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A retrospective descriptive study of continuous positive airway pressure adherence

Abstract

Background: Obstructive Sleep Apnea (OSA) is a serious sleep disorder. It is associated with a range of neurocognitive and cardiovascular complications, leading to a compromised quality of life. Continuous positive airway pressure (CPAP) is the first choice for most patients with OSA. The effectiveness of the treatment is limited due to the prevalence of non-adherence to the therapy. CPAP adherence rate ranges from 30 to 60 %. Non-adherence to CPAP reduces the overall effectiveness of treatment of OSA, leaving the patients at an increased risk for comorbid conditions. No previous studies showed the adherence rate of CPAP therapy in the setting's patient population.

Study objectives: The purpose of this evidence-based quality improvement project was to determine the percentage of non-adherent patients to the continuous positive airway pressure (CPAP) therapy in the setting's patient population.

Methods: A retrospective chart review included 100 patients with newly diagnosed obstructive sleep apnea (OSA) and CPAP therapy within an inclusion period of nine months. Descriptive statistical analysis which included frequency tables for categorical variables was utilized in a sleep medicine clinic. The usage of CPAP was evaluated at 1 month and 3 months follow-up.

Result: An adherence rate of 79% was found after 1 month of therapy. The result of one proportion Z-test showed there was a significant increase in the percentage of adherence ($Z=1.96$, $P=0.025$). The percentage of patients' adherent to CPAP after 3 months was 88%. The

result of one proportion Z-test showed there was a significant increase in the percentage of adherence ($Z= 3.93$, $P<0.0001$). The result of chi-square and Fisher exact showed there was association between BMI and adherence status ($P <0.0001$). However, age, gender, and ethnicity were not significantly associated with adherence.

Conclusion: In conclusion, our study includes 100 patients newly diagnosed OSA and using the CPAP. 79% were adherent to the treatment after 1 month and 88% were adherent after 3 months of initiation. A multidisciplinary strategy needs to be implemented the first day a patient comes to a sleep the clinic to improve CPAP adherence.