

Knowledge, Attitude and Practice of Physiotherapist Regarding Role of Physiotherapy in Obstructive Sleep Apnea Management

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Abstract:

Background - A frequent respiratory condition linked to sleep, obstructive sleep apnoea (OSA) is linked to serious metabolic and cardiovascular issues. Breathing exercises, oropharyngeal exercises, myofunctional therapy, and positional therapy are examples of physiotherapy techniques that have demonstrated positive outcomes in the treatment of OSA. However, little research has been done on physiotherapists' knowledge, attitude, and practice (KAP) in relation to their involvement in managing OSA.

Objective- To assess the knowledge, attitude, and practice of physiotherapists regarding the role of physiotherapy in obstructive sleep apnea management.

Methods- Convenience sampling was used to perform a cross-sectional study with 101 physiotherapists. Participants' knowledge, attitudes, and habits about OSA management were evaluated using a self-administered questionnaire. Data analysis was done using descriptive statistics.

Results- The majority of responders (96%) agreed that physiotherapy has a part in managing OSA. The most often reported therapies were breathing exercises (89.1%) and oropharyngeal exercises (84.2%). 92% of respondents thought that physiotherapy therapies were helpful in managing OSA. Lack of training (66.3%), low patient compliance (58.4%), and low patient awareness (77.2%) were the main obstacles found.

Conclusion- Although physiotherapists showed good attitudes and knowledge about managing OSA, patient awareness and training gaps continue to be obstacles to efficient clinical practice. The contribution of physiotherapists to multidisciplinary OSA care may be enhanced by including sleep medicine instruction into physiotherapy curricula and continuing professional development programs.

Keywords - Breathing Exercises, Knowledge Attitude Practice, Myofunctional Therapy, Sleep Medicine, Obstructive Sleep Apnea

1. Introduction :

Obstructive sleep apnea (OSA) is a prevalent sleep-related breathing disorder characterized by repetitive episodes of complete or partial upper airway obstruction during sleep, leading to intermittent hypoxia, sleep fragmentation, and significant cardiovascular and metabolic consequences(1) The global prevalence of OSA has been estimated to affect approximately 936 million adults aged 30-69 years worldwide, with significant variations across different populations and geographical regions (2)This condition not only impairs quality of life but also increases the risk of hypertension, stroke, cardiovascular disease, type 2 diabetes, and premature mortality (3)

While continuous positive airway pressure (CPAP) therapy remains the gold standard treatment for moderate to severe OSA, adherence rates are suboptimal, with approximately 30-50% of patients discontinuing or inconsistently using CPAP within the first year of treatment.(4) This poor adherence has necessitated the exploration of alternative and adjunctive therapeutic interventions, including lifestyle modifications, positional therapy, oral appliances, and increasingly, physiotherapy interventions.

Emerging evidence suggests that physiotherapy plays a potentially valuable role in the multidisciplinary management of OSA through various interventions. Myofunctional therapy, which involves oropharyngeal exercises targeting the tongue, soft palate, and lateral pharyngeal wall muscles, has demonstrated promising results in reducing apnea-hypopnea index (AHI), improving oxygen saturation, and decreasing snoring frequency in patients with mild to moderate OSA(5)Additionally, breathing exercises, postural correction, cervical mobilization, and exercise training programs have been proposed as complementary interventions that may address anatomical and functional factors contributing to upper airway collapsibility .(6)

Despite the growing body of literature supporting physiotherapy interventions in OSA management, there appears to be a significant gap between research evidence and clinical practice. Physiotherapists' knowledge about OSA pathophysiology, diagnostic criteria, treatment options, and their specific role in the multidisciplinary care team may vary considerably across different healthcare settings and geographical regions .(7) Furthermore, attitudes toward incorporating OSA screening and management into routine physiotherapy practice may be influenced by factors such as professional training, clinical experience, perceived competence, institutional support, and awareness of current evidence .(8)

Understanding the current knowledge, attitudes, and practices (KAP) of physiotherapists regarding their role in OSA management is essential for several reasons. First, it helps identify educational gaps and training needs that could be addressed through continuing professional development programs and curriculum modifications in physiotherapy education .(9)Second, it provides insights into barriers and facilitators that influence the integration of evidence-based OSA interventions into clinical practice, which is crucial for developing effective implementation strategies .(10) Third, it establishes a baseline for evaluating the impact of future educational interventions and quality improvement initiatives aimed at enhancing physiotherapists' involvement in OSA care.

The Knowledge-Attitude-Practice (KAP) framework has been widely utilized in healthcare research to assess healthcare professionals' understanding of specific health conditions, their beliefs and perceptions about these conditions, and their actual clinical behaviours.(11) Applying this framework to investigate physiotherapists' engagement with OSA management can reveal important discrepancies between what physiotherapists know, what they believe about their role, and what they actually do in clinical practice. Such insights are particularly relevant in the context of OSA, where interprofessional collaboration

between sleep physicians, dentists, otolaryngologists, and physiotherapists is increasingly recognized as essential for comprehensive patient care.(12)

Previous studies examining healthcare professionals' knowledge and attitudes toward sleep disorders have primarily focused on physicians, nurses, and dentists, with limited attention given to physiotherapists despite their potential contribution to OSA management .(13)The few existing studies exploring physiotherapists' involvement in sleep medicine have highlighted variable levels of awareness and inconsistent integration of sleep-related assessments and interventions into practice(14)This suggests an urgent need for comprehensive research to systematically evaluate physiotherapists' KAP regarding OSA and identify strategies to optimize their role in the multidisciplinary management of this prevalent condition.

Therefore, this research aims to assess the knowledge, attitudes, and practices of physiotherapists regarding the role of physiotherapy in obstructive sleep apnea management, identify factors influencing their clinical decision-making, and explore barriers and facilitators to implementing evidence-based OSA interventions in physiotherapy practice. The findings from this study will contribute to developing targeted educational programs, practice guidelines, and policy recommendations to enhance physiotherapists' capacity to contribute effectively to OSA care and improve patient outcomes

2. Methodology :

Study design: cross sectional study

Sample size: n=100

Sampling Technique: Convenience sampling (non-probability) will be used to recruit participants based on their accessibility and proximity to researcher

Study Setting: The study will be conducted among physiotherapists practicing in.

Study Duration: 4 weeks

Study Population: The population consists of qualified physiotherapists (BPT, MPT, or equivalent) currently working in clinical, academic, or research settings.

Sampling Method: Convenient sampling

Outcome measures: self-administered questionnaire

Inclusion criteria

1. Licensed/registered physiotherapists with valid practice credentials
2. Physiotherapists with minimum 1 year of clinical experience
3. Both genders
4. Physiotherapists Age 22-65 years
5. Willing to provide informed consent
6. Physiotherapist working in hospitals, clinics or private practice settings

Exclusion criteria:

1. Physiotherapy students or interns without full licensure
2. Retired physiotherapists not in active practice
3. Physiotherapists who declined to participate

3. Result:

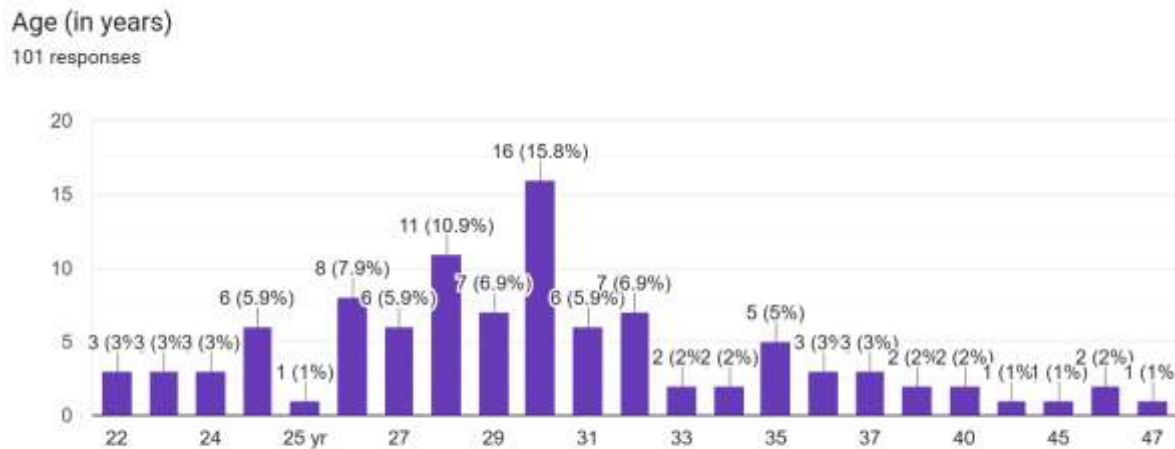


Figure 1

Participants range in age from 22 to 47. With 16 participants (15.8%), the age group with the greatest number of respondents—roughly 29 years old—is the most prevalent in the study. The majority of responders are young adults, as seen by the significant number of participants who are between the ages of 26 and 31. Only a small percentage of participants are above 40, and fewer are in the elder age categories (over 35).

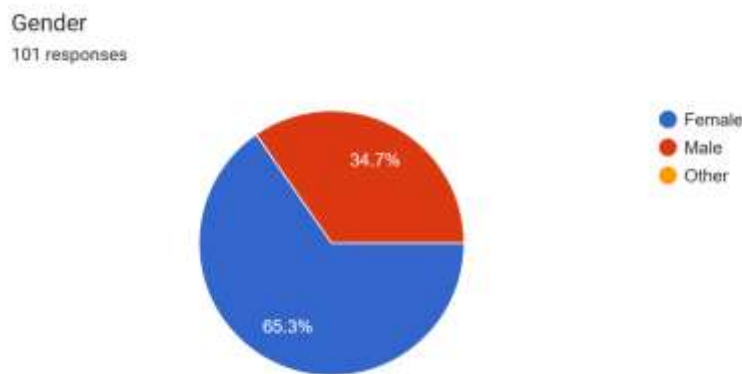


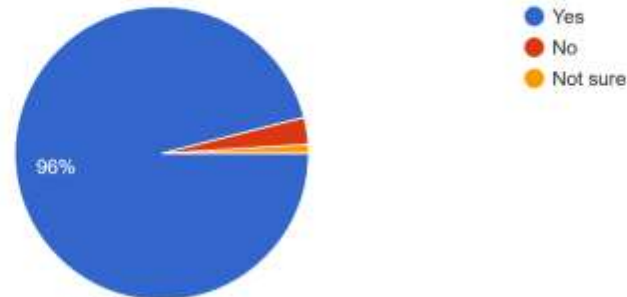
Figure 2

Gender	Percentage
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Of the 101 respondents, 34.7% are men and 65.3% are women. Almost two-thirds of the responses are female, making up the majority of the sample group. Approximately one-third of the participants are men.

Physiotherapy has a role in OSA management
101 responses



***OSA: Obstructive sleep apnea**

Figure 3

Physiotherapy has a role in Obstructive sleep apnea management	Percentage
Yes	96%
No	3%
Not sure	1%

Table 3

96% of respondents said "Yes," showing that most people think physiotherapy is crucial for treating obstructive sleep apnea (OSA). Just 3% of respondents said "No," indicating that relatively few people do not believe PT helps manage OSA. The remaining 1% of respondents responded "Not sure," indicating a low level of doubt.

Physiotherapy interventions can be beneficial in OSA management
101 responses

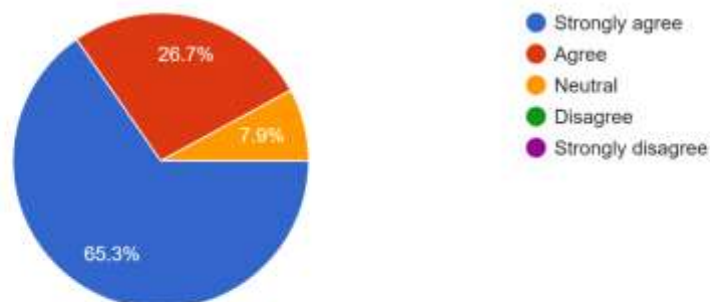


Figure 4

Physiotherapy intervention can be beneficial in Obstructive sleep apnea management	Percentage
Strongly agree	65.3%
Agree	26.7%
Neutral	7.9%

Disagree	0%
Strongly disagree	0%

Table 4

Physiotherapy therapies are helpful in managing obstructive sleep apnoea (OSA), according to the majority of responders (65.3%). Furthermore, 26.7% of respondents concur with the assertion. When taken as a whole, this indicates that 92% of participants believe physiotherapy is useful in treating OSA. A tiny percentage of respondents (7.9%) expressed no opinion, suggesting some ambiguity or inadequate understanding of the function of physiotherapy therapies. Interestingly, none of the participants expressed disagreement or significant disagreement with the statement.

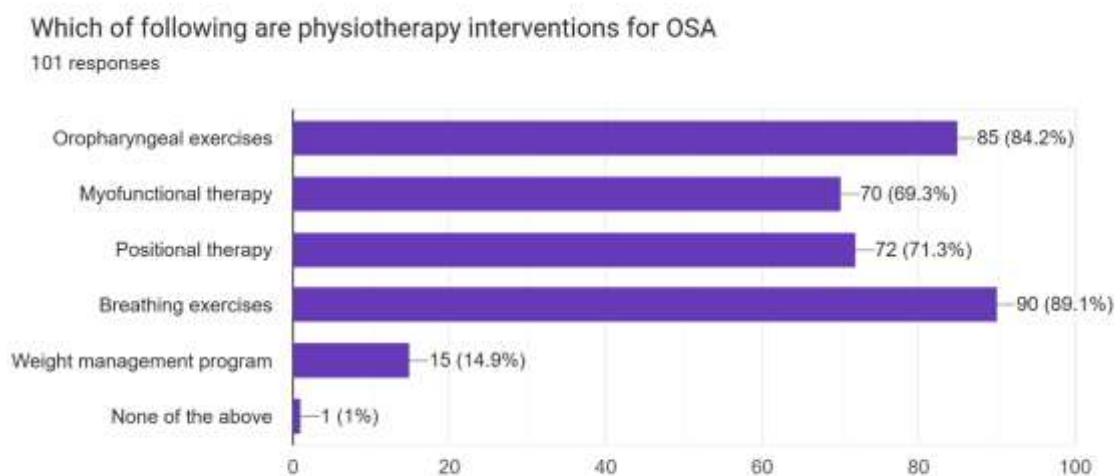


Figure 5

Which of the following are physiotherapy management for OSA	Percentage
Oropharyngeal exercises	84.2%
Myofunctional therapy	69.3%
Positional therapy	71.3%
Breathing exercises	89.1%
Weight management program	14.9%
None of the above	1%

Table 5

According to the findings, 90 respondents (89.1%) chose breathing exercises as their preferred intervention. This suggests that most participants understand the significance of breathing exercises for managing OSA. 85 responders (84.2%) chose oropharyngeal exercises, indicating a high degree of knowledge regarding upper airway muscle training as a successful physiotherapy technique. Myofunctional therapy was chosen by 70 respondents (69.3%) and positional therapy by 72 respondents (71.3%), showing moderate to high awareness among participants on these treatment techniques.

OSA is primarily the responsibility of sleep physicians and not physiotherapist
101 responses

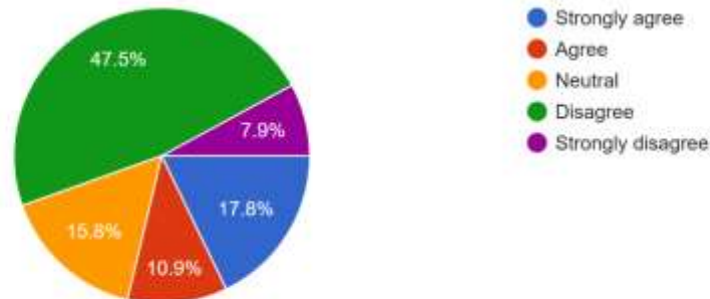


Figure 6

Obstructive sleep apnea is primerily the responsibility of sleep physicians and not physiotherapist	Percentage
Strongly agree	17.8%
Agree	10.9%
Neutral	15.8%
Disagree	47.5%
Strongly disagree	7.9%

Table 6

Out of 101 respondents, 47.5% disagreed and 7.9% strongly disagreed with the statement that sleep doctors, not physiotherapists, are primarily responsible for treating obstructive sleep apnoea (OSA). This suggests that many participants think physiotherapists are also crucial in managing OSA. On the other hand, 10.9% agreed and 17.8% strongly agreed, indicating that some respondents believe sleep doctors should be primarily responsible for managing OSA. Furthermore, 15.8% of respondents had no view, indicating a lack of clarity or doubt about the function of physiotherapists in the treatment of OSA. Overall, the answers show that more individuals recognise the role that physiotherapists play in treating OSA.

I believe physiotherapy interventions can significantly improves OSA symptoms
101 responses

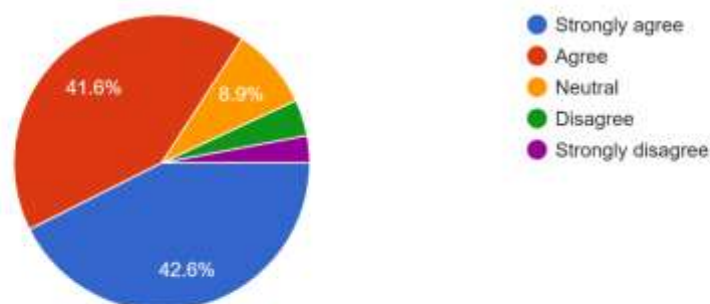


Figure 7

I believe physiotherapy intervention can significantly improves OSA symptoms	Percentage
Strongly agree	42.6%
Agree	41.6%
neutral	8.9%
Disagree	3.5%
Strongly disagree	3.4%

Table 7

With 42.6% strongly agreeing and 41.6% agreeing, or roughly 84.2% of total replies, the majority of participants indicated agreement with the statement. This suggests that a sizable segment of the population examined has a positive opinion of physiotherapy as a successful treatment for OSA symptoms. A lower percentage of 8.9% expressed no opinion, indicating considerable ambiguity or insufficient information to make a firm judgement. Only a small fraction of the remaining respondents chose to disagree or strongly disagree, indicating that scepticism regarding physiotherapy's involvement in managing OSA was uncommon among this group.

Patient compliance would be major barrier to physiotherapy management of OSA
101 responses

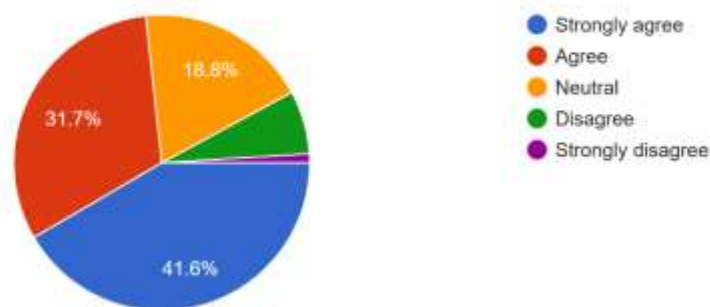


Figure 8

Patient compliance would be major barrier to physiotherapy management of Obstrucive sleep apnea	Percentage
Strongly agree	41.6%
Agree	31.7%
Neutral	18.8%
Disagree	6.9%
Strongly disagree	1%

Table 8

With 31.7% agreeing and 41.6% strongly agreeing, a sizable majority of participants shared this sentiment. When taken as a whole, this shows that more than 73% of those surveyed believe that patient adherence is a major obstacle in this therapeutic setting. A smaller percentage of the group, on the other hand, had an opposing or neutral opinion. Just 6.9% of respondents disagreed, and an even smaller 1% strongly disagreed, leaving about 18.8% of respondents neutral. The results indicate a broad consensus among

practitioners or stakeholders that the challenge of ensuring patients adhere to their recommended treatment programs significantly impedes the effectiveness of physiotherapy therapies for OSA.

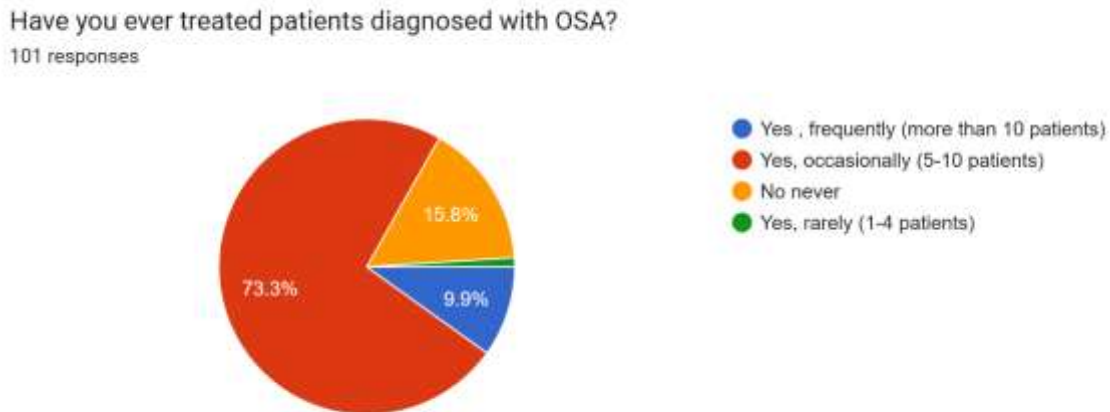


Figure 9

Have you ever treated patients diagnosed with Obstructive sleep apnea	Percentage
Yes, frequently	9.9%
Yes, occasionally	73.3%
No, never	15.8%
Yes, rarely	1%

Table 9

With 73.3% of respondents (the largest segment) saying they treat OSA patients occasionally (defined as 5–10 patients), the vast majority of the questioned group had some experience treating the illness. After treating more than ten patients, a smaller percentage of the group—9.9%—manages these instances often. On the other hand, 15.8% of respondents said they had never treated a patient with this condition and had no experience at all. Those who treat OSA infrequently (1-4 patients) make up a relatively small portion of the chart, accounting for about 1% of the data.

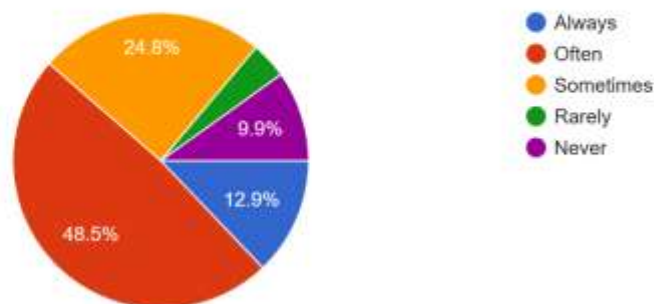
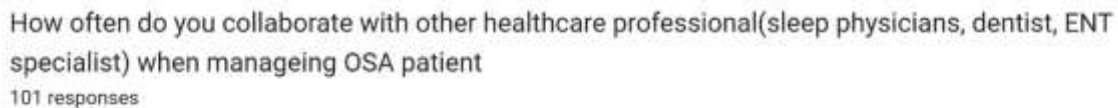


Figure 10

How often do you collaborate with other healthcare professional when managing Obstructive sleep apnea patient	Percentage
Always	12.9%
Often	48.5%
Sometimes	24.8%
Rarely	3.9%
Never	9.9%

Table 10

The data, which is based on 101 replies, shows that a sizable majority of practitioners collaborate across disciplines. The most frequent frequency of collaboration is "Often," as reported by nearly half of the respondents (48.5%). Over 60% of the questioned consistently exhibits a commitment to a diverse approach when paired with those who "Always" collaborate (12.9%). However, different levels of independence or obstacles to teamwork are highlighted in the remaining section of the poll. Approximately 25% of respondents say they only "Sometimes" collaborate, while 13.8% say they "Rarely" or "Never" (9.9%) seek advice from other experts. This suggests that a significant minority of practitioners still treat OSA patients in isolation, despite the general trend toward integrated care, which frequently calls for a variety of expertise for effective therapy such CPAP titration or oral appliances.

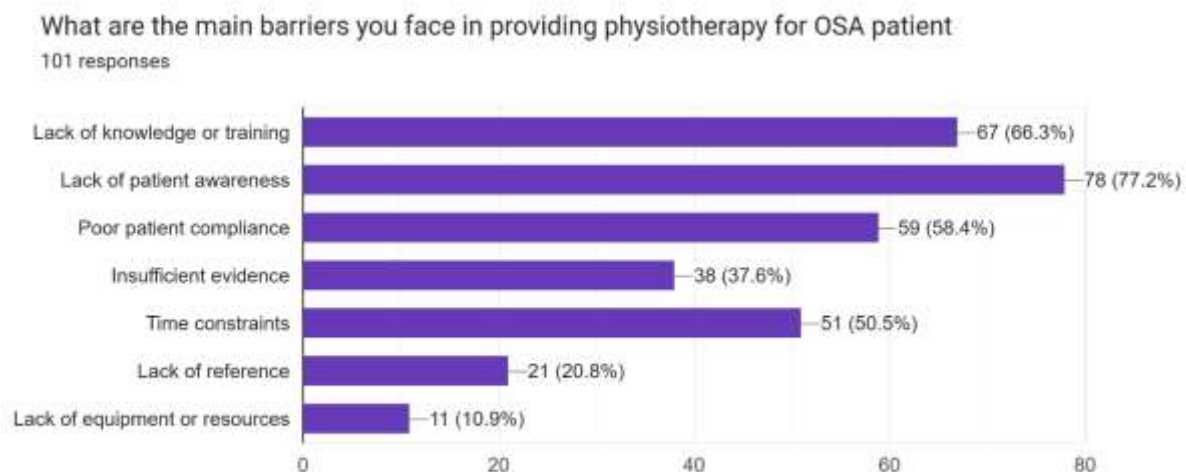


Figure 11

What are the main barriers you face in providing physiotherapy for Obstructive sleep apnea patient	Percentage
Lack of knowledge of training	66.3%
Lack of patient awareness	77.2%
Poor patient compliance	58.4%
Insufficient evidence	37.6%
Time constraints	50.5%
Lack of reference	20.8%
Lack of equipment of resources	10.9%

Table 11

According to survey data, Figure 11 showed that behavioural and educational gaps, rather than logistical ones, are the main barriers to providing physiotherapy for patients with Obstructive Sleep Apnoea (OSA). According to 77.2% of the 101 respondents, the biggest obstacle is a lack of patient awareness. This is closely followed by a lack of expertise or training among the clinicians themselves (66.3%). This indicates that there is a significant gap in the communication and comprehension of the advantages of physiotherapy for OSA, even while resources and equipment are reasonably accessible—just 10.9% saw them as a barrier.

4. Discussion :

The current study evaluated 101 physiotherapy professionals' knowledge, attitudes, and practices on the role of physiotherapy in managing obstructive sleep apnoea (OSA). The study population's demographic profile showed that most responses were between the ages of 28 and 31, with a peak frequency of 15.8% at age 30, suggesting that the sample was primarily made up of young, early-career professionals. With 65.3% of responses being female and 34.7% being male, the gender distribution revealed a notable female preponderance, which is indicative of the global feminisation of the physiotherapy workforce. This demographic makeup is significant because early-career practitioners may have been exposed to more modern curriculum that include respiratory physiotherapy and sleep medicine, which may have influenced their views and understanding regarding the treatment of OSA.

The results of this study were quite positive in terms of knowledge. Just a small percentage of respondents disagreed or were unsure, while an overwhelming 96% of respondents agreed that physiotherapy plays a crucial role in the treatment of OSA. The growing corpus of research supporting the use of non-pharmacological, non-surgical physiotherapy-based therapies to lessen the severity of OSA is in line with this high level of awareness.(5)found that myofunctional treatment, which included oropharyngeal muscle workouts targeting the tongue, soft palate, and pharyngeal walls, decreased the apnea-hypopnea index (AHI) in adult patients with OSA by around 50% in a seminal systematic review and meta-analysis. With 69.3% of respondents in the current study identifying myofunctional therapy and 84.2% identifying oropharyngeal exercises as legitimate physiotherapy interventions for OSA, the widespread recognition of this intervention among respondents demonstrates a solid foundational knowledge base that is in line with evidence-based practice.

Breathing exercises were the most frequently identified intervention, with 89.1% of respondents recognizing their role in OSA management. This finding is clinically significant, as breathing retraining and respiratory muscle training have been shown to improve upper airway muscle tone and reduce collapsibility during sleep. Positional therapy was identified by 71.3% of respondents, which is consistent with the well-established evidence that OSA severity is markedly worsened in the supine position and that positional interventions can substantially reduce AHI in position-dependent OSA patients.(15) However, a notable gap in knowledge was observed regarding weight management programs, which were identified by only 14.9% of respondents as a physiotherapy intervention relevant to OSA. This is a concern, as obesity is one of the most significant modifiable risk factors for OSA, and physiotherapy-led exercise prescription and lifestyle modification have a well-documented role in reducing body weight and consequently improving OSA severity.(16) shown in a randomised controlled trial that among overweight and mildly obese OSA patients, a supervised lifestyle intervention program that included dietary changes and physical activity significantly reduced AHI and improved sleep quality. The current study's low recognition of weight management as a physiotherapy domain could be due to either a lack of formal

training in lifestyle medicine within physiotherapy curricula or a perception gap about the scope of physiotherapy practice. The study's attitudinal domain showed that respondents had a very positive attitude toward the function of physiotherapy in the treatment of OSA. Physiotherapy therapies can help control OSA, according to 92% of respondents overall, with 65.3% strongly agreeing. In a similar vein, only 8.9% of respondents were neutral, and a very small percentage disagreed, with 84.2% of respondents agreeing or strongly agreeing that physiotherapy interventions can significantly alleviate OSA symptoms. These results show that physiotherapists have a positive opinion of their profession's ability to significantly aid in the treatment of OSA, regardless of their degree of clinical experience with patients.

Additionally, the responders showed a forward-thinking perspective on interprofessional accountability in OSA treatment. While 17.8% strongly agreed with the physician-centric approach, a total of 55.4% of respondents disagreed or strongly disagreed with the statement that sleep physicians, not physiotherapists, are largely responsible for OSA. This implies that most of the physiotherapists in this study do not consider OSA to be solely a medical condition and acknowledge their own professional ability to help manage it. Current clinical recommendations, which support a multidisciplinary, team-based approach to OSA involving sleep doctors, dentists, ENT specialists, dietitians, and physiotherapists, provide strong support for this mindset.⁽¹⁷⁾ The physiotherapist's unique skill set in exercise prescription, airway management, positional therapy, and patient education positions the profession as a valuable and underutilized member of the OSA care team.

In terms of perceived obstacles, 73.3% of respondents agreed or strongly agreed that a significant obstacle to the physiotherapy management of OSA would be patient compliance. Because oropharyngeal exercises take continuous daily practice over several weeks to create detectable changes in muscle tone and upper airway patency, this view is based on clinical reality. According to ⁽¹⁸⁾the repeated and time-consuming nature of oropharyngeal exercise programs, together with the delayed onset of clinical relief that lowers patient motivation, frequently limit adherence. When introducing OSA-focused exercise regimens in clinical practice, physiotherapists must design effective behavioural modification and adherence-enhancing strategies, as this finding emphasises.

According to the study's practice domain, the great majority of respondents (73.3%) had managed five to ten OSA patients during the course of their careers. While 15.8% reported never treating an OSA patient, a smaller percentage (9.9%) reported frequent clinical exposure, having managed more than ten OSA patients. The majority of respondents' comparatively low clinical exposure to OSA patients may be explained by the fact that most healthcare systems still primarily manage OSA through sleep medicine clinics and pulmonology departments, with few official referral pathways to physiotherapy services for non-CPAP adjunctive interventions. In addition to being a systemic deficit, the under-representation of physiotherapy in OSA care pathways offers a substantial chance for professional advocacy and role extension.

When it came to managing OSA patients, interdisciplinary collaboration was reported at relatively high levels: 48.5% of respondents said they "often" collaborated with other healthcare professionals, such as sleep physicians, dentists, and ENT specialists, and 12.9% said they "always" collaborated. Merely 9.9% of respondents said they have never worked with other professionals. These results support the increasing agreement that coordinated interprofessional treatment, as opposed to siloed management, is necessary for OSA as a complex, multi-system condition with cardiovascular, metabolic, and neurobehavioral comorbidities⁽¹⁹⁾. The majority of physiotherapists in this survey indicated regular collaborative practice,

which is a positive sign of professional integration. However, the relatively small percentage who reported consistent collaboration points to the need for more formalised interdisciplinary care models.

Lack of patient awareness (77.2%), physiotherapists' own ignorance (66.3%), poor patient compliance (58.4%), and time restrictions (50.5%) were the most often mentioned obstacles to practice. 37.6% of respondents cited insufficient proof, whilst 20.8% and 10.9%, respectively, cited a lack of reference materials and equipment. The finding that educational and behavioural barriers predominate over structural and resource-based barriers is clinically significant because it implies that targeted educational interventions, ongoing professional development programs, and organised patient education initiatives—rather than significant infrastructure investment—can address the main barriers to physiotherapy involvement in OSA care. These results are consistent with the larger body of research on physiotherapy for respiratory disorders, which has shown that patient awareness gaps and knowledge gaps are the biggest obstacles to providing the best possible care. In order for physiotherapists to be knowledgeable, self-assured, and productive participants in the multidisciplinary management of obstructive sleep apnoea, sleep medicine and OSA-specific content must be incorporated into both undergraduate physiotherapy curricula and postgraduate continuing education frameworks. This is further supported by the high recognition of these obstacles among respondents themselves

5. Conclusion:

Physiotherapists show good knowledge and positive attitudes toward OSA management. However, practice is limited by training gaps and barriers like patient compliance

6. Acknowledgment:

We would like to sincerely thank all of the physiotherapists who took part in this study and gave their invaluable time and answers. Additionally, we are grateful to our instructors, mentors, and the organization for their unwavering support, direction, and inspiration during the course of this study on the management of obstructive sleep apnea.

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