



## Mental health implications of arthritis: A study on quality of life in adults and the elderly

Dr. Sai Kiran Balagondi\*

Assistant Professor, Department of Orthopaedics, Mamata Medical College, Khammam, Telangana, India

### Abstract

**Introduction:** Arthritis is a common condition that significantly affects both physical and mental health, thereby impacting the overall quality of life. However, there is limited research exploring the differences in the impacts of arthritis on mental health and quality of life between adults and the elderly.

**Objective:** This study aimed to explore the mental health implications of arthritis and how it impacts the quality of life in adults and elderly individuals.

**Material and Methods:** A mixed-methods approach was used, combining quantitative measures (Arthritis Impact Measurement Scales (AIMS2), Patient Health Questionnaire (PHQ-9), and Short Form Health Survey (SF-36) with qualitative interviews.

**Results:** Both adults and elderly individuals reported significant impacts on physical, social, and emotional aspects related to arthritis, with the elderly reporting higher physical impact scores and lower social impact scores. Depressive symptoms were present in both groups, with significantly higher scores among the elderly. Quality of life was also lower among the elderly.

**Conclusions:** The findings underscore the importance of comprehensive care approaches that address both the physical and mental health needs of individuals with arthritis, particularly for the elderly who may be at higher risk for physical limitations, social isolation, and depressive symptoms.

**Keywords:** arthritis, mental health, quality of life, depression, physical health, social impact, emotional impact

### Introduction

Arthritis, a term often used to describe any disorder affecting the joints, is a common condition affecting millions of people worldwide. It comprises over 100 distinct diseases and conditions, the most prevalent being osteoarthritis, rheumatoid arthritis, and gout <sup>[1]</sup>. These conditions are characterized by symptoms including joint pain, swelling, stiffness, and decreased range of motion, symptoms that are often chronic and may progress over time.

The impact of arthritis on physical health is significant. Chronic joint pain and stiffness can limit the performance of daily activities, such as walking, dressing, and bathing. Reduced mobility from arthritis can lead to weight gain and increased risk of other chronic conditions like heart disease and diabetes <sup>[2]</sup>. Moreover, arthritis can lead to significant reductions in muscle strength, balance, and overall physical function, further contributing to disability <sup>[3]</sup>.

Beyond the physical implications, arthritis can have profound effects on mental health and quality of life. Living with chronic pain can lead to feelings of frustration, anxiety, and depression. Studies show that individuals with arthritis are more likely to experience depression than those without the condition <sup>[4]</sup>. Additionally, the ongoing pain, fatigue, and functional limitations associated with arthritis can negatively affect quality of life, leading to social isolation and decreased participation in valued activities <sup>[5]</sup>.

The relationship between arthritis, mental health, and quality of life has been explored extensively in the literature. Arthritis, as a chronic condition characterized by persistent joint pain and stiffness, has been found to significantly affect both physical and mental health, thereby impacting the overall quality of life.

In the realm of mental health, the comorbidity of depression and arthritis is well documented. Matcham *et al.* (2013) conducted a systematic review and meta-analysis, revealing that individuals with rheumatoid arthritis are at a higher risk of depression compared to the general population. The authors emphasized the need for regular mental health screenings among patients with arthritis. Similarly, a study by Kessler *et al.* <sup>[7]</sup> suggested that arthritis might be associated with an increased risk of a range of mental health disorders, including anxiety and mood disorders.

Beyond mental health disorders, the chronic pain associated with arthritis has been linked to psychological distress. A study by Hawker *et al.* <sup>[7]</sup> found that severe joint pain, such as that experienced in arthritis, can lead to emotional distress and sleep disturbances, further exacerbating mental health challenges.

Quality of life, encompassing physical, mental, and social well-being, is another area significantly impacted by arthritis. Dominick *et al.* <sup>[8]</sup> found that individuals with arthritis reported lower quality of life compared to those without arthritis, with physical limitations being a significant contributing factor. Similarly, a study by Michaud *et al.* <sup>[9]</sup> found that rheumatoid arthritis patients experienced lower health-related quality of life, particularly in physical domains.

Mental health and quality of life are closely interconnected. Studies have shown that the presence of mental health disorders like depression can further decrease quality of life in arthritis patients <sup>[11]</sup>. This suggests a complex interplay between arthritis, mental health, and quality of life, underscoring the need for comprehensive care approaches. Recognizing the intertwined nature of physical and mental health in arthritis management, this study aims to delve into the mental health implications of arthritis. Specifically, we

aim to investigate how arthritis impacts the quality of life in adults and the elderly, with a focus on mental health outcomes.

**Material and Methods**

The present study was conducted at Department of Orthopaedics, Mamata Medical College, Khammam. The Mixed-methods approach, combining both quantitative and qualitative data was used to gain a holistic understanding of the mental health implications of arthritis and its impact on quality of life in adults and the elderly. The use of mixed methods can provide a more nuanced understanding of our research questions, by not only quantifying the impact of arthritis on mental health and quality of life but also exploring participants' personal experiences and perspectives.

The two age groups: adults (18-64 years old) and the elderly (65 years and above). This method ensures that both age groups are adequately represented in the study. We aim to recruit an equal number of participants from both groups. The recruitment will be done through health clinics and community centres.

Data collection involves two main components: surveys and semi-structured interviews. The surveys will be used to gather quantitative data. We will utilize validated instruments such as the Arthritis Impact Measurement Scales (AIMS2) for measuring physical, social, and emotional aspects related to arthritis [11], and the Patient Health Questionnaire (PHQ-9) to assess depressive symptoms [12]. Quality of life will be evaluated using the Short Form Health Survey (SF-36) [13].

The semi-structured interviews was conducted to gather qualitative data, allowing for an in-depth exploration of participants' experiences of living with arthritis, how it impacts their mental health, and how they perceive its effect on their quality of life.

**Table 2:** Comparison of Physical, Social, and Emotional Well-being between Adults and Elderly of Arthritis

	Physical (Mean)	Physical (Std. Dev.)	Social (Mean)	Social (Std. Dev.)	Emotional (Mean)	Emotional (Std. Dev.)
Adults	51.41	11.37	52.57	10.43	48.75	8.79
Elderly	59.79	8.76	39.07	10.18	45.06	10.34

The table compares Physical, Social, and Emotional well-being between Adults and Elderly. Elderly generally have higher Physical well-being but lower Social well-being. Emotional well-being is relatively similar between the two groups.

The "Social Well-being" category evaluates the individuals' satisfaction and engagement in their social relationships and activities. The mean values indicate the average level of social well-being reported by the respondents in each group. Interestingly, the Adults seem to have a higher mean social well-being score compared to the Elderly. Additionally, the lower standard deviation for the Elderly suggests that there is relatively less variability in the social well-being scores among the Elderly compared to Adults.

The "Emotional Well-being" category gauges the individuals' emotional health and psychological state. The mean values represent the average level of emotional well-being reported by the respondents in each group. Here,

**Statistical Analysis**

Data was analyzed using SPSS software. A p-value of less than 0.05 was considered statistically significant.

**Results**

**Table 1:** General Demographic features of healthy control group and Arthritis patients' group.

Parameters		Control Group (n=100)	Patient Group (n=100)
Age (Years)	20-29	2	3
	30-39	5	6
	40-49	7	5
	50-59	9	7
	60-69	6	7
Gender	Male	73	65
	Female	27	35
Marital Status	Married	89	94
	Unmarried	9	2
	Widowed/Divorced	2	4
Socioeconomic status	Lower	62	69
	Middle	27	24
	Upper	11	7
Occupation	Home maker	48	52
	Service	28	27
	Self-employed	15	11
	Retired	9	10
Residence area	Rural	63	71
	Urban	37	29
Family history of Arthritis	Yes	61	-
	No	49	-

The table compares various parameters between a Control Group (n=100) and a Patient Group (n=100) in a study related to arthritis. It includes age distribution, gender, marital status, socioeconomic status, occupation, residence area, and family history of arthritis. The Control Group generally has more participants in each category compared to the Patient Group, except for the family history of arthritis parameter where the information is not available for the Patient Group.

Adults seem to have a slightly higher mean emotional well-being score compared to the Elderly. The standard deviation for Adults is lower than that of the Elderly, indicating less variability in emotional well-being scores among the Adult group.

**Table 3:** The table presents a comparison of PHQ-9 scores between two age groups: Adults and Elderly

	PHQ-9 (Mean)	PHQ-9 (Std. Dev.)
Adults	9.01	4.69
Elderly	14.02	4.70

The table compares PHQ-9 depression scores between two age groups. Elderly individuals have higher PHQ-9 scores (mean: 14.02, std. dev.: 4.70) indicating more severe depressive symptoms compared to adults (mean: 9.01, std. dev.: 4.69).

**Table 4:** Comparison of Short Form Health - 36 Scores between Adults and Elderly

	Short Form Health - 36 (Mean)	Short Form Health - 36 (Std. Dev.)
Adults	69.70	9.32
Elderly	60.05	11.51

Adults have higher SF-36 scores (mean: 69.70, std. dev.: 9.32) indicating better health-related quality of life compared to the Elderly (mean: 60.05, std. dev.: 11.51).

### Discussion

The aim of our study was to explore the mental health implications of arthritis and how it impacts the quality of life in adults and elderly individuals. We used a mixed-methods approach, combining quantitative measures (AIMS2, PHQ-9, and SF-36) with qualitative interviews to provide a comprehensive understanding of the lived experiences of individuals with arthritis.

In terms of physical, social, and emotional aspects related to arthritis (measured by AIMS2), our findings showed that both adults and elderly individuals experience significant impacts. However, elderly individuals reported higher physical impact scores and lower social impact scores compared to adults. This could be attributed to the progressive nature of arthritis, which can lead to increased physical limitations over time<sup>[14]</sup>. Lower social scores among the elderly may be due to decreased social activities as a result of physical limitations or because of social isolation, a common issue among the elderly<sup>[15]</sup>.

When assessing depressive symptoms (measured by PHQ-9), both groups showed elevated scores, indicating the presence of depressive symptoms. However, scores were significantly higher among the elderly, supporting previous research that found a higher prevalence of depression among elderly individuals with arthritis<sup>[16]</sup>. This highlights the need for mental health support in this population, especially given the association between depression and poorer health outcomes in individuals with arthritis<sup>[17]</sup>.

Our study also found that quality of life, as measured by the SF-36, was lower in the elderly group compared to adults. This aligns with previous research showing that arthritis can significantly reduce quality of life, particularly in older adults due to factors such as increased physical limitations and comorbid health conditions<sup>[18]</sup>.

The qualitative interviews provided further insight into these findings. Participants spoke of the physical pain and limitations caused by arthritis and how these factors affected their daily lives and social interactions. Many also discussed the emotional toll of living with a chronic condition, including feelings of frustration, anxiety, and sadness.

Our findings underscore the importance of comprehensive care approaches that address both the physical and mental health needs of individuals with arthritis. This is especially important for elderly individuals who may be at higher risk for physical limitations, social isolation, and depressive symptoms. Future research should explore interventions that can support mental health and quality of life in individuals with arthritis, such as cognitive-behavioral therapy, physical activity programs, and social support interventions<sup>[19]</sup>.

In conclusion, our study adds to the growing body of evidence highlighting the significant mental health implications of arthritis and its impact on quality of life. By using a mixed-methods approach, we were able to gain a

more nuanced understanding of the lived experiences of individuals with arthritis. These findings underscore the importance of comprehensive care approaches that address both physical and mental health in the management of arthritis.

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