Saliva and Oral Health
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Excerpt from Saliva and Oral Health: An Essential Overview for the Healthcare Professional

Saliva plays a significant role in the maintenance of oral health. Substitution of the natural saliva and an artificial substitute implies an additional cost to society. It is also more expensive for the individual, particularly in developing countries where cost is a crucial factor to consider.

Subjective responses and questionnaires

The establishment of a diagnosis of xerostomia is completed with patients’ complaints and can be advanced with the use of questionnaires. It should be noted that a patient’s presenting complaint may not be dry mouth in spite of the presence of salivary gland hypofunction. Therefore, lack of complaint should not be perceived as evidence of adequate saliva secretion. Many of the common oral symptoms and subjective complaints are associated with mealtime: altered taste, difficult cutting, chewing, and swallowing, particularly dry foods, and especially without drinking accompanying liquids. Patients complain of impaired denture retention, halitosis, stomatodynia, and intolerance to acidic and spicy food. In addition to these symptoms, xerostomia is also common, since saliva output normally reaches 10-100 fold, while stimulated secretion varies 10-20 fold.

In patients considered to be at risk, for developing salivary gland hypofunction, it would be useful to monitor salivary flow rates over time. Most investigators consider a diagnosis of salivary gland hypofunction if the unstimulated salivary flow rate is less than 0.5 ml/min using standardised techniques, neutrophils, and bacteria per saliva. There are probably more indicative of salivary gland hypofunction than unstimulated secretion, since saliva is produced under unstimulated conditions during most of the hours a person is awake. The most common collection technique for unstimulated saliva is the so-called “Salivette” (Sarstedt, Germany), which has been used extensively to diagnose and treat and, therefore, identification of patients at risk will have to be taken to preserve the dentition.

With deficient remineralisation of teeth, dental erosion is a more frequent occurrence in patients with salivary gland hypofunction. The increase in salivary output during and immediately after the meal can prevent the accumulation of bacteria on tooth surfaces, since saliva is produced under unstimulated conditions. In patients with salivary gland hypofunction, the increase in salivary output is diminished, which leads to an oral cavity and the removal of bacteria after food and beverages. Conversely, salivary gland hypofunction is frequently associated with recurrent oropharyngeal infections, particularly in interproximal regions and beneath denture surfaces.

Incorporating these principles into daily practice will enable health care workers to play an active role in preventing further deterioration in oral health. The following article provides an overview of oral pathogenesis, diagnosis, clinical implications and management of xerostomia.
(difficulty swallowing), and difficulty chewing food secondary to salivary gland hypofunction can lead to changes in food and fluid selection that compromise nutritional status. The speech and eating difficulties that develop can impair social interactions and may cause some patients to avoid social engagements. Dysphagia increases susceptibility to aspiration pneumonia and colonisation of the lungs with Gram-negative anaerobes from the gingival salus.11

Management of xerostomia and salivary gland hypofunction

The initial step in the management of xerostomia is the establishment of a diagnosis. This frequently involves a multidisciplinary team of health care providers who communicate effectively, since many patients have concomitant medical conditions and frequently experience complications of polyparmacy. The second step is scheduling frequent oral health evaluations due to the high prevalence of oral complications.11

Maintenance of proper oral hygiene and hydration (water is the drink of choice) are helpful. Several habits, such as smoking, mouth breathing, and consumption of caffeine containing beverages, have been shown to increase the risk of xerostomia. Limiting or stopping these practices should lessen the severity of dry mouth symptoms. A low-sugar diet, daily topical fluoride use (e.g. fluoride tooth paste and mouth rinses), and increasing salivary pH and flow help, to prevent dental caries. Patients might be instructed on the frequent use of fluids during eating, particularly for dry and rough foods. Eating and swallowing problems secondary to salivary gland hypofunction can impair the intake of fibre-rich foods, restricting some older adults to a primarily soft and carbohydrate-diet. Accordingly, patients must be counselled on a balanced, nutritionally adequate diet and the importance of limiting sugar intake, particularly between meals.

If there are remaining viable salivary glands, stimulation techniques using sugar-free chewing gum, candy (sweets), and mints can stimulate salivary output. Chewing sugarless gum is an extremely effective and continuous salagogue, since it increases salivary output and increases salivary pH and buffer capacity. Buffered xylitol-containing chewing gums or candy is often recommended, because xylitol has an anti-carinoegenic effect.

Conclusion

Saliva not only plays a pivotal role in the maintenance of a healthy homeostatic condition in the oral cavity, but contributes to one’s overall health and well-being. Components from saliva interact in different ways with the dentition to protect the teeth. Patients who lack sufficient saliva suffer from many oral diseases, of which caries is only one. To alleviate discomfort they are advised to use saliva stimulants and substitutes which have the function of lubricating the oral surfaces. Chewing sugar-free gum is increasingly being viewed as a delivery system for active agents that could potentially provide direct oral care benefits, as it promotes a strong flow of stimulated saliva.


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References

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