Psychological models of

behaviour change and oral



Guest Editorial

Jonathon T. Newton

King's College London Dental Institute, King's College Hospital, London, UK

Newton JT. Psychological models of behaviour change and oral hygiene behaviour in individuals with periodontitis: a call for more and better trials of interventions. J Clin Peridontol 2010; 37: 910–911. doi: 10.1111/j.1600-051X.2010.01591.x.

hygiene behaviour in individuals

with periodontitis: a call for more

and better trials of interventions

Key words: behaviour change; methodology; psychology

Accepted for publication 9 May 2010

The publication of articles by Jonsson et al. (2009, 2010) in the Journal of Clinical Periodontology is a welcome addition to our understanding of the role of psychological models of healthrelated behaviour in developing interventions to improve oral hygiene-related behaviours in individuals with periodontitis, which complements previous research using simpler models of the relationship between knowledge, attitudes and behaviour. Such research tended largely to assume that simple educational interventions were sufficient to change behaviour (Hugoson et al. 2007, Wang et al. 2007) or that individuals who did not change their behaviour were somehow psychologically different from compliers (Lorentz et al. 2009). Psychological models of healthrelated behaviours have contributed to our understanding of patients' self-care and adherence to advice from health care professionals for over 50 years (see Conner & Norman 2005 for a summary of this area). There are many

Conflict of interest and source of funding statement

The author declares he has no conflict of interest. The author is an employee of King's College London.

different models, all of which share an emphasis on understanding the mental processes (cognitions) that underlay the decision to engage or not engage in health-related behaviour. Overall, the application of such social cognition models to behaviour change interventions is still in its infancy and so there are relatively few published intervention studies for all aspects of medical and dental care. A Cochrane review of interventions to enhance oral hygiene-related behaviours in patients with periodontal disease based on social cognition models identified only four studies (Renz et al. 2007). Furthermore all four studies were weak both in terms of their operationalization of the constructs contained in the psychological models and in the quality of the trial methodology. There is a clear need for better trials of psychological interventions in this group of patients (Ohrn & Sanz 2009). With the widespread adoption of the CONSORT criteria for the reporting of randomized-controlled trials, and its subsequent use in guiding the design of such trials, it appears that the quality of trial methodology is improving.

There are also some promising developments in terms of psychological theory, which may mean that the development of interventions is made easier.

First, attempts have been made to synthesize the wide variety of (potentially overlapping) constructs within the various models (Michie et al. 2008) in order to identify the key predictors of behaviours across the models. Second, Abraham & Michie (2008) have devised operationalizations of these constructs which can be used in the design of interventions. Finally psychologists have identified oral hygiene behaviour as an interesting target for behaviour change given its near universality and the central role of behaviour in maintaining oral health. There are several possible targets for interventions, distinguishing between situations where individuals lack the motivation to change their oral hygiene behaviour (a lack of motivation), and those who are so motivated but require support in planing and maintaining behaviour change (a lack of volition). Targets for motivational interventions, which appear to be important are placing an emphasis on the benefits of behaviour change and enhancing self-efficacy beliefs about oral hygiene behaviours. As demonstrated by Jonsson and colleagues volitional interventions encourage patients to plan where, when and how they will engage in the oral hygiene behaviour. This appears to be a highly effective brief intervention in both patient

and non-patient samples (Schüz et al. 2006, Sniehotta et al. 2007).

A new phase of research into interventions for improving oral hygiene behaviour is starting, combining the methodological rigour of high-quality randomized-controlled trial with a foundation of sound psychological theories of behaviour change.

References

- Abraham, C. & Michie, S. (2008) A taxonomy of behavior change techniques used in interventions. *Health Psychology* 27, 379–387.
- Conner, M. & Norman, P. (eds). (2005) Predicting Health Behaviour. Maidenhead: Open University Press.

Hugoson, A., Lundgren, D., Asklow, B. & Borgklint, G. (2007) Effect of three different dental health preventive programmes on young adult individuals: a randomized, blinded, parallel group, controlled evaluation of oral hygiene behaviour on plaque and gingivitis. *Journal of Clinical Periodontology* 34, 407–415.

- Jonsson, B., Ohrn, K., Lindberg, P. & Oscarson, N. (2010) Evaluation of an individually tailored oral health educational programme on periodontal health. *Journal of Clinical Periodontology* 37, 912–919.
- Jonsson, B., Ohrn, K., Oscarson, N. & Lindberg, P. (2009) The effectiveness of an individually tailored oral health educational programme on oral hygiene behaviour in patients with periodontal disease: a blinded randomized-controlled clinical trial (oneyear follow-up). *Journal of Clinical Periodontology* **36**, 1025–1034.
- Lorentz, T. C., Cota, L. O., Cortelli, J. R., Vargas, A. M. & Costa, F. O. (2009) Prospective study of complier individuals under periodontal maintenance therapy: analysis of clinical periodontal parameters, risk predictors and the progression of periodontitis. *Journal of Clinical Periodontology* **36**, 58–67.
- Michie, S., Johnston, M., Francis, J., Hardeman, W. & Eccles, M. (2008) From theory to intervention: mapping theoretically derived behavioural determinants to behaviour change techniques. *Applied Psychology – an International Review* 57, 660–680.
- Ohrn, K. & Sanz, M. (2009) Prevention and therapeutic approaches to gingivalinflammation. *Journal of Clinical Periodontology* 36 (Suppl. 10), 20–26.
- Renz, A., Ide, M., Newton, T., Robinson, P. G. & Smith, D. (2007) Psychological interventions to

improve adherence to oral hygiene instructions in adults with periodontal diseases. *Cochrane Database of Systematic Reviews* **2**: Art. No.: CD005097. Doi: 10.1002/14651858.CD005097.pub2.

- Schüz, B., Sniehotta, F. F., Wiedemann, A. & Seemann, R. (2006) Adherence to a daily flossing regimen in university students: effects of planning when, where, how and what to do in the face of barriers. *Journal of Clinical Periodontology* 33, 612–619.
- Sniehotta, F. F., Araujo Soares, V. & Dombrowski, S. U. (2007) Randomized controlled trial of a oneminute intervention changing oral self-care behavior. *Journal of Dental Research* 86, 641–645.
- Wang, Q. T., Wu, Z. F., Wu, Y. F., Shu, R., Pan, Y. P. & Xia, J. L. (2007) Epidemiology and preventive direction of periodontology in China. *Journal of Clinical Periodontology* 34, 946–951.

Address:

Jonathon T. Newton King's College London Dental Institute King's College Hospital Caldecot Road London SE5 9RW UK E-mail: tim.newton@kcl.ac.uk This document is a scanned copy of a printed document. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material.