



## UNDERSTANDING KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING RHEUMATOID ARTHRITIS AMONG THE GENERAL POPULATION

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### ABSTRACT:

**The** study's aim is to evaluate the knowledge and awareness of rheumatoid arthritis and foot health among RA patients, thereby paving the way for further study in the future.

**Material and Methods**-A self-administered, structured 28 questionnaire was distributed among the healthcare professional, student and other employees. Data obtained was analysed using SPSS 21.0 for descriptive analysis of the data.

**Result**-The study evaluated 178 respondents' knowledge and attitudes on rheumatoid arthritis (RA) and its therapy. It found that respondents had differing opinions regarding RA's curability, the value of exercise, and their preferences for allopathic medicine.

**Conclusion**-The paper's conclusion emphasizes the need for RA patients to be more aware of foot health, the impact of demographics on knowledge, the way that foot involvement is common in RA and how it affects quality of life, and the suggestion that educational interventions be used to promote awareness.

**Keywords:** Rheumatoid Arthritis, Foot Health, Health Assessment, Questionnaire.

### INTRODUCTION:

Rheumatoid arthritis is an inflammatory autoimmune disorder affecting joint, rheumatoid arthritis (RA) advances with both articular and nonarticular symptoms, especially tiny joint involvement. There is no known cause for the illness, and women are affected twice as frequently as males (Kasper et al., 2015).

It is described by symmetric synovial joint inflammation that causes progressive bone and cartilage degradation. The goals of treatment are to reduce joint degradation, maintain function, and avoid impairment. Most individuals who receive no treatment experience irreparable joint degeneration within two years (Zeider et al., 1998).

Between 1% and 2% of the world's population, or 60–120 million people, are estimated to have RA. Three times as many women as men experience this problem. Although the disease can strike at any age, it usually starts in the 30 years to 50 years (pincus et al., 1986). If left untreated, the illness frequently results in irreversible joint deterioration, a major reduction in quality of life, and eventual disability. Quick advancements in the pathophysiology of RA, coupled with a high risk of morbidity

and early mortality have led to a quick shift in the treatment approach to RA toward aggressive care and early diagnosis (Goodson *et al.*, 2002).

Numerous external and genetic variables are believed to play a role in the pathogenesis of RA. RA is thought to be brought on by CD4<sup>+</sup> T cells identifying arthritogenic antigens in synovial tissue, despite the pathophysiology being unknown. Synovial fibroblasts, macrophages, and monocytes are stimulated by activated CD4<sup>+</sup> T cells. Matrixmetallo proteinases, which are responsible for the deterioration and erosion of bone and cartilage, are subsequently secreted by these. Along with other soluble mediators, the cytokines interleukin (IL)-1, IL-6, and tumor necrosis factor (TNF)- $\alpha$  are also produced by monocytes, macrophages, and synovial fibroblasts. The primary proinflammatory cytokines responsible for RA inflammation are TNF- $\alpha$ , IL-1, and IL-6. B cells are induced to create immunoglobulins, such as rheumatoid factor, by CD4<sup>+</sup> T cells. When these events come together, the synovium becomes inflamed (Feldman *et al.*, 1999).

For RA sufferers, getting professional foot care is essential for preventing new foot issues or lessening current ones. On the other hand, some patients complaining of podiatric support say that they are only given attention to skin and nail care, without considering joint pain, self-care, or a more thorough examination of the foot (Smith *et al.*, 2002). To identify possible issues and keep an eye on foot health, it's critical to do a thorough evaluation of the foot (Hendry *et al.*, 2013).

First-line therapy for RA has historically been the use of pharmacologic medicines, such as glucocorticoids and nonsteroidal anti-inflammatory drugs (NSAIDs), which decrease inflammation. These drug groups also work quickly to reduce RA-related pain and edema. DMARDs (disease-modifying antirheumatic medications) comprise of hydroxychloroquine, sulfasalazine, methotrexate, and, more recently, leflunomide. These slower-acting medications, in contrast to NSAIDs, not only reduce pain but also delay the advancement of clinical and radiographic conditions (Wilson *et al.*, 2017).

## MATERIAL AND METHOD:

A cross-sectional survey was conducted in December 2023, wherein a questionnaire consisting of 28 questions (5 demographic data and 18 questions under the Knowledge, attitude, and practice category) was prepared and distributed to postgraduate students, graduate students, high school and practitioners in tertiary health centers and medical institution of Maharashtra state.

The study's methodology used a self-administered cross-sectional survey. An online form was created and distributed to possible respondents, who included employees and students from a variety of healthcare facilities.

Question	Frequency(n=178)	Percent (%)
<b>Age</b>		
20 to 39 years	114	64
40 to 60 years	2	1.1
Less than 20 years	58	32.6
More than 60 years	4	2.2
<b>Gender</b>		
Male	85	52.2
Female	93	47.8
<b>Residency</b>		
Rural area	136	76.4
Urban area	42	23.6
<b>Education</b>		
High school	8	4.5
Primary school	2	1.1
university	168	94.4
<b>Marital status</b>		
Married	9	5.1

Single	169	94.9
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**TABLE 1: DEMOGRAPHIC DATA****HEALTH ASSESSMENT QUESTIONNAIRE:**

The Health Assessment Questionnaire (HAQ), which evaluates disease-specific functional status, was modified by (Bremander *et al.*, 2019; Gaffo *et al.*, 2006). The questionnaire is frequently used to evaluate functional status and level of daily living activities in patients with rheumatic diseases. It consists of 5 questions evaluating activities including dressing and eating, walking, hygiene, reach, grip, and common daily activities.

**STATISTICAL ANALYSIS:**

Statistical analysis was performed using SPSS 21.0. Categorical measurements were expressed as number and percentage.

**DISCUSSION:**

The purpose of this study was to assess RA patient's awareness of foot health. The patients who took part in this research knew about RA. It was found that understanding of RA was influenced by age, residency, gender, marital status, and educational attainment. Furthermore, a relationship between knowledge level and foot impairment was found. Based on these findings, it was determined that there was insufficient awareness about the foot health of RA patients, and demographics were found to have an effective influence on knowledge level.

Foot involvement is common in RA patients and leads to reduced quality of life, inactivity, and disability. It also has an impact on gait, balance, and mobility. For this reason, maintaining the health of the feet is crucial for RA sufferers. The study found a modest level of foot health awareness, which might not be enough to safeguard foot health. This finding suggests that additional information regarding foot health is required. Since no previous study had assessed patients' awareness of foot health, there was no opportunity to compare the results with other research in the literature. Research on health-related information revealed an average or moderate degree of understanding.

Out of 178 respondents in this study, around 83.7% stated that RA simply affects the bones in the body, while 16.3% stated that RA occasionally affects the lungs, eyes, and other organs, with older adults being more impacted than younger respondents.

One significant finding from the current study was that, out of 178 participants, 61.2% of respondents thought that rheumatoid arthritis might be cured with early diagnosis and treatment, however 38.8% of participants were afraid about long-term care.

Individuals that suffer from rheumatoid arthritis hold varying views. Approximately 87.1% of participants believe that morning discomfort is a common symptom of RA. While some may find it to be a huge obstacle that negatively affects their quality of life, others may modify their daily routines and coping mechanisms in order to control and get through the symptoms. It's crucial to remember that rheumatoid arthritis is a chronic illness with a wide range of effects on a person's life. Opinions and experiences can also be impacted by things like treatment efficacy, personal pain thresholds, and general health.

A multidisciplinary approach is usually used to treat rheumatoid arthritis (RA), with the goals of lowering inflammation, easing symptoms, avoiding joint degeneration, and enhancing overall quality of life. It's crucial to remember that every person may require a different treatment strategy.

When asked, roughly 46.6% of respondents stated that RA is curable, and roughly 53.4% said that the condition is incurable.

When discussing the lifestyle choices made by RA patients, we found that roughly 65.7% of respondents believed that regular exercise was necessary for RA. We found that around 65.7% of respondents believed that regular exercise was necessary for RA.

According to all 178 respondents, allopathic medicine is the preferred option for RA treatment above homeopathic and ayurvedic medicine. 51.1% of respondents think that an allopathic treatment is a decent choice for RA.

Questioning the respondent revealed that while joint inflammation and stiffness are common symptoms of RA, 62.4% of respondents stated that people with RA exercise regularly, while 12.4% said they thought exercise would make their condition worse. Based on these kinds of responses, we can conclude that people are unaware of RA and its remedy.

**TABLE NO.2: DISTRIBUTION OF FREQUENCY AND PERCENTAGES TO QUESTIONS UNDER KNOWLEDGE CATEGORY**

Questions	Frequency (N=178)	Percent (%)
<b>What is rheumatoid arthritis?</b>		
Due to hot or cold weather	8	4.5%
It is genetic disorder	32	18%
It starts after a joint is injured	125	70.2%
The cause is unknown	13	7.3%
<b>Choose correct sentences from the list below is</b>		
It only affects the bones of the body	149	83.7%
It sometimes affects the lungs,eyes,and other organ	29	16.3%
<b>People affected with RA.</b>		
Old age	142	79.8%
Teenagers	7	3.9%
Young individuals	29	16.3%
<b>Severity of disease.</b>		
A chronic disease	124	69.7%
Mild in nature	54	30.3%
<b>RA is curable disease.</b>		
No	83	46.6%
Yes	95	53.4%
<b>Can rheumatoid arthritis be cured with early diagnosis and treatment?</b>		
No		
Yes	69	38.8%
	108	61.2%
<b>People with RA experience pain in morning?</b>		
No	23	12.9%
Yes	155	87.1%
<b>Choose correct statements about pain medication.</b>		
It should be taken when pain begins	38	21.3%
May cause addiction	25	14%
Must be taken before any activity that may cause pain	49	27.5%
Only taken when pain is severe	66	37.1%
<b>Life style modification recommended for a Person with rheumatoid arthritis.</b>		
Meditation	10	5.6%
Morning walk	30	16.9%
Regular excercises	117	65.7%
yoga	21	11.8%
<b>Activity recommended when joint</b>		

<b>Are inflamed and stiff.</b>		
Do not exercise	22	12.4%
Perform routine exercises	111	62.4%
Rest in bed most of the time	45	25.3%
<b>RA is more common in women than in men.</b>		
No	32	18%
Yes	146	82%
<b>Specific diagnostic test for the rheumatoid arthritis?</b>		
Anti Igm antibody	23	12.9%
Anti-ccp antibody	97	54.5%
Anti-IgA antibody	28	15.7%
Anti-IgG antibody	30	16.9%
<b>Preferred medication for RA.</b>		
Allopathic medication	91	51.1%
Ayurvedic medication	51	28.7%
Homeopathic medication	36	20.2%

**TABLE NO. 3 DISTRIBUTION OF FREQUENCY AND PERCENTAGES TO QUESTIONS UNDER ATTITUDE CATEGORY**

Questions	Frequency (n=178)	Percent (%)
<b>RA is dangerous?</b>		
No	47	26.4%
Yes	131	73.6%
<b>Regular doctor's consultation is required for RA patients?</b>		
No	43	24.2%
Yes	135	75.8%
<b>Should the treatment be regular?</b>		
No	24	13.5%
Yes	154	86.5%
<b>Would you prefer to seek medical advice if there is no response to full course of treatment?</b>		
No	25	14%
Yes	153	86%
<b>Should your family know that you are suffering from rheumatoid arthritis?</b>		
No	56	31.5%
Yes	122	68.5%

**TABLE NO.4 DISTRIBUTION OF FREQUENCY AND PERCENTAGES TO QUESTIONS UNDER HAQ CATEGORY**

Questions	Frequency (n=178)	Percent (%)
<b>RA patient can lift a full cup or Glass of water?</b>		
No	39	21.9%
Yes	139	78.1%
<b>RA patient can walk outdoors or</b>		

<b>Flat ground?</b>		
No	29	16.3%
Yes	149	83.7%
<b>RA patient can climb up a Few steps?</b>		
No	54	30.3%
Yes	124	69.7%
<b>RA can bend down to pick up Clothing off the floor?</b>		
No	55	30.9%
Yes	123	69.1%
<b>RA patient can open jars which have Been previously opened?</b>		
Yes	51	28.7%
No	127	71.3%

## RESULT:

The survey included 178 respondents based on the inclusion criteria. 52.2% (85) of them were men and 47.8% (93) were women [Graph 1]. Participants in the study were divided into age groups: <20 years, 20 to 39 years, 40 to 60 years, and >60 years; the majority of these participants fell into the 20 to 39 year age group (Graph 2). Overall, university students made up 94.4% of the respondents, with high school students making up 4.5%. (Table no.1)

Rheumatoid arthritis is harmful, according to about 26.4% of respondents, and frequent medical consultations are necessary (Tab no. 3). More than 80% of respondents claimed that people with rheumatoid arthritis could perform their regular daily activities. (Tab.no.4)

About 82% of survey participants stated that women are more likely than males to get rheumatoid arthritis. 51.1% of respondents overall said they favored allopathic medicine. (Table no.2)

When asked what is RA 70.2% answered it starts when joint is injured 18% believe it is a genetic disorder, 80% answered it is due to hot or cold weather while 73% are not clear about the reason of RA 83.7% believe RA affects only bones while 16.3% say it only affects lungs, eye, and other organs. When asked about age group of people affected by RA 79.8% were answered correctly old age people are affected while 16.3% answered young individuals and 3.9% answered teenagers are also affected by RA. 69.7% believe RA is a chronic disorder while 30.3% believe it is mild in nature, 53.4% say RA is a curable disease while 46.6% say it's not curable 87.1% answered that people with RA are experiencing pain during morning while 12.9% say people with RA not experiencing pain in morning.

When asked about pain medication 21.3% answered it should be taken when pain begins 14% say it may cause addiction 27.5% say medication must be taken before any activity cause pain while 37.1% believe only taken when pain is severe.

Under knowledge category when asked about life style modification recommended for RA person 65.7% believe regular exercise is required 16.7% say morning walk is necessary 11.8% recommended yoga & 5% say meditation is required.

When asked about activity recommended when joint are inflamed and stiff 62.4% answered perform routine exercise 25.3% answered rest in bed most of time & 12.4% say do not perform exercise.

82% people answered RA is a common disorder in men while 18% say is common in women

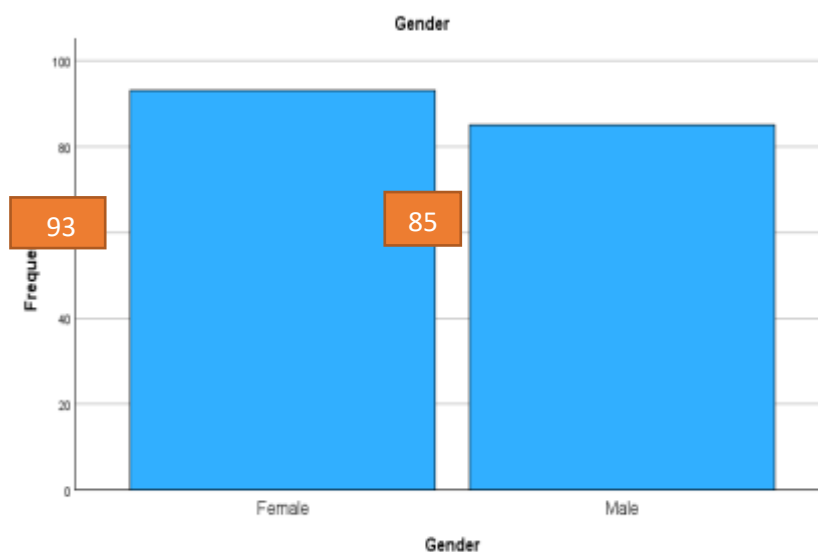
When asked about specific diagnostic test about RA 12.9% answered anti-IgM 54.5% say anti-CCP, 15.7% say anti-IgA, & 16.9% say anti-IgG.

Under attitude category 73.6% respondent believe RA is a dangerous disorder while 26.4% believe it is not dangerous. About 75.8% of respondent believe regular doctor consultation is required 86.5% recommend regular medication is necessary for RA patient while 28.4% believe there is no need of regular doctor consultation & 13% recommend regular medication is not needed 86% respondent reported that they prefer to seek medical advice if there is no response to full course and treatment while 14% do not prefer to seek medical advice if there is no response to full course of treatment.

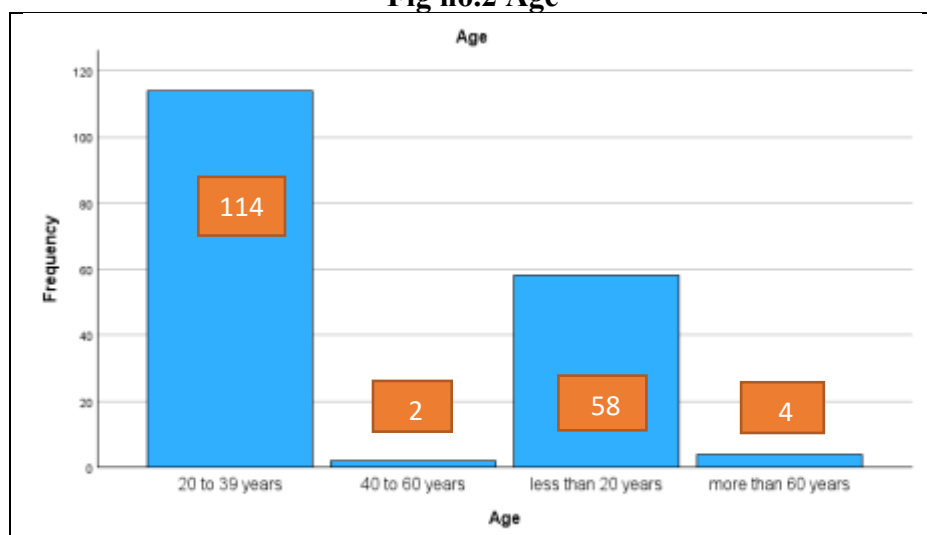
Among the all respondent 68.5% feel that thrir family should know that they are suffering from RA while 31% say they don't want that their family should know that they are suffering from RA (Table no.3).

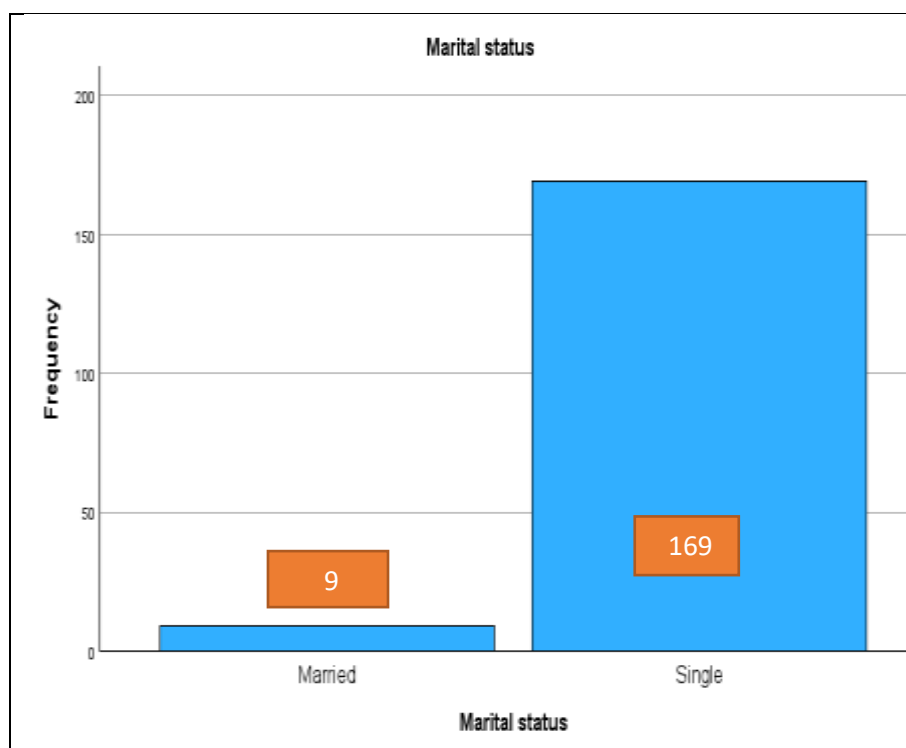
Under HAQ 78.1% respondent report Ra patient can lift a full cup of glass of water while 21% belive they cannot lift a full cup of glass of water 83.7%answered RA patient can walk outdoor or flat ground while 16.3% belives RA patient cannot walk outdoor or flat ground ,69.7% relaced RA patient can climb up.69.1% belive RA patient can bend down to pick up clothing off floor while 30.9% belive they cannot bend down ,71.3% belive RA can open jar which have been previously opened while 28.7% belive they cannot open (Table no.4)

**Fig no.1 Gender**



**Fig no.2 Age**





**Fig no.3 Marital status**

## CONCLUSION:

The individual appears to have a sufficient level of knowledge regarding rheumatoid arthritis. Furthermore, it was discovered that the following factors affected RA patients' degree of knowledge regarding foot health: gender, occupation, smoking, education level, and foot impairment. Raising awareness among RA patients through lectures or one-on-one consultations could prove advantageous. Our study may open the door for more comprehensive research in the future.

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