



The Relationship between Sleep Disturbance and Tension Type Headache

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ABSTRACT

Background : Type of Tension The most typical kind of primary headache is a headache. Sleep disturbances are one of the causes of TTH. Further study is necessary to fully comprehend the connection between sleep disruptions and TTH, however, as their interaction is quite complex. Understanding the connection between sleep issues and tension headaches is one of our main objectives.

Methods : Use Google Scholar and PubMed to look up papers and books. Criteria for Scopus-indexed international journals in quartiles 1-4 and national journals 1-6 with SINTA accreditation (S1-6) The last 10 years' worth of periodicals and textbooks were used to compile the literature review. The time period utilized, however, is the most recent ten years due to challenges in locating articles.

Results : It was determined from various investigations that TTH and sleep problems are related. There is a reciprocal relationship between the two; headaches can lead to sleep problems, and vice versa.

Inference: The prevalence of TTH is correlated with sleep problems.

Keywords: tension headache, sleep disturbance.

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INTRODUCTION

Primary headaches of the tension variety are a common occurrence. 70% of people are said to experience episodic tension headaches, while just 3% are said to have chronic tension headaches, according to the WHO (WHO, 2016). Sleep disturbances are one of the causes of tension headaches. Every aspect of daily life is directly correlated with sleep. Thus, sleep disturbances have an impact on quality of life in addition to health and well-being. According to studies done in the Netherlands and based on Kerkhoff (2017), 32.1% of the general population had sleep disturbances (Monti et al., 2022).

People with TTH and others who frequently have headaches frequently also report having trouble sleeping. According to studies, both inadequate sleep and enough sleep might result in tension headaches. Those who frequently encounter episodic tension-type headaches are at a higher

risk of developing chronic tension-type headaches (Kim et al., 2017). Further study is necessary to fully comprehend the connection between sleep disruptions and TTH, however, as their interaction is quite complex.

METHODS

Search for journals and textbooks on Google Scholar and PubMed. Criteria for SINTA-accredited national journals 1-6 (S1-6) and Scopus-indexed international journals in quartiles 1-4 (Q1-4) The literature review is taken from textbooks from the last 10 years and journals from the last 5 years. However, due to difficulties in finding journals, the range used is the last 10 years.

RESULTS AND DISCUSSION

Tension-type headaches are the most common headache in the general population, with a prevalence of 30–78%. Tension-type headaches can be triggered by stress, irregular eating patterns, sleep disturbances, doing too much work, bad posture, and eyestrain (Alkarrash, 2021). The research findings found an association between TTH and sleep disturbances. The relationship is two-way: headaches can cause sleep disturbances, and sleep disturbances can also trigger headaches. This bidirectional relationship is explained by the fact that sleep and headache share a common pathogenic mechanism (Kamelia, 2013).

Based on research conducted in hospitals and puskesmas in Semarang, 29 participants who matched the inclusion and exclusion criteria were included in this study. Throughout the study, there were no subjects who dropped out. There were 6 subjects (20.7%) with chronic tension-type headaches, 18 subjects (62.1%), and 5 subjects (17.2%) with infrequent episodic tension-type headaches. The analysis' findings revealed a significant ($p = 0.034$) correlation between the type of tension-type headache and the severity of insomnia. Patients between the ages of 17 and 25 had only one (10%) case of mild clinical insomnia, while none had moderate or severe cases. Patients between the ages of 26 and 45 had two (20%) cases of mild clinical insomnia, three (50%) cases of moderate clinical insomnia, and one (50%) case of severe clinical insomnia. Patients between the ages of 46 and 65 had seven (70%) cases of mild clinical insomnia, three (50%) cases of moderate clinical insomnia, and one (50%) case of severe clinical insomnia. This may illustrate that a tension-type headache that is more frequent and lasts longer (> 3 months) will cause more severe insomnia. (Asmarani, 2021). According to a study conducted in Korea, the prevalence of insomnia was also significantly higher among individuals with tension-type headaches than among individuals without headaches. Among 570 individuals with tension-type headaches, 75 (13.2%) were classified as having insomnia. Headache frequency, intensity, and impact of headaches on daily life were also greater among individuals with tension-type headaches and insomnia than among patients without

insomnia. Poor sleep quality is a significant risk factor for insomnia among patients with tension-type headaches (Kim, 2017).

According to all the data above, the hypothalamus, serotonin, and melatonin are all involved in the pathophysiology of sleep disorders and headaches. Headaches are known to be influenced by serotonin (Asmarani, 2021). Serotonin delivery is reduced to upper airway dilator motor neurons during sleep, and this contributes to reduced sleep-related dilator muscle activity and thus upper airway obstruction. Fluctuations in serotonin concentration can be primary or secondary factors that are common in different mechanisms. Such a hypothesis provides a possible explanation for the manifestations of obstructive sleep apnea and tension-type headaches. Additionally, more research shows that sleep disruptions heighten pain sensitivity and aggravate chronic pain, such as headaches, rheumatoid arthritis, and fibromyalgia (Chiu, 2015, Korabelnikova, 2020).

CONCLUSION

Based on the various literature sources listed above, it can be concluded that sleep disturbances are associated with tension-type headache events. The relationship is two-way; headaches can cause sleep disturbances, and sleep disturbances can trigger headaches. This is because both of them have the same neuroanatomical structure and neurological mechanisms, namely, the hypothalamus, serotonin, and melatonin. Melatonin dysfunction and circadian rhythm disturbances due to hypothalamic suprachiasmatic nucleus dysfunction play an important role in its pathophysiology.

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