSIS.'

INDEPENDENT COMMENTARY

This paper reports on a simple study to compare the oral health knowledge of three groups: dental professionals, other healthcare professionals and a lay public group, using a questionnaire consisting of nine basic oral health statements requiring either a true or false response. Not surprisingly a knowledge gradient was found between the three groups. While the authors commented that the dental professional group appeared to have a good knowledge of oral health education issues, surprisingly only 35 of the 61 members gave correct answers to all nine questions. Only 22% of the healthcare group and 9% of the lay public group gave fully correct responses. While the response of the dental professional group - which included dentists and dental hygienists - appears surprisingly poor, the question that caused the greatest difficulty was should all children use a children's toothpaste with less fluoride in it than an adult toothpaste? The current advice from the UK Department of Health is that children under three years of age should use a toothpaste containing at least 1000 ppm F and children and adults over that age should use a toothpaste containing between 1,350 and 1,500 ppm. Indeed most toothpastes marketed for the three to five year age group contain 1,450 ppm. Consequently there is no simple true or false answer to the question as posed. The dental professional group should have been aware of this recommendation and consequently may have

been unsure of the appropriate response to the question. Two of the questions relating to periodontal disease may also



have caused confusion. The first asked if mouthwashes were just as effective as flossing for the prevention of gum disease. However, the type of mouthwash was not specified and there is little evidence to show whether mouthwashes or flossing are more effective for plaque removal. The second question asked if it is more important to brush the teeth themselves rather than around the gums. The generally accepted advice is to brush both the teeth and gums to remove plaque deposits building up around the gum margin; again, however, there is little evidence on this issue.

The authors conclude that their survey demonstrated a knowledge gradient between the three groups, which they correctly state is not surprising. Their final statement is that the reduction of dental disease requires consistent, accurate and unambiguous key messages. This is certainly true.

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HOW DID THE BDJ TEAM READER PANEL DO?

I sent the questionnaire on oral health knowledge to *BDJ Team's* reader panel (<http://tinyurl.com/kmvtuca>). The correct answer to all nine of the questions was **false**. Seven panel members responded to the questionnaire; of these, one correctly identified that all answers were **false** but, as in the real survey's results, three thought that the answer to question 4 was **true** - that children should use a children's toothpaste with less fluoride in it than in an adult toothpaste. One of the respondees, a dental nurse, also thought that questions 1 and 9 were **true**.

One of the panel members commented: 'Question 5 should be reworded "interdental cleaning" rather than "flossing". In the latest Cochrane review, flossing has been shown to have little evidence to support it as an effective way of helping with gum disease'.^{1,2}

1. Sambunjak D, Nickerson J W, Poklepovic T *et al.* Flossing for the management of periodontal diseases and dental caries in adults. *Cochrane Database Syst Rev* 2011; CD008829. doi: 10.1002/14651858.CD008829.pub2.
2. Poklepovic T, Worthington H V, Johnson T M *et al.* Interdental brushing for the prevention and control of periodontal diseases and dental caries in adults. *Cochrane Database Syst Rev* 2013; CD009857. doi: 10.1002/14651858.CD009857.pub2.

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