Office for Health Improvement & Disparities

Accredited official statistics

Report summary

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Applies to England

Contents

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Introduction

The adult oral health survey (AOHS) 2023 was commissioned by the Office for Health Improvement and Disparities (OHID) within the Department of Health and Social Care (DHSC).

The survey was designed as a continuation of the long-running adult dental health surveys (ADHSs), carried out in the United Kingdom since 1968.

The survey was carried out from June 2023 to April 2024 with a representative sample of adults in England aged 16 and older.

Main findings

Tooth decay

Among dentate adults, over a fifth (21%) had at least one tooth with extensive obvious decay (that is decay which had resulted in an obvious cavity affecting the inner dentine tissues or the pulp of the tooth). When those with at least one tooth with non-cavitated decay affecting the inner dentine were included, this represented over two-fifths (41%) of dentate adults with obvious decay affecting at least one tooth.

While the proportion of dentate adults with obvious decay had considerably reduced between 1998 and 2009, there was a 13 percentage point increase in the prevalence of the disease between 2009 and 2023. This is almost a reversal of the previous improvement, bringing the 2023 estimate closer to the one of 1998 rather than 2009. The increase was more pronounced for middle-aged and older adults, compared with younger adults. It was also larger for primary decay (decay on a surface that has not been previously restored) than for secondary decay (decay on a surface that had previously been restored).

When using the most sensitive measure of tooth decay which includes enamel decay, just under two-thirds of adults (64%) had clinical decay present in one or more teeth on the crown or roots of their teeth at the time of the oral examination.

Tooth wear and periodontal disease

Overall, 71% of dentate adults had some tooth wear somewhere in the mouth as measured by the Basic Erosive Wear Examination (BEWE) index, with 66% having tooth wear in their front (anterior) teeth. Twenty-two per cent of dentate adults had moderate wear (at least one tooth with a distinct loss of tooth tissue but affecting less than half of the tooth surface) as the worst score in the mouth and 5% had severe wear (at least one tooth with a distinct loss of tooth tissue affecting more than half of the tooth surface).

A total of 93% of dentate adults had one or more of the following observed periodontal conditions:

- bleeding
- calculus
- pocketing greater than 3.5mm
- furcation defect
- interdental recession
- mobility

Over a quarter (28%) of dentate adults had periodontal pocketing greater than 3.5mm and 12% had pocketing of 5.5mm or greater. Twenty-eight per cent had furcation defects, interdental recession or mobile teeth in at least one sextant of the mouth.

Potentially urgent conditions

Seven per cent of dentate adults reported experiencing current dental pain or problems. One in 10 (10%) dentate adults were assessed as having one or more PUFA index signs during the oral examination. PUFA is an index of the clinical consequences of dental decay and records the following conditions:

- pulpal involvement (as evidenced by a visibly open pulp chamber or when the coronal tissues have been destroyed by the carious process and only roots or root fragments are left) ('P')
- ulceration (due to carious teeth or roots) ('U')
- fistula ('F')
- abscess ('A')

The most common signs of PUFA were pulpal involvement (8%), while ulceration, fistulas and abscesses were less common (all 2%).

One in 10 (10%) of dentate adults had one or more teeth that were decayed with pulpal involvement. A total of 1 in 20 (5%) dentate adults had 2 or more decayed teeth with pulpal involvement.

Nearly a fifth (19%) of adults had one or more potentially urgent conditions. Of these adults, most experienced one urgent condition (11% of all adults), with multiple conditions being less common (6% of adults experienced 2 urgent conditions and 1% of adults experienced all 3 urgent conditions).

Those who last visited the dentist more than 5 years ago were significantly more likely to have tooth decay, one or more teeth with pulpal involvement and one or more PUFA signs.

Teeth with no obvious decay, trauma or restorations

The average number of teeth that have no obvious decay, trauma or restorations in their coronal surfaces has continued to increase but the overall increase between 2009 and 2023 was more modest (from 18.0 to 19.6 teeth) than between previous survey years. However, the increase was still considerable for middle age groups, those aged 45 to 54 years in particular - from 15.2 in 2009 to 19.6 in 2023.

Number of natural teeth

The proportion of adults in England reporting having no natural teeth was 2.5%. Prevalence of no natural teeth was higher among those who were older, had lower household incomes, and lived in more deprived areas. This represented a further decrease from 12% and 6% in the 1998 and 2009 surveys respectively.

For dentate adults (those with natural teeth), the majority (86%) had 21 or more natural teeth with an average number of nearly 26 teeth. The number of natural teeth was lower among those who were older, had lower household incomes and lived in more deprived areas.

Self-reported oral health

Sixty-five per cent of adults reported that their oral health was good or very good, 24% reported their oral health as fair, and 11% reported bad or very bad oral health.

Large proportions of adults reported that their oral health negatively impacted on their quality of life. Overall, 49% reported that they had experienced an occasional or more frequent oral impact (using the Oral Health Impact Profile-14 (OHIP-14) measure), while 43% reported that their oral health had negatively impacted on their daily life and 22% experienced a severe oral impact (using the Oral Impacts on Daily Performance (OIDP) measure).

Adults' self-reported oral health and oral health-related quality of life were socially patterned, with better oral health and quality of life reported by those who were more socioeconomically advantaged.

Considering trends over time, the negative impact of oral conditions on quality of life affected considerably higher proportions of adults in 2023 compared with 2009, reversing the improvement in the ratings previously seen between 1998 and 2009.

Reported use of dental services

Fifty-one per cent of the 2,282 respondents reported that the usual reason they attended the dentist (whether NHS, privately funded or mixed provision) was for a regular check-up and 10% attended for an occasional check-up, while 36% reported that they only visited the dentist when having trouble with their mouth, teeth or dentures. Four per cent reported never having been to the dentist.

The proportion of self-reported dentate adults who reported attending the dentist for a regular check-up was gradually increasing until 1998 and remained stable at around 61% of adults in 2009. However, there was a drop of 9 percentage points between 2009 and 2023 when only 52% of the 2,230 self-reported dentate adults reported visiting for a regular dental check-up. Conversely, the proportion reporting that they only attended the dentist when having trouble with their mouth, teeth or dentures increased by 8 percentage points from 27% in 2009 to 35% in 2023.

Almost two-thirds of adults reported going to the dentist at least once in a 2-year period (65%). One-third (35%) reported going less frequently, or only when they had trouble with their teeth or dentures. The most common reasons for infrequent attendance were:

- being unable to find a dentist (40%)
- unable to afford the charges (31%)
- not perceiving a need to do so (27%)

Almost two-thirds of adults (65%) reported receiving NHS care to some extent on their most recent visit, such as receiving:

- NHS care for which they made a co-payment (36%)
- free NHS care (25%)
- mixed NHS and private care (4%)

Twenty-nine per cent of adults used private care exclusively and 6% of respondents were not sure what type of care they received.

Two-thirds (67%) of adults reported having received advice about at least one health-related behaviour - most commonly about cleaning teeth or gums (59%) followed by advice on how frequently to visit a dentist (32%).

About the survey

Consortium members

The survey was carried out by a consortium led by the National Centre for Social Research (NatCen). The consortium includes dental academics with experience of oral epidemiology from the following organisations:

- Department of Dentistry at the University of Birmingham
- Faculty of Dentistry, Oral and Craniofacial Sciences at King’s College London
- School of Dental Sciences at Newcastle University
- Dental Public Health Group at the Department of Epidemiology and Public Health at University College London
- Office for National Statistics

The University of Leeds also provided guidance and support to the survey and its design.

Survey methods

A sample of 5,876 addresses was selected using random probability methods, and 2 adults per household were invited to take part in the survey.

A total of 2,285 responses were received from 1,516 households, 28% of the eligible addresses in the sample. Within participating households, 88% of eligible individuals took part. For further information on the survey response, see the accompanying technical report.

Data was collected by a trained team comprising a NatCen interviewer working with a dental examiner. This was accomplished by a face-to-face interview and an oral examination in the participant's home. The survey questionnaire covered the following topics:

- self-assessed oral health
- oral health behaviours
- service use
- barriers to care
- impacts of oral health

The oral examination covered the following:

- presence and condition of natural teeth
- condition of root surfaces
- Basic Erosive Wear Examination (BEWE)
- type and condition of any dentures present
- PUFA index
- enamel defects
- an extended Basic Periodontal Condition (BPE) assessment

Additionally, the health of soft tissues of the oral cavity and mouth, was checked for any signs of disease or ulceration.

This report presents the results of those questions and oral examination, including analysis to explore variations in the need for and access to treatment or advice, as well as variations of clinical oral conditions among different groups in the population. This includes analysis by:

- sex
- age group
- NHS region
- household income in quintiles (fifths), equivalised (adjusted) to take account of the number of adults and dependent children in the household
- area deprivation in quintiles, based on the 2019 English Index of Multiple Deprivation (https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019) (IMD). IMD is based on 37 indicators, across 7 domains of deprivation. IMD is a measure of the overall deprivation experienced by people living in an area, although not everyone who lives in a deprived area will be deprived themselves

Ethnicity reporting

Although ethnic minority representation broadly matched the population estimates (for example, 84% of the AOHS 2023 sample was White and 9% was Asian or Asian British, in comparison with 83% and 9% of the total English population), 16% of the sample of 2,285 adults being 'non-White' is not sufficient for comparisons.

The Race Disparity Unit's standards for ethnicity data (https://www.gov.uk/government/consultations/standards-for-ethnicity-data) (first published in July 2022 and updated in April 2023), recommends using the Government Statistical Service (GSS) harmonised categories when analysing ethnicity data. When reliable data for the full harmonised set of classifications is not available, then the 5 aggregated groups should be used. Aggregating into 'White' and 'non-White' should be avoided, as this can mask substantial differences between ethnic groups. Comparisons between the 5 category ethnic groups were not included in the report due to small sample sizes.

Significance and causality reporting

Where differences are commented on in the text, these are significant at the 95% confidence level. The significance tests were run for a dependent variable and one independent variable at the time. It is possible that some independent variables are linked (for example, household income quintile and area deprivation), and a significant association between a dependent variable and an independent variable is therefore partially explained by another independent variable. Unpicking these associations requires multivariate modelling, which is not covered in these reports.

The AOHS findings are based on participants' responses at a particular point in time and it is not possible to make inferences about causal relationships. For example, those who said that they visited a dentist for regular check-ups were more likely to have filled or crowned teeth. It is not possible to say whether those who attend regularly have tooth decay and other problems diagnosed and treated more frequently or whether a history of problems that needed treatment encourages regular attendance.

Previous surveys

The report also includes ADHS findings from 2009 (https://digital.nhs.uk/data-and-information/publications/statistical/adult-dental-health-survey/adult-dental-health-survey-2009-summary-report-and-thematic-series), 1998, 1988 and 1978 where data is available to document change over time.

Dental attendance data quality issues

Participants were asked about their usual pattern of dental attendance. A small proportion of participants (4%) reported that they had never been to a dentist. Some of these participants gave answers in other parts of the questionnaire that suggested they may have misinterpreted the question about the usual pattern of dental attendance (for example, saying they had had dental treatment or had received advice from a dentist or member of the dental team). They are included in the analysis with the caveat that it is not clear whether they had attended in the past but would describe themselves as someone who did not generally go to the dentist.

Further information

Detailed technical information and survey reports from the AOHS 2023 are published alongside this report summary.

Approved researchers seeking to undertake further secondary analysis of the AOHS 2023 data will be able to access the data from the UK Data Service (https://ukdataservice.ac.uk/) under End User Licence. The ADHS 1998 and ADHS 2009 data sets are also available to download from the UK Data Service.

If you have any queries about this report, email dentalphintelligence@dhsc.gov.uk (https://healthsharedservice-my.sharepoint.com/personal/gemma_graham_dhsc_gov_uk/Documents/Downloads/dentalphintelligence@dhsc.gov.uk).

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