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KNOWLEDGE AND ATTITUDE OF PRIMARY HEALTH CARE PHYSICIANS IN AL-HASA TOWARD OBSTRUCTIVE SLEEP APNEA



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Background: Obstructive sleep apnea (OSA) is an important medical problem which has multiple consequences. Early detection and treatment of OSA can reduce these complications. However, although OSA is common, most of the patients affected are not diagnosed.

Method: Primary health care physicians (PHCPs) inside Al-Hasa were asked to fill the obstructive sleep apnea Knowledge and Attitudes (OSAKA) questionnaire.

Results: response rate was 63.8%. 60% knew about OSA association with hypertension. Only 23% knew that it is associated with cardiac arrhythmia.

Conclusion: The majority of Al-Hasa PHCPs have insufficient knowledge toward OSA.

Introduction:

Nowadays Obstructive sleep apnea (OSA) is considered one of the major health problems.(1) OSA is a common chronic medical disorder that is characterized by apnea or hypopnea during sleep and it often necessitates a lifelong care and can cause multiple serious consequences such as road traffic accidents and cardiovascular diseases .(1–4) Although early detection and management of OSA is cost effective, the recognition of OSA is low among primary health care physicians (PHCPs).(5–8) However, improving the knowledge of PHCPs can improve the level of recognition.(5,9)

There are several short-term and long-term consequences of OSA. For example, OSA can significantly increase the risk of Motor vehicle accidents as it doubles the risk up to 7 times.(1,4) Additionally, prolonged OSA has a strong association with hypertension, metabolic syndrome, diabetes, cardiovascular diseases, pulmonary hypertension, arrhythmias and stroke.(1,3)

The PHCPs are in the front line of the health care system.(10) In Saudi Arabia the health system depends on a referral system as the patient is first seen by a PHCP who assess the patient and create a management plan for him.(9)Hence, early detection and management of OSA depends significantly on the knowledge of PHCPs.(9) Unfortunately, PHCPs tends to neglect the sleep history and the recognition of OSA among PHCPs was reported to be low in

several studies.(6–9,11) However, The recognition of OSA can increase by improving the knowledge of PHCPs toward OSA which is also positively correlated with their attitude .(9,12)

The aim of this study is to assess the general knowledge and attitude of PHCPs in Al-Hasa, Saudi Arabia towards OSA.

Methodology

Because response rate was not guaranteed, all of Al-Hasa PHCPs who were included by applying the inclusion and exclusion criteria were asked to fill the questionnaire. All primary health care centers (PHCCs) in Al-Hasa were evaluated by the inclusion and exclusion criteria. Then, all physicians who were working during the study period in these PHCCs were asked to fill the OSAKA questionnaire. All PHCCs located within 30 KM distance from Shabbat Almubarraz PHC in Al-Hasa was included (OSAKA) questionnaire is composed of 3 sections. One section is about demographic factors. The 2nd section is to evaluate the knowledge and it consists of 18 true or false statements and a third option for (I don't know) to reduce the possibility of guessing. The 18 items in the knowledge part are composed of 5 main domains: epidemiology, pathophysiology, symptoms, diagnosis and treatment. The 3rd section is made to evaluate the attitude by using a 5 points Likert scale.(13)

Results:

The response rate was 63.8%. The median knowledge score was 10 out of 18. Item no. 10 was answered correctly by 96% of participants. Majority of the physicians gave correct responses for 9 items however, other statements like item no. 2 (26%), item 3 (39%), item 7 (41%), item 8 (18%), item 12 (45%), item 14 (30%), item 15 (46%), item 17 (23%) and item 18 (18%) were marked incorrect.

Knowledge of physicians regarding OSA

S#	Items:	Incorrect n(%)	Correct n(%)
1.	Women with obstructive sleep apnea may present with fatigue alone.	73 (38%)	117 (61%)
2.	Uvulo-palatopharyngoplasty is curative for the majority of patients with obstructive sleep apnea.	139 (73%)	49 (26%)
3.	The estimated prevalence of obstructive sleep apnea among adults is between 2 and 10%.	116 (61%)	74 (39%)

4.	The majority of patients with obstructive sleep apnea snore.	23 (12%)	168 (88%)
5.	Obstructive sleep apnea is associated with hypertension.	77 (40%)	114 (60%)
6.	An overnight sleep study is the gold standard for diagnosing obstructive sleep apnea.	34 (18%)	157 (82%)
7.	CPAP (continuous positive airway pressure) therapy may cause nasal	112 (59%)	78 (41%)
8.	Laser-assisted uvuloplasty is an appropriate treatment for severe obstructive sleep apnea	155 (81%)	34 (18%)
9.	The loss of upper airway muscle tone during sleep contributes to obstructive sleep apnea.	49 (26%)	142 (74%)
10.	The most common cause of obstructive sleep apnea in children is the presence of large tonsils and adenoids.	7 (4%)	184 (96%)
11.	A craniofacial and oropharyngeal examination is useful in the assessment of patients with suspected obstructive sleep apnea.	42 (22%)	148 (77%)
12.	Alcohol at bedtime improves obstructive sleep apnea.	103 (54%)	87 (45%)
13.	Untreated obstructive sleep apnea is associated with a higher incidence of automobile crashes.	53 (28%)	136 (71%)
14.	In men, a collar size 17 inches or greater is associated with obstructive sleep apnea.	134 (70%)	57 (30%)
15.	Obstructive sleep apnea is more common in women than men.	102 (53%)	88 (46%)
16.	CPAP is the first line therapy for severe obstructive sleep apnea.	61 (32%)	129 (67%)
17.	Less than 5 apneas or hypopneas per hour is normal in adults.	147 (77%)	44 (23%)
18.	Cardiac arrhythmias may be associated with untreated obstructive sleep apnea.	48 (25%)	143 (75%)

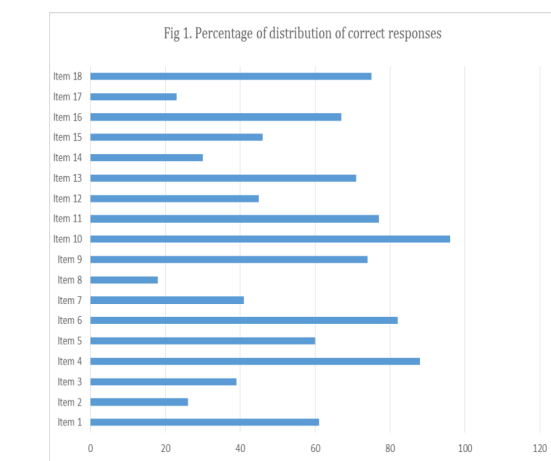
Logistic regression was applied to see correlation between level of knowledge and the participants' characteristics. The results suggest that after controlling confounder, only age was significantly associated with level of knowledge (p -value 0.04). Whereas, other characteristics like gender, ranking and years in practice was not significantly associated.

level of knowledge was found significantly associated with all items of attitude p -value <0.05.

Discussion:

To our knowledge, this is the first survey to explore the knowledge and attitudes regarding OSA among PHCPs in Al-Hasa. This study showed that PHCPs in Al-Hasa have defect in their knowledge about OSA. Only 48% of all participants have good level of knowledge. Moreover, although (I don't know) option is available in the questionnaire there is still a probability of guessing the answer which might give the participant a higher score. Overall, only less than half of these physicians had a good level of knowledge toward OSA. This low level of knowledge might be caused by an insufficient education about OSA in medical schools as it was found that sleep medicine education has a low priority in multiple medical schools in Saudi Arabia.(14) Moreover, topics on sleep medicine were found to compose only 2% of the covered content in a review of 31 medical textbooks in 4 major subspecialties (neurology, pulmonology, psychiatry, and geriatrics). Therefore, we think that OSA should be given more priority in medical school curriculum

Good level of knowledge was found to be associated with positive attitude in all 5 attitude items. The majority of physicians think that OSA is an important disease and that it's important to identify it. Moreover, 64% of the participating physicians feel confident identifying patients at-risk for OSA. As more than half of the doctor felt confident recognizing OSA, more than half of them also answered the items about possible presentations of OSA correctly. 61% knew that women who have OSA might present only with fatigue. 88% knew that the majority of patients who have OSA snore. 60% knew that there is an association between OSA and hypertension. 77% knew that cardiac arrhythmias might be associated with OSA. However, only 26% knew that the estimated prevalence of OSA is between 2-10% which might be to either overestimation of the prevalence of OSA or due to underestimation of it. Regardless of the positive attitude toward feeling confident recognizing OSA, previous studies showed that the Recognition of sleep apnea and other sleep disorders among PHC was low.(11) This might indicate that some of the doctors have a false sense of ability to detect OSA because if most of the doctors can detect OSA it should not be underdiagnosed as it was proven by other studies. Moreover, most of the physicians (53%) didn't know that men are more likely to have OSA than women and (70%) didn't realize that a collar size ≥ 17 inches in men is associated with OSA. This means that physicians might fail to identify those whom at high risk of having OSA which might as well cause the level of detection of OSA to be low. Another reason to support our opinion about the false sense of confident is the fact that PHC doctors tend to neglect asking about sleep health and snoring which is an important step to actually recognize OSA. For that reason, we believe that doing a postgraduate workshops or courses about OSA might increase the detection of patients who have OSA. Therefore, we insist more on the importance of utilizing postgraduate workshops for OSA as it was shown in one study that 81% of interns who attended postgraduate workshops about sleep medicine ask about sleep health in contrast to only 13% of those who did not attend.



The level of knowledge was taken based on median i.e. 10. The results suggest that approximately 52% participants had poor knowledge and 48% had good knowledge towards OSA.

44% of the participants consider OSA as a very important clinical disorder and 45% physicians agree that it is very important to identify patients with possible OSA. Approximately 50% participants feels confident identifying patients at risk for OSA, however, 29% disagree that are confident in their ability to manage such patients followed by 43% disagree in their ability to manage patients on CPAP therapy.

Although more than half of the participants reported that they feel confident managing patients with OSA less than half of them answered correctly to 3 out of the 4 questions regarding the management of OSA. Surprisingly, Only 45% knew that alcohol use before bedtime doesn't improve the symptoms of OSA where in fact, alcohol consumption should be avoided not only because it worsen the symptoms of OSA but it can actually prompt a frank OSA

in those who only snore without having OSA at baseline.(15) Moreover, Only 26% knew that Uvulo-palatopharyngoplasty is not curative for the majority of patients with OSA. Additionally, only 41% knew that CPAP (continuous positive airway pressure) therapy may cause nasal congestion. Furthermore, only 18% knew that Laser-assisted uvuloplasty is not an appropriate treatment for severe OSA. Another concerning result is that up to 40% of physicians didn't realize that OSA is associated with poorly controlled hypertension.

Among geographic characteristics only the age was associated with level of knowledge. Physicians who are older had a higher percentage of good knowledge about OSA. This might be because older physicians are more likely to have OSA compared to younger physicians as prevalence of OSA tends to increase in older age group. This might mean that those physicians who have personal experience of OSA might have a better knowledge about it. For that reason, we suggest that association between the physicians personal encountering of OSA and their level of knowledge about it to be studied in future.

This study should be interpreted in the light of its limitations such as the relatively low response rate which might be caused by the use of electronic method. Additionally, the possibility of guessing is still present which means that the real level of good knowledge might be lower than the results seen in this study.

Conclusion & Recommendation:

We conclude that in the majority of Al-Hasa PHCPs has insufficient knowledge toward OSA and its treatment. We recommend to improve the curriculums of medical schools and to increase the house designated for seep related problems in general and in particularly OSA. Moreover, we recommend implementing postgraduate workshops that focus on OSA.

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