"Baseline Assessment of Knowledge, Practice and Functional Ability Among Older Adults with Osteoarthritis in Rural Communities, Coimbatore"- A Cross-Sectional Study.

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***Abstract*—Background: Osteoarthritis is a common musculoskeletal disorder among older adults that affects joint function, mobility, and quality of life. Adequate knowledge and appropriate self-care practices are essential for managing symptoms and maintaining functional ability.**

Objective: To assess the knowledge, practice, and functional ability among older adults with knee osteoarthritis residing in selected rural communities of Coimbatore.

Methods: A descriptive cross-sectional study was conducted among 120 older adults aged 60–70 years with clinically diagnosed knee osteoarthritis, selected using a purposive sampling technique. Data were collected using a pretested structured questionnaire covering demographic variables, clinical variables, knowledge, and practice. Functional ability was assessed using WOMAC Scale. Data were analysed using SPSS.

Results: The majority of participants were aged 60–62 years (42.5%), female (65.8%), and had primary education (83.3%). Bilateral knee involvement was reported by 50.8%, and 58.3% were overweight. The mean knowledge score was 6.48 ± 3.96, with 70.8% demonstrating inadequate knowledge. The mean practice score was 6.41 ± 4.05, and 67.5% had low practice scores. Moderate pain was reported by 93.3% and moderate stiffness by 84.2%, while 89.2% experienced impaired physical functional ability. Overall, 57.5% had WOMAC scores of 25–48, and 42.5% scored 49–72. Knowledge was significantly associated with educational status ($\chi^2 = 4.493$), monthly income ($\chi^2 = 8.452$), and duration of illness ($\chi^2 = 10.987$). Educational status was significantly associated with physical functional ability in the experimental group ($\chi^2 = 7.090$).

Conclusion: The findings revealed inadequate knowledge and poor self-care practices, accompanied by considerable pain, stiffness, and functional limitations among older adults with knee osteoarthritis. Targeted educational and supportive interventions are recommended to improve disease management and functional outcomes.

***Index Terms*—Knee osteoarthritis, older adults, knowledge, practice, functional ability, WOMAC.**

I. INTRODUCTION

The ageing population is an important demographic transition that has significant implications for public health, healthcare delivery, social support systems, and family caregiving. The number of people aged 60 years and above is increasing worldwide, with the global older population projected to reach approximately 1.4 billion by 2030 and 2.1 billion by 2050. This increase is occurring particularly rapidly in low- and middle-income countries, including India. The growing elderly population highlights the need for effective health promotion, disease prevention, early identification of health problems, and community-based care to support healthy and independent ageing (World Health Organization [WHO], 2025).

Among chronic musculoskeletal conditions, osteoarthritis (OA) is widely recognized as the most common degenerative joint disorder and a major cause of pain, disability and reduced quality of life across the world. The global burden of osteoarthritis has increased substantially over the last three decades, as reflected by rising incidence, prevalence, and disability-adjusted life years (DALYs). In 2021, an estimated 453.56 million adults aged 55 years and above were affected by osteoarthritis, while approximately 23.86 million new cases were recorded globally.

The impact of the disease was greater among females, older adults, and individuals living in regions with a high sociodemographic index (SDI). A high body mass index (BMI) was identified as an important modifiable risk factor, contributing to approximately 35.8% of OA-related DALYs. Furthermore, the global burden of osteoarthritis is projected to rise further by 2050, emphasizing the need for effective preventive measures and comprehensive management strategies to minimize disability and promote better quality of life among older adults (Wang, Y., et al., 2025).

Increasing levels of osteoarthritis among older adults have emerged as an important public health concern because of their association with pain, disability, and impaired physical functioning.

Objectives

- To assess the knowledge, practice and functional ability among elderly with osteoarthritis.
- To associate the selected demographic and clinical variables with their knowledge, practice and functional ability of the elderly with osteoarthritis.

II. MATERIALS AND METHODS

A descriptive cross-sectional study was conducted among elderly people residing in selected rural areas in Coimbatore. The study population comprised all elderly individuals aged 60–70 years, diagnosed with osteoarthritis, residing in the selected rural communities, Coimbatore District, Tamil Nadu, from February 2026 to May 2026. A total 120 elderly (both male and females) of aged more than 60 years were included in this study. The total sample size consisted of 120 participants by using purposive sampling technique. Inclusion criteria included with the elderly men and women aged 60 -70 yrs and the elderly clinically diagnosed with osteoarthritis (knee). Elderly with history of any knee surgery, those with acute joint infections, rheumatoid arthritis, or other inflammatory joint diseases, individuals with cognitive impairment or psychiatric illness were excluded.

Data were collected using pre tested structured questionnaire covering demographic variables, Clinical variables, Knowledge, Practice questionnaire and to assess the functional ability the researcher used WOMAC Scale (The Western Ontario and McMaster Universities Osteoarthritis Index) consisted of 24 items covering three domains: Pain, Stiffness and Physical Function. Higher WOMAC scores indicated greater symptom severity, including increased pain, stiffness, and poorer functional ability.

Thus, a lower score reflected better joint function and reduced symptom severity among elderly individuals with osteoarthritis. Data analysis was performed using SPSS. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used. Associations between variables were assessed by using chi-square test.

III. RESULTS AND DISCUSSION

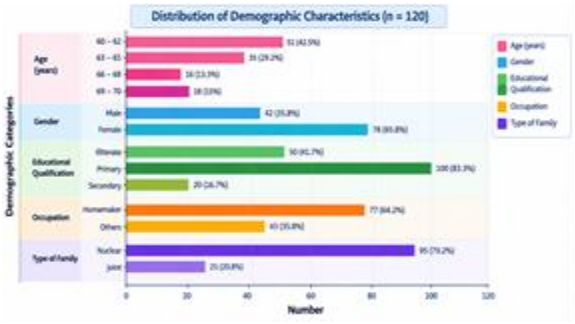


Figure 1: Distribution of the participants according to demographic variables

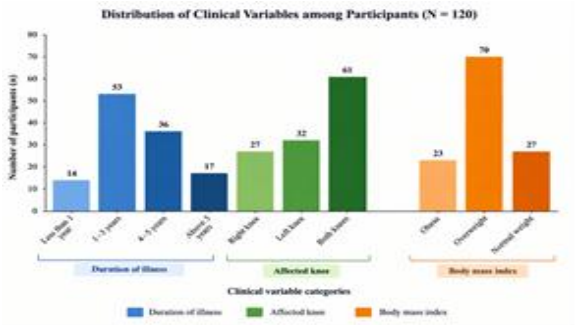


Figure 2: Distribution of the participants according to Clinical variables

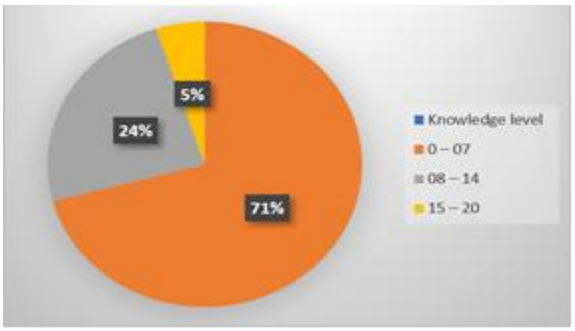


Figure 3: Distribution of the participants according to level of knowledge



Figure 4: Distribution of the participants according to level of Practice

Table 1: Distribution of the participants according to WOMAC Score

S No	Variables	n	%
1	Pain		
	a) 0-5	0	0
	b) 6-12	112	93.3
	c) 13-20	8	6.7
2	Stiffness		
	a) 0-2	0	0
	b) 3-5	101	84.2
	c) 6-8	19	15.8
3	Physical Functional ability		
	a) 0-7	0	0
	b) 18-40	107	89.2
	c) 41-68	13	10.8
4	WOMAC Score		
	a) 0-24	0	0
	b) 25-48	69	57.5
	c) 49-72	51	42.5
	d) 73-96	0	0

The majority of participants were aged 60–62 years (42.5%), female (65.8%), and had primary education (83.3%). Most participants were homemakers (64.2%) and belonged to nuclear families (79.2%). The highest proportion (36.7%) had a monthly income of Rs. 18,001–24,000. Regarding clinical characteristics, 44.2% had an illness duration of 1–3 years. Bilateral knee involvement was predominant (50.8%). A considerable proportion were overweight (58.3%), while 19.2% were obese.

The mean knowledge score was 6.48 ± 3.96, indicating a low level of knowledge. The majority (70.8%) had an inadequate knowledge score of 0–07. The mean practice score was 6.41 ± 4.05, indicating a low level of practice. Most participants (67.5%) had a practice score of 0–6. 93.3% of participants experienced moderate pain (6–12). 84.2% had moderate stiffness (3–5). 89.2% had impaired physical functional ability (18–40). More than half (57.5%) had a WOMAC score of 25–48, while 42.5% scored 49–72. Overall, the findings indicated low knowledge and practice with considerable pain, stiffness, and functional limitations, emphasizing the need for appropriate educational and supportive interventions.

The association analysis showed that the knowledge level was significantly associated with educational status ($\chi^2 = 4.493$), monthly income ($\chi^2 = 8.452$), and duration of illness ($\chi^2 = 10.987$). For physical

functional ability, educational status showed a statistically significant association ($\chi^2 = 7.090$) in the experimental group.

IV. CONCLUSION

These findings highlight the need for structured community-based health education, lifestyle modification, exercise, weight-management, and self-care interventions, supported by regular follow-up by community health professionals, to improve functional ability and quality of life among older adults.

RECOMMENDATIONS

- Community-based follow-up should be strengthened to promote adherence to healthy practices.
- Periodic screening and early referral for pain, stiffness, obesity, and functional limitations may facilitate timely management and prevent further disability.
- Self-management programmes may be established through Primary Health Centres (PHCs) to provide continuous education and support.

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