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ORIGINAL ARTICLE

MEDICAL ASSESSMENT IN THE FIELD OF SOCIAL SECURITY AND CARE OF EDENTULOUS PEOPLE

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Oral diseases are among the most frequent pathologies which can impact health and economic implications, particularly reducing quality of life. The most prevalent oral diseases are dental caries, periodontal disease, tooth loss, and oral cancer.

Prevention represents the only mean to avoid or reduce more serious problems.

Unfortunately, dental care is not provided early and this has implications both on the oral health and on the economy, not only for the patient but also for the social security system.

The aim of this study was to analyze which oral pathologies most influence social security.

Keywords: dental caries, oral carcinoma, social security implications.

INTRODUCTION

Oral diseases are among the most widespread diseases that can affect the quality of life of those affected and can lead to serious health and economic burdens. The most common oral diseases are dental caries, periodontal disease, tooth loss and tumors of the oral cavity¹.

The patients most affected by oral diseases are children living in poverty, socially marginalized groups and the elderly and all those who, for various reasons, have little access to dental care. The consequences of untreated chronic oral diseases are often serious and can include pain, infections, difficulty chewing and therefore difficulty eating with reduced quality of life, missed school days, interruption of family life and decreased work productivity in adults. Although

oral diseases are largely preventable, this is still not the case today. In many low and middle-income countries, oral diseases remain largely untreated because treatment costs exceed available resources².

Oral diseases are undoubtedly a public health problem, with particular concern about their increasing prevalence in many low and middle-income countries linked to wider social, economic and commercial changes; however, unfortunately, dental care is often not as accessible in many populations with many neglecting treatments. Depending on age, some pathologies are more frequent than others, therefore prevention should be aimed at different age groups³.

The aim of this study was to analyze which pathologies were more frequent based on age and their medico-legal implications.

Children

In children, the most common dental pathology is dental caries. Dental caries is a destructive process of the hard tissues of the tooth and its etiology is multifactorial^{4,23}.

A late diagnosis of caries may cause deterioration of general health of children and an inevitable reduction in the quality of life. Caries may cause pain, disturbed sleep and/or infections with abscesses. It is often necessary to perform extractions of deciduous teeth and early loss can cause malocclusion in children. Furthermore, all these conditions can compromise nutrition leading to weight loss, impaired speech, loss of learning and of days at school with, indirectly, repercussions on the parents. Another important negative aspect is "inefficient" chewing; furthermore, unchewed foods are swallowed almost whole, with exposition of children to higher risk of suffocation^{5,7}.

Adults

Adults, in addition to caries, are affected by periodontal diseases, precancerous lesions and tumors. If untreated, periodontal disease may lead to tooth loss resulting in difficulty with chewing, speaking and pain in the temporomandibular joint^{4,8}. Regarding tumors of oral cavity, they are benign or malignant.

The benign tumors have a slow, gradual and disruptive growth; conservative treatment is not always the solution specially in case of relapse: for this reason it is better to perform a mandibular or maxillary surgical resection.

The malignant tumors of oral cavity can have epithelial or mesenchymal origin; they always need a surgical resection, often with chemotherapy and radiation treatment. Even if radiation treatment has an important positive effect on disease, it has a negative effect on bone metabolism and adjacent tissues, so that is difficult to place dental implants²².

Elderly people

As regards to the elderly, they are those with higher risk of chewing problem and its impact on nutrition. Taste and smell are fundamental elements for dietary selection, especially for adults and elderly people whose appetite is reduced for aging. In older adults with reduced appetite, possibly due to disease, taste is one of the most important factors in food preference, selection and consumption⁵. This attitude within the elderly population can lead to dietary restrictions that could have a negative impact on nutritional and health status⁶. The decrease in the quantity and quality of ingested foods and the inability to detect harmful tastes and odors make elderly patients vulnerable to foodborne illness, loss in somatosensory perception

and oral sensitivity, which is deleterious to their ability to discriminate and differentiate the textures of foods with the risk of choking^{7,8,9}. Some medications are known to cause loss of taste acuity (hypogeusia), distortion of taste (dysgeusia) or loss of sense of taste (ageusia). Unfortunately, smell and taste disorders in the elderly are commonly overlooked, as they are not considered life-critical^{10,11,12}. Decreased olfactory function is a contributing factor to increased age in accidental gas poisonings and explosions that can endanger public safety^{13,14,15}. Decreased smell and taste result in appetite suppression resulting in weight loss, malnutrition, reduced immunity and deterioration in medical conditions^{16,17}. It has been reported that elderly people require from two to three times higher concentration of salt. In older adult's diet, higher salt and sugar intake can aggravate dangerous health conditions^{18,19,20,21}.

A proposal for medical assessment in the field of social security and care of partial or total edentulous subjects

The main aim of this study was to provide a proposal for medical assessment in the field of social security and care of partial or total edentulous subjects in complex clinical disease pictures^{24,25,26}.

Edentulism is a condition characterized by a partial or a total loss of teeth.

Total edentulism can be firstly related to aging but even to different pathologies, first of all periodontal disease for which we have people over 40 years old with loss of teeth in 35 percent of cases.

Total edentulism can also be due to serious systemic disorders, such as tumors, HIV, lymphomas, leukemias, neutropenias, malnutrition and denutrition, all bad conditions of health.

Partial edentulism can be due to genetic factors or assumption of elements that causes a loss of teeth.

Nowadays, the prevalence and the incidence of edentulism and the loss of teeth in European countries is unknown.

In Italy, the prevalence of edentulism is about 10,9%, higher in women (12,5%) than in men (9,2%).

The loss of teeth increases with age, significantly after age 60.

As a matter of fact, we don't have the loss of dental elements until age 44; it is about 3% from age 45 to 54, 10,5% from age 55 to 64 and 22,6% from age 65 to 69^{19,23}.

The causes of edentulism, partial and total, can be distinguished in:

- post-traumatic;
- neoplastic;
- concerning bone metabolism;
- inflammatory.

For a medical assessment in the field of social security and care of subjects affected by edentulism, the functional impact of edentulism in relation to chewing, phonetics and breathing must be underlined.

The Italian Ministerial Decree 5 February 1992 denotes a condition of partial or total edentulism, further divided into aidable and unaidable.

The Law 12 June 1984 number 222 provides following benefits:

- ordinary allowance of invalidity, for people with residual working capacity (semi-specific or attitude skill) less than 1/3 of the total;
- ordinary inability pension, for workers no longer able to carry out any work;
- monthly allowance for personal and continuous assistance for those receiving ordinary inability pension who are unable to walk because of their disability without the permanent help of an accompanying person or because they are unable to carry out their daily life activities, but who need continuous assistance.

Pursuant to article 3, paragraph 3 of Law 5 february 1992 number 104 a person with a disability is someone who has long-lasting physical, mental, intellectual or sensorial impairments which, in interaction with barriers of various kinds, can hinder full and effective participation in different life contexts on an equal basis with others, ascertained following the basic assessment.

It must be highlighted the case of a person of working age who, following multiple trauma with involvement of facial massif, suffers the traumatic or therapeutic avulsion of all dental elements resulting in severe masticatory disorders up to the ultimate clinical condition of malnutrition and cachexia associated with malabsorption with inability to carry out continuous and profitable work activity, partially or totally, such as to satisfy the conditions for eligibility for economic benefits in the field of social security.

In the area of care, there is the example of a citizen suffering from malignant neoplasm with severe prognosis, already undergoing radiation therapy, with consequent edentulous condition, who can be recognized civilian invalid.

Further examples of care provision can be substantiated in the hypothesis of a citizen suffering from Alzheimer's disease and edentulous such as not to allow a diet useful to their livelihood, hence the proposal to recognize the accompanying allowance¹⁰.

The accompanying allowance can be recognized when the medical examiner determines an edentulous person suffering from psychosis without the ability to self-determination in useful daily sustenance.

The above example in the context of the recognition of the condition of social disadvantage is to be proposed as certainly attributable to a condition of gravity as corresponding to the conditions of article 3, paragraph 3 of Law 5 february 1992 number 104 "if the handicap, single or multiple, has reduced the personal autonomy, correlated to the age, so as to render necessary a permanent, continuous and total assistance intervention in the individual field or in that of relation" of the person.

The workers of the show that cannot be treated, because they suffer from pathologies that contraindicate the implant therapy or because they suffer from health problems that prevent their adaptation to the prosthesis, are forced to edentulous: the latter, although alone does not give the right to the economic benefit, must nevertheless be assessed both in the dysfunction that it causes and in the complications.

These workers encounter digestive and phonetics problems frequently developing a feeling of insecurity and difficulty in relating with consequent restriction of their social and work role (in particular, actors, radio and television hosts, wind instrument players and others in the entertainment world who need not only aesthetic integrity, but also of the phonetic one that in case of dental pathology and/or traumas with consequent dental fracture, can be compromised).

In a judgment of the Court of Trapani there is the recognition of the monthly assistance allowance from the date of submission of the administrative application in a man aged 63, suffering from ischemic heart disease (hypertensive), already subjected to coronary angioplasty with angina stress, diabetes mellitus not insulin – dependent, obesity of II class, with polyarthropathy, Parkinson's disease with slight slowdown ideo-motor, in association with partial unaidable edentulism (TRAPANI COURT, Judgment number 495/2022 of 17.11.2022)".

DISCUSSION

"The mouth is connected to the rest of the body" is a phrase often used as an important reminder of the systemic connection between an individual's oral health

and overall health. In reality this is true considering that oral cavity problems can lead to serious health implications. From a social security point of view, it is necessary to evaluate the functional impact of a condition of edentulism (partial or total) on the complex clinical picture to which the subject is affected, in order to recognize the economic benefits provided by law. This would have a lower incidence on the disease with a lower increase in spending money.

Although the oral health of children in Italy has improved in recent years, tooth decay remains the most widespread chronic childhood pathology, five times more common than asthma and is prevalent among children belonging to less well-off families. Despite scientific evidence demonstrating that a state of good oral health protects both general health and quality of life during pregnancy, currently in Italy women do not perform dental care as part of their prenatal preparation. On the contrary, in the United States the American Dental Association and the American College of Obstetricians and Gynecology prescribe a specific dental care protocol for pregnant women ²⁷.

No similar protocol is yet carried out in Italy, where

the role of oral health in the general health of the woman and her unborn child tends to be underestimated. The understanding of maternal and fetal physiology indicates that providing adequate dental care during pregnancy does not represent a risk, but rather that not providing can represent an increase in risk for the mother and the future unborn child. The American Academy of Periodontology, for example, prescribes the prevention of oral pathologies already in the initial phase of pregnancy in order to prevent the onset of acute infections or sources of sepsis. The timing of such care is critical, as the oral health of pregnant women impacts the health of the fetus. Prevention could represent the real solution to avoid serious dental problems and the various implications ^{27,28,29}.

Table 1. Summary of the most common oral diseases that impact on social security

| ORAL DISEASES | SOCIAL SECURITY IMPLICATION | SYMPTOMS | TREATMENT |
|---|---|---|--------------------------------------|
| Dental caries | Missed days at school, loss of parents days at work | Pain, infections | Pharmacological therapy, dental care |
| Dental caries, periodontal disease, oral cancer | Job loss | Pain infection | Dental care, prevention |
| Loss of teeth | Hospitalization | Hypogeusia/ dysgeusia/ ageusia Risk of choking | Restore the occlusion |

CONCLUSION

In light of the considerations made, prevention is the most concrete expression of a far-sighted treatment system, which foresees and provides for the future development of the child, who, going through multiple stages of development, will become an adult. If the prevention program is implemented from the first months of life, it may avoid factors that are potentially harmful to the child's development; this will result in a lower incidence of future problems relating to the subject's health and a lower economic commitment for families and the system healthcare.

For a medical assessment in the field of social security and care of subjects affected by edentulism,

the functional impact of edentulism in relation to chewing, phonetics and breathing must be highlighted.

DECLARATIONS

Ethical approval and consent to participate – The study was approved by the Institutional Ethics Committee.

Competing interest

The authors declare that there are no competing interest.

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