

Research roundup: April 2018

In this section, a range of brief synopses of recently published articles that may be of interest to health visitors is presented. The aim of this roundup is to provide an overview, rather than a detailed summary, of the research papers selected. Should you wish to look at any of the papers in more detail, a full reference is provided.

Presence and activity of dental caries in 5-year-old children

Dental caries is a chronic disease with multifactorial aetiology (Franco et al, 2007; Mulu et al, 2014; Lee et al, 2015). A cariogenic diet, oral micro-organisms and host susceptibility need to co-exist for dental caries to initiate and develop (Franco et al, 2007; Colak et al, 2013). Social issues can also exert an influence on the occurrence of this oral health problem, leading to differences in the distribution of the disease (Boing et al, 2014).

The aim of this study was to investigate dental caries and caries activity as well as determine associations with sociodemographic factors and visits to the dentist among 5-year-old children.

A cross-sectional study was conducted with a randomly selected sample of 769 5-year-old children (excluding 5 year olds with permanent teeth). These children were enrolled in public and private pre-schools in a medium-sized city in north-east Brazil and were part of a total population of 14 360 preschool children. Two dentists underwent a two-stage training exercise in preparation for the clinical examinations.

The International Caries Detection and Assessment system (ICDAS-11) was used for the diagnosis of dental caries (white spots up to cavitated lesions). Sociodemographic data were collected using questionnaires answered by the parents/caregivers. This included questions covering: the child's sex, type of schooling (public or private), age of parent/caregiver and monthly household income.

Information was also collected on the child's use of dental services and the reasons for using such services.

The findings of the study show that the prevalence of caries was 91.5% (59.5% cavitated lesions and 32.0% white spots). In the multivariate analysis, low income and having visited a dentist for treatment were associated with dental caries.

In the decision tree, the following variables were predictors of cavitated lesions: lower parent schooling level, reason for visiting the dentist and low income.

As caries experience in primary teeth is a predictor of its occurrence in permanent dentition (Li and Wang, 2002), these findings could assist oral health policies directed at the under-5 year age group.

The determination of characteristics that can support oral health policies

directed at this group of individuals is essential; as such, policies tend to improve the oral health of individuals in the long term and result in lower public health costs. This is relevant for health visitors and school nurses as it has implications for health promotion and education activities directed at under 5 year olds.

JHV

Sheila Lally, senior lecturer, University of the West of England, Bristol

Gomes MC, Perazzo MF, Neves ET, Lins Dantas Siqueira MB. Evaluation of determinant factors for the presence and activity of dental caries in five-year-old children: study with decision tree. *J Public Health.* 1-8. <https://doi.org/10.1007/s10389-017-0892-2>.



In the multivariate analysis, low income and having visited a dentist for treatment were associated with dental caries

ADOBE STOCK

© 2018 MA Healthcare Ltd

ADORE STOCK



Six rural communities were sampled, all demonstrating high incidence of poor oral or dental health and varying access to dental services

Implementation of oral health initiatives in Australian rural communities

This study presents an exploration of the implementation of community oral health initiatives in rural Australia, employing a community participation model. Data for the paper were drawn from the Rural Engaging Communities in Oral Health (rural ECOH) study conducted between 2014 and 2016. This arm of the research used a case study design and included qualitative and quantitative data. Six rural communities were sampled, all demonstrating high incidence of poor oral or dental health and varying access to dental services. The paper focuses on the model of community engagement used to implement the initiatives rather than the outcomes related to oral health, but as such offers an interesting perspective on community participation initiatives.

The community participation framework consisted of two phases. In phase 1, community members were invited to produce a low-cost community plan for oral health initiatives. In phase 2, implementation included school tooth-brushing programmes,

information about accessing services and opportunistic basic oral health screening. Two university-based facilitators worked with local residents to monitor implementation and the project was a collaboration between two large rural health-care organisations, the two universities, dental health services, the Royal Flying Doctor Service and a local monitoring group in each of the communities. Twenty-eight interviews with key stakeholders were conducted at the beginning of the implementation and again 12 months later, and thematic analysis was conducted abductively.

Three key themes were identified from the data. First, the inter-relationship between motivation to participate and the success of the oral health initiative was clear. This was attributed, in part, to the fact that the initiatives were conducted in communities of place, where trusting relationships between people and organisational structures were already established and could be extended to this oral health initiative. The participation of indigenous community members was also important as these individuals could act as conduits for identifying community need.

Second, somewhat controversially, the findings suggested that the right people to participate could be service providers rather than service users. Representative participation worked well in this study and has been attributed to the small, close-knit communities involved.

Third, the impact of policy and structural change on such initiatives should not be underestimated. There were significant organisational shifts during the course of the implementation, including a change of sponsor, but these were overcome by ensuring local engagement and ownership of the new initiative. The presence of the same facilitators negotiating from outside the organisations throughout the project was also seen as highly significant in enabling the new services to persist and in continuing to engage with the participants.

This study suggests that, despite the changing policy landscape, the diversity of communities and the cycle of individuals in the health workforce, the development of trusting relationships, partnership working and dedicated facilitation can support initiatives in areas such as oral health to flourish in communities. **JHV**

Judy Brook, lecturer in health visiting, City University London

Taylor J, Carlisle K, Farmer J, Larkins S, Dickson-Swift V. Implementation of oral health initiatives by Australian rural communities: Factors for success, Health and Social Care in the Community. 2018;26:e102-e110

Knowledge of and attitudes to children's oral health among UK health visitors

Severe dental decay in children is most prevalent in deprived areas, highlighting the inequalities that exist in society (Health and Social Care Information Centre, 2015). This study researched health visitors' knowledge, attitudes and behaviours in relation

to oral health using a web-based survey. Convenience sampling was used in this study by sending out 9000 invitations to practising health visitors who were members of the Institute of Health Visiting. A small response rate of 1088 health visitors returned questionnaires, which needs to be considered when interpreting the reliability of the results. The questionnaire was piloted on four health visitors before being sent out, and consisted of 18 closed and two open-ended questions, increasing the validity of the study.

The majority of health visitors understood the importance of good oral hygiene in children and 96% felt comfortable discussing oral health with families. Almost all respondents reported that they gave tooth brushing, dental visits and sugary food advice to families.

The majority of health visitors had reported referring a child to a dentist if the child reported a dental problem. Another positive result was that 66% of health visitors stated that they had received oral health training at some point in their career. However, when assessing oral health knowledge, only 22.4% answered all the knowledge-related questions correctly. As part

of the 1-year contact, health visitors should be discussing oral health with families and 48% of respondents did not answer correctly that the first dental visit should be under 1 year old for children (DHSC, 2009). While 90% of health visitors were aware of additional supporting materials from the Institute of Health Visiting, only 29% of health visitors were using fact sheets to support contacts.

This study highlighted that health visitors are well placed to promote good oral hygiene and dental health for all families. However, the gaps in health visiting knowledge need to be addressed to provide the most consistent evidence-based advice to families to prevent dental decay in children.

JHV

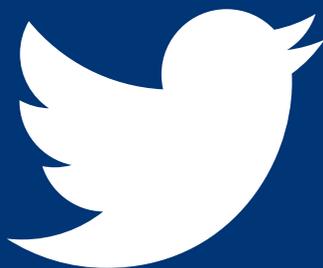
Angela Willis, midwife, SCPHN alumnus, University of the West of England, Bristol

Oge OA, Douglas GVA, Seymour D, Adams C, Csikar J. Knowledge, attitude and practice among Health Visitors in the United Kingdom toward children's oral health. *Public Health Nursing*. 2018;35(1): 70-77.

- Boing A, Bastos J, Peres K, Antunes J, Peres M. Social determinants of health and dental caries in Brazil: a systematic review of the literature between 1999 and 2010. *Rev Bras Epidemiol*. 2014;2:102-115.
- Colak H, Corul T, Dulegergi C, Dalli M, Hamidi M. Early childhood caries update: a review of causes, diagnosis and treatments. *J Nat Sci BiOI Med*. 2013;4:29-38.
- Department of Health and Social Care. *Healthy Child Programme: Pregnancy and the first five years of life*. London: DHSC; 2009.
- Franco F, Amorosa P, Marin J, Avila F. Detection of *Streptococcus mutans* and *Streptococcus sobrinus* in dental plaque samples from Brazilian preschool children by polymerase chain reaction. *Braz Dent J*. 2007;18:329-333.
- Health and Social Care Information Centre. *Children's Dental Health Survey 2013: Executive Summary*. England, Wales and Northern Ireland: HSCIC; 2015.
- Lee H, Kim J, Jin B, Paik D, Bae K. Risk factors for dental caries in childhood: a five-year survival analysis. *Community Dent Oral Epidemiol*. 2015;43:163-171.
- Li Y, Wang W. Predicting caries in permanent teeth from caries in primary teeth: an eight-year cohort study. *J Dent Res*. 2002;81:561-566.
- Mulu W, Demilie T, Yimer M, Meshesha K, Abera Z. Dental caries and associated factors among primary school children in Bahir Dar city: a cross-sectional study. *BMC*. 2014;7:949.

JHV Research Roundup is edited by Joy Murray, Specialist Community Public Health Nursing, Programme leader and senior lecturer, University of the West of England, Bristol

If you would like to contribute or have a paper to suggest, please email: joy.murray@uwe.ac.uk



Follow the Journal of Health Visiting on Twitter

Let us know your views on the journal, share news and ideas, and debate the latest issues in the profession. You can find us tweeting at **@JHealthVisiting**

www.magonlinelibrary.com/r/johv