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RESEARCH ARTICLE

SLEEP DISORDERS: ROLE OF DENTIST- A REVIEW.

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Abstract

Dental sleep medicine is a rapidly growing field that is in close and direct interaction with sleep medicine and comprises many aspects of human health. As a result, dentists who encounter sleep health and sleep disorders may work with clinicians from many other disciplines and specialties. The main sleep and oral health issues that are covered in this review are snoring, obstructive sleep apnea and sleep bruxism. Multidisciplinary and interdisciplinary approaches are required to manage oral health related sleep disorders which are commonly seen in dental practice.

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Introduction:-

At some time, most of us have experienced trouble sleeping properly. However, if sleep problems are a regular occurrence and interfere with your daily life, you may be suffering from a sleep disorder. Sleep disorders cause more than just sleepiness. Poor quality sleep can have a negative impact on energy, emotional balance and health.¹ Dentists can play a vital role in identify various sleep disorders and helps their patients to cope up with their sleep problems by proving appropriate appliances.^{1,2}

Definition of sleep:-

Sleep is a state of reduced awareness and responsiveness which is associated with reduced movement.⁶

Phases of sleep:-

Phases of sleep are broadly categorized into two cycles⁴

Rapid eye movement (rem) sleep:-

It is characterized by rapid movement of the eyes, changes in heart and breathing rates.

Non rapid eye movement (nrem) sleep:-

Non rapid eye movement sleep is dreamless sleep. During NREM, the brain waves on the electroencephalographic (EEG) recording are typically slow and of high voltage, the breathing and heart rate are slow and regular, the blood pressure is low.

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International classification of sleep disorders:-

1. Dyssomnias
 - A. Intrinsic sleep disorders
 - B. Extrinsic sleep disorders
2. Parasomnias
 - A. Arousal disorders
 - B. Sleep -wake transition disorders
 - C. Parasomnias usually associated with REM sleep
3. Sleep disorders associated with mental, neurologic, or other medical disorders
 - A. Associated with Mental Disorders
 - B. Associated with Neurologic Disorders

Snoring:-

Snoring is the most common form of sleep disorder. Snoring is the vibration of respiratory structures and the resulting sound occurs due to obstructed air movement during breathing. Snoring during sleep may be a sign or first alarm of obstructive sleep apnea.⁶

Predisposing Factors:-

Enlarged tonsils, Retrognathia, Supine body position during sleep, Nasal congestion or obstruction, Overweight and Obesity

Age of onset:-

Snoring can occur at any age but is most prevalent during middle age, especially in overweight men.

How snoring occurs?

When patient falls asleep in the supine position; with muscle relaxation, the base of the tongue approaches the posterior wall of the pharynx. Results in reduced airflow to the lungs. The patient must increase the speed of the airflow in order to maintain the required oxygen to the lungs.³ The increase in airflow velocity often causes vibration of soft tissues. The resultant vibration is the sound of snoring.

Obstructive sleep apnea (OSA):-

Obstructive sleep apnea syndrome is the most common type of sleep apnea and is caused by obstruction of the upper airway. It is characterized by repetitive pauses in breathing during sleep, despite the effort to breathe and is usually associated with a reduction in blood oxygen saturation.^{7,9,10}

Predisposing factors:-

Patients with excess fat tissue (obesity), inflamed tissue, Tumors in the upper airway

Signs and symptoms:-**Nocturnal:-**

Xerostomia Sleep restlessness, Witnessed apneas, Choking or gasping

Day time:-

Excessive sleepiness, Xerostomia, Morning headaches, Depression and Irritability

How obstructive sleep apnea (osa) occurs?

When patient falls asleep, the tongue drops back and contacts the posterior and lateral walls of the pharynx. In others, the tongue may not actually contact the walls of the pharynx, but when the patient attempts to inspire the negative pressure is created this will pull the tongue and pharynx walls together. In either of the situations, patients have an upper airway blockage which prevents air from reaching lungs.⁹

Oro facial Findings:-

Retrognathic mandible, Narrow palate, Long soft palate, Nasal septal deviation, Macroglossia

Treatment for osa:-

1. Sleeping in the lateral position may be effective
2. Weight loss is recommended when applicable
3. Mandibular advancement with occlusal splinting
4. Tongue retaining devices (TRDs)

Role of dentist:-

- Dentists should prescribe artificial saliva products and fluoride applications for patients with xerostomia.
- Advise the individuals with OSA to visit the dentists regularly.

Sleep bruxism:-

Sleep bruxism (SB) has been defined as a Para functional activity that includes clenching, bracing and grinding of the teeth. Etiology of sleep bruxism is not clear. Many authors have reported that, stress is the major cause for sleep bruxism. No gender predilection.^{5,6}

Sleep bruxism- dentist's role:-**Clinical recognition:-**

A current history of tooth grinding, as confirmed by a bed partner. Abnormal tooth wear facets, Temporalis headache, Jaw muscle stiffness or fatigue on awakening, A history of clicking or locking of the temporomandibular joint (TMJ) on awakening and Hypersensitive teeth

Management of sleep bruxism:-**Stress management**

Either a dentist or an appropriate health professional can educate patients to understand the possible links between stress and sleep bruxism.

Oral appliance:-

Mouth guard or stabilization splint: Prevents damage of oral structures. Soft mouth guard is given.

Conclusions:-

Sleep disorders are considered as the major public health problem. Dentists have a unique doctor-patient relationship, by posing a few additional questions in the patient interview; can have a role in recognizing sleep disorders. Most of the sleep disorders share common risk factors. Common risk factor approach will help in reducing the prevalence of sleep related disorders. It is a unique chance to fill some of the gaps between medicine and dentistry.

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