Grant Proposal

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**Title: Potential Variables Associated with Narcolepsy in Adolescents**

**Background information**

Narcolepsy is one of the most common neurological disorders related to chronic sleepiness. Individuals suffering from narcolepsy show symptoms such as sleep paralysis and excessive sleeping even in the day time (Denis, 2018). They also suffer from abnormal rapid eye movement (REM) which sometimes causes hypnopompic and hypnagogic hallucinations. Another characteristic symptom of narcolepsy is cataplexy in which muscle paralysis is elicited due to strong emotions. The clinical research proposes that it is initiated by a loss of neurons that produce orexins (Mahoney & Scammell, 2018).

**Project Summary**

Narcolepsy is a multifactorial disorder and has a probable association with a several variables. Many neurological, psychological and physical factors might contribute to its incidence. Narcolepsy is commonly seen in adolescents that also affect their growth and mental health. Only a little research is being carried out in this field, therefore it is necessary to find out the linkage between variable factors.

**Implementation Plan**

A cross-sectional study including adolescents suffering from narcolepsy will be added in a cohort. A quantitative study will also be conducted using questionnaires for the evaluation of certain symptoms such as depression, sexual abuse, sleep quality, nutritional habits, and smoking status. Additionally, the study will also consider several other factors such as paralysis time, familial history, personality traits, and other physical symptoms that are related to narcolepsy. Then the subjects will go through polysomnography which includes multiple parameters recording neural waves, heart rate, level of oxygen in the blood, breathing rate and the movements of eyes and legs. Pearson’s correlation coefficient will be applied for analyzing the degree of correlation.

**Evaluation Plan**

Experimentation will be evaluated at different intervals. After the results of questionnaires, the cohort will be sorted out. After having all the quantitative data of the incident rate of narcolepsy polysomnography results will be evaluated too before entering the results to Pearson’s test.

**Project Objectives**

The objective of the project is to determine the association between the above-mentioned variables with the occurrence of narcolepsy among adolescents.

**References**

Denis, D. (2018). Relationships between sleep paralysis and sleep quality: Current insights. *Nature and Science of Sleep*, *10*, 355.

Mahoney, C. E., Cogswell, A., Koralnik, I. J., & Scammell, T. E. (2018). The neurobiological basis of narcolepsy. *Nature Reviews Neuroscience*, 1.