

Obesity, oral health and the role of the dental profession

By Caroline Holland, London, UK

Obesity is one of the most visible yet neglected public health problems in the world, according to the World Health Organisation,¹ while the UK has one of the highest rates of obesity in Europe and the developed world.²

The most recent figures from the Office for National Statistics (ONS) show that more than a quarter (25.3%) of adults in England over 18 are living with obesity, and the cost to the NHS of obesity and associated conditions, such as diabetes and cancer – is more than £6 billion a year.

What could and should be done to tackle obesity? How could the dental profession play a part? The links between obesity and oral health have been established. A small study³ of 100 adults in 2017 observed a strong correlation between obesity and periodontal disease while there have been systematic reviews among children which show a correlation between dental caries and obesity at five years of age.

Two new studies underscore the links; the first, just published as an article in a supplement of the *International Journal of Paediatric Dentistry*⁴ entitled 'Weight screening in paediatric dentistry: what do patients and staff think?', examines responses to surveys of patients and dental teams relating to the offer of screening for BMI (Body Mass Index, calculated from body weight and height).

Carried out at Edinburgh Dental Institute, where the intervention was routinely on offer, the survey of carers and parents whose children were offered a BMI screening during the course of a dental appointment were appreciative while in a separate survey, 80% of staff reported the discussion had a positive impact.

Lead researcher, Jessica Large, a co-author of two British Society of Paediatric Dentistry (BSPD) position statements⁵ (one on obesity and dental caries and the other relating to foods high in fat sugar and salt), is now based at Charles Clifford Dental Hospital, Sheffield and undertaking a PhD⁶ with Loughborough University looking at how dental teams can support patients living with overweight or obesity.

An unhealthy weight in childhood is a predictor of being overweight or obese as an adult, hence the drive for early interventions, to include advice, information and signposting to services to help with reducing BMI and improving nutrition.

The second newly published study,⁷ from Japan, provides the most extensive analysis of its kind to date. Although average BMI is much lower in Japan than Western countries, obesity is a growing health problem. The records of adults aged 20–74 were taken from health insurance claims and health check-ups; they were examined for BMI, tooth retention, tooth location and age.

The database included a total of 706,150 subjects reduced to 233,517 following the application of exclusion criteria. The analysis focused on those individuals:

- Who underwent a dental check-up in 2015
- Whose numbers and positions of teeth could be confirmed
- Who had BMI and HbA1c levels from health check-ups and responses to questionnaires about smoking habits.

The research group analysed the relationship between BMI and the numbers of teeth in different age group categories and compared the positions of tooth loss between obese (BMI ≥ 25) and non-obese subjects. Obese people had lost more teeth, especially molars, compared to non-obese people. Smoking habits, in addition to obesity, increased the risk of tooth loss in positions different from those likely to be affected by obesity.

Diet is a key risk factor for both obesity and dental decay and given that the database under scrutiny consisted of health records – ie a cohort with pre-existing medical and dental issues – it cannot solely be inferred that obesity was the cause of tooth loss and *vice versa*.

However, the scale of this cross-sectional study makes it a valuable addition to existing studies and a useful springboard for a further investigative study designed to allow for causal conclusions.

Meanwhile, the increased use of bariatric dental chairs in



« dental clinics and departments in western countries could be a bellwether for the needs of this growing cohort of patients. According to Design Specific, a UK company which exports its specialist chairs around the world, there are about 250 dental clinics with a bariatric chair – catering for people up to 70 stone in weight – in the UK and Ireland, including several in dental schools allowing student dentists to be appropriately trained to care for their special needs patients.

Tim Newton, Professor of Psychology as applied to dentistry at King's College, London, believes the dental team has a role to play in educating patients on general health issues – they see their patients regularly and repeatedly, which provides the opportunity for behaviour change.

Professor Newton said: 'One possible barrier to this is the perceptions of the dental team of the appropriateness of discussing such topics within a dental setting. But I think dentists, dental nurses, hygienists, and therapists do themselves a disservice in this – they are healthcare professionals with expertise in understanding disease and the links between behaviour and health.

'Perhaps there is a tendency for dental teams to think that they have to do everything themselves, but rather perhaps the appropriate model is the medical practice – identify the issue and make a referral to a specialist support service.'

Ms Large agrees: 'Dental teams need to be well supported to have these discussions. They are not meant to be onerous on the dental team, when we know that time is a precious commodity, and we

recognise that training, information and resources are essential.

'Currently, interventions around weight are not widely embedded in the dental undergraduate syllabus. Training for having these conversations needs to be in place so they become the norm, as well as good relationships with local weight services for an onward referral.'

As part of her PhD she is gathering feedback from patients on whether they would welcome advice on issues of weight from their dental team. Meanwhile, she said, it's encouraging that some dental practices are already offering BMI screening and other health checks, including tests for diabetes and cholesterol. ■

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