

IN BRIEF

- Enables the reader to appreciate the change in oral hygiene and gingival health that occurs between early adolescence and adulthood.
- Highlights some of the factors that might affect the standard of oral hygiene practised and the amount of gingivitis observed.

Oral hygiene and gingival health at 11–12 and 30–31

The Cardiff dental survey: oral hygiene and gingival health between the ages of 11–12 and 30–31 years
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ABSTRACT

Objective

To examine oral hygiene and gingival health in relation to ageing in the second and third decades.

Design

Cohort study.

Setting

Cardiff, 1981, 1984, 1989 and 2000.

Subjects and methods

Three hundred and thirty-seven subjects were examined at the ages of 11–12 and 30–31 years and 250 at baseline and all follow-up examinations; plaque and bleeding on probing were recorded.

Results

Oral hygiene and gingival health improved as subjects moved through adolescence to adulthood. In general, females demonstrated less plaque and gingivitis than males. Whole mouth mean plaque and bleeding scores were lower at age 30–31 than 11–12. In those subjects examined on all four occasions, a switch from buccal to lingual predominance in the distribution of plaque and gingivitis occurred between 11–12 and 15–16 years. Oral hygiene and gingival health at 30–31 were statistically significantly associated with these parameters at previous examinations but this association became weaker as the interval between the two examinations lengthened.

Conclusions

Although oral hygiene and gingival health improve between adolescence and adulthood, individual practices are established at a relatively early age. In encouraging adolescents and young adults to improve standards of oral hygiene, emphasis should be placed on the importance of brushing lingual surfaces.

EDITOR'S SUMMARY

Rather as with the television programme *A Child of our Times*, following the fortunes of a cohort of people as they make their way through life holds an attraction to which we can all relate. To some extent it has to do with our personal identification with the subjects involved – what if that was us, how would our lives be now, would we have done things differently?

The far-sighted approach of setting up such a long-term study in 1981 is to be commended and the follow-up most recently in 2000 has produced some intriguing findings. Perhaps least surprising, although of no less value for all that, is the observation that fundamentally people do not change very much, at least in terms of their habits. So, subjects with poor oral hygiene in their teenage years tend also to have maintained that lack of incentive into adulthood. A leopard not changing its spots. Reassuring in one way in that it confirms our view of the world but very valuable in another in that it does direct our thoughts to targeting such individuals with even greater care as soon as such traits are expressed and identified.

The switch of plaque accumulation from buccal surfaces in adolescence to lingual in adulthood is a slightly odd one and maybe one not so easily predicted or indeed explained. Further fuel for thought for those of us involved with oral hygiene – all of us in fact!

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 203 issue 11.

Stephen Hancocks OBE,
Editor-in-Chief

DOI: 10.1038/bdj.2007.1156

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FULL PAPER DETAILS

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Online article number E23
Refereed Paper – accepted 24 April 2007
DOI: [10.1038/bdj.2007.964](https://doi.org/10.1038/bdj.2007.964)
©British Dental Journal 2007; 203: E23

AUTHOR QUESTIONS AND ANSWERS**1. Why did you undertake this research?**

Although it is reasonable to deduce that periodontal diseases have their origins in childhood and adolescence, understandably few investigators have been able to follow individuals as they mature. In the United Kingdom, 1981 saw the commencement of a cohort study, the main aim of which was the evaluation of the long-term interrelationships between malocclusion, caries and periodontal disease. Re-examination in 1984, 1989 and 2000 presented us with a unique opportunity to study how participants' oral hygiene and gingival health had changed in the second and third decades.

2. What would you like to do next in this area to follow on from this work?

As readers will appreciate, a study such as this produces an immense amount of data – in this paper, we have only just scraped the surface. We are currently examining the interrelationships between various parameters (such as smoking) and oral hygiene and gingival health. In the longer term, we would like to follow up the cohort as they reach middle age.

COMMENT

This paper reports further results from the Cardiff Dental Survey. This unique survey started in 1981 when the subjects were 11–12 years old. Subsequent examinations were undertaken at ages 15–16, 18–19 and 30–31 years. This paper reports on plaque levels and on gingival bleeding over time.

This study is a cohort study and thus it is the same subjects who have been examined on each occasion. It is therefore possible to look at patterns of health and disease over time and specifically to look at what happens to each individual over time, in this case nearly twenty years, although inevitably subjects are lost to the study. The potential to use the findings of a study such as this to influence clinical decisions is important. It is possible to identify which subjects are at risk of going on to develop the disease of interest, here gingival bleeding, and use this information to target preventive therapy or treatment towards one's own patients with similar characteristics.

One weakness with a cohort study is that it is not possible to determine how outside factors may have influenced the results. For example, this study found that plaque levels and bleeding scores reduced as the subjects aged. However, the national surveys suggest that plaque levels have improved in all age groups over the last 20 years. It is therefore not possible to determine whether it is that oral hygiene improves over this part of life or whether it is just that everyone's oral health has improved over time.

The key points for practitioners are that oral hygiene and bleeding levels in adolescents are predictive of the same factors in later life. However, this study would suggest that it was the levels reported at age 18 to 19 that were more strongly predictive. Therefore it is possible to suggest which people would benefit most from preventive advice. The other notable factor is that the pattern of plaque and bleeding, which at the earliest examination had been worst on the buccal surfaces of teeth, was now worst on the lingual surfaces. This suggests the need to emphasis from late adolescence the lingual surfaces as requiring attention during oral hygiene.

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