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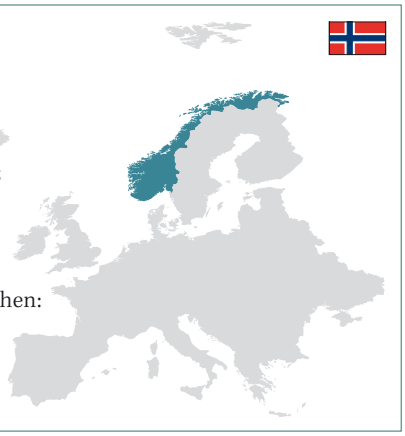
Dental management of the elderly patient in Norway

A well-functioning dentition is essential for the well-being, self-respect and social relationships of the elderly. How can we avoid the dramatic deterioration of dental health that accompanies illness in the elderly? Dental treatment of elderly patients frequently needs to be adapted to other requirements, compared with that of younger patients, and both over- and under-treatment should be avoided. This article, which considers the Norwegian healthcare policy, focuses on some of the main principles of dental treatment for the elderly.

Norwegen

Ländername: Königreich Norwegen (Kongeriket Norge)
Größe: 385.186 Quadratkilometer
Hauptstadt (Einwohnerzahl): Oslo (634 463; mit Einzugsgebiet circa 1,5 Millionen)
Bevölkerung: 5.109.056 (01.01.2014)
Wachstum circa 1,1 % (2013)
Landessprachen: Norwegisch (2 Schriftsprachen: bokmål und nynorsk) und Samisch

Quelle: Auswärtiges Amt (Stand: März 2015)



Introduction

The elderly of tomorrow are likely to have different requirements and demands to those of the present generation. They will be better educated, more resourceful, have different habits, and expect optimal treatment. The bonus years, reached by an increasing number of people, should be filled with quality – and loose dentures become an unacceptable option. An expressed aim of the Norwegian health policy is to give the population the possibility of retaining their teeth for life.

The organized health service

Presently, 10% of the Norwegian population is aged 70 years or older. This proportion is expected to increase to 20% in 2060. In principle, all adult Norwegians have to pay out of their own pockets for their dental expenses. However, if they become ill and require professional care, costs – including dental treatment – are covered by the Norwegian health care system.

The Norwegian health care system is publicly organized and financed through taxation. Whereas hospitals are administered through state trusts, the municipalities are responsible for nursing and care services for the elderly. Over the past decades there has been a shift in government policy towards enabling elderly people with care needs to stay at home for as long as possible. Consequently, nursing homes are presently reserved for patients with a severely impaired health status that requires them to have 24-hour nursing care. The average Norwegian nursing home resident is 85 years old, multimorbid, functionally compromised, cognitively impaired, and highly care-dependent. Following the increased burden of care in nursing homes, the caregiver–patient ratio has

been criticized in the media and placed on the political agenda. Government incentives have been introduced, and since 1995 the total number of people-years in nursing and care services has increased by more than 60%. Fifty percent of the population dies in nursing homes.

The responsibility for the oral health of people receiving nursing and care services is regulated by law through the Dental Health Service Act[18] and the Regulation of Quality of Care in Health and Social Services[2]. The Norwegian public dental service provides free systematic and outreach care to certain prioritized groups, inter alia the elderly, chronically ill, or disabled people living in institutions or receiving home nursing care. It is clearly stated that elderly nursing-home residents are entitled to receive necessary daily oral hygiene assistance to safeguard their oral health: "The mouth should be cared for as conscientiously as the rest of the body." The responsibility for this falls upon the municipality and the caregivers[2].

Oral health status

Several studies over the past two decades have demonstrated a rapid decline in the rate of edentulous elderly and an increase in their average number of teeth[15,16]. This development is probably attributable to multiple factors. The increase in the population's socioeconomic status, educational level, and dental awareness during the second half of the last century is believed to have played a part. There has also been a continuous rise in the use of dental services and a change in treatment philosophy from a predominately curative to a predominately preventive profile. The present-day elderly have also benefited from the use of fluoride toothpaste for a longer period of their lives than those of previous cohorts. Gerodontological units have been established at universities, which teach dental health personnel to be more aware of the needs of the elderly. Furthermore, since the 1940s, most severe dental infections have been treated with antibiotics. Hence, restorative dentistry has become a more feasible treatment alternative to tooth extractions. However, it is a paradox that this improved oral status influences the bacterial environment by increasing the risk of both oral and general conditions, such as diabetes, atherosclerosis, stroke, pneumonia, etc[8].

Prevention is the key

There is no alternative to organizing a preventive service[4]; pain and discomfort from defective dentition would otherwise cause an unacceptable deterioration of quality of life. It seems inconsistent not to continue lifelong maintenance of healthy dentition into old age. Major dental catastrophes late in life should be avoided if possible due to the reduced ability to adapt as easily at that stage to issues such as loose dentures. Moreover, dental treatment of patients with dementia is difficult to accomplish.

It seems unavoidable that aging populations have economic consequences. Since Norwegian elderly who reside in institutions receive free dental care from the public dental service, oral diseases and the treatment thereof place a direct economic burden on society. As stated above, poor oral hygiene in frail elderly people, with consequent excessive amounts of oral bacteria, increases the risk of systemic disease. With their higher rate of morbidity and mortality, this may result in major health-care costs for society. Hence, oral hygiene programs that improve oral health in this population group have obvious economic advantages.

Norwegian health authorities are adamant that the focus should be on "care", not "cure". A political program on oral health prophylaxis called "Teeth for life" has been initiated[20], which sets out guidelines for how this goal could be achieved for the entire population. Gerodontological sections with their own clinics and respective full professors have been established at all three Norwegian dental schools. The course in gerodontology is compulsory for all dental students and entails clinical training, theory, and an examination. Dental hygienists undertake a three-year bachelor curriculum in dental health promotion and prophylaxis. In cooperation with dentists, they are responsible for giving all nursing-home residents statutory and adequate oral care and treatment.

Barriers to oral care

Studies from the late 1990s reveal that in those days oral hygiene in many Norwegian nursing homes was far from optimal[6]. There were clear indications that oral care was not regarded as a prestigious task and was consequently neglected[14].

Several reports have called attention to both patient-related and caregiver-related barriers to the provision of oral care for the frail and care-dependent elderly[5,17]. Lack of patient cooperation due to cognitive impairment or reluctance to be considered disabled is fairly common. Oral care is often the last part of self-care a patient retains, and can be strongly related to the feeling of dignity. As people's general health status declines, the need for oral care will most probably at some point exceed the individual's functional capability. A reduced mental or physical state, impaired vision, and/or reduced manual dexterity can limit a person's ability to perform adequate oral care. As regards caregivers' barriers, insufficient knowledge of oral care and practical skills are frequently reported.

In a busy day, other tasks seem more urgent, so lack of time also becomes an obstacle. Providing oral care can be associated with feelings of uncomfortable intimacy or even disgust. Brushing other people's teeth implies crossing a psychological integrity zone, and such an "intrusion" of the body can be experienced as emotionally complicated. If oral hygiene is neglected, the accumulation of plaque, food debris, and mucus, in combination with bad odor, can serve as further impediments to the provision of oral care.

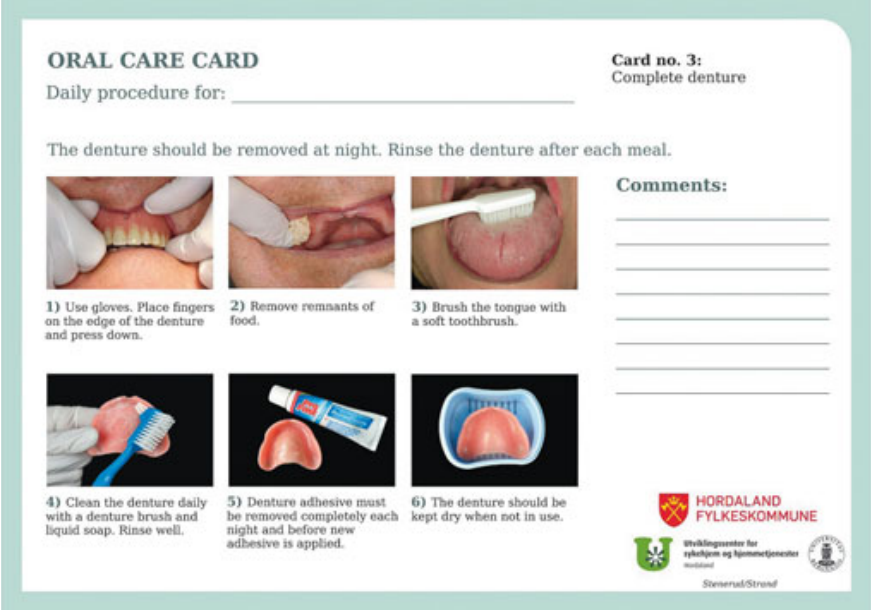


Fig 1 Oral care card.

Quality assurance of oral care in nursing homes

It is unacceptable both for oral care to be "forgotten" in a busy day and for it to be left to the individual nurse to decide if and when it should be performed in an institution. Verbal traditions, used in many institutions, are too haphazard. The consequences of inadequate maintenance are well known: loss of teeth, decreasing oral and general health, social stigma, nutritional problems, pain, discomfort, lack of self-respect, etc.

For these reasons, the Department of Clinical Dentistry of the University of Bergen was asked by the Norwegian health authorities to prepare a systematic plan for quality assurance of oral care in nursing homes[19]. From the onset it became clear that practical procedures based on available evidence regarding oral care would have to be formulated and imparted. These would then provide a better and more consistent quality of care for patients that would be less dependent on the earlier experience of caretakers.

The systematic plan consists of six different so-called "oral care cards" that cover all possibilities[12]. They describe procedures for oral care for patients with their own teeth and/or with different types of dental prostheses (Fig 1). The cards illustrate procedures, products, and devices with simple images and a descriptive text. The relevant card (often with additional comments) is hung discretely on the individual patient's bathroom wall and functions as a personalized care plan. The cards are thus binding, calibrating, and guiding for the caretaker.

Experience indicates that the cards are suited to their purpose. The nursing staff likes them because they furnish information on how the care of the individual patient should be carried out; it should therefore be unnecessary to let a patient suffer the indignity of being poked in the mouth to ascertain whether or not s/he has removable dentures. Furthermore, the cards fulfill the obligation of dental professionals to inform the nursing home about appropriate oral care for individual residents, which prevents nursing home staff from claiming ignorance. Nursing-home management likes them because they supply information to new and temporary staff. Next of kin are grateful because they understand that oral care is emphasized by the nursing home. Moreover, the fact that they are picture-based may be of particular use for non-native speakers of Norwegian. Thus, information is successfully transferred.

The oral care cards are experience-based and uncontroversial. They have been developed through cooperation between researchers, clinicians, and caregivers, which assures that professional competence becomes an integral part of the procedures, and that the procedures can also be implemented in clinical practice. The cards can be downloaded free of charge from the internet[12]. If adhered to, they cover the need for information and instruction. However, the cards only result in a health gain if the procedures are actually followed. Therefore, there has to be an integrated control function within the system. This task is designated to the dental hygienist, for whom the cards are a tool for maintaining satisfactory oral hygiene in the nursing home.

Written instructions on oral care should be available in every department of a nursing home. Any deviations from the procedures should be documented in the patient's journal. If these are not recorded, legal matters

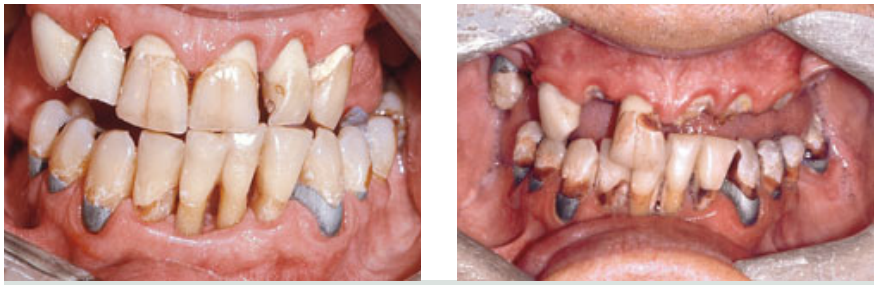


Fig 2 Ruined dentition through neglect during a 15-month period in an ill elderly man living at home.

can quickly become actualized when it comes to patient rights, professional responsibility of the health care workers, etc.

This quality assurance system was quickly adopted throughout Norway. Reports of long-term results from 2006 have indicated that oral hygiene among the elderly in institutions has improved significantly. The system also accords with one of the global goals of the World Health Organisation (WHO) for 2020, which is to strengthen and develop methods for monitoring patients' oral health[3,10].

In connection with a study where the level of oral hygiene was assessed in nursing homes, information was gathered from the ward nurses as to why specific residents did not attain an acceptable mucosal-plaque score (MPS) index[7,19]. It was found that these could be divided into three main categories: 1) Very sick or dying residents; 2) externalizing and aggressive residents; and 3) residents who brushed their teeth themselves. Regarding the last group, it would appear that being a resident in a Norwegian nursing home implies that one is probably unable to take care of oneself, including one's oral hygiene. Nurses should therefore remain beside the resident when oral care is being performed to ensure that the task is being implemented adequately and systematically, and possibly take charge of the brushing, if necessary.

Use of coercion

According to the principle of informed consent, the patient decides whether or not oral care should be performed. However, patients with dementia, brain damage, or mental disabilities are often incapable of making decisions and taking care of themselves, and may not understand that they need help[1]. Aggressive and externalizing patients may cause problems, for instance, during tooth brushing. Norwegian legislation has allowed for the possibility of using mild forms of coercion; however, very strict conditions must be satisfied before resorting to such measures. Among these conditions are that the decision to use coercion should be reported to an official authority, that confidence-creating measures should have been attempted (eg. Marte Meo[13]), and that information should have been gathered from the next of kin regarding what the patient would have wanted had s/he been well. The use of coercion may in some cases consist of restraining arms and legs in order to remove a denture, or administering a tranquilizer so that dental treatment can be performed. It goes without saying that all other means should be attempted in order to avoid coercion, such as adaptation, using sufficient time, attempting to provide the patient with a feeling of security, attempting to treat patients during periods when they are most receptive, etc. The legislation has led to more creative measures that do not involve coercion and has probably been instrumental in reducing the total use of coercion.

Patients with illness living at home

To some extent, oral health in nursing homes seems to be under control. The oral health of ill people living at home is presently more worrying. This population group is also entitled to outreaching, necessary dental treatment that is free of charge, provided that their general condition requires professional care. In many cases, it seems that dental help arrives too late because many people who have previously had regular dental treatment are often left for years without it before being noticed by the public dental health system. In the course of these years, severe deterioration of their oral health often takes place (Fig 2).

Problems with transport and escort services influence the type and frequency of treatment. Many people have impaired mobility and cannot easily visit a dental clinic, especially if there is no step-free access to the surgery. Having to ask for assistance and the feeling of inconveniencing others may have the effect of appointments being postponed or canceled. As part of a coping strategy, elderly people may gladly accept some dental problem, considering it a natural consequence of aging. As a result, when they are finally treated, their problem has often become acute, and the decline of their dentition can be substantial before treatment is implemented. The treatment then becomes reparative rather than maintenance- and prophylactic-based.

A proactive attitude is constructive. Better communication and cooperation between professions is necessary to maintain the oral health of people

Table 1 Graded gerodontologic treatment plan.

Treatment plan	Level	Object	Feature	Result
Optimal	High	Improve	• High expectations • Good communication • Satisfactory oral/ medical status	• Optimal esthetics and chewing function • Healthy mucous membranes
Acceptable	Moderate	Preserve	• Health a limiting factor • Evaluation cost/benefit • Able to maintain own health	• Good chewing function • Healthy mucous membranes
Adjusted	Not so good	Postpone	• Compromised health • Evaluation cost/benefit • Family willing/able to assist	• Satisfactory chewing function • Some discomfort and/or infection
Palliative	Low	Alleviate	• Very compromised health • Difficult cooperation	• Reduced pain and/or limited serious infection

living at home. In that context, an experiment will be initiated in the near future in which a dental hygienist is engaged whenever an elderly person receives a safety alarm and/or is linked to a dementia group. The dental hygienist will then formulate the person's treatment needs that are to be carried out either privately or publicly.

Treatment

Educating dental students in gerodontology is not only a question of root caries, adjusting and repairing removable dentures, and restoring broken-down teeth. The teaching focuses on the moral and ethical principles involved in treating the elderly[11]; in fact, in our opinion, these are the most important aspects of gerodontology!

The good clinician sees the elderly patient within a holistic framework that unites dentistry, somatic, psychological, social, cultural, and economic factors. The following questions have to be answered: Is the treatment of value for the patient? What does the patient think about the problem? How should the patient's perception be handled? Is the patient able to endure the treatment physically and mentally? Does the patient cooperate? Can the patient tolerate multiple treatment sessions? What is the situation regarding transport and escort services? Can the completed treatment be adequately maintained? Can the chosen solution be easily revised or extended in case of an unfavorable development? What are the costs in relation to the duration of the treatment and life expectancy of the patient?

Different patients with identical dental states may receive different treatment, ranging from none to very extensive. In an ill 80-year-old who has compromised dentition, temporary fillings, relinings, or simple oral care may be good therapy. A similar dental state in a healthy 80-year-old with incipient dementia may require rapid intervention with total extraction and implant dentistry.

In this age group, what constitutes under- and over-treatment are easily performed. The concept "professionally responsible treatment" is at the center of Norwegian legislation. However, it is not easy to define precisely what is professionally responsible, and what is not. One way of circumventing the problem is to agree on overall targets for dental treatment, eg, that patients should be without pain, discomfort, or serious illness in the mouth, or that they are able to communicate and socialize without dental problems, and have satisfactory masticatory function.

The concept of "compromised treatment" should be avoided due to the implication that inferior treatment is being given because the patient is old, which is unacceptable. "Adapted treatment" is preferred as it does not imply that the treatment is inferior. Simple, semi-permanent, or temporary treatment may be adequate. In clinical practice, the treatment often consists of removing the hopeless, establishing lines of defense, and postponing the deterioration. One attempts to maintain the oral health of the patient at the highest possible level that can be achieved, considering the general health condition of the patient. The general diagnosis will, to a large extent, decide the choice of dental treatment (Table 1).

First and foremost, it is important to avoid edentulousness. With increasing age, the ability to learn is reduced at a time when adaptation to dentures needs to occur; consequently, patients might be unable to use them. All teeth do not have to be replaced. Ten occluding tooth pairs are considered sufficient for dental function[9]. A bonded, fiber-reinforced, composite fixed dental prosthesis may be a semi-permanent esthetic solution, provided there

is satisfactory retention and that the risk of aspiration is considered to be low. Even a single tooth can be crucial to the entire oral function. Perhaps the very tooth that had to be extracted was supporting a denture that later, because of its loss, could not be used any longer. Or perhaps this was the tooth that was instrumental in maintaining the vertical dimension, thus preventing it from collapsing.

It is important that regular contact with the dental team does not cease with increasing age and reduced mobility. Early diagnostics, assessment of caries risk, and adequate treatment planning bring about financial advantages for the elderly, as is the case for other age groups. Due to the fact that all dental treatment generally becomes more complicated with increasing age, much can be gained from early intervention. If possible, one should always choose a solution that permits optimal hygiene in order to optimize treatment results.

Conclusion

We possess sufficient knowledge to maintain a healthy and well-functioning dentition. In Norway, there is a growing understanding that it is unethical to neglect oral care in elderly people, this being the time of their lives when they are most vulnerable for developing oral disease, and are least able to take care of themselves. Emphasis should therefore be placed on attempting to avoid the additional burden of failing dentition during the last phase of life, thus enabling the elderly to enjoy greater dignity in the bonus years.

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