



## A STUDY TO ASSESS THE KNOWLEDGE REGARDING WARNING SIGNS OF OSTEOARTHRITIS AMONG GENERAL PUBLIC AT SELECTED RURAL AREA PUDUCHERRY

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### Abstract:

**Introduction:** Osteoarthritis, the most prevalent form of arthritis, affects millions around the world and arises when the protective cartilage at the ends of bones gradually breaks down, causing damage to the joints. **Aim:** The study aimed to assess the knowledge regarding warning signs of osteoarthritis among general public at selected rural area Puducherry. **Methodology:** The research conducted in Thirubhuvanai, Puducherry, utilized a quantitative approach with a descriptive study design. The population included general public aged 18–65 years, and a sample of 50 participants was selected using convenient sampling. Inclusion criteria were individuals (male or female) willing to participate and able to speak Tamil or English. **Results:** The result shows that majority 27 (54%) of them had inadequate knowledge, 22 (44%) of them had adequate knowledge and 1 (2%) of them had moderately adequate knowledge on warning signs of osteoarthritis. **Conclusion:** The researcher concluded that the findings revealed that the majority of participants had inadequate knowledge. A significant association was observed between knowledge levels and selected demographic variables such as age and education ( $p < 0.05$ ).

**Keywords:** Knowledge, Osteoarthritis, Warning signs.

## INTRODUCTION

Osteoarthritis, the most prevalent form of arthritis, affects millions around the world and arises when the protective cartilage at the ends of bones gradually breaks down, causing damage to the joints. This condition can affect the hands, knees, hips, and spine. Although there is no way to reverse the damage, certain approaches can help control symptoms, slow disease progression, and improve mobility.

The underlying cause of osteoarthritis is more complex than simple joint “wear and tear.” Factors such as ageing, muscle weakness, excess weight, and reduced repair capacity in the body play significant roles. Women are more likely to experience severe forms of the disease, particularly in weight-bearing joints like the hips and knees. Carrying extra body weight increases strain on the joints, while repetitive, high-impact movements or strenuous jobs can raise the likelihood of developing the condition.

Genetics may also contribute, with rare hereditary forms linked to single-gene mutations that influence collagen production. While weather and diet may influence symptom severity, body weight has a far stronger link to disease risk than any single dietary factor.

Diagnosis usually involves reviewing the patient’s medical history, a physical examination, and imaging tests such as X-rays. Treatment aims to relieve pain and stiffness, restore movement, and may include exercise, heat therapy, physiotherapy, occupational therapy, splints, and mobility aids. Weight management is crucial—shedding extra pounds can ease pressure on the joints. Pain relief options range from oral or topical medications to, in severe cases, surgical procedures for joint repair or replacement.

## **NEED FOR THE STUDY**

The worldwide impact of osteoarthritis (OA) is on the rise, with roughly 28% of people aged over 60 living with the condition. A 2021 meta-analysis revealed particularly high rates of OA across Gulf Cooperation Council (GCC) nations, noting that hip and knee OA rank as the 23rd leading cause of disability-adjusted life years (DALYs) and the 11th leading cause of disability globally. In France, OA is the foremost cause of activity limitations, contributing to 22% of walking problems, 18.6% of carrying difficulties, and 12.8% of challenges with dressing. The condition also plays a role in driving demand for humanitarian assistance.

In Saudi Arabia, a cross-sectional study reported knee OA in 53.3% of male and 60.9% of female patients. Data from India show a marked rise in cases—from 23.46 million in 1990 to 62.35 million in 2019. One Indian study identified primary knee OA prevalence at 33.2% in major cities, 19.3% in smaller cities, 18.3% in towns, and 29.2% in rural areas.

Research in Tamil Nadu revealed that 27.1% of adults were affected by knee OA. Risk factors included being over 50 years old, female sex, tobacco use, low literacy, lower socioeconomic status, family history of OA, diabetes, and hypertension. In Puducherry, the estimated OA prevalence was 41.1%, with female gender and age 70 or above identified as independent risk factors.

## **STATEMENT OF THE PROBLEM:**

“A study to assess the knowledge regarding warning signs of osteoarthritis among general public at selected rural area Puducherry.”

## MATERIALS AND METHODS

The study employed a quantitative methodology and utilized a descriptive research design.. It was conducted in Thirubhuvanai, Puducherry. The population included all general public. The sample consisted of general public residing in Thirubhuvanai, Puducherry, aged between 18–65 years, who met the inclusion criteria. The sample size was 50. A convenient sampling technique was used. The study included members of the general public, both male and female, who were willing to participate and able to communicate in either Tamil or English. Individuals were excluded if they were not present during the data collection period or if they could not speak Tamil or English.

### Tools:

The data collection tool had two parts: Section A gathered demographic details (age, gender, religion, education, occupation, marital status, income, diet, family type, and prior knowledge of osteoarthritis and its warning signs), while Section B was a 20-item multiple-choice questionnaire assessing knowledge of osteoarthritis warning signs, with one correct answer per question.

### Data collection procedure

Data was collected in Thirubhuvanai, Puducherry after obtaining formal approval. The study's purpose was explained to participants, and consent was obtained. A total of 50 general public who fullfills criteria were selected using a convenient sampling technique. Knowledge on warning signs of osteoarthritis was assessed using a structured questionnaire. Participants were assured of confidentiality, and responses were recorded accordingly.

## RESULT:

**Table 1: Demographic variables of the general public.**

**N=50**

| S. No | Demographic data    | n  | %   |
|-------|---------------------|----|-----|
| 1     | <b>Age in years</b> |    |     |
|       | a) 18-30 yrs        | 14 | 28% |
|       | b) 30-40 yrs        | 18 | 36% |
|       | c) 40-60 yrs        | 12 | 24% |
|       | d) Above 60 yrs     | 6  | 12% |
| 2.    | <b>Gender</b>       |    |     |
|       | a) Male             | 14 | 28% |
|       | b) Female           | 36 | 72% |
| 3.    | <b>Religion</b>     |    |     |
|       | a) Hindu            | 42 | 84% |

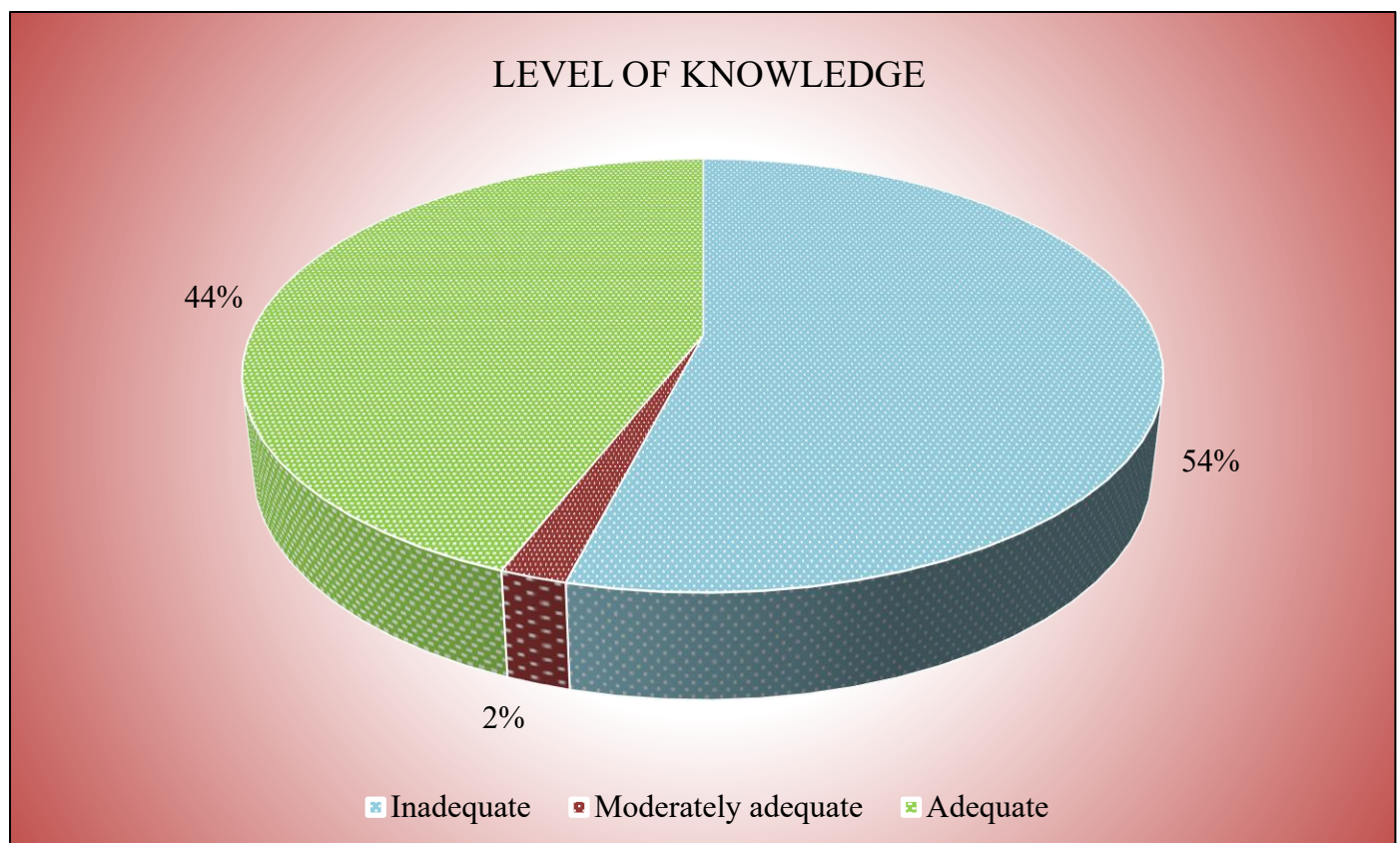
|            |                                |    |     |
|------------|--------------------------------|----|-----|
|            | b) Muslims                     | 5  | 10% |
|            | c) Christian                   | 2  | 4%  |
|            | d) Others                      | 1  | 2%  |
| <b>4.</b>  | <b>Education qualification</b> |    |     |
|            | a) Graduate                    | 0  | 0%  |
|            | b) Intermediate / diploma      | 17 | 34% |
|            | c) School                      | 23 | 46% |
|            | d) Illiterate                  | 10 | 20% |
| <b>5.</b>  | <b>Occupational status</b>     |    |     |
|            | a) Government                  | 33 | 66% |
|            | b) Private                     | 17 | 34% |
|            | c) Agriculture                 | 0  | 0%  |
|            | d) Unemployment                | 0  | 0%  |
| <b>6.</b>  | <b>Marital status</b>          |    |     |
|            | a) Married                     | 13 | 26% |
|            | b) Unmarried                   | 20 | 40% |
|            | c) Widow                       | 17 | 34% |
|            | d) Divorced                    | 0  | 0%  |
| <b>7.</b>  | <b>Family income</b>           |    |     |
|            | a) Rs. 20001 & above           | 7  | 14% |
|            | b) Rs. 10001-2000              | 22 | 44% |
|            | c) Rs. 5001-10000              | 9  | 18% |
|            | d) Less than Rs. 5000/-        | 12 | 24% |
| <b>8.</b>  | <b>Dietary pattern</b>         |    |     |
|            | a) Vegetarian                  | 14 | 28% |
|            | b) Non vegetarian              | 36 | 72% |
| <b>9.</b>  | <b>Type of family</b>          |    |     |
|            | a) nuclear                     | 28 | 56% |
|            | b) joint                       | 22 | 44% |
|            | c) extended family             | 0  | 0%  |
| <b>10.</b> | <b>Previous knowledge</b>      |    |     |
|            | a) Yes                         | 8  | 16% |
|            | b) No                          | 42 | 84% |

The table presents the frequency and percentage distribution of demographic variables. Most participants (36%) were aged 30–40 years, followed by 24% in the 40–60 age group. A majority (84%) were Hindu. Regarding education, 46% had completed school and 20% were illiterate. Most (66%) were employed in government jobs. In terms of family income, 44% earned between ₹10,001–₹20,000. A majority (56%) lived in nuclear families. Notably, 84% had no prior knowledge of the warning signs of osteoarthritis.

**Table 2: Knowledge level on warning signs of osteoarthritis among general public**

| S.NO | KNOWLEDGE LEVEL     | (n) | %   |
|------|---------------------|-----|-----|
| 1.   | Inadequate          | 27  | 54% |
| 2.   | Moderately adequate | 1   | 2%  |
| 3.   | Adequate            | 22  | 44% |

The result shows that majority 27 (54%) of them had inadequate knowledge, 22 (44%) of them had adequate knowledge and 1 (2%) of them had moderately adequate knowledge on warning signs of osteoarthritis.



**Figure 1: Knowledge level on warning signs of osteoarthritis among general public.**

## DISCUSSION

The study findings from the study assessing the knowledge regarding warning signs of osteoarthritis among general public at Thirubhuvanai, Puducherry. The study utilized a descriptive research design with a quantitative approach, selecting a sample of 50 general public. The findings are analyzed under the following key areas:

**Demographic Variables:** Most participants (36%) were aged 30–40 years, followed by 24% in the 40–60 age group. A majority (84%) were Hindu. Regarding education, 46% had completed school and 20% were illiterate. Most (66%) were employed in government jobs. In terms of family income, 44% earned between ₹10,001–₹20,000. A majority (56%) lived in nuclear families. Notably, 84% had no prior knowledge of the warning signs of osteoarthritis.

**Assessment of level of knowledge:** The results indicate that most participants, 27 (54%), had inadequate knowledge about the warning signs of osteoarthritis, while 22 (44%) demonstrated adequate knowledge, and only 1 (2%) had moderately adequate knowledge.

**Association Between Demographic Variables and level of knowledge:** The data shows that there is a significance association between age, education with their selected demographic variables where  $p$  is less than 0.05.

The findings align with Alaa Mohamed E.Isayed et al. (2023) conducted a study on patients' knowledge and practices regarding osteoarthritis at the orthopedic outpatient clinics. The study found that most patients had an unsatisfactory level of knowledge about osteoarthritis, though many demonstrated satisfactory practices related to correct postures and activities of daily living (ADLs).

## CONCLUSION:

The study concluded that using an infrared LED vein finder significantly reduced pain and procedural difficulty during peripheral IV cannulation, while improving first-attempt success rates. Overall, the device proved effective in enhancing cannulation outcomes.

## RECOMMENDATION:

Future studies could replicate this research with larger samples in diverse settings to enhance generalizability, using probability sampling techniques for improved representation. Similar study can be conducted by comparing with other Transilluminating device for performing IV-line insertion. Similar study can be conducted with pediatric group.

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**Cite this Article:** Mrs. M. Yamunambigai, A. Sridhar, Dr. G. Muthamilselvi (2025). A study to assess the knowledge regarding warning signs of osteoarthritis among general public at selected rural area Puducherry. *International Journal of Innovative Research in Health Science*, 1(10), 47-54. <https://doi.org/10.63349/ijirhs.202460>.