

A Comprehensive Overview on the Understanding of Sleep Apnea

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Received: 29-Oct-2023, Manuscript No. JBTW-23-122274; **Editor assigned:** 02-Nov-2023, PreQC No. JBTW-23-122274 (PQ); **Reviewed:** 16-Nov-2023, QC No. JBTW-23-122274; **Revised:** 23-Nov-2023, Manuscript No. JBTW-23-122274 (R); **Published:** 30-Nov-2023, DOI: 10.35248/2322-3308-12.6.003.

Description

Sleep apnea is a prevalent sleep disorder characterized by pauses in breathing or shallow breaths during sleep. These interruptions, known as apneas, can occur multiple times per hour, leading to disrupted sleep patterns and a range of associated health issues. There are three primary types of sleep apnea: Obstructive Sleep Apnea (OSA), Central Sleep Apnea (CSA), and complex sleep apnea syndrome (a combination of obstructive and central sleep apneas).

Obstructive Sleep Apnea (OSA)

OSA is the most common form of sleep apnea, accounting for approximately 84% of diagnosed cases. It occurs when the muscles at the back of the throat relax excessively during sleep, causing the airway to narrow or close completely. This obstruction leads to breathing difficulties and often results in loud snoring or choking sensations as the individual struggles to breathe.

Central Sleep Apnea (CSA)

In contrast to OSA, CSA is less common and involves a neurological issue where the brain fails to send proper signals to the muscles responsible for controlling breathing. Consequently, the individual may experience pauses in breathing without the presence of airway obstruction. CSA is often associated with underlying conditions such as heart failure, stroke, or neurological diseases.

Complex sleep apnea syndrome

Complex sleep apnea syndrome, also known as treatment-emergent central sleep apnea, occurs when a person exhibits both obstructive and central sleep apnea features. It can develop in individuals initially

diagnosed and treated for obstructive sleep apnea but later demonstrate central apneas during therapy.

Symptoms and risk factors

The symptoms of sleep apnea vary but commonly include loud snoring, excessive daytime sleepiness, morning headaches, irritability, difficulty concentrating, and episodes of gasping or choking during sleep. Factors that increase the risk of developing sleep apnea include obesity, a narrow airway, family history, being male, advancing age, smoking, alcohol consumption, and certain anatomical features like a thick neck circumference or a deviated septum.

Health implications

Sleep apnea can have significant consequences on an individual's health if left untreated. The repeated disruptions in breathing lead to fragmented sleep, resulting in daytime fatigue and reduced cognitive function. Moreover, it contributes to an increased risk of hypertension, cardiovascular diseases, stroke, diabetes, and metabolic syndrome. Sleep apnea has also been linked to accidents caused by daytime drowsiness, as affected individuals may struggle to stay awake and alert during daily activities.

Diagnosis and treatment

A diagnosis of sleep apnea often involves a sleep study, conducted either at a sleep center or at home using portable monitoring devices. Treatment approaches aim to restore regular breathing during sleep and improve sleep quality. Continuous Positive Airway Pressure (CPAP) therapy is a common and highly effective treatment where a machine delivers a steady stream of air through a mask worn over the nose or mouth, preventing the airway from collapsing. Other options include oral appliances, lifestyle changes such as weight loss and positional therapy, surgery to correct anatomical issues, or, in certain cases, medications to stimulate breathing.

Lifestyle modifications

Adopting certain lifestyle changes can help manage sleep apnea. These changes may include maintaining a healthy weight, avoiding alcohol and sedatives before bedtime, sleeping on one's side rather than the back, practicing good sleep hygiene, and quitting smoking. Additionally, regular exercise and dietary adjustments may contribute to reducing the severity of sleep apnea symptoms.

Conclusion

Sleep apnea is a complex sleep disorder that can significantly impact an individual's quality of life and overall health. Recognizing the symptoms, understanding the risk factors, and seeking appropriate diagnosis and treatment are crucial steps in managing this condition. With the right interventions, including lifestyle modifications and effective therapies, individuals with sleep apnea can improve their sleep quality and reduce.