ORIGINAL RESEARCH PAPER

Occupational Therapy

ASSESSING KNOWLEDGE AND PRACTICE AMONG OCCUPATIONAL THERAPIST IN PULMONARY REHABILITATION

KEY WORDS: Occupational therapy, Pulmonary rehabilitation, Intervention

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ABSTRACT

Background: Pulmonary rehabilitation (PR) aims to improve exercise capacity and enhance individuals' ability to perform activities of daily living (ADL). Occupational therapists play a vital role by enabling individuals to engage in meaningful occupations. Despite existing evidence supporting their role in PR, there is limited literature on their actual involvement. This study aimed to assess the knowledge and practice of occupational therapists in PR. **Methodology:** A quantitative study involving 75 occupational therapists across India was conducted using snowball sampling. A validated questionnaire, reviewed by expert panels for content validity, was distributed online and offline. Participants responded using a Likert scale. **Results:** Item-level CVI ranged from 0.285–1, with an overall S-CVI/Ave of 0.84 and S-CVI/UA of 0.46, indicating good validity. Kappa analysis showed 19 items with excellent agreement, 7 good, and 4 poor. Knowledge and practice levels ranged from 40% to 75%, reflecting inconsistent awareness. **Conclusion:** The findings highlight gaps in occupational therapists' knowledge and practice in PR, underscoring the need for greater professional development and integration in this field.

INTRODUCTION

Pulmonary rehabilitation (PR) is a multidisciplinary intervention for individuals with chronic respiratory diseases, especially COPD.[1] It includes exercise training, education, breathing techniques, and psychosocial support to improve physical and psychological well-being and promote long-term behavior change.[1] Delivered in inpatient, outpatient, or home settings, PR typically lasts at least six weeks and enhances functional capacity, reduces dyspnea, and improves quality of life. However, despite strong evidence supporting its effectiveness, especially in COPD, PR services remain inconsistently provided and reimbursed.[2] Occupational therapists contribute significantly through ADL retraining, breathing exercises, and energy conservation techniques. Yet, literature on their awareness, knowledge, and involvement in PR is limited.[3] Exploring and comparing their role in PR versus other rehabilitation settings is essential to define their impact in multidisciplinary care.[4] The aim of the study was to evaluate the knowledge and clinical practices of Occupational Therapists in the field of pulmonary rehabilitation through a developed structured questionnaire.

Methodology

This quantitative cross-sectional survey was conducted across India with 75 Occupational Therapists selected through snowball sampling. Inclusion criteria included therapists working in hospital, clinic, or private settings with at least six months of experience; those unwilling to participate were excluded. The study aimed to assess their knowledge and practice in pulmonary rehabilitation and was conducted in three phases.

Phase 1: A questionnaire was developed based on a literature review using keywords like "Occupational Therapy Interventions in Pulmonary Rehabilitation." It included 30 questions—13 on knowledge and 17 on clinical practice.[5]

Phase 2: Content validation was performed by seven experts in occupational therapy using a 4-point Likert scale. Feedback helped refine item clarity and relevance. Content Validity Index (CVI) and Kappa statistics were used for analysis.[6]

Phase 3: The validated questionnaire was distributed online and offline. Informed consent was obtained, and data were collected to assess therapists' current knowledge and practices in pulmonary rehabilitation.

RESULTS

A total of 75 Occupational Therapists with 6 months to 8 years of experience participated in this study assessing their knowledge and practice in pulmonary rehabilitation. Data were collected using a structured questionnaire distributed both online (Google Forms) and in physical format. Content validation was performed by an expert panel using the Content Validity Index (CVI). Each item was rated for relevance on a 4-point scale, with scores of 3 or 4 considered relevant (scored as 1) and 1 or 2 as irrelevant (scored as 0). Content validity was evaluated using I-CVI (item-level relevance), S-CVI/Ave (average across items), and S-CVI/UA (unanimous agreement). Microsoft Excel was used to calculate percentage scores for participants' knowledge and practice, and to analyze content validation data.

Table 1: Content Validity Index (CVI) by Expert Panel

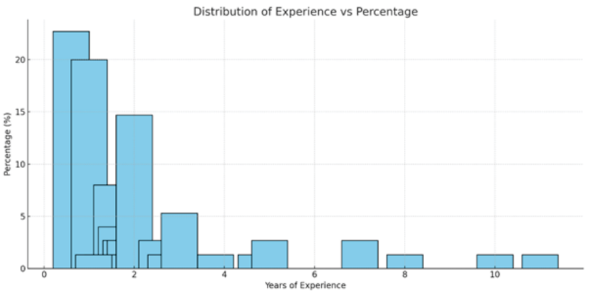
Q. NO	TOTAL	I-CVI	UA	Q. NO	TOTAL	I-CVI	UA
Q1	7	1	1	Q16	7	1	1
Q2	4	0.571	0	Q17	6	0.857	0
Q3	2	0.285	0	Q18	7	1	1
Q4	7	1	1	Q19	4	0.571	0
Q5	6	0.857	0	Q20	7	1	1
Q6	5	0.714	0	Q21	7	1	1
Q7	7	1	1	Q22	6	0.857	0
Q8	5	0.714	0	Q23	4	0.571	0
Q9	3	0.428	0	Q24	7	1	1
Q10	7	1	1	Q25	7	1	1
Q11	5	0.714	0	Q26	6	0.857	0
Q12	7	1	1	Q27	7	1	1
Q13	6	0.857	0	Q28	6	0.857	0
Q14	6	0.857	0	Q29	7	1	1
Q15	5	0.714	0	Q30	7	1	1
S-CVI/Ave=0.842						S-CVI/UA =0.46	

Table 1 shows I-CVI scores ranging from 0.28 to 1, with an overall S-CVI/Ave of 0.842, indicating good content validity. Kappa statistics were also calculated to assess inter-rater reliability, accounting for chance agreement and providing a more accurate measure of expert consensus.

Table 2: Demographic Data of Occupational Therapists

S.No.	Characteristics	Mean
1	Gender (Male/Female%)	40/60

2	Setting	Hospital	74.7
		Private practice	10.7
		Rehabilitation Unit	14.7



Graph 1: Percentage of Occupational Therapists demonstrating Knowledge and Practice in Pulmonary Rehabilitation based on Their Experience

The graph indicates that the highest percentages are concentrated in the lower range of experience, particularly among those with 0.6 to 1 year of experience, suggesting that the population is predominantly composed of less experienced individuals.

Table 3: Kappa Statistic Coefficient (K) for Knowledge-Based Questions and Practice-Related Questions

KNOWLEDGE				PRACTICE			
Items	**Item-Content Validity Index (i-cvi)**	**Universal Agreement**	**Kappa Statistics**	**Items**	**Item-Content Validity Index (i-cvi)**	**Universal Agree-ment**	**Kappa Statistics**
1	1	1	1	1	0.85	0	0.72
2	0.5	0	1.04	2	0.71	0	0.17
3	0.28	0	1	3	1	1	1
4	1	1	1	4	0.85	0	0.72
5	0.85	0	0.72	5	0	0	1
6	0.71	0	0.17	6	0.57	0	1.04
7	1	1	1	7	1	1	1
8	0.71	0	0.17	8	1	1	1
9	0.42	0	1	9	0.85	0	0.72
10	1	1	1	10	0.57	0	1.04
11	0.71	0	0.17	11	1	1	1
12	1	1	1	12	1	1	1
13	0.85	0	0.72	13	0.85	0	0.72
				14	1	1	1
				15	0.87	0	0.72
				16	1	1	1
				17	1	1	1

Table 3 shows Kappa statistics for 13 knowledge items-8 with excellent, 2 with good, and 3 with poor agreement-and also includes Kappa scores for practice-related items.

DISCUSSION

The primary aim of this study was to evaluate the knowledge and practice of Occupational Therapists in pulmonary rehabilitation. A validated questionnaire, developed through expert review, was distributed to 75 Occupational Therapists across various clinical settings. Analysis revealed strong content validity, with an I-CVI score of 0.84 and good inter-rater agreement based on Kappa statistics, indicating the tool's reliability for assessing competency in this area.

Results showed that the overall knowledge and practice scores were 57.7% and 58.9%, respectively, highlighting a moderate understanding of pulmonary rehabilitation. However, only one item in the questionnaire received strong consensus among participants, suggesting a general lack of confidence and clarity regarding this area of practice.[7] This is consistent with previous findings by Snyder et al. (2021), who emphasized the absence of clear guidelines and limited recognition of the role of Occupational Therapists in pulmonary rehabilitation.

Although literature, including studies by Easthaugh et al. (2019) and McCowan et al. (2022), confirms the potential impact of occupational therapy in pulmonary rehabilitation, there is a noticeable gap in its practical implementation and visibility.[8] The study also found that therapists working in hospital settings demonstrated better knowledge and practice than those in private clinics or rehabilitation centers.[9]

Regarding specific knowledge domains, about 62.6% of participants showed adequate understanding of COPD rehabilitation, suggesting familiarity with one of the most common pulmonary conditions. This aligns with prior research by Lorenzi et al. (2003), which supports the role of rehabilitation in improving function and quality of life in COPD patients.[10]

Participant feedback indicated a need for greater exposure to pulmonary rehabilitation, better training opportunities, and more job roles in this area. Barriers such as limited access to services and poor interdisciplinary coordination were also noted, reflecting findings by Augustine et al. (2020).[11]

The findings of this study emphasize the importance of structured education and training programs to improve the competence of Occupational Therapists in pulmonary rehabilitation.[12] It highlights the need for greater professional involvement and encourages further research to explore the effectiveness of Occupational Therapy in this specialized area. By promoting evidence-based practices, Occupational Therapists can strengthen their role as essential members of the pulmonary rehabilitation team, ensuring the delivery of high-quality care for patients.[13]

CONCLUSION

This study developed a questionnaire to assess the knowledge and practices of Occupational Therapists in pulmonary rehabilitation, which demonstrates strong content validity and excellent agreement. The analysis revealed that only a moderate number of participants exhibited a solid understanding and effective practice in this area. This indicates a gap in the adequate knowledge and application of pulmonary rehabilitation among Occupational Therapists. Consequently, there is a clear need for further development and enhancement of the pulmonary rehabilitation profession within Occupational Therapy.

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