

A study of periodontal health in early pregnancy

Periodontal health of London women during early pregnancy by S. Moore, M. Ide, R. F. Wilson, P. Y. Coward, E. Borkowska, R. Baylis, S. Bewley, D. J. Maxwell, L. Mulhair and F. P. Ashley *Br Dent J* 2001; 191: 570-573

Objectives

A descriptive cross-sectional study to determine the severity of periodontal disease in early pregnancy and its relation to demographic variables in a South East London population.

Methods

2027 pregnant women attending Guy's Hospital for an ultrasound scan at 10 to 14 weeks gestation were assessed. Data were collected via questionnaire and periodontal examination, including plaque and bleeding scores, pocket probing depth and loss of attachment.

Results

Mean age was 29.8 years (sd 5.5). Of these, 61.8% were white, 28.5% black, and 9.7% of other ethnic group. A total of 15% reported smoking during pregnancy. The mean number of teeth present was 28 (sd 2) per subject, mean percentage of sites with plaque present was 60.5% (sd 22.6), mean pocket depth was 2.0 mm (sd 0.4), mean loss of attachment was 0.4 mm (sd 0.3), and the mean percentage of sites bleeding on probing was 20.2% (sd 16.3). Linear regression demonstrated that probing depth was related to age, ethnicity, socioeconomic status and plaque score but not to smoking whereas loss of attachment demonstrated relationships with age, smoking status and plaque score but not ethnicity or socioeconomic status.

Conclusion

There was a relatively high proportion of subjects with deep periodontal pockets in this pregnant population compared to the Adult Dental Health Survey 1998 but with similar levels of loss of attachment and percentage of sites with plaque present. Several demographic factors were associated with the level of periodontal disease in this population.

In brief

- In this population of pregnant women there was a higher proportion of subjects with deep periodontal pocketing compared with the *Adult Dental Health Survey, UK, 1998*
- Age, ethnic group, socio-economic and smoking status appear to be important factors contributing to the level of periodontal health
- Recent research has found possible associations between maternal periodontal disease and preterm low birth weight birth, however the level of periodontal disease in this study was lower

Recent discussion linking periodontal disease and general health highlights the importance of assessing periodontal disease, especially for pregnant women who may be at risk of delivering a preterm low birth weight (PLBW) infant. A pioneering study based in North Carolina, USA¹ provided evidence that maternal periodontal disease was associated with the delivery of PLBW infants. There is a need to investigate this effect further in different populations. In the United Kingdom 6% of all live births are low birth weight² and 70% of women aged 16–44 years have visible plaque deposits.³

Where poor oral hygiene is associated with gingival inflammation, in pregnancy, the imbalance of sex hormones exacerbates this response, resulting in gingival tissue enlargement or false pocketing and increased probing depths, which generally resolve post partum. Pregnant women are found to have an increased level of periodontal disease compared with non-pregnant women of the same age.⁴

In epidemiological terms, periodontal measurements such as plaque scores (oral cleanliness), loss of attachment (historical disease) and pocket depth (impact of dis-

ease) are found to be most suitable and reproducible. Despite this, under or over estimations of disease levels result and can be compounded by different population characteristics.³

The aim of this study was to investigate the level of periodontal disease in pregnant women in early pregnancy and to identify associations with possible risk factors. A total of 2,027 women (62% and 29% respectively were White Caucasian or Black, and aged 29.8 years old) were screened for periodontal disease whilst attending for a nuchal translucency ultrasound scan between 10 and 15 weeks gestation, at a hospital in South East London. Using similar periodontal measurements to the ADH survey, 65% of the population had one or more sites with visible plaque, 76% and 14% had deep pockets of 4 and 6 mm respectively, depicting false pocketing associated with pregnancy and an increased level of periodontal disease. Women who smoke were found to have poorer oral hygiene and increased mean bleeding score suggesting that this relationship may be modified in pregnancy. The level of periodontal disease was related to

other common risk factors such as age, ethnicity and socio-economic status.

This study has provided valuable information about the level of periodontal disease amongst a population of childbearing women in the UK, and addressed common risk factors whilst investigating the associations between periodontal disease and PLBW.

Elizabeth S Davenport

Senior Lecturer Paediatric Dentistry
Barts and The London, Queen Mary's School of
Medicine and Dentistry

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