Current Debates in Dentistry

Implications of the Adult Dental Health Survey 2009 on Prevention and Management of Periodontal Diseases

Anousheh Alavi BDS MSc FDSRCS (Edin)
Kings College Dental Institute & Scientific Affairs, Colgate

uk_scientificaffairs@colpal.com
Future trends: population and disease status
Delivering better oral health in the aging population
Overall- number & health of teeth:

- 94% of the combined populations of England, Wales and Northern Ireland have at least one natural tooth.

- Proportion of adults in England with no natural teeth has fallen from 28% in 1978 to 6% in 2009.

- Overall mean number of teeth amongst dentate adults was 25.7, with the majority of dentate adults (60 per cent) having between 27 and 32 teeth.

- Dentate adults had an average of 17.9 sound and untreated teeth but this varied hugely with age.

- More than half of people aged 85 or more would retain some natural teeth (in 1968, 37% of adult population had no natural teeth)
Overall- Periodontal health:

- Overall 45% of adults had periodontal pocketing >4mm, although for the majority (37%) disease was moderate (pocketing <6mm).

- Periodontal disease remains common at a low level, however, there has been a slight increase in the prevalence of more severe disease and the impacts of severe disease are concentrated in a relatively small proportion of the population.
Data in this report are taken from the clinical examination of a representative sample of adults in England, Northern Ireland and Wales.

The markers of periodontal diseases that are included in this section are gingival bleeding, periodontal pocketing and loss of periodontal attachment.

Gingival bleeding peaked among adults aged 45 to 54 (59 per cent) compared with 49 per cent amongst dentate adults aged 65 to 74. Men were more likely than women to have some gingival bleeding, 56 per cent compared with 52 per cent.
Since 1998 there has been an overall reduction in the prevalence of pocketing at 4mm or more from 55 per cent down to 45 per cent signifying an overall reduction in disease. This was apparent in almost all age categories.

However, for both higher thresholds (pockets of 6mm or more and 9mm or more) no decline in prevalence was observed between 1998 and 2009, in fact for pocketing at 6mm an overall increase from 6 per cent to 9 per cent in 2009 was observed.
Root caries:

- 7% of adults had active root decay, proportion varied by age:
  - 1% of 16 to 24 year olds affected compared with 11% of 55 to 64 year olds and 20% of 75 to 84 year olds.
Preventive behaviour:

- 75% of adults said that they cleaned their teeth at least twice a day and a further 23% of adults said that they cleaned their teeth once a day.
- 66% of dentate adults had visible plaque on at least one tooth.
- “associations with a range of health behaviours (for example, smoking or infrequent tooth brushing) are perhaps expected but the social gradient is relatively minor”.

uk_scientificaffairs@colpal.com
Future implications

Overall- number & health of teeth:

- Under 45s: very high likelihood of retaining considerable number of healthy teeth through whole of a long life, particularly for adults aged 16 to 24: best prospects look better than ever.

- Aged over 45: legacy of higher disease levels earlier in their life course + different patterns of dental care resulting in far fewer teeth and fewer sound teeth, but this generation still has a better outlook than their predecessors.

- “There are, however, still many people whose oral health and function does not meet the best possible standards. Good oral health cannot be taken for granted, even in the young, and the variations with social class and, to a lesser extent, geography are very apparent.”
Future implications

Secondary care:

- 37% of dentate adults had artificial crowns. There was significant variation with age; only 5 per cent of the 16 to 24 year olds had crowns compared to between 55 and 59% of those aged 45 to 74.

- Nearly one in five adults wore removable dentures of some description (partial or complete). 6% were edentate, 13% relied on a combination of dentures and natural teeth.

Dental disease has lifelong impacts through the need for continued maintenance of treatments provided, even long after the disease has been eliminated.
### Future trends: Ageing Population

#### Percentage of population aged 60+

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>20</td>
<td>35</td>
</tr>
<tr>
<td>Western Europe</td>
<td>21</td>
<td>34</td>
</tr>
</tbody>
</table>

Tinker 2002

#### Percentage of population aged 80+

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>15</td>
<td>26</td>
</tr>
<tr>
<td>Western Europe</td>
<td>17</td>
<td>31</td>
</tr>
</tbody>
</table>
Chronic Periodontitis requires 3 elements plus TIME

Susceptible individual

Bacteria

Tooth
Patients, not just mouths- Impact of smoking

- Local
- Systemic

Active ingredients:
- Nicotine
- Carbon Monoxide
- Free radicals

- Impact on Periodontitis
- Role in oral cancer
From a site specific disease, to impact on rest of the body?

The relationship between
Oral Health & Systemic Health

(Or, how the mouth rejoined the rest of the body, and why Periodontal health matters!)
Preventing the onset of Periodontitis

- Oral Hygiene
- Bacteria
- Tooth
- Local anatomy
  - Root Morphology
  - Restorations

Host response
- Susceptible individual
- Additional risk factors

Contact: uk_scientificaffairs@colpal.com

North Western Deanery NHS
Delivering Better Oral Health
An evidence-based toolkit for prevention

Delivering Better Oral Health
Department of Health

2nd edition, Jul 2009

uk_scientificaffairs@colpal.com

North Western Deanery NHS
Evidence based prevention

Section 1
Summary Guidance for Primary Care Dental Teams

Section 6
Improving periodontal health
- Mechanical plaque control
- Toothpaste types/brands
- Mouthrinses
- Conditions that predispose to periodontal disease

Section 10
Supporting references

uk_scientificaffairs@colpal.com
Evidence based dentistry - definition

Integration of:

- Best evidence
- Optimal care
- Clinical judgment
- Patient values/circumstances
Evidence based dentistry - strength of evidence

**Quality of evidence:**

**I**
Systematic review of multiple randomised control trials.

**II**
Appropriately designed, randomised control trials of appropriate size.

**III**
Non-randomised trials, single group studies pre and post intervention, cohort, time series, case-control studies.

**IV**
Non-experimental studies from more than one centre or research group

**V**
Opinions of respected authorities, based on clinical evidence, descriptive studies or reports of expert committees.

UK_scientificaffairs@colpal.com

North Western Deanery NHS
From Prevention of periodontitis to maintenance of periodontal health: New contract pilots

- Optimising patient care
- Ongoing review and maintenance
- Patient experience
New dental contract pilots- Primary care

Clinical pathways in primary dental care

Quality Indicators

- new patient visits dentist
- Urgent care
  - Definitive pain relief
  - Recommend assessment of oral health
- Patient Assessment
- Patient self-care plan

Patient Assessment
- Risk Screening
- Patient self-care plan

Care Pathways
- Recall intervals

Entry criteria
- Complexity Assessments

Routine care
- Assessment of oral health
- Disease prevention and management
- Continuity of care and routine management
- Advance care

North Western Deanery NHS
Improving periodontal health — Care pathways

All aged < 36 years

- Notes on MH & social history
- Basic dental examination & BPE
- Clinical notes on plaque level & bleeding on probing

- Diabetes - poor control
- Smoker / former < 5 yrs
- Satisfactory plaque control
- Unsatisfactory plaque control
- BOP

Motivate, reinforce Oral hygiene

- Improved plaque control could improve glycaemic control
- BOP
- Bruxing / lateral advice
- Removable & retainers
- Root surface debridement using LA as necessary
- Consider referral if poor response to above actions

Risk group
- Low
- Medium
- High

Consider referral if
- Patient aged < 18 yrs
- More than 1 patient with code 3 (severe periodontal disease) or 4 (advanced periodontal disease) as detailed above

Evidence-based advice to patients

Section 6
Improving periodontal health

- Mechanical plaque control
- Toothpaste types/brands
- Mouthwash
- Conditions that predispose to periodontal disease

Mechanical plaque control
Teeth should be brushed twice daily.

- Mostly the patient existing method of brushing; emphasizing the need to systematically clean all tooth surfaces.
- disclosing tablets can help to indicate areas that are being missed.
- help the patient to select a small headed toothbrush with soft, round ended bristles, a compact, angled arrangement of long and short filaments and a handle that is comfortable for them.
- Powered brushes with an oscillating rotating action may be advised.
- For interdental cleaning, the choice of an interdental brush, floss stick, or water flosser is a good one.

Toothpaste types/brands
Evidence suggests that toothpastes containing triclosan in combination with a copolymer or with zinc citrates are more effective than a fluoride toothpaste in improving plaque control and gingival health.

Mouthwash
Oral hygiene mouthwash, either 10 ml of 0.2% or 15 ml of 0.3%, are very effective in improving plaque control and gingival health when used as an adjunct to tooth brushing.

Other mouthwashes containing essential oils or eugenol/mint/menthol are less effective than triclosan-containing products.
Improving periodontal health – Care pathways

All aged < 36 years

Notes on MH & social history

Basic dental examination & BPE

Clinical notes on plaque level & bleeding on probing

Diabetes-poor control

Smoker/former <5 yrs

< 2 < 2 < 2

< 2 < 2 < 2

2 < 2 3

3 3 4

Satisfactory Plaque control

Unsatisfactory Plaque control

BOP

Motivate, reinforce Oral Hygiene

- Improved Plaque control could improve glycaemic control
- Smoking cessation advice
- Remove calculus & correct local factors
- Code 3/4 sextant: detailed chart and reassessment
- Root surface debridement under LA if necessary
- Consider referral if poor response to above actions

Consider referral if:
- Patient aged < 18 or
- More than 1 sextant with code 4 following intervention as detailed above

Risk group:
- High risk
- Medium risk
- Low risk

uk_scientificaffairs@colpal.com

North Western Deanery NHS
Mechanical plaque control

Teeth should be brushed twice daily (V).

Modify the patient’s existing method of brushing, emphasising the need to systematically clean all tooth surfaces (V).

Disclosing tablets can help to indicate areas that are being missed.

Help the patient to select a small headed toothbrush with soft, round ended filaments, a compact, angled arrangement of long and short filaments and a handle that is comfortable for them (V).

Powered brushes with an oscillating/rotating action may be advised (I).

For interdental cleaning, the choice of aid (floss, tape, sticks, single tufted brush) should be based on the size of the interproximal or intraradicular spaces and the ability and motivation of the individual (V).

Toothpaste types/brands

Evidence suggests that toothpastes containing triclosan in combination with a copolymer or with zinc citrate are more effective than a fluoride toothpaste in improving plaque control and gingival health (I).

Mouthrinses

Chlorhexidine mouthrinses, either 10 ml of 0.2% or 15 ml of 0.12%, are very effective in improving plaque control and gingival health when used as an adjunct to tooth brushing (II). They are useful for short periods when an individual is unable to clean due to acute problems or incapacity.

Other mouthrinses containing essential oils or cetylpyridinium chloride are less effective than chlorhexidine.

uk_scientificaffairs@colpal.com
Conclusions

- As clinicians, we are as responsible for periodontal health & its maintenance as we are in diagnosing and treatment of periodontal diseases.
- Prevention & Management of periodontitis requires consideration of patient as a whole, and should be seen as a life-long process.
- It is our responsibility and duty of care to assess the evidence for efficacy of products and oral hygiene techniques on behalf of, and for patients.
- We need more robust research into mechanical plaque removal regimes to optimise periodontal health.

This is a genuine opportunity for our generation of clinicians.