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A Cross Sectional Study To Identify Barriers In Early Diagnosis And Developing A Strategized Treatment Protocol For Early Edentulous Obstructive Sleep Apnea Patients

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Abstract
Background and objective:- Obstructive sleep Apnea is a serious condition that can have significant health consequences. The recurrent episodes of complete or partial blockage of the upper airway during sleep, which may cause pauses in breathing and reduce the amount of oxygen that reaches the brain and the rest of the body[2]. The present study will attempt to identify the various barriers that are involve in the treatment of obstructive sleep Apnea in geriatric population through questionnaire. Method:-In this study, 325(2016 male and 108 female) edentulous subjects were taken between the ages of 45-60 years. All selected subjects were agreed to take the questionnaire. Subjects were asked to read and fill out the form. Subjects who were unable to read and understand questionnaire were assisted by explaining the questionnaire and filling the entries for them based on their replies. Results and conclusion:- Low socio-economic status emerges as a strong barrier for patients who are seeking treatment through CPAP therapy. There is a need for financial support, so that inequalities in availing treatment could be eradicated. Overall, there is need of cumulative efforts from health care providers, sleep physicians, dentists, and society in identifying the disorder and designing a treatment protocol and regular follow-ups.

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I. Introduction

The prevalence of Obstructive sleep Apnea (OSA) is escalating worldwide. OSA is essentially a sleep disorder, characterized by recurrent episodes of complete or partial blockage of the upper airway during sleep [1]. This blockade can cause pauses in breathing, which can last for several seconds or even minutes, and can significantly reduce the amount of oxygen that reaches the brain and the rest of the body. These pauses in breathing, also known as Apneas, can occur several times per hour during sleep, and can cause a person to awaken frequently, often feeling tired or unrefreshed in the morning [2]. Over time, obstructive sleep Apnea can lead to a range of serious health problems, including high blood pressure, heart disease, and stroke. It is important for individuals with this condition to receive appropriate treatment in order to reduce their risk of these complications [2].

There are several barriers that can prevent individuals with obstructive sleep Apnea from receiving appropriate treatment. Some of these barriers include: Lack of awareness: Many people with obstructive sleep Apnea are not aware that they have the condition. Because the symptoms of the disorder often occur during sleep, they can be difficult to recognize. Stigma: Some people may be hesitant to seek treatment for obstructive sleep Apnea because they are embarrassed or ashamed they are embarrassed or ashamed of their symptoms [3]. Cost: The cost of diagnosing and treating obstructive sleep Apnea can be a barrier for some individuals. Access to care: In some cases, access to appropriate care can be a barrier to treatment. Non-adherence to treatment: Even when individuals with obstructive sleep Apnea receive a diagnosis and appropriate treatment, they may not adhere to the treatment plan. Co-morbid conditions: Individuals with obstructive sleep Apnea may also have other medical conditions that can complicate their treatment. Overall, there are a range of barriers that can

prevent individuals with obstructive sleep Apnea from receiving appropriate treatment. It is important for healthcare providers to be aware of these barriers and work with their patients to overcome them [3].

Obstructive sleep Apnea is characterized by disturbed sleep, snoring, restlessness, along with daytime symptoms such as fatigue, sleepiness, difficulty concentrating [2]. This occurs when the muscles relax during sleep, causing the soft tissue in the back of the neck to collapse and block the upper airway. This leads to partial reductions (hypopnea) and complete pauses (Apnea) in breathing that last at least 10 seconds during sleep [4,5,6].

Overall, it is important for individuals with obstructive sleep Apnea to receive appropriate treatment in order to reduce their risk of these serious health complications. Treatment can help improve the quality of their sleep, reduce the frequency of Apneas, and reduce their risk of developing other health problems. Obstructive sleep Apnea is greatly uncredited medical condition with multiple comorbidities. Complete edentulism is the final outcome of a multifactorial process involving biological factors and patient-related factors. World Health Organization (WHO) considers edentulism as physical impairment, disability, and a handicap. Yet, edentulism has not been eliminated and has been associated with multitude of co-morbidities such as malnutrition, osteoporosis, obesity, cardiovascular diseases, diabetes, rheumatoid arthritis, respiratory afflictions including Chronic Obstructive Pulmonary Disease (COPD), cancer, cognitive disorders and even mortality [7].

One of the biggest barriers to diagnosis is the difficulties encountered by sleep specialists and their patients and families when trying to confirm a diagnosis of suspected obstructive sleep Apnea, lack of specialized sleep labs. This becomes even more difficult for our rural populations and for those living in remote areas [3].

Continuous Positive Airway Therapy (CPAP) is used as a treatment modality for OSA but at a health care system and policy level funding of CPAP devices remain a barrier for patients. At the individual patient level, discomfort can lead to patients choosing not to continue with CPAP therapy. Oral and pharyngeal anatomy has an earnest role in pathophysiology of obstructive sleep Apnea. With sleep onset, muscles of nasopharynx begin to relax, leading to collapse of surrounding soft tissues thereby obstructing the airway (OSA is a growing problem). Cases of obstructive sleep Apnea are growing at fast pace and is among highly underreported condition. In most of the cases, patients are unaware of their condition [3]. To the best of our knowledge, so far, no such study has been done to identify the barriers in the treatment of obstructive sleep Apnea. The present study will attempt to identify the various barriers that are involve in the treatment of obstructive sleep Apnea in geriatric population through questionnaire [8,9].

II. Materials & Methods

This cross-sectional study was conducted in the Department of Prosthodontics and Crown & Bridge - Saraswati Dental College & Hospital, Lucknow, Uttar Pradesh, India - from January 2021 to November 2022. The present study was approved by Institutional Research & Development committee and Institutional Human Ethical committee approved.In this study, 325(2016 male and 108 female) edentulous subjects were taken between the ages of 45-60 years. All selected subjects were agreed to take the questionnaire. Subjects were asked to read and fill out the form. Subjects who were unable to read and understand questionnaire were assisted by explaining the questionnaire and filling the entries for them based on their replies.

Questionnaire

Development of Questionnaire:- To the best of our knowledge, questionnaire that measures the various barriers faced by patients in the treatment of obstructive sleep Apnea is not available for the targeted population. So, a questionnaire in English and Hindi both languages were developed and validated. The questionnaire was developed to be self-administered. The questions were written in a simple and a self-explanatory way, so that the majority of respondents can easily understand. Complex statements and were not used. To the best of my ability, it was ensured that the items do not contain statements that the respondents may perceive as offensive or biased.

The initial draft of the questionnaire was created, and the initial pool of items was reviewed for item error. The questionnaire was introduced to the established expert committee to read and evaluate that whether the questions are associated to the topic under investigation. Their responses were reviewed for suggestion, format, confusing terms, irrelevant questions, questionnaire order, length. The necessary changes were made to the initial draft.

The questionnaire consists of 15 items collecting demographic data and data on various barriers in the treatment of OSA. The questionnaire was developed in both local vernacular language and English language. The questionnaire was developed in English and then translated into Hindi language by certified professional translation services company. Following parameters were recorded by questionnaire:-Age, Gender, Address, symptoms, Awareness, Religious belief, Income, Need of medical attention, Family support, Fear, Distance to health care.

III. Results

When participants were asked whether they were able to sleep well through night, 20.3% said "Yes" & 79.7% responded "No".When subjects were asked if they feel tired or fatigued after waking up; A total of 65.2% subject responded "Yes" and 34.8% subject responded "No". The subject participants did not attribute the cause pertaining to their remarks;however, the survey clearly stated its purpose.

Response	Frequency	Percent
YES	66	20.30%
NO	259	79.70%
TOTAL	325	100.00%

Table 1: Frequency and percentage distribution showing responses on whether participant sleeps well through the night

Response	Frequency	Percent
YES	212	65.20%
NO	113	34.80%
TOTAL	325	100.00%

Table 2: Frequency and percentage distribution showing responses on whether participant is fatigued even after sleep.

Showed distribution of study subjects based on their response on if subjects feel tired/sleepy during daytime. A total of 45.5% subject responded "No" and 54.5% subject responded "Yes". Many of the participants also stated that they also have resorted to staggered sleep patterns as well, which was not uniform due to various reasons, ranging from occupation to family environment. Few of the subject participants also attributed their daytime sleep to their routine preference, however when stated specifically with respect to survey perspective, a majority of participants attributed their tiredness to improper sleep at night.

Response	Frequency	Percent
YES	148	45.50%
NO	177	54.50%
TOTAL	325	100.00%

Table 3: Frequency and percentage distribution showing responses on whether participant is fatigued or sleepy during daytime

Subjects when asked whether they wake up multiple times during the night? A total of 27.4% subject responded "No" and 72.6% responded "Yes". A majority of participants said yes to the condition of waking up multiple times during night, and few were also keen to find a likely solution for the same.

Response	Frequency	Percent
YES	89	27.40%
NO	236	72.60%
TOTAL	325	100.00%

Table 4: Frequency and percentage distribution study showing responses on whether participant wakes up from sleep multiple times during night.

Response	Frequency	Percent
YES	280	86.20%
NO	45	13.80%
TOTAL	325	100.00%

Table 5: Frequency and percentage distribution study showing responses on whether participant feels shortness of breath while asleep.

When subjects were asked while they get up multiple times at night, 86.2% subjects said they feel shortness of breath and 13.8% said they do not feel shortness of breath. A substantial majority of the

participants said "yes" to shortness of breath but were not aware of OSA as a possible reason that could have caused this.

When subjects were asked do you wake up abruptly gasping for air or chocking, 88.3% said "Yes" and 11.7% said "No".Few of the participants also suggested that they wake up abruptly following a dream or unsuitable climate condition at times.

Response	Frequency	Percent
YES	287	88.30%
NO	38	11.70%
TOTAL	325	100.00%

Table 6: Frequency and percentage distribution study showing responses on whether participant wakes up choking or gasping for air.

When subjects were asked whether they find it difficult to concentrate on daily work routine, 68% said "yes" and 32% said "no". Few of the participants of the subject survey also attributed the lack of concentration to their elderly age as well.

Response	Frequency	Percent
YES	221	68.00%
NO	104	32.00%
TOTAL	325	100.00%

Table 7: Frequency and percentage distribution study showing responses on whether participant has difficulty in maintaining focus in their work routine.

When subjects were asked whether their health is normal or they require medical attention, 64% said "yes".

Out of 325 participants, only 117 were of the opinion that their condition related to uneven sleep patterns did not need any medical attention. However, the other majority show keen interest in finding a solution for the same.

Response	Frequency	Percent
YES	117	36.00%
NO	208	64.00%
TOTAL	325	100.00%

Table 8: Frequency and percentage distribution study showing responses on whether participant think if they require medical attention.

A total of 55.7% subjects think that their problems are the part of the ageing whereas 44.3% disagreed to it. The participants in the survey had mixed response to this question, where the number of respondents affirming, and negating were deviating by 10% from the mean of 50%.

Response	Frequency	Percent
YES	144	44.31%
NO	181	55.69%
TOTAL	325	100.00%

Table 9: Frequency and percentage distribution study showing responses on whether participant is apprehensive of getting diagnosed with a serious disorder.

A total of 16.3% said that they are apprehensive of being diagnosed with serious disorder whether 83.7% were not apprehensive. On the back of previous questions asked during the survey, a substantial majority of participants showed apprehension for diagnosis of serious disorder.

Response	Frequency	Percent
YES	272	83.69%
NO	53	16.31%
TOTAL	325	100.00%

Table 10: Frequency and percentage distribution study showing responses on whether participant is apprehensive of getting diagnosed with a serious disorder

A total of 74.8% subjects said that they were dependent for travel and finances on family members whereas 25.2% denied. A total of 243 out of 325 participants expressed their dependence, for either finance or travel, on their family members.

Response	Frequency	Percent
YES	82	25.23%
NO	243	74.77%
TOTAL	325	100.00%

Table 11: Frequency and percentage distribution study showing responses on whether participant is dependent on family members for travel and finances.

A total of 84.3% subjects said they find location makes travel to health centre difficult whereas 15.7% denied. The majority of participants during the survey were also willing to travel farther distances for treatment, only in case the facility was not available in nearby vicinity.

Response	Frequency	Percent
YES	274	84.31%
NO	51	15.69%
TOTAL	325	100.00%

Table 12: Frequency and percentage distribution study showing responses on whether participant's distance from treatment centre a barrier to seeking medical help.

A total of 9.8% subjects responded that there are certain religious/social beliefs which prevent them from seeking healthcare. A substantial majority responded to this question liberally, and only 32 respondents out of 325 responded as "No".

Response	Frequency	Percent
YES	293	90.15%
NO	32	9.85%
TOTAL	325	100.00%

Table 13: Frequency and percentage distribution study showing responses on whether participants' religious beliefs affect their decision on seeking medical help.

Out of the total 325 participants, 128 participants agreed that they are apprehensive that the treatment effort would improve their problems. Few of the respondents who were apprehensive about the outcome attributed the same to their lifestyle.

Response	Frequency	Percent
YES	197	60.62%
NO	128	39.38%
TOTAL	325	100.00%

Table 14: Frequency and percentage distribution study showing responses on whether participants think that treatment effort can cure their condition.

Out of 325 study participants, 48.6% subjects said they required funds to afford travel and treatment whereas 51.4% subjects denied.Majority of participants also expressed that, dental treatments were not falling in the purview of their health insurance coverage, and hence the affordability was a challenge.

Response	Frequency	Percent
YES	167	51.38%
NO	158	48.62%
TOTAL	325	100.00%

Table 15: Frequency and percentage distribution study showing responses on whether participants on whether they can afford treatment.

IV. Discussion

The major impediments to the potential adherence and adoption to treatment of OSA appear to be a mix of interpersonal and functional concerns. Participants' responses suggested a stark notion of misunderstanding between insomnia and OSA, which seemed synonymous. This has a very crucial implication on treatment protocol of OSA. Association of OSA with insomnia could imply to some that the only problem is

"staying or falling asleep," and a more definitive treatment or diagnosis may be delayed or may not be sought at all. The wrong notion that OSA is synonymous with insomnia could also prompt many to seek herbal or complementary remedies rather than to consult a physician.

The study focusses primarily on an age group of 45-60 years of age. A total of 325 individuals participated in the survey, within an age group of 45years to 60 years. The sample comprised of a total of 108 females and 216 males, while 1 participant preferred not to disclose its gender. The skewness in number of male participants is primarily due to relatively higher independence in commutation to the place where the data is captured from, however study nowhere derives gender related skewness in outcome. Heidsieck et al cited OSA as a major medical affliction, affecting 15-30% adult males and 5-15% adult females and a progenitor of several systemic complications [6].

Distribution of study participants which was based on gender, done by Vagiakis E, showed a substantial gender gap in the prevalence of OSA, a relatively more recent, larger, and population-based studies demonstrated that the prevalence of OSA is 1.5-3-times higher in men, as compared to women and this gap reduces even further after occurrence of menopause. This variance between clinical and population-based prevalence indicated a predominant referral bias for strictly evaluating OSA in men and has been hypothesized to be partially attributable to different clinical presentations of OSA in case of women [8].

The survey data suggested a higher participation by male members, in a proportion of approximately 2:1, as compared to female members, hence the result will be factoring in for this proportion while assessing gender related inferences pertaining to outcomes.

When participants were asked whether they were able to sleep well through night, 20.3% said "Yes" & 79.7% responded "No".The subject participants did not attributed the cause pertaining to their remarks, however the survey clearly stated its purpose.

Glenda Ernst et al. documented the symptoms, and among various symptoms sleep disturbances or fragmented sleep are most common. Sleep disruption entails several other related symptoms for eg. Excessive sleepiness in daytime, lacking concentration while performing daytime routine [9].

When subjects were asked if they feel tired or fatigued after waking up; A total of 65.2% subject responded "Yes" and 34.8% subject responded "No". Many of the participants also stated that they also have resorted to staggered sleep patterns as well, which was not uniform due to various reasons, ranging from occupation to family environment.

Gottlieb DJ has showed in a study that fatigue during daytime and sleepiness during daytime are few of the most common symptoms of OSA. This reduces the work efficiency and quality of life. Various road accidents while driving are also associated with daytime sleepiness [10,11].Excessive sleepiness during daytime has been observed to affect 40.5-58% of individuals with OSA (depending on severity and level of OSA) at initialdiagnosis but the same can prevail even when the OSA is treated with CPAP (Continuous Positive Airway Pressure) therapy.

Showed distribution of study subjects based on their response on do you feel tired/sleepy during daytime. A total of 45.5% subject responded "No" and 54.5% subject responded "Yes".Few of the subject participants also attributed their daytime sleep to their routine preference, however when stated specifically with respect to survey perspective, a majority of participants attributed their tiredness to improper sleep at night.

A significant variety of clinical sequelae afirmed as the OSA syndrome. Daytime sleepiness, due to nocturnal sleep disruption, is a prominant symptom of OSA, being prevalent in more than 80% of the patients. As the disorder aggravates, the sleepiness becomes increasingly alarming, which may even cause impaired performance at work and other work-related and road accidents [12,13].Subjects when asked whether they wake up multiple times during the night? A total of 27.4% subject responded "No" and 72.6% responded "Yes".A majority of participants said yes to the condition of waking up multiple times during night, and few were also keen to find a likely solution for the same.

When the participants were asked about how sleep Apnea can be treated, their descriptions primarily focused on modifying activities around bedtime or eating habits. For example, "I get up, I reach out, and I get piece of cake, a cup of tea, or something." Another respondent said "I am not tired enough to sleep well because when I don't do enough work during the day ;when you work.

more, you wash, you clean, you do all that and then you get tired" while another one responded as:"I feel tired and achy, then when you go out somewhere, you sit at someplace, and you fall asleep. But when its the night time, you don't feel like sleeping ... You sit over there. You finish eating in the evening or late night, watch television, and then you fall asleep.

On the basis of these responses, a predominant theme that emerged out was a misconception regarding participants' point of view pertaining to sleep Apnea. More interestingly, despite this misconception, the responses about the impact or consequences of sleep Apnea were much more accurate. Examples include: daytime sleepiness, tiredness during the day; headache [14].

When subjects were asked while they get up multiple times at night, 86.2% subjects said they feel shortness of breath and 13.8% said they do not feel shortness of breath.A substantial majority of the participants said "yes" to shortness of breath but were not aware of OSA as a possible reason that could have caused this.When subjects were asked do you wake up abruptly gasping for air or chocking, 88.3% said "Yes" and 11.7% said "No". Few of the participants also suggested that they wake up abruptly following an unsuitable climate condition or dream at times.Anne E. Sanders has mentioned that during sleep phasic contraction of the upper airway increases its propensity to collapse obstructing the passage of air and the person feels choked and abruptly wakes up gasping for air. Collapsibility is further exacerbated by excess cervical adipose tissue which narrows the airway space [5].

When subjects were asked whether they find it difficult to concentrate on daily work routine, 68% said "yes" and 32% said "no". Few of the participants of the subject survey also attributed the lack of concentration to their elderly age as well.This has been documented by Kevin K. Motamedi in his study Obstructive Sleep Apnea: A growing problem, in clinical manifestation and diagnosis [2].When subjects were asked whether their health is normal or they require medical attention, 64% said "yes".

Out of 325 participants, only 117 were of the opinion that their condition related to uneven sleep patterns did not need any medical attention. However, the other majority show keen interest in finding a solution for the same. Several of the studies have shown that the patients with OSA syndrome utilize healthcare resources almost two times as much - with relatively heavier use of resources as observed in women - compared with control patients of similar age, gender and area of residence. Most of these costs were attributed to more days spent in the hospital, much higher physician fees, while including more specialist consultations, and a substantial increase in prescribed medications. There is a lack of self-acceptance. Patient does not intend to accept that he may be suffering from some health condition and keeps on denying his symptoms. Kevin K. Motamedi et al described that unidentified OSA can impact health negatively as is a contains a myriad of comorbidities15. A total of 55.7% subjects think that their problems are the part of the ageing whereas 44.3% disagreed to it. With increase in age, sleep-related problems become increasingly common and often manifest as subjective complaints of difficulty in falling asleep, the number and duration of night-time awakenings, and the amount of night-time sleep achieved. A wrong notion was that OSA was a natural process and an outcome of aging. This may also have severe implications on treatment outcomes by delaying or preventing help-seeking behaviours. The clinical relevance of these beliefs is substantiated by the fact that older adults are more likely to have sleep disturbances, are more likely to have sleep Apnea, and have a relatively higher levels of comorbid conditions that could exacerbate OSA [2]. The participants in the survey had mixed response to this question, where the number of respondents affirming, and negating were deviating by 10% from the mean of 50%.

A total of 16.3% said that they are apprehensive of being diagnosed with serious disorder whether 83.7% were not apprehensive.On the back of previous questions asked during the survey, a substantial majority of participants showed apprehension for diagnosis of serious disorder.Certain medical disorders showed the prevalence of OSA exceeds than that seen in the general population. These medical conditions include, but are not limited to, Type-2 diabetes, Coronary Artery Disease (CAD), Refractory Hypertension, Polycystic Ovary Syndrome (POS), congestive heart failure with systolic dysfunction and stroke. Therefore, it is prudent for clinicians to routinely screen and check patients with the aforementioned medical conditions for OSA [6,7].Geriatric patients although after experiencing symptoms related to health disorder, stay in a state of denial and reluctance as they are apprehensive about getting diagnosed with a possible serious health condition.A total of 74.8% subjects said that they were dependent for travel and finances on family members whereas 25.2% denied.A total of 243 out of 325 participants expressed their dependence, for either finance or travel, on their family members.

Sanjay K Mohanty in a longitudinal ageing study in India estimated that incidence of Catastrophic Health Expenditure (CHE)at 24.6% (95% CI: 23.3- 25.8) among middle-aged adults and the elderly in India64. CHE intensity was much higher among the households with low old-age dependency as compared to those with no old-age dependents. There is need for specific policies to provide financial protection and medical care for elderly. A total of 84.3% subjects said they find location makes travel to health centre difficult whereas 15.7% denied. The majority of participants during the survey were also willing to travel farther distances for treatment, only in case the facility was not available in nearby vicinity. Transportation barrier is often considered a barrier to avail medical care specially for people living in rural and remote areas. An even distribution of health care facility is much needed to overcome this hurdle. Samina T. Syed has mentioned the prevalence of transportation barriers to health care access. Most of the elderly who reside in rural areas, belong to low SES, and are dependent upon their families66. A total of 9.8% subjects responded that there are certain religious/social beliefs which prevent them from seeking healthcare. A substantial majority responded to this question liberally, and only 32 respondents out of 325 responded as "no" [14,15].

Many of the studies suggested that despite the overall lower average BMI in the Asian population compared with Western population, the presence of OSA syndrome is similar and indicates that several other

non-obesity related risk factors also contribute to the pathogenesis of the disease. The presence of OSA in the Chinese population-based studies was very similar to that of white population, despite a substantially lower BMI; only 5% of men had a BMI above 30 kg/m2. The similar prevalence of OSA in these two populations could also be attributed to the cephalometric differences between Asian and white patients, such as enlarged soft palate, an inferiorly positioned hyoid bone and reduced upper-airway width at the soft palate. To summarise, there are ethnic differences in the severity and prevalence of OSA. However, in some of these studies, the ethnicity is self-reported, which may be not that accurate and may also not incorporate the genetic heterogeneity among populations. Rhaphael Shaw conducted a study among Blacks, about the social beliefs and found that a wrong notion about sleep Apnea were common and they considered OSA as insomnia. Most of the patients were reluctant about taking treatment for OSA67. Out of the total 325 participants, 60.62% were not apprehensive about improvements, while 39.38% of the participants expressed their reservation and apprehensions about improvement in their problems. Few of the respondents who were apprehensive about the outcome attributed the same to their lifestyle. Out of 325 study participants, 48.6% subjects said they required funds to afford travel and treatment whereas 51.4% subjects denied. A majority of participants also expressed that dental treatment does not fall in the purview of their health insurance coverage, and hence the affordability was a challenge [16,17].

V. Conclusions

In the study, several barriers viz., lack of awareness, cost of treatment, accessibility to health care facility, dependency on family members, social beliefs, non-acceptance, lack of diagnosis are found to be predominantly associated with the elderly edentulous who may need a proper diagnosis and a prompt treatment.Creating awareness among people and educating them about signs and symptoms of OSA will help them in identifying this disorder. Regular screening of geriatric patients at health care facility for OSA and providing suitable treatment plan to susceptible patients or patients with OSA symptoms will be useful in halting the progression of disorder to more serious stage. It is important to educate clinicians on various signs and symptoms of OSA.

Low socio-economic status emerges as a strong barrier for patients who are seeking treatment through CPAP therapy. There is a need for financial support, so that inequalities in availing treatment could be eradicated. Overall, there is need of cumulative efforts from health care providers, sleep physicians, dentists, and society in identifying the disorder and designing a treatment protocol and regular follow-ups.

Barriers from health care providers:

Need of trained oral health professionals, so that they can effectively diagnose OSA and can start with treatment.There is a need for an in-office screening for diagnosis

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