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EDITORIAL

Geriatric Oral Health: The Role of Oral Disease Prevention in Vulnerable Patients

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Prevention of oral diseases plays a crucial role in maintaining the health of vulnerable patients. In this context, vulnerable patients include the adults with no or restricted access to dental treatments, adults above the age of 65 years, and adults residing in Établissement d'hébergement pour personnes âgées dépendantes (EHPADs), which is a type of nursing home for dependent elderly people in France. These vulnerable patients display frailty and/or may need specialized treatment. In addition, oral disease prevention of those living in economically weak countries is equally important.

As the global population is increasing at an annual rate of 1.7% while the population of those over 65 years rises at a rate of 2.5%, it is expected that the adults older than 80 years will make up of nearly 20% of the world population in the near future. Therefore, it is without a doubt that early prevention is an important and effective approach to minimize the prevalence of oral disease in the aged population, thereby reducing the related economic repercussions. In general, four levels of prevention have been defined [1,2]. The four levels of prevention are as follows:

- Primary prevention aims to prevent the occurrence of a disease or an injury.
- Secondary prevention aims to reduce the spread of an already established disease or a

progressing disease in a population. It should reduce the impact of a disease or injury that has already occurred or abrogate the progression of a disease and deterioration.

- Tertiary prevention aims to reduce the symptoms and complications of a disease and impact of an ongoing illness to improve patient's functional abilities, quality of life, and life expectancy. Despite that, there is still a risk of recurrence of the disease. Tertiary prevention focuses on the prevention of an already established disease or a progressing disease.
- Quaternary prevention aims to identify patients at risk of over-medicalization and suggest interventions that are ethically acceptable, thereby protecting patients from unnecessary medical interventions.

Three approaches in relation to the prevention of tooth caries and periodontal disease have been specified, namely, the removal of soft carious dentin using hand instruments, preservation of the partially demineralized dentin in intact condition, and dental restoration for cavity using adhesive material, such as glass ionomer cements. These methods provide either regression or stabilization of various oral diseases. Demineralization-reminerization dynamics in teeth are important to oral health. Excessive demineralization that leads to corrosion of enamel and dentin could

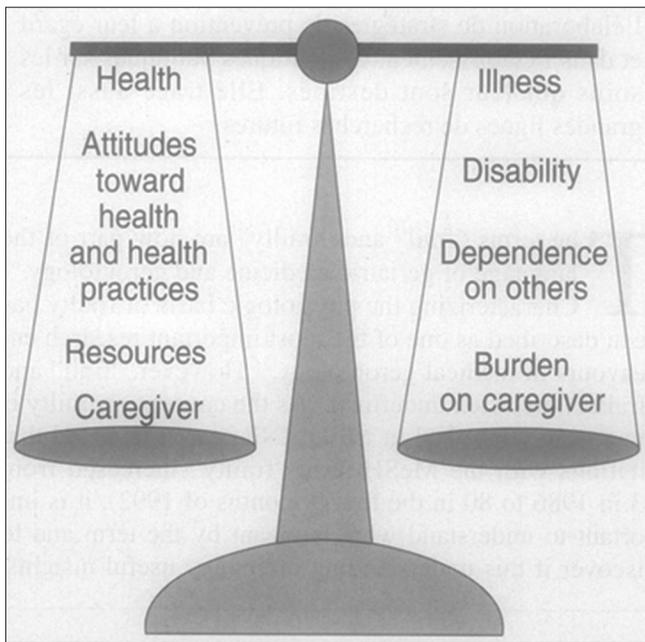


Figure 1. The concept of a balance between health and illness in the prevention of oral disease in geriatric patients.

culminate in the occurrence of carious lesions. Salivary flow, fluoride, calcium, phosphate, and certain dietary components are considered the protective factors of the oral cavity. As a natural protective factor, salivary flow is instrumental to the overall oral health as a reduced flow can increase the risk for dental caries development and tooth demineralization. Nevertheless, saliva is not the panacea for all dental issues because extrinsic factors, such as the intake of high carbohydrates and the presence of bacterial colonies in the oral cavity due to poor oral hygiene, may favor the development of cavities [3]. *Streptococcus mutans* and lactobacilli are the two main oral bacteria strains that cause dental cavities. As oral bacterial film is responsible for the formation of caries and inflammatory periodontal diseases, tooth brushing is a vital part of a good oral hygiene practice and an effective way to prevent caries and gingivitis. In these cases, fluoride-infused toothpaste is useful but not in aggressive periodontitis. According to Black, dental chairs, high-speed dental drill, diamond or

tungsten carbide burs, and specialized techniques are required in performing dental filling [4]. Cavity filling is destructive and requires restorative dental materials such as dental inlays, silver amalgam, and cements. On top of that, cavities can be prevented or treated by the atraumatic restorative treatment or minimal intervention dentistry [5,6]. In addition, efficient scaling and root planning can help halt the progression of gingivitis into periodontal disease [7]. However, these treatments are costly. To avoid the high expenses incurred from dental treatments, prevention is undeniably the most effective solution.

Nowadays, other than oral care services, dentists also provide non-traditional consultations, such as tobacco use cessation, oral cancer screenings, and nutritional counseling. Dentists would also give advices tailored to the patient's condition in respective of preventive measures against oral diseases [7,8]. Furthermore, four levels of prevention should be practiced in the prevention of oral diseases in geriatric patients so as to effectively reduce or eradicate major oral diseases, such as caries and periodontal disease, which are known to affect the quality of life of elderly people.

References

- [1] Martins, C.; Godycki-Cwirko, M.; Heleno, B.; Brodersen, J. Quaternary Prevention: Reviewing the Concept. *Eur. J. Gen. Pract.*, **2018**, *24*, 106–11.
- [2] Rockwood, K.; Fox, R.A.; Stolee, P.; Robertson, D.; Beattie, B.L. Frailty in Elderly People: An Evolving Concept. *Can Med. Assoc. J.*, **1994**, *150*, 489–95.
- [3] Featherstone, J.D. The Science and Practice of Caries Prevention. *J. Am. Dent. Assoc.*, **2000**, *131*, 887–99.
- [4] Black, G.V. *A Work on Operative Dentistry; the Technical Procedures in Filling Teeth* Medico-dental. United States: Publishing Company Chicago; **1917**.
- [5] Featherstone, J.D.B.; Doméjean, S. Minimal Intervention Dentistry: Part 1. From Compulsive Restoration Dentistry to Rational Therapeutic Strategies. *Br. Dent. J.*, **2012**, *213*(9), 441–5.
- [6] Holmgren, C.J.; Roux, D.; Doméjean, S. Minimal Intervention Dentistry: Part 5. Atraumatic Restorative Treatment (ART)-a Minimum Intervention and Minimally Invasive Approach for the Management of Dental Caries. *Br. Dent. J.*, **2013**, *214*(1), 11–8.
- [7] Heitz-Mayfield, L.J.A.; Lang, N.P. Surgical and Non-surgical Periodontal Therapy. *Learned and Unlearned Concepts. Periodontology 2000*, **2013**, *62*, 218–31.
- [8] Lang, N.P.; Schätzle, M.A.; Löe, H. Gingivitis as a Risk Factor in Periodontal Disease. *J. Clin. Periodontol.*, **2009**, *36*(s10), 3–9.