

KNOWLEDGE OF PEDIATRIC OBSTRUCTIVE SLEEP APNEA AMONG PARENTS IN SAUDI ARABIA: QUESTIONNAIRE-BASED STUDY

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ARTICLE INFO

Received:
26 Sep 2023
Accepted:
23 Dec 2023

Keywords: Sleep-disordered breathing, A cross-sectional study, Saudi Arabia, Knowledge and awareness, Pediatric obstructive sleep apnea

ABSTRACT

Obstructive sleep apnea (OSA) is characterized by recurrent episodes of partial or complete blockage of the upper airway during sleep, resulting in a drop in blood oxygen saturation and impaired breathing. If left untreated, it can result in poor quality of life. The main objective of this study is to determine the level of knowledge and awareness of parents in Saudi Arabia about obstructive sleep apnea in children. During 2023, a cross-sectional study based on a validated online survey was distributed to parents in Saudi Arabia. The sample size for this study was calculated using the Qualtrics tool for children between the ages of 0 and 14 who fall within the pediatric age range. The questionnaire for the survey tool was designed to be self-completed. There is a significant prevalence of obstructive sleep apnea in children, with 60.8% of respondents reporting episodes of recurrent sleep apnea. Additionally, it appears that a majority of individuals 41.3% became aware of the problem of obstructive sleep apnea in children through the internet and social networking sites. Gender shows a significant difference in knowledge levels, with a p-value of 0.001. The overall score shows that 42.4% exhibited a high knowledge degree, 39.4% exhibited a moderate knowledge degree, and 18.1% exhibited a low knowledge degree. In conclusion, the knowledge of pediatric obstructive sleep apnea among parents in Saudi Arabia according to our study is good, which has implications for the management and treatment of this condition.

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To Cite This Article: Flemban R, Kutubkhana R, Alotaibi A, Alnajjar J, Alshaikh L, Alasmi R, et al. Knowledge of Pediatric Obstructive Sleep Apnea among Parents in Saudi Arabia: Questionnaire-Based Study. *Pharmacophore*. 2023; 14(S1): e-723-8797

Introduction

Obstructive sleep apnea (OSA) is the most common type of sleep-disordered breathing that is characterized by recurrent episodes of partial or complete blockage of the upper airway during sleep, hence causing blood oxygen saturation to drop resulting in breathing to be impaired [1]. If left untreated, it can result in poor quality of life, behavioral and cognitive impairments, reduced growth and development, and costly healthcare costs [2].

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Obstructive sleep apnea (OSA) has been reported to affect between 1.2% and 5.7% of children [3]. The prevalence of obstructive sleep apnea and other sleep-related airway disorders in children is estimated to be 1% to 5.8% and 4% to 11%, respectively, based on questionnaire surveys of parents and definitive diagnostic tests using objective markers such as polysomnography or pulse oximetry [4]. Surprisingly, according to studies up to 35% of children snore frequently without suffering from OSA. Recognizing and treating obstructive sleep apnea is very important to a child's overall health due to its serious detrimental effects on cognitive ability, behavior, and the cardiovascular system [5].

Because of the proportional size of the lymphatic tissue in the upper airways, most children are between 2 and 8 years old. Both African American and obese children are at increased risk for OSA [6].

Studies from 2021 on parents' awareness and knowledge of obstructive sleep apnea showed a moderate level of understanding, and 50.7% indicated that public awareness campaigns are needed [7].

According to a study published in 2023, only 16 percent of parents in Jeddah, Saudi Arabia have a good understanding of pediatric OSA, while less than half of them can explain the condition. Delays in diagnosis and treatment can impact children's health and academic performance. The mean knowledge score, 15.39 5.8, showed a significant difference between jobs ($P=0.039$) [8]. In a survey of parents attending a children's hospital in Jeddah in 2023, only 20% of parents responded, showing a lack of understanding and awareness of this condition. This underscores the importance of health education programs and public awareness efforts to increase public awareness of pediatric OSA [8].

A 2021 study conducted an anonymous survey to assess parents' knowledge of OSA-related symptoms and difficulties. The results showed that 47.2% knew about OSA in childhood and the internet was the most popular source of information (49.9%). Multivariate analysis revealed that higher scores were found among respondents with maternal status (B: -0.105, 95% confidence interval [CI]: -0.153, -0.057) and living in an urban area (B: -0.077, 95% CI: -0.125, -0.28) and prior awareness of childhood OSA (B: -0.55, 95% CI: -0.598, -0.502) [9]. Due to the small number of studies measuring parental knowledge about obstructive sleep apnea in children in Saudi Arabia, there were several drawbacks in these studies, such as emphasizing specific locations and circumstances rather than the entire population [10].

The main objective of this study is to determine the level of knowledge and awareness of parents in Saudi Arabia about obstructive sleep apnea in children. This study aimed to measure the level of knowledge and awareness of parents in Saudi Arabia regarding obstructive sleep apnea in pediatric patients.

Materials and Methods

Study Design

A cross-sectional study based on a validated online survey distributed among parents living in Saudi Arabia.

Study Setting: Participants, Recruitment, and Sampling Procedure

The study population consisted of parents in Saudi Arabia. Participants are sought in Saudi Arabia in 2023 and each participant is a parent of a child in the pediatric age group, which is from birth to 14 years.

Inclusion and Exclusion Criteria

The inclusion criteria for this study were: All parents of children under the age of 18 from all levels of society residing in Saudi Arabia. Parents living outside of Saudi Arabia were excluded from this study.

Sample Size

The sample size for this study was estimated using the Qualtrics tool with a 95% CI; the minimum sample size was; 385.

Method for Data Collection and Instrument (Data Collection Technique and Tools)

Data Collection: Participants will complete an online survey to determine their understanding of obstructive sleep apnea in children and their demographics. The survey tool was developed as a self-administered questionnaire to ensure participant confidentiality and ease of completion. It consists of a series of questions in Arabic covering important aspects related to pediatric OSA. To encourage high response rates, the questionnaire was made to be clear and simple to use. It aimed to determine knowledge and attitudes about obstructive sleep apnea (OSA) in children. The survey tool focuses on understanding participants' familiarity with manifestations of pediatric OSA, risk factors, parental attitudes toward pediatric OSA, and their interest in further education in pediatric OSA care. The purpose of the questionnaire is to gather valuable insights to raise awareness and improve the quality of pediatric OSA care.

Scoring System

1. Recognize Symptoms (10 points)

- Correctly identify waking up from sleep: 1 point.
- Correctly identify snoring: 1 point.
- Correctly identify excessive daytime sleepiness: 0.5 points.
- Correctly identify hyperkinetic: 1.5 points.
- Correctly identify mouth breathing: 1 point.

- Correctly identify coughing and choking: 1.5 points.
 - Correctly identify sleep disorders: 1.5 points.
 - Correctly identify conspicuous episodes of breathing pauses during sleep: 1 point.
 - Correctly identify nighttime urination: 0.5 points.
 - Correctly identify nightmares: 0.5 points.
2. Understand Risk Factors (10 points)
- Correctly identify obesity: 1.5 points.
 - Correctly identify enlarged tonsils: 1 point.
 - Correctly identify adenoma: 1 point.
 - Correctly identify diabetes: 0.5 points.
 - Correctly identify asthma: 0.5 points.
 - Correctly identify Down's syndrome: 1 point.
 - Correctly identify sinus sensitivity: 0.5 points.
 - Correctly identify cerebral palsy: 0.5 points.
 - Correctly identify sickle cell disease: 0.5 points.
 - Correctly identify birth below normal weight: 1 point.
 - Correctly identify one or both parents who smoke: 1 point.
 - Correctly identify one or both parents suffer from obstructive sleep apnea and snoring: 1 point.
3. Knowledge and Awareness (10 points)
- Knowing that children affected by obstructive sleep apnea impair their academic performance: 1.5 points.
 - Knowing that children with obstructive sleep apnea suffer from depression more often than others: 0.5 points.
 - Knowing that obstructive sleep apnea in children affects their attention and behavior: 1 point.
 - Knowing that genes play a role in the cause of obstructive sleep apnea in children: 0.5 points.
 - Knowing that obstructive sleep apnea in children is treatable: 1.5 points.
 - Knowing that early treatment and early diagnosis can reduce the incidence of possible complications in children with obstructive sleep apnea: 1.5 points.
 - Knowing that parental awareness of obstructive sleep apnea in children helps reduce the burden on parents and thus for society as a whole: 1.5 points.
 - Episodes of recurrent sleep apnea (proper definition of the condition): 2 points.
4. Overall Awareness (Total 30)
- Highly aware (scored 20-30 points)
 - Moderately aware (scored 10-20 points)
 - Low awareness (scored 5-9 points)
 - Very low awareness (scored 0-4 points)

Total Score: Sum of the points for each question.

This scoring system assesses parents' knowledge and awareness of obstructive sleep apnea in children by considering their ability to identify definitions and symptoms and to understand risk factors and consequences. The total score reflects the parents' overall level of knowledge and awareness of this condition.

This scoring system was derived from the following research "Knowledge and Awareness of Parents Attending Pediatric Clinics Regarding Pediatric Obstructive Sleep Apnea in Jeddah: A Cross-Sectional Study"[7].

Analysis and Entry Method

The collected data are entered on the computer using the Microsoft Excel (2016) program for Windows. The data is later transferred to the Statistical Package of Social Science Software (SPSS) program, version 20 for statistical analysis.

Results and Discussion

Table 1 shows that in terms of age, the majority of the population falls within the 20-40 age range, with 31.9% between 20-30 and 30.7% between 31-40. This indicates a relatively young population, with only 6.2% of individuals aged 51-60. Gender distribution shows a higher percentage of females at 79.1% compared to males at 20.9%. The vast majority of the population, 93.8%, is Saudi, while only 6.2% are non-Saudi. In terms of education level, the data shows a relatively high percentage of individuals with a bachelor's degree at 60.1%, followed by high school graduates at 14.0%, and 8.3% being university students. The occupation data indicates that a significant portion of the population, 34.6%, are employed in the governmental sector, while 16.3% are employed in the private sector. Marital status data shows that the majority of the population, 72.5%, is married,

while 24.8% are single. Finally, the data on the number of children shows that the majority of individuals, 41.7%, have 1-3 children and 27.8% have 4-7 children, while 29.6% have no children.

Table 1. Sociodemographic characteristics of participants (n=436)

	Parameter	No.	Percent
Age	less than 20	35	8.0
	20_30	139	31.9
	31_40	134	30.7
	41_50	101	23.2
	51_60	27	6.2
Gender	Male	91	20.9
	Female	345	79.1
Nationality	Saudi	409	93.8
	Non-Saudi	27	6.2
Education Level	Not educated	1	.2
	Primary school	3	.7
	Middle school	11	2.5
	High school	61	14.0
	Bachelor	262	60.1
	University student	36	8.3
	Diploma	32	7.3
	Post-graduate	30	6.9
Occupation	Free Business	17	3.9
	Health sector employee	4	.9
	Governmental employee	151	34.6
	Private employee	71	16.3
	student	70	16.1
	retired	19	4.4
	other	104	23.9
Marital Status	Married	316	72.5
	Single	108	24.8
	Divorced	7	1.6
	Widowed	5	1.1
number of children	1-3	182	41.7
	4-7	121	27.8
	8 or more	4	.9
	None	129	29.6

Table 2 shows that there is a significant prevalence of obstructive sleep apnea in children, with 60.8% of respondents reporting episodes of recurrent sleep apnea. Additionally, it appears that a majority of individuals 41.3% became aware of the problem of obstructive sleep apnea in children through the internet and social networking sites. Moreover, several respondents 23.2% reported having a boy or girl who suffers from sleep apnea and snoring. The most commonly reported symptoms expected in children with obstructive sleep apnea included discomfort in sleeping 55.7%, snoring 53.7%, and mouth breathing 51.4%.

Table 2. Knowledge of participants about pediatric obstructive sleep (n=436)

	Parameter	No.	Percent
What is obstructive sleep apnea in children?	Complete interruption of breathing throughout sleep until waking up	16	3.6
	Episodes of recurrent sleep apnea	265	60.8
	A natural phenomenon that occurs during sleep	31	7.1
How did you know about the problem of obstructive sleep apnea in children?	The Internet and social networking sites	180	41.3
	A person with sleep apnea	55	12.6
	Medical articles	72	16.5
	Other	129	29.6
Do you have a boy or girl who suffers from sleep apnea and snoring?	Yes	101	23.2
	No	335	76.8

If a child suffers from obstructive sleep apnea, what are his symptoms expected to be?	Snoring	234	53.7
	Waking up from sleep	168	38.5
	Mouth breathing	224	51.4
	Discomfort in sleeping	243	55.7
	Noticeable episodes of stopping breathing during sleep	203	46.6
	Hyperactivity	31	7.1
	Repeated coughing and suffocation	146	33.5
	Excessive sleepiness during the day	65	14.9
	Night urination	28	6.4
	Nightmares	51	11.7

Table 3 shows that out of 436 participants, 49.5% were aware that obstructive sleep apnea in children affects their educational performance, while 50.5% were not aware of this impact. Furthermore, the data shows that 37.2% of participants were aware that children with obstructive sleep apnea have a higher risk of developing depression, while 62.8% were not aware of this correlation.

Additionally, the data reveals that 49.1% of participants were aware of the impact of obstructive sleep apnea on children's attention and behavior, while 50.9% were not aware of this association. Moreover, the data shows that 88.1% of participants believed that obstructive sleep apnea in children can be treated, while 11.9% did not share this belief. However, it is important to address the concerns of the 11.9% who may be skeptical about treatment options for pediatric obstructive sleep apnea. Furthermore, 91.3% of participants believed that early treatment and early diagnosis can reduce the incidence of possible complications in children with obstructive sleep apnea, while 8.7% did not share this belief. Lastly, 91.3% of participants believed that parents' awareness of obstructive sleep apnea in children helps reduce the burden on families and society as a whole, while 8.7% did not share this belief.

Table 3. Awareness of pediatric obstructive sleep apnea among participants (n=436)

Parameter	Yes	No
Did you know that obstructive sleep apnea in children with it affects their educational performance?	216 49.5%	220 50.5%
. Did you know that children with obstructive sleep apnea have a higher risk of developing depression than others?	162 37.2%	274 62.8%
Did you know that obstructive sleep apnea in children with it has an impact on their attention and behavior?	214 49.1%	222 50.9%
Do you think that genes play a role in causing obstructive sleep apnea in children?	205 47.0%	231 53.0%
Do you think obstructive sleep apnea in children can be treated?	384 88.1%	52 11.9%
Do you think that early treatment and early diagnosis can reduce the incidence of possible complications in children with obstructive sleep apnea?	398 91.3%	38 8.7%
Do you think that parents' awareness of obstructive sleep apnea in children helps reduce the burden on families and thus on society as a whole?	398 91.3%	38 8.7%

Table 4 shows that participants were aware of risk factors such as enlarged tonsils 57.1%, adenoids 64.4%, and obesity 48.9%. When it comes to raising awareness in society about obstructive sleep apnea in children, the most appropriate way, according to the participants, is through consulting a specialist doctor (41.5%), followed by volunteer awareness campaigns (36.9%) and the Internet and social networking sites (21.6%).

Table 4. Awareness of participants about pediatric obstructive sleep apnea (n=436)

Parameter	No.	Percent
In your opinion, what are the risk factors for sleep apnea and snoring in children?	Obesity	213 48.9
	Enlarged tonsils	249 57.1
	Adenoids	281 64.4
	Diabetes	42 9.6
	Sinus allergy	195 44.7
	Asthma	204 46.8
	One or both parents suffer from sleep apnea and snoring	138 31.7
	One or both parents are smokers	94 21.6
	Down's syndrome	39 8.9
	Cerebral Palsy	59 13.5

	Sickle cell anemia	30	6.9
	Giving birth with a lower-than-normal weight	24	5.5
In your opinion, what is the most appropriate way to raise awareness in society about obstructive sleep apnea in children?	Consult a specialist doctor	181	41.5
	The Internet and social networking sites	94	21.6
	Volunteer awareness campaigns	161	36.9

The overall score shows that 42.4% exhibited a high knowledge degree, 39.4% exhibited a moderate knowledge degree, and 18.1% exhibited a low knowledge degree (Figure 1).

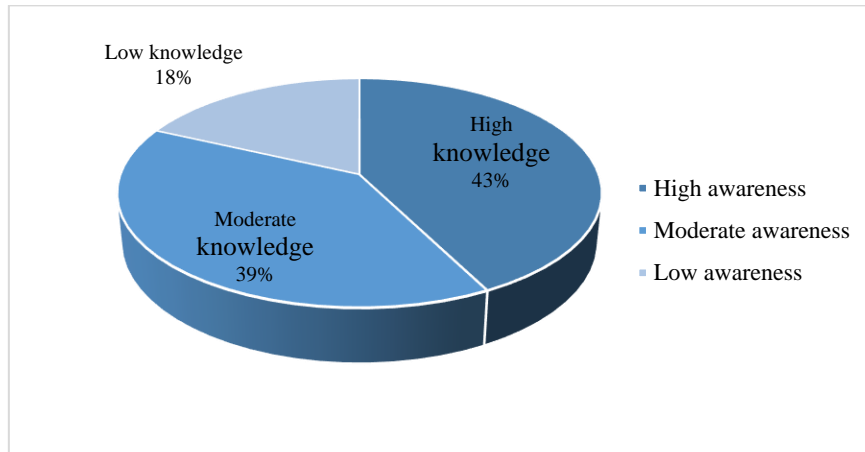


Figure 1. Participants' awareness scores about OSA in pediatrics

Table 5 shows that for age, there is no significant difference in knowledge levels across the different age groups. Marital status also does not show a significant difference in knowledge levels, as the p-value is 0.392. In contrast, gender shows a significant difference in knowledge levels, with a p-value of 0.001. This indicates that there is a significant association between gender and knowledge level, with females having a higher knowledge level compared to males. Nationality also does not show a significant difference in knowledge levels, as the p-value is 0.491. Education level indicates also no significant difference in knowledge levels, with a p-value of 0.155. Finally, occupation and number of children also do not show a significant difference in knowledge levels, as the p-values are 0.266 and 0.193, respectively.

Table 5. Association between sociodemographic characteristics of participants and knowledge of pediatric obstructive sleep apnea (n=436)

	score 1			Total (N=436)	P value	
	High knowledge	Moderate knowledge	Low knowledge			
Age	less than 20	21	12	2	35	0.453
		4.8%	2.8%	0.5%	8.0%	
	20_30	58	51	30	139	
		13.3%	11.7%	6.9%	31.9%	
	31_40	56	54	24	134	
		12.8%	12.4%	5.5%	30.7%	
41_50	40	43	18	101		
	9.2%	9.9%	4.1%	23.2%		
51_60	10	12	5	27		
	2.3%	2.8%	1.1%	6.2%		
marital status	Single	51	35	22	108	0.392
		11.7%	8.0%	5.0%	24.8%	
	Married	130	130	56	316	
		29.8%	29.8%	12.8%	72.5%	
	Divorced	3	3	1	7	
		0.7%	0.7%	0.2%	1.6%	
widow	1	4	0	5		
	0.2%	0.9%	0.0%	1.1%		

Gender	Male	34	28	29	91	0.001
		7.8%	6.4%	6.7%	20.9%	
	Female	151	144	50	345	
		34.6%	33.0%	11.5%	79.1%	
Nationality	Saudi	171	162	76	409	0.491
		39.2%	37.2%	17.4%	93.8%	
	Non-Saudi	14	10	3	27	
		3.2%	2.3%	0.7%	6.2%	
Education Level	uneducated	0	0	1	1	0.155
		0.0%	0.0%	0.2%	0.2%	
	primary	2	0	1	3	
		0.5%	0.0%	0.2%	0.7%	
	middle	3	4	4	11	
		0.7%	0.9%	0.9%	2.5%	
	secondary	24	28	9	61	
		5.5%	6.4%	2.1%	14.0%	
	Bachelor's degree	113	95	54	262	
		25.9%	21.8%	12.4%	60.1%	
Ungraduated university	13	17	6	36		
	3.0%	3.9%	1.4%	8.3%		
diploma	14	16	2	32		
	3.2%	3.7%	0.5%	7.3%		
Postgraduate	16	12	2	30		
	3.7%	2.8%	0.5%	6.9%		
Occupation	An employee in the health sector	3	1	0	4	0.266
		0.7%	0.2%	0.0%	0.9%	
	An employee in a government sector	71	61	19	151	
		16.3%	14.0%	4.4%	34.6%	
	An employee in the private sector	27	24	20	71	
		6.2%	5.5%	4.6%	16.3%	
	free business	4	9	4	17	
		0.9%	2.1%	0.9%	3.9%	
	student	31	29	10	70	
		7.1%	6.7%	2.3%	16.1%	
Retired	8	8	3	19		
	1.8%	1.8%	0.7%	4.4%		
Other	41	40	23	104		
	9.4%	9.2%	5.3%	23.9%		
number of children	1 -3	67	85	30	182	0.193
		15.4%	19.5%	6.9%	41.7%	
	4-7	59	40	22	121	
		13.5%	9.2%	5.0%	27.8%	
	8 or more	2	2	0	4	
0.5%		0.5%	0.0%	0.9%		
nothing	57	45	27	129		
	13.1%	10.3%	6.2%	29.6%		

Pediatric obstructive sleep apnea (OSA) is a common sleep disorder in children, characterized by partial or complete obstruction of the upper airway during sleep, leading to disrupted breathing patterns and disrupted sleep. It is a serious condition that can have long-term consequences if left untreated. In Saudi Arabia, the knowledge of pediatric obstructive sleep apnea among parents is an important aspect of the overall management of this condition. This essay will discuss the current

state of knowledge of pediatric obstructive sleep apnea among parents in Saudi Arabia, as well as the implications for the management and treatment of this condition [2-4].

Firstly, it is important to understand the prevalence of pediatric obstructive sleep apnea in Saudi Arabia. It is estimated that the prevalence is approximately 5%; this is a significant number, considering the potential long-term consequences of untreated OSA in children [11].

Our findings revealed that the participants' knowledge about pediatric obstructive sleep apnea is good, as 42.4% exhibited a high knowledge degree, 39.4% exhibited a moderate knowledge degree, and only 18.1% exhibited a low knowledge degree. In contrast to a study done in 2023 in Jeddah, Saudi Arabia which revealed a notable deficiency in parental awareness of pediatric obstructive sleep apnea (OSA) among individuals seeking care at a regular pediatric clinic. The average knowledge score was 15.38 ± 6 . A little 20% of the participants exhibited a satisfactory level of knowledge, whereas a mere 41% of the parents had an accurate understanding of the concept of OSA [7]. The findings of this research align with the results reported by Bashir *et al.*, who conducted the only investigation on parents' understanding of pediatric obstructive sleep apnea (OSA) in Saudi Arabia. The researchers concluded that around 33% of the participants exhibited a low level of knowledge. This determination was made based on the categorization of knowledge levels into low, medium, and high. Furthermore, it was observed that just 6.2% of the participants showed a high level of knowledge [6]. Consistent with another research included a total of 462 participants and revealed a prevalent deficiency in understanding OSA. Merely 16% of parents exhibited a commendable level of knowledge, as shown by a mean knowledge score of 15.39 ± 5.84 [9]. In China, Xu *et al.* evaluated parental knowledge and awareness of pediatric OSA, revealing a similar pattern of low understanding and awareness. Specifically, their study included 1123 parents and highlighted the presence of poor knowledge and awareness pertaining to the treatment and problems associated with OSA [8].

Our study showed that the gender of participants was associated with the knowledge of pediatric OSA, as females (mothers) exhibited more knowledge than males (fathers). Consistent with research that revealed that moms exhibited greater levels of knowledge compared to dads [7]; this finding also aligns with the study conducted by Xu *et al.* The researchers discovered that moms exhibited considerably higher scores compared to dads in relation to the symptoms and consequences associated with pediatric OSA. However, there was no significant difference seen between mothers and fathers in terms of treatment outcomes [8]. One plausible reason for this result may be attributed to the heightened level of maternal responsibility and engagement in childcare.

In our study, 7.1% of the participants think that hyperactivity is from OSA symptoms, and 6.4 think that night urination is a symptom. Aligned with a study in Saudi Arabia which showed that the signs of hyperactivity and bed wetting were found to be the least acknowledged by participants [7]. The results obtained in this study exhibit a resemblance to the findings reported by DiNardo *et al.* and Bashir *et al.* [6, 12]. However, the parents in our research demonstrated a clear recognition of adenoids and tonsils growth, allergic sinusitis, and asthma as significant risk factors. Consistent with the research conducted by Bashir *et al.* and Alosaimi *et al.* [6, 7].

One of the main reasons for the lack of knowledge among parents in Saudi Arabia is the lack of public education and awareness campaigns about pediatric obstructive sleep apnea. Many parents are not aware of the signs and symptoms of OSA in children, and therefore, may not seek timely medical attention for their children. Additionally, there is a lack of screening programs in schools and primary care settings to identify children at risk for OSA. This lack of awareness and screening programs contributes to the underdiagnosis and undertreatment of pediatric obstructive sleep apnea in Saudi Arabia [13].

Furthermore, there are cultural and social factors that may contribute to the lack of knowledge about pediatric obstructive sleep apnea among parents in Saudi Arabia. For example, there may be a stigma associated with seeking medical attention for sleep disorders, leading to delayed diagnosis and treatment. Additionally, there may be a lack of trust in the healthcare system, leading to a reluctance to seek medical care for children with OSA. These cultural and social factors need to be addressed to improve the knowledge and awareness of pediatric obstructive sleep apnea among parents in Saudi Arabia [1-3].

In terms of the implications for the management and treatment of pediatric obstructive sleep apnea, the lack of knowledge among parents can lead to delayed diagnosis and treatment, as well as poor adherence to treatment recommendations. Untreated OSA in children can lead to a range of long-term consequences, including cognitive and behavioral problems, cardiovascular complications, and poor quality of life. Therefore, it is crucial to improve the knowledge of pediatric obstructive sleep apnea among parents in Saudi Arabia in order to ensure timely diagnosis and appropriate management of this condition [5-7].

Further research is required to validate our results via the inclusion of bigger sample sizes and the exploration of other areas within Saudi Arabia. The present research is subject to several limitations that should be acknowledged. First, the sample size used in this study is quite small, which may restrict the extent to which the findings can be applied to a larger population. Additionally, the reliance on self-reported surveys introduces potential biases, such as memory bias and desirability bias, which may affect the accuracy and reliability of the data collected.

Conclusion

The knowledge of pediatric obstructive sleep apnea among parents in Saudi Arabia according to our study is good, which has implications for the management and treatment of this condition. However, there is a need for public education and awareness campaigns, as well as the implementation of screening programs in schools and primary care settings, to improve the knowledge and awareness of pediatric obstructive sleep apnea among parents. Additionally, cultural and social factors that

may contribute to the lack of knowledge need to be addressed in order to ensure timely diagnosis and appropriate management of pediatric obstructive sleep apnea in Saudi Arabia. By improving the knowledge of parents, we can ensure better outcomes for children with OSA in Saudi Arabia.

Acknowledgments: We thank the participants who all contributed samples to the study.

Conflict of interest: None

Financial support: None

Ethics statement: Ethical approval was obtained from the research ethics committee of Hera General Hospital with Application number: [H-02-K-076-112301031]. An informed consent was obtained from each participant after explaining the study in full and clarifying that participation is voluntary. Data collected were securely saved and used for research purposes only.

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