IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 19, Issue 8 Ser.15 (August. 2020), PP 12-14
www.iosrjournals.org

A Study of Occurrence of APD in Sleep Deprived Patients Attending OPD

Dr.K.Venkatesan[1], Dr.Asayas Bosco Chandra Kumar[2], Dr.M.Senthil Velan[3], Dr.H.Aarthi[4], Dr.P.Padma Sundari[5].

[1](Assistant professor, Department of General surgery, SLIMS/ BIHER, INDIA)
[2](Professor, HOD Department of General surgery, SLIMS/ BIHER, INDIA)
[3](Professor, Department of General surgery, SLIMS/ BIHER, INDIA)
[4](CRRI, Department of General surgery, SLIMS/ BIHER, INDIA)
[5](CRRI, Department of General surgery, SLIMS/ BIHER, INDIA)

Abstract: *Sleep is an integral part of life and sleep duration is important factor in sleep quality, physical, and psychological health. Disturbances in sleep duration have been associated with increased risk of metabolic disorders, hypertension, and overall mortality. Sleep disturbance has also been linked with various gastrointestinal disorders. However, the association between sleep and acid peptic disease (APD) has not been evaluated. Daily sleep duration was established by asking participants the amount of time that they slept per day. Multiple logistic regression models were used to evaluate the association of APD and sleep duration. This study included 100 participants. People who slept ≥9 hours were significantly less likely to have APD compared to people who slept 7 hours. Our results suggest that longer sleep duration may play a protective role for APD development.*

Sleep is very important for human life and sleep duration is an important factor in sleep quality, physical and psychological health. Previous studies have reported that short or long durations of sleep are associated with an increased risk of obesity, hypertension, type 2 diabetes, metabolic syndrome, and overall mortality. Sleep disturbance has also been linked to gastrointestinal diseases. During sleep, defensive mechanisms against acid peptic disease (APD) including gastric mucosal blood flow, gastric bicarbonate efflux, and melatonin secretion have been reported to increase while gastric acid secretion is decreased.

According to a recent systematic analysis for the Global Burden of Disease study, APD is a common and serious medical problem. The prevalence of APD is approximately 4.1%, and about 10% of people develop APD during their lifetime. Though Helicobacter pylori and non steroidal anti-inflammatory drugs are the most important risk factors for APD, no obvious cause is found in 5–20% of APD patients. Recent studies suggest that non-organic causes such as psychological stress may play a role in the onset and course of APD

The association between sleep duration and APD remains to be fully understood. In this study, we assessed the association between sleep duration and APD among adults representative of the Indian population

Background*: According to a recent systematic analysis for the Global Burden of Disease study, APD is a common and serious medical problem. The prevalence of APD is approximately 4.1%, and about 10% of people develop APD during their lifetime. Though Helicobacter pylori and non steroidal anti-inflammatory drugs are the most important risk factors for APD, no obvious cause is found in 5–20% of APD patients. Recent studies suggest that non-organic causes such as psychological stress may play a role in the onset and course of APD*

The association between sleep duration and APD remains to be fully understood. In this study, we assessed the association between sleep duration and APD among adults representative of the Indian population

Materials and Methods*: Data sources and subjects*

100 participants were included in the study. Participants older than 19 years of age were included in this study. Subjects with data missing for variables included in the analysis were excluded.

Definitions

Individuals with APD were defined as those with a diagnosis of APD by a physician. Daily sleep duration was established by asking the open-ended question: "How much time do you usually sleep per day?" Diabetes was classified as fasting plasma glucose ≥126 mg/dL, current anti diabetic medication, or a previous diagnosis of type 2 diabetes by a physician. Individuals with hypertension were defined as those with a systolic BP ≥ 140 mmHg, a diastolic BP ≥ 90 mmHg, or self-reported current use of antihypertensive medications.

Results*: Characteristics of participants*

Of the 100 participants, 85 were eligible for this study. 85 participants were included and 15 subjects were excluded due to missing data for variables.

Characteristics of the study population based on sleep duration :

The prevalence of APD and the characteristics of the study population according to sleep duration. The reference group was established as people who slept 7 hours per day.

Associations between sleep duration and APD
People who slept ≥9 hours were less likely to have APD compared to those who slept 7 hours. Long sleep duration (≥9 hours) had a preventive effect tendency for APD through all models in men.

Date of Submission: 15-08-2020 Date of Acceptance: 01-09-2020

I. Introduction

Sleep is an integral part of life and sleep duration is important factor in sleep quality, physical, and psychological health. Disturbances in sleep duration have been associated with increased risk of metabolic disorders, hypertension, and overall mortality. Sleep disturbance has also been linked with various gastrointestinal disorders. However, the association between sleep and acid peptic disease (APD) has not been evaluated. Daily sleep duration was established by asking participants the amount of time that they slept per day. Multiple logistic regression models were used to evaluate the association of APD and sleep duration. This study included 100 participants. People who slept ≥9 hours were significantly less likely to have APD compared to people who slept 7 hours. Our results suggest that longer sleep duration may play a protective role for APD development.

Sleep is very important for human life and sleep duration is an important factor in sleep quality, physical and psychological health. Previous studies have reported that short or long durations of sleep are associated with an increased risk of obesity, hypertension, type 2 diabetes, metabolic syndrome, and overall mortality. Sleep disturbance has also been linked to gastrointestinal diseases. During sleep, defensive mechanisms against acid peptic disease (APD) including gastric mucosal blood flow, gastric bicarbonate efflux, and melatonin secretion have been reported to increase while gastric acid secretion is decreased.

According to a recent systematic analysis for the Global Burden of Disease study, APD is a common and serious medical problem. The prevalence of APD is approximately 4.1%, and about 10% of people develop APD during their lifetime. Though Helicobacter pylori and non steroidal anti-inflammatory drugs are the most important risk factors for APD, no obvious cause is found in 5–20% of APD patients. Recent studies suggest that non-organic causes such as psychological stress may play a role in the onset and course of APD

The association between sleep duration and APD remains to be fully understood. In this study, we assessed the association between sleep duration and APD among adults representative of the Indian population

II. Material And Methods

Data sources and subjects

100 participants were included in the study. Participants older than 19 years of age were included in this study. Subjects with data missing for variables included in the analysis were excluded.

Definitions

Individuals with APD were defined as those with a diagnosis of APD by a physician. Daily sleep duration was established by asking the open-ended question: "How much time do you usually sleep per day?" Diabetes was classified as fasting plasma glucose ≥126 mg/dL, current anti diabetic medication, or a previous diagnosis of type 2 diabetes by a physician. Individuals with hypertension were defined as those with a systolic BP ≥ 140 mmHg, a diastolic BP ≥ 90 mmHg, or self-reported current use of antihypertensive medications.

III. Result

Characteristics of participants

Of the 100 participants, 85 were eligible for this study. 85 participants were included and 15 subjects were excluded due to missing data for variables.

Characteristics of the study population based on sleep duration :

The prevalence of APD and the characteristics of the study population according to sleep duration. The reference group was established as people who slept 7 hours per day.

Associations between sleep duration and APD

People who slept ≥9 hours were less likely to have APD compared to those who slept 7 hours. Long sleep duration (≥9 hours) had a preventive effect tendency for APD through all models in men.

IV. Discussion

In this study, we demonstrated that longer sleep duration is a potential preventive factor for APD. Several studies have indicated a relationship between sleep duration and cardiovascular diseases, obesity, hypertension, type 2 diabetes, metabolic syndrome, and overall mortality.

The disease adds a substantial burden to patients, health care professionals, and the health care system. The pathogenesis of APD lies in the imbalance between the gastroduodenal mucosal defense system and gastric acid secretion. Stress and anxiety were accepted as the main causes of APD.

The mechanism underlying the relationship between sleep duration and APD is not clear, but there are some potential explanations. One is increased gastric mucosal blood flow and decreased gastric acid secretion during sleep. Increased gastric mucosal blood flow accelerates ulcer healing and decreased gastric mucosal blood flow has been reported to cause acute gastric mucosal lesions. In addition, gastric acid secretion has been reported to decrease in deeper stages of sleep, especially during rapid eye movement while sleeping. This may be associated with reduction in plasma noradrenaline, gastrin, and histamine levels and increasing gastric mucosal blood flow.

Another mechanism explaining the relationship between sleep and APD may be related to melatonin. Melatonin has been reported to be a potent stimulant of bicarbonate and may contribute to the healing of gastric lesions. This may be due to inhibition of gastric acid secretion, enhancement of gastric mucosal blood flow, and influence on prostaglandin-dependent pathways. Melatonin has been demonstrated to have antistress neuro hormonal properties and may exert gastrointestinal protection by other mechanisms, including scavenging oxygen radicals and increasing mucosal microcirculation and cell proliferation.

V. Conclusion

Our results suggest that longer sleep duration (≥9 hours a day) could play a protective role in the development of APD. Further prospective longitudinal studies are needed to identify the biological mechanisms underlying sleep duration and APD risk with better control of confounders in different ethnic or age groups. If sleep duration plays a causative role in APD, increased sleep could help in the prevention of APD and improve public health.

References

[1]. Parish J. M. Sleep-related problems in common medical conditions. Chest 135, 563–572 (2009).
[2]. Short M. A. & Louca M. Sleep deprivation leads to mood deficits in healthy adolescents. Sleep Med (2015).
[3]. Stefani K. M., Kim H. C., Kim J., Oh K. & Suh I. The influence of sex and age on the relationship between sleep duration and metabolic syndrome in Korean adults. Diabetes research and clinical practice 102, 250–259 (2013).
[4]. Cai H. et al.. Sleep duration and mortality: a prospective study of 113 138 middle-aged and elderly Chinese men and women. Sleep 38, 529–536 (2015). [PMC free article] [PubMed] [Google Scholar]
[5]. Ferrie J. E. et al.. A prospective study of change in sleep duration: associations with mortality in the Whitehall II cohort. Sleep 30, 1659–1666 (2007).
[6]. Tu X. et al.. Sleep duration and its correlates in middle-aged and elderly Chinese women: the Shanghai Women's Health Study. Sleep Med 13, 1138–1145 (2012).
[7]. Fang J. et al.. Association of sleep duration and hypertension among US adults varies by age and sex. Am J Hypertens 25, 335–341 (2012).

Dr. .K. Venkatesan, et. al. "A Study of Occurrence of APD in Sleep Deprived Patients Attending OPD.*" IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(8), 2020, pp. 12-14.