

# Patient Perspectives on the Role of Occupational Therapy in Managing Rheumatoid Arthritis: A Cross-Sectional Study

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## ABSTRACT

**Background:** Rheumatoid arthritis (RA) is a chronic autoimmune disorder that significantly impacts patients' functional independence and quality of life. While occupational therapy (OT) plays a crucial role in RA management through joint protection techniques and adaptive strategies, patient awareness and utilization of these services remain suboptimal. This study aimed to assess patient perspectives on the role of OT in managing RA, evaluating their awareness, experiences, and barriers to accessing OT services.

**Methods:** A cross-sectional study was conducted across service hospitals in Karachi using non-probability convenience sampling. A validated self-designed questionnaire comprising 31 questions was administered to 303 participants diagnosed with RA. The questionnaire assessed demographic information, life satisfaction, specific concerns about RA treatment, and perceptions of OT awareness. Inclusion criteria encompassed participants aged >18 years diagnosed with RA, excluding those with severe mental illness or cognitive impairment.

**Results:** Among 100 RA patients (predominantly female housewives), 83% experienced significant lifestyle changes due to RA, with 75% reporting difficulties in basic activities of daily living (BADLs). Despite the functional impact, 85% had never received OT services, with 83% citing lack of awareness as the primary barrier. Among those who received OT (15%), 66.7% expressed satisfaction with the intervention. Notably, 89% of participants would recommend OT for RA management, recognizing its benefits in pain reduction (58%) and improving daily activities (41.7%). Joint pain was the most prevalent symptom (39%), with 50% reporting moderate pain intensity and 44% experiencing severe pain.

**Conclusion:** This study reveals a critical gap in OT awareness among RA patients, despite high satisfaction rates among those who received services. The findings underscore the urgent need for enhanced patient education, structured referral systems, and better integration of OT into multidisciplinary RA care to improve patient outcomes and quality of life.

**Keywords:** Activities of Daily Living, Occupational Therapy, Patient Awareness, Quality of Life, Rheumatoid Arthritis.

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## INTRODUCTION

Rheumatoid arthritis (RA) is a chronic, progressive autoimmune disorder characterized by persistent synovial inflammation, leading to joint destruction, functional disability, and diminished quality of life<sup>1</sup>. The global burden of RA continues to escalate, with systematic analyses from the Global Burden of Disease Study 2021 projecting substantial increases in prevalence by 2050, driven by aging populations and improved survival rates.<sup>1</sup> Regional variations in RA prevalence have been documented, with environmental and genetic factors contributing

to higher incidence rates in specific populations, such as Tibetan highlanders.<sup>2</sup>

Contemporary RA management emphasizes a comprehensive, patient-centered approach integrating both pharmacological and non-pharmacological interventions. The 2021 American College of Rheumatology (ACR) guidelines advocate for early diagnosis, optimal use of disease-modifying antirheumatic drugs (DMARDs), and multidisciplinary care to prevent irreversible joint damage and enhance functional



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outcomes.<sup>3</sup> While advanced pharmacological treatments, including biologics and Janus kinase inhibitors, have revolutionized RA care<sup>4</sup>, non-pharmacological interventions—particularly rehabilitation strategies, lifestyle modifications, and occupational therapy—remain indispensable components of holistic RA management.<sup>5</sup>

Occupational therapy plays a pivotal role in RA rehabilitation by addressing functional limitations that significantly impact patients' daily lives. OT interventions focus on joint protection techniques, energy conservation strategies, assistive device prescription, and task modifications to optimize functional independence.<sup>6</sup> These evidence-based interventions have demonstrated effectiveness in reducing pain, improving joint function, and enhancing participation in meaningful activities.<sup>7</sup> However, despite their proven benefits, awareness and accessibility of OT services remain limited among RA patients<sup>8, 9</sup>, with healthcare system disparities further exacerbating access challenges.<sup>10</sup>

Self-management has emerged as a cornerstone of contemporary RA care, with research demonstrating that patient education, exercise adherence, psychological support, and lifestyle modifications significantly enhance treatment outcomes.<sup>11-13</sup> Tailored self-management programs not only promote patient engagement but also foster long-term adherence to therapeutic interventions, resulting in improved quality of life and functional outcomes<sup>14</sup>.

The multidimensional impact of RA extends beyond physical symptoms to encompass psychological well-being, occupational participation, and socioeconomic stability<sup>15</sup>. Research emphasizes that occupational engagement and psychological well-being are critical determinants of quality of life in RA patients.<sup>16</sup> Expert consensus advocates for comprehensive rehabilitation strategies that integrate medical, psychological, and social support systems to address the complex challenges associated with RA.<sup>17</sup>

Despite therapeutic advances, significant gaps persist in optimizing RA patient outcomes.

Emerging precision medicine approaches, which tailor interventions based on clinical, genetic, and lifestyle factors, show promise in personalizing treatment strategies.<sup>18,19</sup> Additionally, the frequent co-occurrence of RA with conditions such as knee osteoarthritis complicates disease management, highlighting the importance of early, targeted interventions.<sup>20</sup>

Understanding RA patients' knowledge and perceptions regarding occupational therapy services is essential for bridging existing care gaps. Enhanced awareness about OT can empower patients to seek comprehensive care beyond pharmacological treatments, enabling active participation in therapy and integration of adaptive strategies into daily routines. By identifying these perspectives, healthcare professionals can develop targeted interventions and awareness programs to ensure RA patients recognize the value of occupational therapy in achieving functional independence and improved quality of life.

## METHODOLOGY

### **Study Design and Setting**

A cross-sectional study was conducted across service hospitals in Karachi, Pakistan, over a three-month period following synopsis approval.

### **Participants and Sampling**

The target population comprised patients diagnosed with rheumatoid arthritis. Sample size was calculated using OpenEpi version 3, maintaining a 95% confidence interval, 5% margin of error, 80% power, and considering a 26.9% RA prevalence in Pakistan. The calculated sample size was 303 participants using the formula:

$$\text{Sample size} = [(Z\alpha/2)]^2 \times (SD)^2 / d^2$$

Non-probability convenience sampling was employed to recruit participants meeting the following criteria:

### **Inclusion Criteria**

- Age >18 years
- Confirmed RA diagnosis

- Ability to communicate in English or Urdu

#### **Exclusion Criteria**

- Cognitive impairment
- Severe mental illness

#### **Data Collection Instrument**

Data were collected using a validated self-designed questionnaire comprising 31 questions across four sections:

- Section 1: Demographics**

**(Questions 1-6)**

Patient characteristics including gender, age, employment status, comorbidities, RA severity, and disease duration.

- Section 2: Life Satisfaction**

**(Questions 7-16)**

Quality of life assessment covering RA impact on daily living, pain perception, ADL capacity, dependency levels, overall health status, and work productivity.

- Section 3: Treatment Perspectives**

**(Questions 17-22)**

Current treatment satisfaction, medication preferences, and attitudes toward counseling referrals.

- Section 4: OT Awareness and Perceptions**

**(Questions 23-31)**

Knowledge of OT as a treatment modality, awareness sources, service utilization, and recommendations for improvement.

The questionnaire underwent validity assessment through Q-Q plot analysis, yielding a validity coefficient of 0.67.

#### **Data Collection Procedure**

Prior to questionnaire administration, all participants provided informed consent following comprehensive briefing about the study objectives and questionnaire content. The self-administered questionnaire required approximately 10-15 minutes to complete. Likert scales were employed to measure agreement levels with statements

regarding rehabilitation importance in RA management.

#### **Ethical Considerations**

The study adhered to ethical guidelines with informed consent obtained from all participants. Confidentiality and anonymity were maintained throughout the data collection process.

## **RESULTS**

#### **Participant Demographics**

The study successfully recruited 100 female participants diagnosed with rheumatoid arthritis from service hospitals across Karachi. All participants met the inclusion criteria and provided informed consent for participation in this cross-sectional study.

**Table-1. Age Distribution of Participants (n=100)**

Age Group	Frequency (n)	Percentage (%)
18-29	0	0%
30-49	46	46%
50-69	54	54%
70+	0	0%
Total	100	100%

#### **Age Distribution**

The majority of participants (54%) were aged 50-69 years, followed by 46% in the 30-49 age group. Notably, no participants were found in the 18-29 or 70+ age categories, indicating that RA predominantly affected middle-aged women in this sample.

**Table-2. Occupational Distribution of Participants (n=100)**

Occupation	Frequency (n)	Percentage (%)
Housewife	81	81%
Part-time employed	16	16%
Full-time employed	2	2%
Self-employed	1	1%
Total	100	100%

#### **Occupational Status**

The sample was predominantly composed of housewives (81%), with smaller

proportions engaged in part-time employment (16%), full-time employment (2%), and self-employment (1%).

### **Disease Characteristics and Symptom Profile**

- **Disease Duration and Symptom Presentation**

The majority of participants (66%) had been living with RA for 1-5 years, while 23% had been diagnosed within the past year, and 11% had been managing the condition for 5-10 years. No participants reported having RA for more than 10 years. Joint pain emerged as the predominant symptom, affecting 39% of participants as a standalone symptom. When considering combined symptomatology, 54% of participants experienced the triad of joint pain, stiffness, and fatigue simultaneously. Pain severity was substantial, with 44% reporting severe pain and 50% experiencing moderate pain levels.

### **Healthcare Utilization Patterns**

- **Healthcare Provider Consultation**

Participants demonstrated varied healthcare-seeking behaviors, with 54% consulting general physicians and 46% seeking care from rheumatologists for their RA management.

- **Rehabilitation Awareness and Access**

A significant knowledge gap was identified regarding rehabilitation services, with 68% of participants unaware of rehabilitation as a treatment option for RA. Among those receiving therapy, physical therapy was most common (22%), followed by occupational therapy (18%), with 60% receiving other forms of treatment.

### **Occupational Therapy: Awareness, Access, and Outcomes**

- **OT Service Utilization**

The study revealed that 85% of participants had never received occupational therapy services, highlighting a substantial gap in comprehensive RA care delivery.

- **Duration and Perceived Benefits of OT**

Among the 15% who received OT services, the majority (93%) had interventions lasting less than 6 months. Despite the short duration, participants reported significant benefits, with 58% noting reduced pain and stiffness, and 42% experiencing improved activities of daily living.

### **Quality of Life and Functional Independence**

- **Impact on Daily Living**

The study revealed substantial functional limitations, with 75% of participants experiencing difficulties with basic activities of daily living (BADLs) including feeding, dressing, grooming, and bathing. Mobility challenges affected 25% of participants, while none reported difficulties with instrumental activities of daily living (IADLs).

- **Dependency and Social Impact**

Dependency on others varied across the sample, with 44% reporting slight dependency, 39% moderate dependency, 13% maintaining complete independence, and 4% requiring complete assistance with daily activities.

- **Work-Related Productivity**

RA significantly impacted work-related productivity, with 66% experiencing slight effects and 5% reporting moderate impacts. Notably, 29% maintained their productivity levels without RA-related interference.

- **Accessibility and Environmental Factors**

The majority of participants (70%) reported accessibility issues in their home or workplace environments, indicating the need for environmental modifications and adaptive strategies to support functional independence.

**Table-3. Comprehensive Disease Impact and Treatment Patterns (n=100)**

Domain	Response Category	Frequency (n)	Percentage (%)
Disease Duration	Less than 1 year	23	23%
	1-5 years	66	66%
	5-10 years	11	11%
Functional Impact	More than 10 years	0	0%
	BADLs difficulties	75	75%
	Mobility difficulties	25	25%
Lifestyle Changes	IADLs difficulties	0	0%
	Experienced changes due to RA	83	83%
	No significant changes	17	17%
Dependency Level	Not at all dependent	13	13%
	Slightly dependent	44	44%
	Moderately dependent	39	39%
Work Productivity	Completely dependent	4	4%
	Not affected	29	29%
	Slightly affected	66	66%
	Moderately affected	5	5%
	Completely affected	0	0%

**Table-4. Occupational Therapy Perspectives and Barriers (n=100)**

Assessment Area	Response Category	Frequency (n)	Percentage (%)
OT Awareness	Aware of OT as RA treatment	31	31%
	Unaware of OT services	69	69%
OT Duration (among recipients)	Less than 6 months	14	93.3%
	1-2 years	1	6.7%
OT Benefits Perceived	Reduced pain & stiffness	58*	58%
	Improved daily activities	42*	42%
OT Importance Rating	Somewhat important	7	7%
	Moderately important	61	61%
	Very important	30	30%
Satisfaction with OT (among recipients)	Not important	2	2%
	Very satisfied	5	33.3%
	Satisfied	10	66.7%
Access Barriers	Neutral/Dissatisfied	0	0%
	Lack of awareness	83	83%
	Social barriers	17	17%
Future OT Consideration	Financial/Transport barriers	0	0%
	Likely to consider	67	67%
	Unlikely to consider	33	33%
OT Recommendation	Would recommend to others	89	89%
	Would not recommend	11	11%

## DISCUSSION

The findings of this study illuminate the substantial challenges faced by individuals managing rheumatoid arthritis, particularly

highlighting the disconnect between the proven benefits of occupational therapy and its actual utilization among RA patients. The predominant barrier identified—lack of

awareness (83%)—represents a critical gap in healthcare delivery that demands immediate attention. The observed split between general physician (54%) and rheumatologist (46%) consultations reflects varied healthcare-seeking patterns among RA patients. This distribution aligns with previous research indicating suboptimal specialist referral patterns in chronic arthritis management<sup>21</sup>. The finding that only 31% of participants were aware of rehabilitation services as a treatment option for RA represents a significant missed opportunity for comprehensive care delivery. These findings corroborate earlier studies by Eldman et al.<sup>8</sup> and Hagglund et al.<sup>22</sup>, which identified substantial gaps in patient awareness and referral rates to rehabilitation services. The persistence of these barriers over time suggests systemic issues in healthcare communication and patient education that require targeted interventions.

The high prevalence of functional difficulties, with 75% of participants experiencing problems with basic activities of daily living (BADLs), underscores the substantial burden RA imposes on daily functioning. This finding is consistent with established literature documenting the progressive nature of RA-related disability<sup>23</sup>. The significant pain burden experienced by participants, with joint pain being the most commonly reported symptom (39% as standalone, 54% when combined with stiffness and fatigue), further emphasizes the urgent need for comprehensive pain management strategies that extend beyond pharmacological interventions. The work-related productivity impacts observed in this study, affecting 71% of participants to varying degrees (66% slightly, 5% moderately), align with previous research by Ahmed and Malik<sup>24</sup>, confirming the persistent challenges RA patients face in maintaining occupational performance. The 70% prevalence of environmental accessibility issues highlights the broader societal implications of RA and the potential role of OT in addressing these challenges through environmental modification recommendations.

The majority of participants (66%) had been managing RA for 1-5 years, with an additional 23% diagnosed within the past year, indicating a relatively early-stage patient population. Despite this, 83% reported experiencing significant changes in their living situation due to RA, demonstrating the immediate and substantial impact of the condition on daily life. The dependency levels varied considerably, with 44% reporting slight dependency on others, 39% moderate dependency, and only 13% maintaining complete independence in daily activities.

Despite the low utilization rate (15% receiving OT services), the high satisfaction levels among those who received OT (100% satisfied or very satisfied, with 66.7% satisfied and 33.3% very satisfied) and the overwhelming willingness to recommend OT to others (89%) create a compelling paradox. This disconnect between positive experiences and low utilization rates suggests that awareness, rather than service quality or effectiveness, represents the primary barrier to OT access. The reported benefits of OT among recipients—pain and stiffness reduction (58%) and improved daily activities (42%)—align with established evidence supporting OT interventions in RA management<sup>6,7</sup>. Notably, 93% of those who received OT had interventions lasting less than 6 months, suggesting potential for enhanced benefits through longer-term intervention programs. These findings support the integration of OT into standard RA care protocols, particularly given the high importance ratings assigned by participants (61% rating it as moderately important, 30% as very important).

The study identified lack of awareness as the overwhelming primary barrier to OT access (83% of participants), with social barriers accounting for an additional 17%. Significantly, no participants cited financial or transportation barriers, suggesting that accessibility issues may be more related to awareness and referral systems than to economic constraints. The finding that 67% of participants expressed likelihood to consider OT in the future indicates

substantial untapped potential for service expansion once awareness barriers are addressed.

The study findings have several important implications for healthcare system improvement including the need for enhanced referral systems given the low awareness rates (only 31% aware of rehabilitation services), systematic referral protocols that ensure RA patients receive comprehensive information about available rehabilitation services, targeted educational programs focusing on non-pharmacological treatment options that could significantly improve OT utilization rates particularly given the high recommendation rates (89%) from those who have experienced OT services, better integration of OT services within existing rheumatology care pathways to address the identified awareness gaps and ensure that the 85% of patients who have never received OT are properly informed about these services, and training programs for general physicians and rheumatologists on the benefits and indications for OT referral to improve service utilization, particularly important given the even distribution of patients between these provider types.

Future studies should explore the effectiveness of targeted awareness campaigns on OT utilization rates among RA patients. Longitudinal research examining the long-term outcomes of integrated OT services in RA care would provide valuable evidence for policy development. Additionally, investigation of healthcare provider attitudes and knowledge regarding OT referral could inform professional development initiatives. Given that 93% of OT recipients in this study received services for less than 6 months, research into optimal intervention duration and intensity would be valuable for service planning.

### **Strengths and Limitations**

Several strengths characterize this study including the use of a comprehensive questionnaire addressing multiple domains of RA impact and OT awareness, the focus

on an understudied population of RA patients in Pakistan providing valuable regional insights, the inclusion of both patients who had and had not received OT services allowing for comparative analysis, and the examination of specific barriers to OT access which provides actionable insights for healthcare improvement. However, several limitations should be acknowledged when interpreting these findings. The convenience sampling method and recruitment from service hospitals in Karachi may limit generalizability to broader RA populations or different healthcare settings. The cross-sectional design precludes assessment of temporal relationships between variables and long-term outcomes. Additionally, the exclusively female sample (100% female participants, 81% housewives) may not fully represent the experiences of male RA patients, although this demographic distribution reflects the known female predominance in RA. The sample size of 100 participants, while adequate for descriptive analysis, may limit the power for detecting smaller effect sizes in subgroup analyses.

### **CONCLUSION**

This study reveals a significant paradox in occupational therapy utilization among rheumatoid arthritis patients: while those who receive OT services report high satisfaction (100% satisfied or very satisfied) and recognize substantial benefits, the vast majority of patients (85%) remain unaware of these services and consequently do not access them. The primary barrier identified—lack of awareness affecting 83% of patients—represents a critical healthcare delivery gap that demands immediate attention. The high functional impact of RA, with 75% of patients experiencing difficulties in basic activities of daily living and 83% reporting significant lifestyle changes, underscores the urgent need for comprehensive rehabilitation services. The positive patient attitudes toward OT, evidenced by 89% willingness to recommend these services to others and 67% expressing likelihood to consider OT in the future, suggests strong potential for increased utilization once awareness

barriers are addressed. These findings demonstrate that bridging the awareness gap could significantly enhance the quality of life and functional independence of RA patients. Given the high satisfaction rates (100%) among those who received OT services and the substantial functional challenges faced by the broader RA population (75% experiencing BADL difficulties), investing in awareness initiatives and service integration represents both a clinical imperative and a cost-effective healthcare strategy. Ultimately, empowering RA patients with knowledge about comprehensive treatment options, particularly occupational therapy services, can catalyze a shift toward more holistic, patient-centered care that addresses not only disease symptoms but also functional independence and quality of life. This transformation requires coordinated efforts from healthcare providers, institutions, and policymakers to ensure that evidence-based rehabilitation services reach the 85% of RA patients who currently lack access to these beneficial interventions.

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None.

## Author Contributions

**Sana Nauman** contributed to the study design, methodology, data collection, data analysis, and initial drafting of the manuscript, while **Zubia Saleem** contributed to the literature review, data collection, data interpretation, and critical revision of the manuscript.

## Ethical Approval

The study received approval from the Ethical Review Board of Foundation of Medical Research and Laboratory (FMRL-IRB/2024/010).

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None.

## Conflict of Interests

None.

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