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Perception of Obstructive Sleep Apnea Among Civil Servants in Enugu State

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Abstract

Obstructive sleep apnea is a markedly prevalent condition across the lifespan of particularly adult patients and overweight individuals, one of the most frequent symptoms leading to clinical referral for evaluation and treatment is abnormal breathing during sleep in which breathing repeatedly stops and starts. This paper examined the perception of obstructive sleep apnea among civil servants in Enugu state. The objectives of this study are to find out the awareness level, perception, and response of Civil Servants in Enugu State about Obstructive sleep apnea. The health belief Model was employed to explain certain health behaviors of some individuals. The survey method was done using a questionnaire as a data collection instrument. A sample of 371 respondents was drawn from the population of the study which comprises Civil Servants in Enugu State. Findings from the study showed that the majority of civil servants are not aware of this health condition. Lastly, since they are unaware of the symptoms and risk factors associated with sleep apnea, they are not ready to go for a proper diagnosis because they do not believe that they may be suffering from sleep apnea. The study recommended, that there should be massive and aggressive health communication campaigns for the awareness and knowledge of sleep apnea, its signs, and symptoms; medical personnel through their face-to-face communication with patients should help correct some of the misconceptions about the health condition and stress the dangers of poor diagnosis.

Keywords: Obstructive, Obstructive sleep apnea, Perception, Sleep apnea, Civil Servants

Introduction

Sleep is a physiological condition that can be influenced by various biological, psychological, and environmental factors (Troynikov, Watson, & Nawaz, 2018). Poor sleep or sleep disorders caused by unknown or unpredictable factors can have devastating consequences, rendering a person unproductive and useless. Sleep apnea is a condition that affects the quality and quantity of sleep-in individuals of all ages and genders.

According to the National Heart, Lung, and Blood Institute (2022), sleep apnea is a condition that occurs during sleep, where one's breathing stops for several seconds and then restarts again. This disorder prevents the body from receiving enough oxygen. If not diagnosed and treated early, it can lead to future health problems, such as high blood pressure, heart issues, and other respiratory conditions. Some common symptoms of sleep apnea are loud snoring, breathing that starts and stops during sleep, puffing for air during sleep, daytime sleepiness, and tiredness, which can lead to reduced productivity, dry mouth, and early morning headaches.

Although sleep apnea can affect anyone, it is more prevalent in overweight individuals, especially older men. Several studies have shown that men are more affected by sleep apnea than women. However, sleep apnea rates increase significantly in women during and after menopause, and during pregnancy due to hormonal changes (Strohl, 2019; Rundo, 2019; & Lanfranco, 2013). Sleep apnea is often associated with heart disease and metabolic issues like diabetes, and it can cause loud snoring and fatigue even after a full night's sleep. People with sleep apnea experience multiple extended pauses in their breathing when they sleep, leading to lower-quality sleep and affecting the body's supply of oxygen, which can lead to potentially serious health consequences. Sleep apnea is one of the most prevalent sleep disorders in the United States (Surani, & Taweesedt, 2022), and it can affect children and adults of both sexes, although it is more common in men.

According to Rundo (2019), sleep apnea contributes to cardiovascular diseases that can be minimized through regular exercise and a heart-healthy diet. However, the quality of sleep affected by sleep apnea is also essential for the heart's well-being. Undiagnosed sleep apnea

is directly linked to an increased risk of cardiovascular and metabolic health problems. Research shows that many victims are unaware of the condition and may not even know they have this common problem (Garvey, 2015; Donovan, 2016).

Medical research has identified three types of sleep apnea, namely Obstructive Sleep Apnea (OSA), Central Sleep Apnea (CSA), and Mixed Sleep Apnea. OSA occurs when the airway at the back of the throat gets blocked, leading to temporary breath lapses. On the other hand, CSA happens because the brain's system fails to control the muscles involved in respiration, causing slower and shallower breathing. Mixed Sleep Apnea is a complex form of sleep apnea, that occurs when a person has both OSA and CSA at the same time. Obstructive Sleep Apnea is the most documented form of sleep apnea according to medical experts (American Academy of Sleep Medicine, 2014), and therefore, this research focuses more on it.

Sleep Apnea is a potentially serious health condition that causes interrupted breathing during sleep. It can lead to several health problems, such as type 2 diabetes, strokes, heart attacks, and even a shortened lifespan. Obesity is a common risk factor for sleep apnea patients, as it increases the risk of developing diabetes, stroke, and heart attack. However, not everyone with sleep apnea is obese. It's important to note that untreated sleep apnea may lead to complications such as heart disease and depression. It can also cause drowsiness, increasing the risk of accidents while driving or working. Despite the associated risks of Sleep Apnea, less attention is paid to its contributory risks and treatment. Often, patients ignore the symptoms until serious health damage has been done. Therefore, it's necessary to create awareness and provide effective treatment for its clinical problem to increase healthcare utilization and improve patients' outcomes. This study aims to investigate the knowledge and awareness level of civil servants in Enugu State regarding sleep Apnea, their perception of the condition, and their response upon knowing that they are susceptible.

Obstructive Sleep Apnea Syndrome (OSAS) is a condition where the upper airways collapse during sleep, leading to breathing difficulties, low oxygen levels, and disrupted sleep. Obesity and narrow airways are major risk factors for OSAS, which can cause various

health problems in both children and adults. However, many people with OSAS go undiagnosed, which can worsen their health conditions. To address this, health communication campaigns are needed to educate the public about OSAS risk factors and encourage behavioral changes. Effective strategies for these campaigns include analyzing the situation, identifying the target audience, choosing appropriate communication channels, and evaluating the campaign's success. A multi-media approach is recommended to reach a wider audience. The first-line treatment for OSAS is surgical adenotonsillectomy in children and nasal continuous positive airway pressure (CPAP) therapy in adults. Efforts to develop new and more effective therapies for OSAS are ongoing.

A multicenter study conducted by Desalu et al. (2016) on the prevalence, awareness, and reporting of obstructive sleep apnea (OSA) among hospitalized adult patients in Nigeria revealed that chronic medical conditions were associated with sleep apnea. However, the majority of patients were not aware that snoring and daytime sleepiness were medical problems, and reporting of symptoms was very low due to poor knowledge and awareness of the risks and consequences of sleep apnea among patients.

A mixed-method study by Homoud (2019) on adult knowledge and beliefs surrounding OSA showed that there was a lack of knowledge regarding OSA among respondents. The study also found that respondents did not perceive OSA as a severe enough issue to seek medical attention, as no one they knew had been diagnosed with OSA. Lack of knowledge and the high cost of diagnosis and treatment were major barriers to diagnosis.

Stooh et al. (2014) assessed the beliefs and attitudes toward OSA evaluation and treatment among blacks. The study found that the participants had misconceptions about OSA, such as believing that OSA was synonymous with insomnia, which could affect diagnosis and treatment since people may opt for complementary or herbal remedies instead of consulting a physician. The study also found that participants believed that OSA was a natural process of aging, which could affect help-seeking behaviors. Additionally, the participants believed that eating certain foods and inactivity before bedtime could cause OSA.

The Health Belief Model (HBM) was developed by social scientists at the U.S. Public Health Service in the early 1950s to understand why people fail to adopt disease prevention strategies or screening tests. The model suggests that a person's belief in their risk of illness, as well as their belief in the effectiveness of the recommended health behavior, will predict the likelihood of them adopting the behavior. The HBM is based on the two components of health-related behavior: the desire to avoid illness and the belief that a specific health action will prevent or cure illness. An individual's decision to take action depends on their perceptions of the benefits and barriers related to health behavior.

The HBM, therefore has six constructs. The first four were developed as the original tenets of the model, and the last two were added as research about the HBM evolved. Perceived susceptibility refers to a person's subjective perception of their risk of acquiring an illness. Perceived severity refers to a person's feelings about the seriousness of contracting an illness. Perceived benefits refer to a person's perception of the effectiveness of various actions available to reduce the threat of illness or disease. Perceived barriers refer to a person's feelings about the obstacles to performing a recommended health action. Cue to action refers to the stimulus needed to trigger the decision-making process to accept a recommended health action.

The theory of HBM is relevant to health promotion and disease prevention programs. It can motivate people to take health actions that could help prevent or manage diseases that pose a threat to life. The combination of perceived susceptibility and perceived severity can motivate people to engage in actions that are likely to reduce the severity of a potential disease. HBM can also raise awareness and knowledge levels by constantly heightening the perceived susceptibility of a health condition.

Research Questions

The following research questions were formulated to proffer solutions to the problem of this study;

1. What is the level of awareness of Enugu State Civil Servants on Obstructive Sleep Apnea?
2. What is the perception of Enugu State Civil Servants on Obstructive Sleep Apnea?

3. How do Enugu State Civil Servants respond to Obstructive Sleep Apnea?

Methodology

The research design used for this study was a survey that aimed to assess the healthcare facilities available to civil servants in Enugu State. The study population consisted of all civil servants in Enugu State who work in the ministries and the civil service commission, which is estimated to be 10100 individuals. The state provides health institutions that offer treatments for various diseases, including Obstructive Sleep Apnea, to enable the civil servants to perform their duties effectively. The Enugu Civil Service Commission provided the statistics used in this study.

To determine the sample size, an online calculator was used, which yielded a sample size of 371. This sample size was deemed sufficient to achieve a confidence level of 95%, with a range of ±5% from the measured/surveyed value. The multi-stage sampling technique was used, with 20 ministries in Enugu state divided into three functional clusters: Administrative, Economic, and Social sectors.

To ensure fairness, a simple random sampling technique was adopted, using a "Statistical Random Numbers Table". Two ministries from each sector were randomly selected from the population of study using the table. A certain number of respondents were then chosen from each ministry, based on each ministry's proportion in the sample (371).

$$NR = \frac{n \times 371}{N}$$

Where NR = number of units (to be selected from a cluster)

n = total number of units in the cluster

N = population

Group	Ministry	Population	Sample size
Administrative sector	Civil Service Commission	870	60
	Ministry of	173	12

	Information, Culture & Tourism		
Economic sector	Ministry of Lands	354	25
	Ministry of Agric	531	37
Social sector	Ministry of Health	2700	187
	Ministry of Education	715	50
Total	**6 Ministries**	**5343**	**371**

In distributing the questionnaire, the researcher used a Non- Probability Convenience Sampling, whereby questionnaires were served only to respondents who were available at the time and showed willingness to be sampled when the researcher visited each of the chosen ministries. A questionnaire containing 13 questions (open-ended and closed-ended) was used as the instrument for data collection. Data gathered were presented and analyzed using SPSS 19 data analysis software.

The pre-test and validation of the research instrument involved 25 respondents, to test the validity of the field, to assess if the items in the instrument are best suited to address the measurable variables, and to use the information generated to evaluate the preliminary research questions. The results from the pre-test show that the instrument was understood to a large extent by the respondents as virtually all the respondents could fill out the items. All the ambiguity was cleared before data collection.

Data Presentation and Analysis

Findings from this study were drawn from data obtained from 371 respondents from the 20 Ministries in Enugu state.

On gender status, 241 respondents representing 64.6% were males while 130 respondents about 35.4% were females. This shows that the majority of the respondents are male. In terms of age of the respondents, about 100 representing 27% of the entire 371 respondents, between the ages of 29-38 attempted the questionnaire. 175 respondents 47% were between the ages of 39 and 48, and 96 respondents, or 26% were between the ages of 49 and above, From the data, it can be deduced that the respondents were more

young civil servants, who are very active in the service and have dependents who need health care. On Grade Level of Respondents, out of the total 371 respondents surveyed, 84 respondents representing 22.6% were in grade levels 1-6, 180 respondents representing 48.5% of the entire respondents were in grade levels 7-9, 55 respondents 14.8% were in grade levels 10-12 while 52 respondents representing 14.1% of the entire respondents were in grade levels 13-16 From the foregoing analysis, a large number of civil servants that are in grade levels 7 to 12 responded to the questionnaire, possibly, because they are readily available and less busy, unlike the top management cadre from grade levels 13 and above.

Research question 1: What is the level of awareness of Enugu State Civil Servants on Obstructive Sleep Apnea?

Level of awareness of respondents to Obstructive Sleep Apnea

Variables	**Response**	**Frequency**	**Percentage** (%)
Do you know about sleep apnea?	Yes	116	31.3
	No	255	68.7
	Total	**371**	**100.0**
How do you get to know about sleep Apnea?	Books	16	4.3
	Online	45	12
	Health worker	25	7
	Colleague	30	8
	Do not know	255	68.7
	Total	**371**	**100.0**
Do you know who has experienced sleep apnea before?	Yes	65	17.5
	No	306	82.5
	Total	**371**	**100.0**
Which of sleep apnea symptoms do You know?	Distortion of sleep	50	13.5
	Abnormal breathing	45	12.1
	Fatigue during day time	21	5.7
	Do not know	255	68.7
	Total	**371**	**100.0**

Responses to Table 1 above show that the majority of Civil Servants (68.7%) do not know about sleep apnea, on the source of their knowledge, 68.7% said they have no source while

the ones that have, got their knowledge from an online source(12%). Also, the majority of the respondents (82.5%) admitted that they had not seen anyone suffering from sleep apnea. On knowledge of the symptoms, the majority(68.7%) stated that they do not know the symptoms of sleep apnea.

Research question 2: What is the perception of Enugu State Civil Servants about Obstructive Sleep Apnea?

Table 2: Perception of Civil Servants about Obstructive Sleep Apnea

Variables	**Response**	**Frequency**	**Percentage** (%)
Do you perceive Sleep Apnea as insomnia?	Yes	226	61
	No	145	39
	Total	**371**	**100.0**
Do you think Sleep Apnea is as a result of aging	Yes	307	82.7
	No	64	17.3
	Total	**371**	**100.0**
Do you think that sleep apnea has other health complications or consequences?	Yes	100	27
	No	271	73
	Total	**371**	**100.0**

Responses to Table 2 above show that the majority of Civil Servants (61%) in Enugu State perceive sleep apnea as insomnia. They (82.7%) feel that sleep apnea is a product of aging, and they (73%) also do not perceive sleep apnea to have other health consequences. This could be a result of their lack of awareness about the health condition which correlates with the findings in the first table.

Research question 3: How do Enugu State Civil Servants respond to Obstructive Sleep Apnea?

Table 3 Participants' Response to Obstructive Sleep Apnea

Variables	**Response**	**Frequency**	**Percentage** (%)
How often do you feel sleepy during working hours as a result of improper sleep at night	Very often	207	55.8
	Sometimes	107	28.8
	Rarely	40	10.8
	Never	17	4.6
	Total	**371**	**100.0**
Have you suspected you may Are you suffering from sleep apnea?	Yes	90	24.3
	No	281	75.7

	Total	**371**	**100.0**
How often do you visit a	Very often	20	5.4
Specialist for proper diagnosis	Sometimes	60	16.2
	Rarely	64	17.3
	Never	227	61.1
	Total	**371**	**100.0**

Responses to Table 3 above show that the majority of Civil Servants (55.8%) in Enugu State feel sleepy during working hours as a result of inadequate sleep at night. The majority (75.7%) do not feel they may be suffering from sleep apnea, it further showed that many of the respondents (61.1%) do not go for a proper diagnosis.

Discussion and Conclusion

The purpose of the first research question was to determine the level of awareness of Civil Servants about Obstructive Sleep Apnea. Table 1 shows that the majority (68.7%) of the respondents were not aware of sleep apnea. Among those who were aware, 12% stated that they had obtained their knowledge from online sources. Additionally, the majority of respondents (82.5%) had not encountered anyone suffering from sleep apnea. Furthermore, most of the respondents (68.7%) were unable to identify the symptoms of sleep apnea. Thus, it can be concluded that the level of awareness of Civil Servants in Enugu state about sleep apnea is very low.

The second research question aimed to investigate how Enugu State Civil Servants perceive Obstructive Sleep Apnea. The data presented in Table 2 shows that the majority (61%) of Civil Servants in Enugu State consider sleep apnea as insomnia. (82.7%) believe that sleep apnea is a natural result of aging, while (73%) think that sleep apnea has no other health consequences. This could be due to their lack of awareness about the health condition, which is consistent with the findings in the first table. Therefore, it can be concluded that Civil servants in Enugu perceive sleep apnea to be the same as insomnia, which they associate with aging. They do not believe that it has any other health consequences.

The third research question of this study aimed to investigate the response of Enugu civil servants to obstructive sleep apnea. According to the data presented in Table 3, the majority (55.8%) of civil servants in Enugu State feel sleepy during working hours due to

inadequate sleep at night. (75.7%) do not believe that they might be suffering from sleep apnea, while (61.1%) of respondents do not go for a proper diagnosis. Therefore, it can be concluded that most civil servants are not willing to undergo a proper diagnosis because they do not think they are at risk for sleep apnea.

The first finding of this study indicates that the majority of civil servants are not aware of sleep apnea and its symptoms. This finding is consistent with the results of Homoud's (2019) study, which showed a lack of knowledge about obstructive sleep apnea (OSA). The second finding reveals that sleep apnea is often confused with insomnia, which is associated with aging. This misconception has led to poor awareness of the health consequences associated with sleep apnea. The third finding shows that people are not willing to visit a specialist for a proper diagnosis because they do not feel vulnerable to OSA. Homoud (2019) identifies this lack of vulnerability as a major barrier to diagnosing and treating OSA.

> The Health Belief Model (HBM) suggests that individuals are motivated to take certain actions if they feel vulnerable to an illness. In the case of OSA, people do not feel vulnerable to the illness, which leads to a lack of readiness for proper diagnosis and treatment. To increase knowledge and awareness of OSA, a combination of perceived susceptibility and perceived severity should be employed to motivate people to take actions that will reduce the severity of the illness. (Ono et al 2022).
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> Overall, this study concludes that despite the risk factors and health consequences associated with OSA, there is very little awareness and knowledge about the illness and its symptoms. Therefore, there is a need for massive and aggressive health communication campaigns to increase awareness and knowledge about sleep apnea, its signs, and symptoms. Medical actors should also help correct misconceptions about the health condition and stress the dangers of poor diagnosis. Finally, regular screening exercises should be conducted for patients, particularly the elderly and obese, to motivate them to seek treatment.

References

American Academy of Sleep Medicine (2014). The International Classification of Sleep Disorders – Third Edition (ICSD-3). Darien, IL: American Academy of Sleep Medicine.

Desalu,O., Onyedum,C., Sanya,E., Fadare,J., Adeoti,A., Salawu,F., Oluyombo,R., Olamoyegum,M., Fawale, M., Gbadegesin,B. & Bello,H.(2016). Prevalence, Awareness, and Reporting of symptoms of obstructive sleep apnea among hospitalized adult patients in Nigeria: A Multicenter study. *Ethiopian Journal of Health Sciences* 26(4):321 Doi:10.4314/ejhs.v26i4.4.

Donovan, L. M., & Kapur, V. K. (2016). Prevalence and Characteristics of Central Compared to Obstructive Sleep Apnea: Analyses from the Sleep Heart Health Study Cohort. Sleep, 39(7), 1353–1359. https://doi.org/10.5665/sleep.5962.

Garvey, J. F., Pengo, M. F., Drakatos, P., & Kent, B. D. (2015). Epidemiological aspects of obstructive sleep apnea. Journal of thoracic disease, 7(5), 920–929.https://doi.org/10.3978/j.issn.2072-1439.2015.04.52.

Homoud, M.(2019) *Adults' Knowledge and Beliefs Surrounding Obstructive Sleep Apnea*. Seton Hall University Dissertations and Theses (ETDs). 2614. https://scholarship.shu.edu/dissertations/2614.

Lanfranco F. (2013). Sleep apnea syndrome and hypothyroidism. Endocrine, 44(3), 551–552.

National Institute of Neurological Disorders and Stroke (NINDS). (2019, March 27). Sleep Apnea Information Page. Retrieved July 21, 2020, fromhttps://www.ninds.nih.gov/Disorders/All-Disorders/Sleep-Apnea-Information-Page.

Ono, G.N., Odionye, C.M. and Okoli, O.N. (2022). COVID-19 Controversies are probable influences on WhatsApp users 'Disposition to take the Jab in Anambra state, Nigeria. *Communication linguistics Studies*.Vol.8, No 1 ,pp 16-24. Doi:10.11648j.cls.20220801.12.

Rundo J. V. (2019). Obstructive sleep apnea basics. *Cleveland Clinic journal of medicine.* 86(9 Suppl 1), 2–9.https://doi.org/10.3949/ccjm.86.s1.02.

Stoohs R.A., Guilleminault C, Itoi A, Dement WC. (2014). Traffic accidents in commercial long-haul truck drivers: the influence of sleep-disordered breathing and obesity, Sleep, 2014, vol. 17 (pg. 619-23) Google ScholarPubMed.

Strohl, K. P. (2019). MSD Manual Professional Version: Obstructive Sleep Apnea. Retrieved July 21, 2020, fromhttps://www.msd manuals. com/professional/pu pulmonary-disorders/sleep-apnea/obstructive-sleep-apnea

Surani, S. & Taweesedt, P. (2022). Obstructive Sleep Apnea: New Perspective. *Pubmed Central.* Doi: 10.3390/medicina59010075. www.ncbi.nim.nih.gov.

Troynikov, O., Watson, C. & Nawaz, N. (2018). Sleep Environments and sleep physiology: A review. *Journal of Thermal Biology.* Doi: 10.1016/j.jtherbio.2018.09.012.