

## Primary Care in Rheumatoid Arthritis

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General practitioners (GPs) play an important role in the early diagnosis, treatment, and referral of rheumatoid arthritis (RA) patients. Many patients do not receive rheumatologist care at the appropriate time. Therefore, it seems necessary to evaluate the knowledge and attitude of GPs toward RA to identify some of the barriers in the optimal care of patients with RA delivered by GPs. A total of 120 GPs were selected through simple and non-random sampling from physicians participating in five educational seminars held in Tehran. The survey used in this study questioned their experience with RA, with prescribing disease-modifying anti-rheumatic drugs (DMARDs), and with making referrals to a rheumatologist.

Among the GPs in this study, 28.3% had no RA patients monthly, 35.8% declared that they visit 3-5 RA patients per month on average, and 95 out of 120 (79.2%) referred RA patients to a rheumatologist as soon as possible. The majority of physicians (87.5%) sourced their knowledge about rheumatoid arthritis mostly from their general medical training. 47.5% had low and 5% lacked self-esteem in managing RA patients. 92.5% of GPs were familiar with DMARDs, but only 22.1% of them had ordered them. Lacking knowledge about the side effects of DMARDs was the main reason for hesitance in prescribing them. The results also revealed that older, male, and more experienced GPs were more comfortable in managing RA patients.

This study showed that the RA care delivered by GPs is not consistent with current treatment guidelines focusing on early DMARDs therapy. GPs do not have enough information or confidence for managing patients with RA. Improving physicians' knowledge and continued educational programs are suggested.

**Keywords:** Rheumatoid arthritis, knowledge, General practitioners, perspective

### Introduction

Rheumatoid arthritis (RA) is the most prevalent inflammatory disease of the joints [1]. Risk factors are age (risk increases with age; most patients are in their 60s), a positive family history, smoking, obesity, recent infection, and being of the female gender [1, 2]. One study suggested that the early diagnosis and treatment of RA are necessary to prevent joint deformity, save function, and recover quality of life [3]. Early intervention, i.e. within 12 weeks of onset of the illness, could minimize the adverse sequelae of RA and optimize long-term prognoses [4-5]. Disease-modifying antirheumatic drugs (DMARDs) are the first line medications for managing RA. Other treatments include nonsteroidal anti-inflammatory drugs (NSAIDs), glucocorticoids, nutritional supplements, exercise, physiotherapy, and joint replacement surgery [6-10]. Studies show that patients with RA who are referred to a rheumatologist have a 31-times greater chance of receiving DMARDs than patients seen by other physicians [11, 12]. Moreover, at least two studies revealed that patients under the supervision of

a rheumatologist have better results, although most RA patients do not recourse to rheumatologists. Only 34% of the patients in this study were visited by a rheumatologist over a 2-year period [12, 13, 14].

General practitioners are the first and sometimes only physicians that patients consult. Therefore, the first management of these patients depends on the doctor knowing the new guidelines and treatment protocols for RA [13, 15]. Despite considering RA in differential diagnoses, many GPs prefer to introduce their patients to rheumatologists; 25% do not. Moreover, it is rare for a GP to begin treatment with DMARDs [16, 17]. GPs play a fundamental role in monitoring patients who take DMARDs prescribed by a rheumatologist. Even so, there is little information about how such doctors manage early RA, their attitude and self-confidence in prescribing DMARDs, or about referral plans to rheumatologists [18-22]. The aim of the current study was to survey the knowledge and attitude of GPs regarding the management of RA patients and to understand the obstacles they face in caring for them.

## Materials and Methods

Participant selection was accomplished through five seminars for general practitioners as continuous medical education (CME) in Tehran, Iran. These physicians were supposedly representative of general practitioners as they had moved to Tehran (the capital of Iran) from different parts of the country. Through this easy and non-randomized sampling, questionnaires were distributed to 120 GPs who worked as family medicine doctors, general practitioners, or emergency physicians. During a systematic review in related research, Dr. Rudeman's questionnaire comprising 25 questions for rheumatologists, internal medicine physicians, and general practitioners was identified [23]. Because the target of this study was GPs, 12 questions were first selected, translated into Persian, and confirmed by five rheumatologists who were attending physicians in Iran's University of Medical Sciences. The questionnaire was validated based on the

content validity score index. The results showed convenient validity: comprehensiveness = 0.82, relevancy = 0.82, clarity = 0.85. The reliability of this questionnaire in Farsi was applicable, and Cronbach's alpha was 0.78. The questionnaire include demographic information and RA-related questions. The RA-related questions focused on the doctors' experience with patient treatment, prescribing DMARDs, and patient referral (Table 1). Mean and standard deviation values were used for quantitative variables such as age and hours of work, and percentages were used for qualitative variables such as workplace and gender. Comparisons between quantitative variables were performed by t-test in normal and the Mann-Whitney U test in non-normal distributions. To compare between qualitative variables, the Chi-Square and Fisher exact tests were used, and data was analyzed using SPSS version 20. A p-value less than 0.05 was considered significant. Correlates of prescribing DMARDs were examined in logistic regression models.

**Table 1.** Question included in questionnaire

1.	What is your weekly working time?
2.	How many RA patients do you visit every month?
3.	Do you refer RA patients to rheumatologist?
4.	In what condition do you refer RA patients to rheumatologist?
5.	How many percent of RA patients do you refer?
6.	What is your knowledge references about RA?
7.	How much is your self-confidence about managing RA patients?
8.	Do you know DMARDs (Disease Modifying AntiRheumatic Drugs)?
9.	Do you have any experience with DMARDs?
10.	When is the proper time to start DMARDs?
11.	What is the cause of DMARDs non-prescription?
12.	What is your recommendation to make RA care better?

## Results

Questionnaires were distributed in five national congresses as part of the continuous medical educational program (CME), in which 550 GPs, 136 physicians agreed to participate in this survey, and 120 (21.8%) of them properly and fully completed the questionnaire (Figure 1).

Among the participants, 41.7% were men and 58.3% were women. Other demographic characteristics are given in Table 2. The majority of physicians had practiced

for less than 10 years (81.7%). Physicians had worked in various places, like clinics (41.7%), hospitals (47.5%), and private offices (10.8%). Almost 53.3% of the physicians referred RA patients as soon as possible after diagnosis and 13.3% made referrals after one month of treatment; 20.8% of physicians, however, stated that they had never introduced an RA patient to a specialist. The results further showed that male GPs and older GPs are more inclined to refer RA patients to rheumatologists than young female GPs.

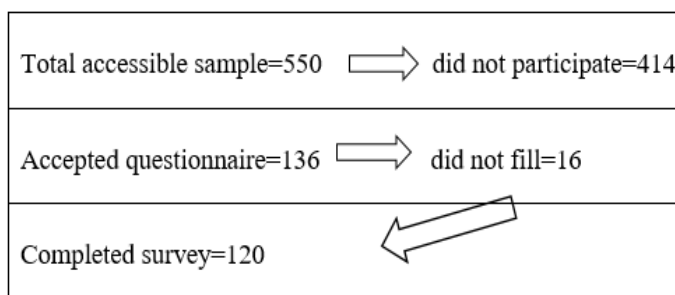


Figure 1. Description of sampling assemble

Table 2. Characteristics of survey participants (n=120)

VARIABLE	VALUE
<b>Age average(years)</b>	33.78± 7.52
<b>Frequency of gender</b>	
Male no. (%)	50 (41.7%)
Female no. (%)	70 (58.3%)
<b>Medical experience</b>	
< 10 years	98 (81.7%)
11 – 15 years	9 (7.5%)
>15 years	13 (10.8%)
<b>Workplace</b>	
Teaching hospital	28 (23.3%)
community hospital	29 (24.2%)
Clinics	50 (41.7%)
Private office	13 (10.8%)
<b>Number of working hours per week</b>	
<20 hours	34 (28.3%)
20 – 40 hours	43 (35.8%)
>40 hours	43 (35.8%)

The rate of referral to a rheumatologist was higher among GPs with more years of experience. Male practitioners refer patients to specialists within 1 month, but females refer those with advanced disease within 3 months. Older male GPs who had worked more hours and visited more patients per day reported having more confidence in managing RA patients. Male practitioners preferred to start treatment with DMARDs after diagnosis, but females preferred to

wait 6 months after diagnosis or after trying NSAIDs and glucocorticoids. The main sources of knowledge for older practitioners were undergraduate education (87.5%) and self-education through textbooks or articles (5%), while younger physicians preferred to attend CME programs and seminars (7.5%).

The average confidence rate was 47.5%, while optimal confidence was 32.5%. Over half of the GPs mentioned

initiating DMARDs right after diagnosis of RA; however, nearly one third of GPs stated that DMARDs should be ordered after non-steroidal anti-inflammatory drugs (NSAIDs) and glucocorticoids had been tried (Table 3). Younger, less experienced GPs mostly believed that increasing the awareness and knowledge of patients and GPs is the best way to improve RA patient's outcome,

while older more experienced GPs recommended more available Rheumatism Care for patients.

Among the participant GPs, those who had worked in community hospitals were least knowledgeable.

Lack of competency and medication side effects were GPs' main reasons for hesitating to prescribe DMARDs.

**Table 3.** Information on RA patient's management and DMARDs\* prescribing

VARIABLE	VALUE
<b>Number of visits per month</b>	
0	4 (28.3%)
1-2	43 (35.8%)
3 – 5	43 (35.8%)
<b>Referral time to rheumatologist</b>	
Immediately after the diagnosis	64 (53.3%)
No response to treatment in 1 month	16 (13.3%)
No response to treatment in 3 month	13 (10.8%)
Advanced disease	15 (12.5%)
Never	12 (10%)
<b>Frequency distribution of referrals</b>	
<10 %	19 (15.8%)
10 – 50 %	15 (12.5%)
>50 %	86 (71.7%)
<b>Source of physician knowledge</b>	
Medical school	105 (87.5%)
Medical congress and continuous educational programs	9 (7.5%)
Journals	6 (5%)
<b>Self-confidence</b>	
Perfect	18 (15%)
Good	39 (32.5%)
Low	57 (47.5%)
Lack of confidence	6 (5%)
Familiarity with DMARDs	111 (92.5%)
Experience treatment with DMARDs	29 (22.5%)

VARIABLE	VALUE
<b>Time to start DMARDs</b>	
Immediately after diagnosis	64 (53.3%)
6 months	9 (7.5%)
If glucocorticoids and NSAIDs are not effective	47 (39.2%)
<b>The reason for not prescribing the DMARDs</b>	
Fear of Side effects	55 (45.8 %)
Fear of Infection	6 (5%)
Lack of sufficient knowledge	55 (45.8%)
Uncertainty about diagnosis	4 (3.3%)

\*Disease-modifying anti-rheumatic drug; RA, rheumatoid arthritis.

## Discussion

The current study evaluated the knowledge and perspective of GPs as the primary and main care providers on the management and referral of RA patients to rheumatologists. Most GPs visited less than five RA patients in a month. This represents that Iranian practitioners are not sufficiently updated about the management of RA patients. Approximately 20% of GPs had no exposure to RA patients. This could be the result of a lack of diagnosis of RA or the easy availability of a specialist in some areas.

Most Iranian patients prefer to be visited by a specialist right away. Patients for whom early intervention with DMARDs therapy is introduced by a specialist have better function and outcomes than those for whom such treatment is deferred. As many times GPs are the first and only managing physicians, this finding is not a good one. The absence of proper science in detecting symptoms early, fears of side effects, and low self-confidence in starting DMARDs lead to treatment delays and may have detrimental effects on disease remission and long-term outcome.

A literature review for articles regarding the prescription of DMARDs and physicians' attitudes to RA patients turned up several points. Stack et al. found that general practitioners should know more about RA in order to differentiate the early signs and symptoms of RA from those of other diseases [24]. Gameau et al. highlighted that low confidence and a lack of accessibility to rheumatologists were the main problems in prescribing DMARDs. Compared with Gameau's survey, the current study had fewer practitioners who participated in CMEs about RA. Moreover, there was less experience with the use of DMARDs. This result might be because of the inclusion of specialists in their study. Similar to the current survey, few studies reported that

most practitioners avoided the use of DMARDs by themselves, and 80% of them preferred to introduce RA patients to specialists as soon as possible [12, 16, 19, 25]. Despite Glazier's study, [17] the current study found that male GPs suggested a referral of their patient more often than females, although the knowledge and confidence levels of men were higher than those of females. In the current study, factors such as high age, gender, workplace, and hours of work affected the perspective and management of patients among practitioners. It was also found that older GPs with more hours of work experience were more confident in the management of RA patients. This could be the result of a greater shortage of specialists in previous years, which made GPs more engaged in RA management.

The limitations of this study were the non-randomized sampling of participant GPs and data gathering through the use of a questionnaire instead of through interviews.

## Conclusion

This study shows that Iranian GPs are not well-informed or confident in managing RA patients; however, it is noteworthy that most GPs suggested referring RA patients to rheumatologists. Sometimes, rheumatologists are not accessible, and the early diagnosis and intervention with DMARDs improves patient outcome; therefore, RA diagnosis and management and prompt referral to the rheumatology department should be specifically emphasized in CME programs and medical school education.

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## Conflict of Interest

The authors declare no conflicts of interest.

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