



Original Research Article

Knowledge, attitude and perceived barriers in the practical approach of obstructive sleep apnea management

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ABSTRACT

Introduction: Obstructive sleep apnea (OSA) is a clinical disorder affecting almost 1 billion people globally. Untreated OSA can cause severe medical problems.

Materials and Methods: Present cross-sectional study was conducted amongst 106 dentists. Convenient sampling method was used and predesigned domain-based questionnaire was employed to gather the data.

Statistical Analysis: Data was entered and analyzed with Epi Info software (CDC, Atlanta). Measures of central tendency was used to present the data.

Results: Most of the respondents were female 69 (65.1%) and 37(34.9%) were male. Out of total participants 81% were general dental practitioners whereas orthodontics and consultants accounted for 19%.

Conclusion: OSA though highly prevalent amongst the general population but remains highly undiagnosed. Most common perceived barrier was lack of training and cost in the management of OSA.

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1. Introduction

Obstructive sleep apnoea is a clinical disorder that induces recurrent episodes of complete or partial obstruction of the upper airway occur for more than 10 seconds despite persistent respiratory efforts.¹ OSA affects almost 1 billion people globally.² Overall prevalence is higher in Hispanic, Black, and Asian populations. Evidences suggest prevalence increases with age, and when individuals reach 50 years of age or more, there are as many women as men who develop the disorder.³

Udwadia et al. in their study on urban Indian population found the prevalence of OSA as 7.5%.³ In another study by Sharma et al. on South Indian population the prevalence was 13.5%.⁴

Obstructive Sleep Apnea is recognized by snoring, hypoxia, hyper apnea, and insomnia. Whereas untreated

OSA can cause many medical problems such as hypertension, diabetes, cardiovascular diseases, cognitive dysfunction and depression.⁵

Though the diagnosis of OSA is clinical but the gold standard for diagnosing OSA is polysomnography⁶ Studies have showed that even though dental practitioner harbours sound theoretical knowledge but most away from its management. Hence, we planned this study to identify perceived barriers by Dental Practitioner in the management of OSA.

2. Materials and Methods

Present cross-sectional study was conducted amongst interns, academicians, dental practitioners, orthodontics, and other specialists. Sample size consisted of 106 dentists. Convenient sampling technique was used while selection of participants. Before initiating the study, Institutional ethical clearance was obtained.

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Pre designed questionnaire was given to the participants after getting informed consent from the participants.

2.1. Questionnaire frame

The questionnaire was uploaded via an e-mail that administered in the English language and prepared using the Google Forms platform. Questionnaire was validated by an expert in relevance, readability, clarity, and comprehensiveness of the knowledge and attitude items.

We categorised 14 questions including knowledge-based questions, practical approach based and questions to identify barriers in the management of OSA.

An invitation e-mail with a survey link was sent to all dentists. Nonrespondents were contacted 3 times over 8 weeks. One week after the initial e-mail, the first e-mail reminder was sent to nonrespondents with a link. This was followed by a second reminder 2 weeks later. The last e-mail reminder was sent 3 weeks after the second one.

2.2. Statistical analysis

Data was gathered via google forms which was entered in the excel sheet and analysed with Epi Info software (CDC Atlanta).

3. Results

Of the 106 dental practitioners who received the online questionnaire and responded by all. Most of the respondents were female 69 (65.1%) and 37(34.9%) were male. 81% were general dental practioners and orthodontics consultants accounted for 19%. Most of the respondents were working in the hospitals. (Table 1)

Table 1: Dental practioners participating in the study

	Frequency	Percentage (%)
Male	37	34.9
Female	69	65.1
General Practioners	86	81
Specialists/Consultants	20	19

18(16.9%) of the all dentists encounters a case of OSA weekly whereas 16(15.1%) monthly and 69(65.1%) occasionally. Whereas 3(2.8%) responded that they never encountered a single case of OSA. (Table 2)

Table 2:

How often you encounter a case of OSA?	Frequency	Percentage (%)
Weekly	18	16.1
Monthly	16	15.1
Occasionally	69	65.1
Never	3	2.8

While assessing the knowledge, 34% were able to define OSA. 53% could answer the risk factors associated with OSA. 74.5% of the practioner were unable to reply on management of OSA in the clinic and 49% of the participants were unaware of common methods used or appliance used in the management of OSA. Whereas 37.7 % were aware of mandibular/oral appliances. (Table 3)

Table 3: Domainbased questions

Domain	Question	Frequency	Percentage (%)
Knowledge	Define OSA.	36	34
	What are the risk Factors for OSA?	56	53
	What is the management of OSA?	28	26
Attitude	What are the common Appliances used in management of OSA?	54	51
	IS OSA a Health Disorder? Is there a role of Dentist in the management of OSA?	106	100
Belief/Barriers	Do you find a need of cost-effective appliance in the management of OSA?	85	80
Practice	Are you ready to prescribe Oral Appliance after getting training in OSA Management?	57	54

All the participants responded positively and confirming the role of dentists in the management of OSA patient. 80% of all the practioners were looking for cost effective appliance for management of OSA. And 54% were ready to prescribe Oral appliance in the management of OSA after getting proper training.

4. Discussion

Obstructive sleep apnoea is very much prevalent in the society and on the verge of becoming major public health problem. Notably first contact responders the remote areas are local dental practioner. Hence dental practioner working in the remote areas should have basic understandings of OSA and should identify the patient with signs and symptoms. So that they can screen the patients with OSA and refer them to sleep physicians, orthodontist or even can treat them with the available oral appliances.⁶

In the present study we tried to assess the different domains pertaining to knowledge, attitude, and practices.

In the present study 34 % of the dentists could define OSA correctly. 53% could reply symptomatology and risk factors associated with OSA. In the similar type of study kale et al. observed that 60.71% dentists were able to correctly define OSA.⁷ However, Manohar et al. observed

that 88% of the dental practitioners could define OSA correctly.⁸

Schotland et al.⁹ observed the correct mean knowledge score as 64% amongst physicians. Similarly, Wang et al. also noticed mean knowledge score of 62% in Chinese anaesthetologist.¹⁰ In both the study's author used OSAKA score.

49% of the dental practitioners were unaware of oral appliances used in the management of OSA. Similar observations were noted by Jokubauskas et al while conductive nationwide cross-sectional study amongst Lithuanian dentists. In the same study they observed that 60% of the dentists were now knowing the common methods used in the management of OSA.¹¹

Devraj et al.¹² in their cross-sectional study amongst primary care physician noted that majority of respondents would refer patients with suspected OSA to a specialist clinic such as ENT (83%) and respiratory (15%) physicians.

In our study only 32 % of all dentists were treating the patient presented with OSA this was consistent with Vuorjoki-Ranta et al. findings where 41% of all the respondents showed positive attitude in the management of OSA and 70.9% of them were treating the OSA patients.⁶

In our study we observed cost was prime factor in the management of the OSA. Nearly as much as 80% of the practitioners were looking for cost effective appliance. Whereas knowledge deficits, lack of dentists' confidence in OSA management, lack of training were other notable causes identified by the Alzharani et al.¹³

5. Conclusion

OSA though highly prevalent amongst the general population but remains highly undiagnosed. Same amount of ignorance remains amongst dentist while diagnosing, assessing and management of OSA. In the present study we observed positive attitude in the dental practitioners regarding management of OSA. Whereas observed bottlenecks were lack of knowledge regarding correct diagnostic approach, symptomatology and treatment.

Most common perceived barrier was lack of training and cost in the management of OSA. Hence, we conclude that regular training and retraining of the dental practitioner is needed. Technologic advancement also needed to reduce the monetary burden on the patient while prescribing oral appliances.

6. Source of Funding

None.

7. Conflict of Interest

None.


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