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The oral health needs of older people in general medical practice: an overview

As the UK population ages and older people retain their natural teeth for longer, the complexity of the oral health needs in older people is becoming more challenging. Older patients are often registered with a GP and will increasingly be likely to require dental care. Older people in particular may benefit from dental care but may not have a dentist or perceive any risk of oral disease. This article therefore provides practical insight into the oral health management of older people to assist in addressing their oral health needs.

The GP curriculum and oral health needs of older adults

GP curriculum statement 9: Care of older adults requires that GPs should:

- Have knowledge of the prevalence and incidence of disease in the elderly population
- Co-ordinate care of older people with other professionals in primary care and with other specialists
- Have skills to effectively liaise and cooperate with the many different disciplines and persons in primary, intermediate and secondary care

Oral health of older patients

Health is defined by the World Health Organisation as '. . . a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity . . .' As part of this, it is essential to recognize the importance of good oral health and the detriment that oral diseases may have on this general state of well-being.

Several decades ago, the majority of older people (65 years and over) had complete dentures as a result of high levels of dental disease, surgical management and societal expectation; now, it is more typical for adults to enter older age with natural teeth. It is estimated that of the 49 million adults in the UK, more than 10 million are 65 years of age or above. This represents more than 20% of the adult population of which a slight majority are female.

The Adult Dental Health Surveys

The Adult Dental Health Survey (ADHS) is a survey of representative individuals of 16 years of age and above in the UK. It is commissioned to assess the current oral health of the nation and of previous surveys that have been conducted every 10 years since 1968. The most recent ADHSs conducted in 1998 and 2009 found that older people (65 years of age and above) are more likely than the rest of the population to have:

- No teeth (Fig. 1)—edentulism is most common in Scotland (12%), followed by Wales (10%), Northern Ireland (7%) and UK (6%); only 1% of adults between 45 and 54 years are edentate compared to 47% of those aged 85 years and over
- Partial dentures, which replace some but not all teeth; these are most common in older people of lower socio-economic classes
- Poor oral cleanliness, which is increasingly common in older people and likely to lead to periodontitis

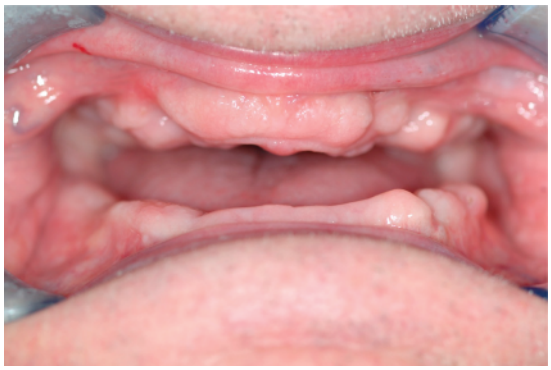

Figure 1. *An intra-oral photograph of a patient who has no teeth (edentate).*

Impact of ADHSs

The National Institute for Health and Clinical Excellence (NICE, 2004) suggests that adults should attend a dentist at least once every 2 years even if edentate. If there are no other oral health risks such as tobacco use or high alcohol intake, complete dentures for people who are edentate require little maintenance once correctly fitted.

However, using comparisons with earlier ADHSs, we now know that patients are retaining more teeth for longer into their later years. This greatly benefits patients from a functional and aesthetic point of view but requires more frequent and complex interventions from dental professionals. Patients who have some remaining teeth are susceptible not only to dental caries and periodontitis but also in addition may have partial dentures supported by these teeth, which will require more frequent modification and renewal (Fig. 2). In addition, older people present with complex medical conditions and medications, which may require careful analysis and management prior to even basic dental treatment, e.g. anti-coagulated patients.

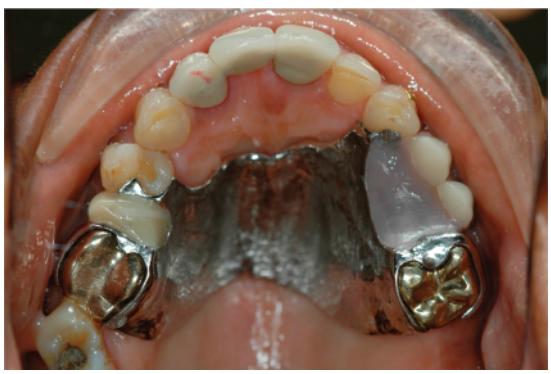

Figure 2. *An intra-oral photograph of the roof of a patient's mouth who has some unrestored teeth as well as fillings, gold crowns, a porcelain bridge and a metal and acrylic partial denture.*

Common oral problems

Common oral problems include physiological processes, such as a dry mouth (xerostomia) associated with a natural reduction in the quantity and quality of saliva; pharmacological effects of drug-induced xerostomia and pathological processes, such as gum disease (periodontitis) and tooth decay (dental caries). In addition, older people face declining general health and mobility, which may further impact on their risk of oral disease.

GPs will increasingly be required to help address the oral health care burden of this ageing population and assist them in accessing primary and secondary dental care services in a timely manner. There are an increasing number of dental care professionals who are employed partly or wholly to address the oral health needs of people in the UK with over 90 000 individuals registered across the dental team. These include dentists, hygienists, dental nurses, oral health educators and clinical dental technicians. The role of GPs and nurses in oral health education, however, has been overlooked for many years. General medical practice may be the only regular access to health care that some older adults receive and thus community-based health care workers should be aware of basic tools for assessing good oral health.

The future oral health of older patients

As a result of better nutrition, health care and education, the number of people living beyond the age of 65 years is growing rapidly. Population projections suggest that in the next 25 years, the number of adults living to 90 years of age will triple and the number of centenarians will increase 7-fold. Older patients face unique challenges in maintaining optimum oral health.

Oral health relating to quality of life

Older people identify oral health as a key indicator of their quality of life (QoL). The most commonly cited ways in which oral health is perceived to affect QoL is through eating function, speaking and oral comfort. Older people with fewer or no teeth have restricted dietary choices and report greater difficulty in eating fresh fruit, vegetables and well done meats and those with no teeth have lower plasma ascorbate and retinol levels in blood analytes (Sheiham and Steele, 2001). Food choices made by edentulous people may be due to an altered perception of their chewing ability, attitude and knowledge as opposed to any objective indicators of chewing function (Bradbury *et al.*, 2008). Therefore, retaining a functioning dentition and patient education are very important for maintaining adequate nutrition and subsequent general health, and for those older people who are edentulous and wear dentures, these should fit and function well enough to allow nutrition without causing discomfort or social embarrassment.

Role of the GP

Whenever possible, a patient with oral health concerns should be asked to contact a local dentist who will be able to provide a thorough assessment and report. The authors are aware, however, that many patients would prefer to visit their GP in the first instance, perhaps, as there are no direct costs

associated with a consultation. Common benign, suspicious and malignant conditions affecting the head and neck region and their management have been summarized in recent *InnovAiT* articles by Field and Field (2011a,b,c), Bajwa *et al.* (2009) and Hasan and Khan (2010). The following section focuses on common dental conditions that are likely to present to GPs.

Dental caries and their sequelae

Dental caries result from an often painless process in which the continued loss of the mineral content of the tooth structure can lead to cavity formation. This process can only occur in the presence of dental plaque and dietary sugars and thus much of dental caries prevention is aimed at limiting the effects of these.

If a cavity is discovered and treated early, the tooth often requires a simple dental restoration (filling). If, however, the cavity progresses unchecked, it will lead to inflammation and eventually necrosis of the dental pulp, which causes a characteristic toothache.

Short-term management of a toothache requires simple analgesics and non-steroidal anti-inflammatory medication. Simple toothache as a result of dental caries is rarely improved by antibiotics as the process is an inflammatory and not an infective one, but if the tooth is left untreated, dental pulp necrosis may eventually lead to an acute or chronic dentoalveolar abscess.

Localized dentoalveolar abscess formation should not be managed within general medical practice unless the doctor has specialized training and the equipment to do so. Oral abscesses often require intra-oral incision and drainage through the soft tissues or through a tooth, which should be done by a dentist in primary or secondary care. Antibiotics are not the first line of treatment and should only be used if there is systemic involvement or the patient is at high risk of this. Dentoalveolar abscesses are also likely to recur unless the source, which is often a dead and infected tooth, is removed or has root canal treatment. The authors would suggest that the GP's role in management of oral abscesses is to provide preventive advice, analgesics and facilitate timely referral to an appropriately trained dentist.

Dry mouth

Patients who are at high risk of caries include those with a dry mouth (xerostomia). Xerostomia is one of the most common side effects of medication but can also be caused by dehydration, mouth breathing, anxiety, smoking and radiotherapy to the salivary glands. In addition to an increased caries risk, it may also present as burning mouth syndrome, opportunistic oral infections (e.g. thrush), salivary gland swelling or difficulties in eating or speaking. Box 1 summarizes common medications that can cause dry mouth.

Systemic effects of poor oral health

There is some emerging evidence that chronic periodontitis may be a risk factor for both atherosclerotic cardiovascular disease (CVD) and non-haemorrhagic cerebrovascular accidents (CVA). There are several putative causal mechanisms through which oral and systemic conditions may be linked, but the most likely link is through a state of increased generalized inflammation. This is caused by the periodontal disease inducing oral bacteria that lead to raised inflammatory markers such as C-reactive protein. Thus, in the USA, it is now recommended that patients diagnosed with CVD and/or CVA, or at high risk of these, should be assessed by a dentist to control any periodontal inflammation.

Box 1. Common medications that cause a dry mouth

- Antidepressants
- Beta-blockers
- Diuretics
- Antipsychotics
- Antihistamines
- Antimuscarinics

Management strategies

Box 2 summarizes five easy ways in which GPs can improve oral health. For those patients who are reluctant to attend a dentist, there is simple advice and management that can be offered, which can drastically improve their oral health (Box 3). Older adults should also be provided with tobacco cessation advice as part of maintaining good oral and general health. Patients should be informed that smoking significantly increases their likelihood of experiencing tooth loss, dental caries, periodontitis and oral cancer.

Box 2. Suggested action points for GPs

- Obtain a list of local dentists in your area from your local National Health Service (NHS) or check the NHS choices website
- Find out which practices or services provide NHS domiciliary care
- Send queries or patients of concern to a primary dental care practitioner unless there is a cancer risk
- Inquire to see if your Primary Care Organisation has a Dental Helpline for unregistered patients and/or out of hours care
- Beware of sugar-based medication or drugs that cause dry mouth—warn patients of the increased risk of tooth decay and the need to manage this with their dentist

Box 3. Tips for patients on maintaining oral health

- Low sugar diet—especially avoid snacking between meals (both food and drink)
- Good oral hygiene—brushing twice daily, last thing at night and at least one other time; additionally, consider flossing and using inter-dental brushes
- Fluoride—using a fluoride toothpaste and possibly supplement with a fluoride mouth rinse after meals
- Alcohol—do not exceed the recommended weekly maximum limit
- Tobacco—avoid use or seek help to quit

Fluoride advice

All older people who are dentate should be advised on how to prevent dental caries. This can be achieved by brushing twice daily with a toothpaste containing at least 1350 ppm of fluoride. Fluoride ions are exchanged with the mineral substance of tooth tissue causing it to be more resistant to further decay. For patients who have obvious active caries, or are at high risk of it, higher concentration fluoride toothpaste (2800 or 5000 ppm) may be provided as a prescription only medicine to prevent further deterioration prior to repair or removal of the tooth (Fig. 3).

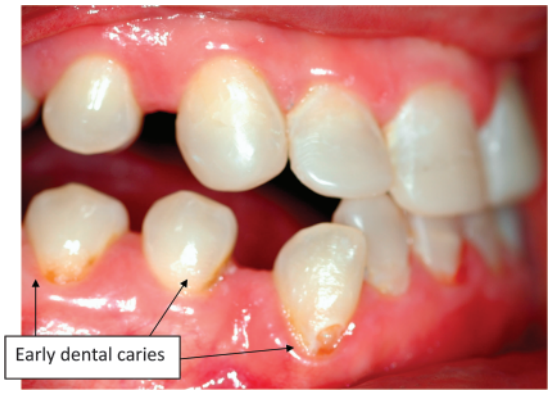

Figure 3. *An intra-oral photograph of a patient who has xerostomia secondary to Sjögren's syndrome and evidence of dental caries developing: the patient has evidence of early tooth decay at the gum margin of her lower right canine and premolar teeth which is likely to progress without dental intervention such as dietary advice, high fluoride prescriptions and fillings.*

Additional protection against caries is provided from the use of a fluoride mouthwash used at a different time to tooth brushing. It is recommended that this is used as a daily mouth rinse (225 ppm of fluoride as 0.05% sodium fluoride) although weekly mouth rinses are also available (900 ppm of fluoride as 0.2% sodium fluoride). Fluoride mouth rinses are on general sale or can be prescribed.

Sugared medication

Patients on long-term sugared oral medications such as methadone hydrochloride (e.g. Eptadone oral solution) are also very likely to suffer dental caries. These patients should be advised to have regular dental screening and if at all possible be switched to sugar-free alternatives (e.g. Metharose or Physeptone).

Urgent oral health problems

There are also some instances in which a patient may require immediate attention such as:

- severe pain
- bleeding from a recent tooth extraction site
- spreading infection

In such cases, a telephoned referral to the local oral and maxillofacial surgery department may be more appropriate or, if out of normal working hours, to the accident and emergency department.

In cases of suspected oral cancer, send an urgent written referral using local cancer referral pathways to a consultant in oral and maxillofacial surgery within the head and neck cancer team who will arrange to examine the patient within 2 weeks. It is important to note that oral cancers are more common in older adult patients, especially if they have other recognized risk factors, such as an immune-compromised state, smoking or increased alcohol consumption.

NICE guidelines for management of suspected head and neck cancer (2005) recommend that the following points should trigger urgent referral:

- Persistent mucosal ulceration or mass present for more than 3 weeks
- Persistent or unexplained red or white patch (including suspected lichen planus) if associated with pain, swelling and/or bleeding
- Persistent unexplained swelling of the parotid or submandibular glands
- Any new unexplained lump in the neck

In addition, any unexplained persistent tooth mobility that lasts for more than 3 weeks should urgently be referred to a dentist.

Accessing dental care

The current state

Under the Health and Social Care (Community Health and Standards) Act of 2003, Primary Care Trusts (PCTs) in England and Local Health Boards in Wales were obligated to '. . . exercise its powers so as to provide primary dental services within its area . . .' In effect, this means that PCTs and Local Health Boards have a statutory duty to recognize and address the oral health needs of the local population by commissioning appropriate services from dentists and hospitals. In Scotland and Northern Ireland, reforms of primary dental care have differed to England but there is a strong emphasis on providing access to NHS care for those who need it.

Contrary to media reports, access to NHS dental services for all adult patients is much greater than before, thanks to additional resources directed towards NHS dental care. A GP patient survey carried out by Ipsos MORI (2010) contained dental questions for the first time. It found that of the patients that were surveyed, 59% had attended an NHS dentist within the last 2 years and 91% had been successful when they had last attempted to get an appointment. Nonetheless, less than one-third of these patients were aged 65 years and above.

Information about accessing NHS dentistry services can be obtained from the websites listed in Box 4. Alternatively, the British Dental Association holds a similar database of both NHS and independent dentists searchable by location (www.bda.org). If patients are unable to find a suitable clinician in their area, they should be encouraged to contact the Patient Advice and Liaisons Service (PALS) in their PCT by telephone or through www.pals.nhs.uk.

Box 4. Suggested websites for further information about dental services

Scotland: NHS 24
www.nhs24.com/content/

England: NHS choices
www.nhs.uk/Pages/HomePage.aspx

Wales: NHS Direct Wales
www.nhsdirect.wales.nhs.uk/localservices/searchlocalservices.aspx

Northern Ireland: Central Services Agency
www.centralservicesagency.com/display/howtofindadentist

Barriers for older patients to access dental care

Despite older people requiring more dental care, data from the NHS Business Services Authority suggest that the percentage uptake of dental care is lowest in this group; the uptake was reported to be 34.8% of adults aged 75 years of age and over compared to an adult average of 45.8% in England and Wales. This relatively low uptake in comparison to younger adults is thought to be explained by five major barriers summarized in Box 5. Borreani *et al.* (2008) also identified a passive barrier in older people's lack of perceived need.

Access to dental care for those unsuitable for standard dental services

Some older people with complicated social or medical histories may not be suitable for routine care in a general dental practice. Examples of such patients include those with severe special needs, complex cardiac issues or those who are housebound. For these patients, some of whom may need domiciliary care, there are the Salaried Primary Care Dental Services (SPCDS). This branch of dental service often includes specialists in special needs dentistry and other clinicians with relevant experience of managing such patients. Referral to this service can be arranged by any primary care practitioner; however, NHS charges may apply.

Help with dental charges

Box 6 summarizes help available for dental charges. Further information about help with health costs can be obtained from the NHS Business Service Authority (www.nhsbsa.nhs.uk) and there is a useful leaflet for patients about this topic on the www.patient.co.ukwebsite.

Box 6. Entitlement to help with dental charges

Free dental care if the patient is:

- An NHS in-patient and treatment is provided by a hospital dentist
- An NHS Hospital Dental Service out-patient

Free dental care if the patient or their partner receives:

- Pension Credit Guarantee Credit
- Income Support
- Income-based Jobseeker's Allowance
- Income-related Employment and Support Allowance
- An NHS tax credit exemption certificate
- A valid HC2 certificate

Partial financial help may be available if the patient has a valid HC3 certificate.

Box 5. Barriers that prevent older people accessing dental care

- **Cost**—this includes fear about cost as well as actual costs. The latter may be the direct cost of dental treatment fees or indirect costs, e.g. transportation. The fees for dental assessment and treatment in England and Wales from 1 April 2011 are split into three bands depending on complexity:

  Band 1*: £17.00—examination, diagnosis, oral health prevention advice and emergency care

  Band 2*: £47.00—everything in Band 1 plus simple dental treatment, including fillings, root canal treatment and removal of teeth

  Band 3*: £204—everything in Bands 1 and 2 plus complex dental treatment, including crowns, bridges and dentures

- **Fear**—this may be related to bad experiences as an adult or even as a child
- **Access**—this may be related to all phases of contact with the service from making an initial appointment to transportation to the surgery
- **Characteristics of the dentists**—this relates to the manner of the dentist and the confidence they instil in the patient
- **Availability**—there is a common perception that there are too few NHS dentists to serve the local population

*These charges are correct for England and Wales at the time of going to press. Patients in Scotland or Northern Ireland are required to pay for their dental treatment according to the number and complexity of different items of treatment.

Key points

- Older people are making up an increasingly greater proportion of the UK population and it is important for GPs to be aware of oral health when assessing overall health
- Older adults face particular challenges when it comes to accessing dental services due to both perceived and actual barriers
- Older people are a group who require greater risk management and possibly intervention than other adults
- Although the majority of this cohort is free living, there are a growing number of older people who are frail or housebound and may never be able to access traditional dental services
- Many older people will be registered with a GP and family doctors will increasingly require knowledge on oral health and related services as part of their daily practice to provide advice, assist and redirect these patients in order to help improve their QoL
- Knowledge of local dental services will help GPs to make appropriate referrals to other primary or secondary care service

REFERENCES AND FURTHER INFORMATION

- Bajwa, J.F., Vaz, F., Haq, I. Assessment of neck lumps in primary care. *InnovAit* (2009) 2 (8): p. 452–7
- Borreani, E.D., Wright, D., Scambler, S., Gallagher, J.E. Minimising barriers to dental care in older people. *BMC Oral Health* (2008) 8: p. 7
- Bradbury, J., Thomason, J.M., Jepson, N.J. *et al.* Perceived chewing ability and intake of fruit and vegetables. *Journal of Dental Research* (2008) 87 (8): p. 720–5
- Department of Health. Written Ministerial statement: National Health Service charges (2011) Accessed via www.dh.gov.uk/en/Healthcare/Primarycare/Dental/index.htm [date last accessed 10.10.2011]
- Field, A., Field, J. Common oral problems and benign lesions. *InnovAiT* (2011a) 4 (1): p. 6–11
- Field, A., Field, J. Recurrent mouth ulcers. *InnovAiT* (2011b) 4 (1): p. 12–15
- Field, A., Field, J. Suspicious oral lesions. *InnovAiT* (2011c) 4 (1): p. 16–21
- Hasan, S., Khan, T. Salivary gland disorders. *InnovAiT* (2010) 3 (11): p. 632–7
- Health and Social Care Information Centre. *Adult Dental Health Survey 2009* (2011) N. I. C. f. h. a. s. Care
- Ipsos MORI. NHS dentistry report (2010) Accessed via www.gp-patient.co.uk/results/weighted/nhs/ [date last accessed 10.10.2011]
- NHS Business Service Authority. Active registrations and take-up rates per 100 local population of patients aged 18 and over by health body and age band at end December 2005 (2005) Accessed via www.nhsbsa.nhs.uk/Archive/back200512/reg_a2bb_formatted.htm [date last accessed 10.10.2011]
- NHS Choices. Dental costs (2010) Accessed via www.nhs.uk/NHSEngland/Healthcosts/Pages/Dentalcosts.aspx [date last accessed 09.10.2011]
- NICE. Dental recall: recall interval between routine dental examinations (2004) Accessed via www.guidance.nice.org.uk/CG19 [date last accessed 31.10.2011]
- NICE. Referral guidelines for suspected cancer (2005) Accessed via www.nice.org.uk/nicemedia/live/10968/29814/29814.pdf [date last accessed 09.10.2011]
- Pickett, F. Editor's consensus report: periodontitis and atherosclerotic cardiovascular disease. *American Journal of Cardiology* (2010) 105 (3): p. 424–5. author reply 425–428
- RCGP Curriculum statement 9: Care of older adults. Accessed via www.rcgp-curriculum.org.uk/PDF/curr_9_Care_of_older_adults.pdf [date last accessed 10.10.2011]
- Sheiham, A., Steele, J. Does the condition of the mouth and teeth affect the ability to eat certain foods, nutrient and dietary intake and nutritional status amongst older people? *Public Health Nutrition* (2001) 4 (3): p. 797–3. Accessed via www.journals.cambridge.org/download.php?file=%2FPHN%2FPHN4_03%2FS1368980001000751a.pdf&code=322f99ac8b4c2d3e329e7a33e0a9df0e [date last accessed 09.10.2011]
- World Health Organization. The constitution of the World Health Organization, fifty-first World Health Assemblies (2006) Accessed via www.who.int/governance/eb/who_constitution_en.pdf [date last accessed 10.10.2011]

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