Role of dentist in obstructive sleep apnea

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Abstract

Obstructive Sleep Apnea (OSA) is the most commonly undiagnosed sleep disorder and is gaining more recognition in dentistry. Dental hygienists are at a pivotal position to discuss risks, characteristics, medical referrals and treatment options for OSA, as well as detect if an individual has OSA through questionnaires and other tools that can be done during an examination. Dental hygienists need to receive appropriate education about OSA and should be well versed in their knowledge to educate patients. The purpose of this literature review is to identify the role of the dental hygienist in detecting the risk of OSA and gain knowledge on the topic in order to educate patients.

Keywords: Dental Sleep Medicine, Obstructive Sleep Apnea, Sleep Apnea.

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Mini Review

The most common cause for sleep deprivation is insomnia. It is often associated with a medical or psychiatric problem environmental influence stress or can be idiopathic. Next to Insomnia comes sleep disordered breathing (SDB) which includes a wide spectrum of sleep-related breathing abnormalities.

Sleep apnea syndrome (SAS) is among them which is characterized by recurring cessations or reduction of breathing while sleeping and thus leading to disruption of sleep. SAS is of 3 types, among which obstructive sleep apnea (OSA) is the most common form. It is characterized by repetitive collapse of the upper airway during sleep, which may be either partial or total resulting in hypopnea (reduction in breathing or airflow to at least 50%) or apnea (complete cessation of breathing or airflow for 10 seconds or longer) respectively and occurs more than five times per hour. Apnea-hyponea index (AHI) records number of apneas and hyponeas per hour of sleep. OSA along with daytime hypersomnolence which leads to snoring is known as Obstructive sleep apnea syndrome (OSAS) or Obstructive sleep apnea hypopnea syndrome (OSAHS).

It may occur throughout the entire lifespan, from neonates to the elderly, most frequently in middle age (4%) and increases with age. The prevalence of OSAS is approximately 3 to 7% for adult men and 2 to 5% for adult women in the general population as per the data available from different countries across the world. The impact of OSAS is expected to be huge in developing countries like India as a hike in risk factors like sedentary lifestyle and its potential contribution to the increased rates of cardiovascular diseases, diabetes mellitus and obesity are highly reported. The prevalence of OSAS has been estimated to be 3.6% in an Indian community based sample translating to over 36 million affected individuals. This result when extrapolated to the overall population counts to one billion in India which makes it a significant public health problem.

Dentists are said to be very well positioned to identify patients at greater risk of OSA and can play an essential role in their multidisciplinary care. Therefore, the present review was carried out to elaborate the role of dentist in diagnosis and management of OSA and its importance in Indian scenario.

Role of dentist in the management of OSAS

As dental clinicians see most of their patients every 6 months to 1 year, they can be first line defence in screening and sometimes treating patients with OSA (mild to moderate OSA). Therefore, dentist can bridge between the undiagnosed portion of population with OSA and field of medicine, thereby aiding in providing appropriate medical care to the subjects affected.

As a dentist one must examine the oropharynx region, tongue, uvula, soft palate and tonsils during clinical evaluation. The tongue volume is determined to indicate the air column obstruction with the help of Mallampatti index. The shape and volume of uvula and soft palate and position of mandible should be observed vertically and horizontally. It can further be fortified by radiographic examination.

Some of the signs of OSA identified by oral examinations and radiographic images taken in dental settings are listed as follows:-

Taking in account the poor compliance with CPAP, Orthodontic correction with use of oral appliances therapy (OAT) is alternative but effective way of correcting OSAS by advancing the mandible and changing the tongue posture to improve the airflow in upper airway and reduce the incidence of supine apnea.

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