RESEARCH ARTICLE

Average time taken by a Rheumatology patient to reach a Rheumatologist in Pakistan

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Abstract

Objective: To study the time taken by individuals from onset of symptoms related to rheumatic diseases to approaching a rheumatologist, and to establish the various delaying factors.

Method: The cross-sectional study was conducted at the Department of Medicine, Division of Rheumatology, Combined Military Hospital, Lahore, Pakistan, from August 1 to December 31, 2020, and comprised patients of either gender diagnosed with inflammatory arthritis or other connective tissue diseases. Demographic and clinical data, including antibody status, was recorded. Time lag in visiting a rheumatologist at different levels and factors causing the delay were identified. Data was analysed using SPSS 22.

Results: Of the 235 patients, 186(79%) were females and 49(21%) were males. The overall median age was 39 years (interquartile range: 29-50 years.). Of the total, 52(22%) patients presented in <12 weeks of symptom onset to a rheumatologist. Median time for patient-related delay was 6 months (interquartile range: 1-12 months), while the median time for physician-related delay was 8 months (interquartile range: 2-42 months). The median time for appointment delay was 1 week (interquartile range: 1-2 weeks). Median duration from the start of symptoms to evaluation by a rheumatologist was 24 months (interquartile range: 6-72 months). The most common delaying factor 131(55.7%) was lack of proper assessment at the primary care level. No association was found between age and time of presentation ($p>0.05$), but male gender, higher socioeconomic status, higher education level and rheumatoid factor negativity presented earlier compared to the rest ($p<0.05$ each).

Conclusion: The primary care physician's delayed referral was found to be the most important factor resulting in delayed presentation to a rheumatologist.

Keywords: Rheumatologist, Arthritis, Rheumatoid arthritis, Early diagnosis, Delayed diagnosis. (JPMA 72: 2204; 2022)

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Introduction

Early access to a rheumatologist is crucial for appropriate and efficient management of patients with rheumatic diseases. Most patients have limited and delayed access because of various reasons. Early patient assessment by a rheumatologist, ideally <12 weeks after the onset of symptoms, results in a more favourable outcome in terms of less joint damage and increased likelihood of disease remission. Timely treatment with specialised rheumatological care has been shown to result in better outcomes in rheumatoid arthritis (RA). Early treatment by a specialist lead to better prognosis in patients with inflammatory arthritis.[1] The aim should be to achieve remission, or at least minimal disease activity in early RA by using conventional disease-modifying antirheumatic drugs (DMARDs) by applying the "treat to target" approach in routine practice.[2]

In Pakistan, the prevalence of rheumatic diseases is 17.3% while in India it is 6-24%.[3,4] Osteoarthritis (32%) and inflammatory arthritis (31%) are the most common reasons for referral.[5]

Timely initiation of therapy is delayed because of non-specific signs and symptoms in early RA stages.[6] For optimal care of various rheumatic diseases, timely evaluation by a rheumatologist is very important. This is disrupted by delayed presentation and delayed referrals by primary care physicians (PCPs).[7] One of the primary reasons for presenting late to a rheumatologist are when the patients delay visiting their PCPs; a patient-dependent factor.[8] Less developed countries face additional challenges due to lack of access of rheumatologists and low level of awareness among healthcare professionals and the public.[9] For example, India has over 100 registered rheumatologists,[10] while Pakistan has only 60 trained rheumatologists; about 1 rheumatologist for every 9 million people.[11]

A study indicated a steady decline in diagnostic delay of rheumatic diseases from year 2000 to 2011,[12] concluding that awareness level had improved regarding early diagnosis.

Wait time criterion as reported in a study from Canada

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recommends maximum 4 weeks wait time from referral to consultation by a rheumatologist for inflammatory arthritis.[13] Delays in starting conventional synthetic DMARD (csDMARD) treatment, even as little as 8-9 months, affects disease outcome for many years. There are complicated reasons for delay, including severity and the type of symptoms. Asymmetric or unilateral joint involvement usually presents earlier compared to a gradual onset of symmetric joint involvement.[14] A study in the Middle East reported that 82% of rheumatic disease patients had a wrong diagnosis initially, and the possible reason was initial consultation with a non-rheumatologist who delayed their referral to a specialist.[15]

Policies to identify and refer individuals with rheumatic diseases have been formulated. To reduce the delay, various tools have been identified, including community case-finding strategies, public awareness programmes, social media information, educational programmes and self-administered questionnaires. To reduce general practitioner (GP) delays, there are referral guidelines for GPs, and, to make triaging of referrals more efficient, quickly accessible services and early arthritis clinics have been set up.[16]

The current study was planned to study the time taken by individuals from onset of symptoms related to rheumatic diseases to approaching a rheumatologist.

Patients and Methods

The cross-sectional study was conducted at the Department of Medicine, Division of Rheumatology, Combined Military Hospital (CMH), Lahore, Pakistan, from August 1 to December 31, 2020. After approval from the institutional ethics review board, the sample size was calculated with 95% confidence level, 6% margin of error and delayed presentation to a specialist 69%. The sample was raised from the outpatient department (OPD) using convenience sampling technique Those included were adult rheumatology patients of either gender diagnosed with inflammatory arthritis or other connective tissue diseases (CTDs). Upon enrollment, each participant was assessed by a rheumatologist. The Rheumatology OPD is a fast-approach arthritis clinic where patients are seen within 2 weeks of referral. Patients who were already under treatment of some other rheumatologist or who were found to have non-rheumatic illness/non-inflammatory arthritis were excluded. Data was collected after taking informed consent from the subjects. Basic demographic profile, including gender, age, address, profession, education and monthly income, was generated using a structured questionnaire.

Reasons for delayed presentation to a rheumatologist were categorised as, patient delay, physician delay, and appointment delay. Serology status of the patient was noted. Treatment was started either at the first visit or within a week after checking the laboratory results.

Data was analysed using SPSS 22. Quantitative variables were presented as median values with interquartile range (IQR). Qualitative variables were presented as frequencies and percentages. To find any significant association of delayed presentation with education level, socio-economic status and serology, chi-square test was used. $P \leq 0.05$ represented statistical significance.

Results

Of the 235 patients, 186(79%) were females and 49(21%) were males. The overall median age was 39 years (IQR: 29-50 years). Referred patents were 128(54%), while the rest came through internet search 52(22%), or knowing through patients or family/friends 55(24%). First physician was orthopaedic surgeon in 91(38.4%) cases, while the others were under-treatment of medical specialists 66(28%) or family physicians 37(15.6%). Only 30(12.8%) patients reached a rheumatologist directly. Of the total, 114(48%) patients had RA, 35(15%) had various CTDs and 29(12.3%) had spondyloarthritis (SPA). RA factor, anti-cyclic citrullinated peptide (CCP) antibodies and antinuclear antibodies (ANA) tests were positive in 101(42.6%), 46(19.4%) and 37(15.6%) cases, respectively.

Of the total, 52(22%) patients presented in <12 weeks of symptom onset to a rheumatologist. Median time for patient-related delay was 6 months (IQR: 1-12 months), while the median time for physician-related delay was 8 months (IQR: 2-42 months). The median time for appointment delay was 1 week (IQR: 1-2 weeks). Median duration from the start of symptoms to evaluation by a rheumatologist was 24 months (IQR: 6-72 months) (Table 1).

Table-1: Types of delay in assessment by a rheumatologist.

	Median (months)	Minimum (months)	Maximum (months)	IQR (months)
Total delay: Time taken from symptom onset to assessment a rheumatologist	24	1	264	6-72
Patient delay: Time taken from symptom onset to consulting a PCP	6	0	264	1-12
Physician delay: Time taken after consulting a PCP to getting referred	8	0	228	2-42
Appointment delay: Time taken from getting referred from PCP to attending a rheumatology clinic	0.25	0	8	0.25-0.5

IQR: Intra quartile range; PCP: Primary care physician.

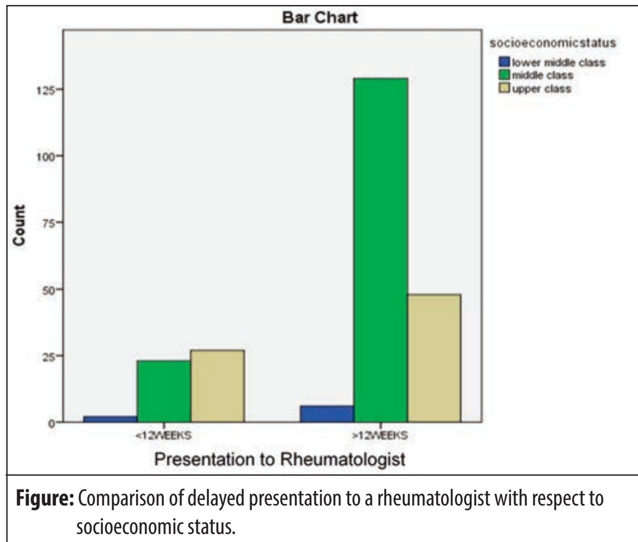

Figure: Comparison of delayed presentation to a rheumatologist with respect to socioeconomic status.

Table-2: Comparison of delayed presentation to a rheumatologist with RA factor sero-positivity.

		RA Factor [n (%)]			Total	Chi-square	*p*-value
		Positive	Negative	Not done	n (%)		
Presentation to	<12 weeks	11 (10.9)	22 (27.8)	19 (34.5)	52 (22.1)	13.823	0.001
Rheumatologist	>12 weeks	90 (89.1)	57 (72.2)	36 (65.5)	183 (77.9)		
Total		101 (100)	79 (100)	55 (100)	235 (100)		

RA Factor: Rheumatoid factor.

The most common delaying factor 131(55.7%) was lack of proper assessment at the primary care level. No association was found between age and time of presentation ($p>0.05$), but male gender, higher socioeconomic status (Figure), higher education level and RA factor negativity (Table 2) presented earlier compared to the rest ($p<0.05$ each).

Discussion

Rheumatic and musculoskeletal (MSK) diseases are reported by the World Health Organisation (WHO) as the 2nd most common cause of disability worldwide. According to a local study of 100 RA patients, moderate to severe disability existed in 59% patients at presentation.[17] These disabilities can be prevented by early referral to a rheumatologist. When treatment is delayed by >3 months, radiological progression of sustained joint injury has been noted. Thus early disease management is vital.[18]

In the current study, the median overall delay from the beginning of symptoms to reaching a rheumatologist was 24months (IQR: 6-72). Median delay by patient and physician was 6 months (IQR: 1-12) and 8 months (IQR: 2-42), respectively.

One study reported total delay of 20 months with less educated, distant and unemployed patients presenting late to a rheumatologist.[19] Sahar et al. found that a delay in starting therapy with DMARD in RA patients (11.6 months) was most often caused by a delay in the referral of that patient by their PCPs compared to the time it took for a PCP to be contacted by the patient after the onset of symptoms (7.4 months) (p=0.003).[19]

In a Catalonian study, a mean time of 11 months was reported from the start of disease to starting of treatment in RA patients.[20] Various studies show that patient- and physician-related factors responsible for the delays were gender, ethnicity and laboratory availability as well as PCP's knowledge about the disease. In Saudi Arabia, mean time of 30 months was reported from the first visit to a physician to RA diagnosis. This was despite the facts that patients consulted their PCPs for a mean of 7 months once the disease had started.[21]

A delay of 26.4 weeks was reported by Mathew et al. in reaching a rheumatologist. The longest delay was patient delay (8.7 weeks). Disadvantaged socioeconomic conditions exacerbated the results, as found in the current study as well (Figure).[22]

Lesser disease severity and greater chance of remission at 6 months were noted amongst patients in whom treatment was started by the 16th week.[22] In the current study, only 52(22%) patients were started on DMARDS within 12 weeks of symptom onset, which is comparable to other studies in which 19 (22.6%) and 164(20%) patients were started on DMARDS within the same time duration.[23,24] Rebecca et al. reported that patients with an insidious/palindromic symptom onset using symptomatic treatment presented late compared to those with an acute/non-palindromic onset.[24] Similar results were reported by the current study.

The current study found that GP referrals were faster if the disease was acute onset and laboratory findings indicated a rheumatology diagnosis. A local study reported similar findings.[17]

A significant delay occurred at the level of PCPs, but a large percentage of initial visits were to orthopaedics. Interestingly, Rheumatology and Orthopaedics are competing fields for similar patient inflow. Moreover, if RA is mostly affecting the knees, it may be confused by the Orthopaedics as osteoarthritis, delaying referral without a commercial conflict of interest. PCPs have a very high patient load which makes it nearly impossible to take even good pertinent history for inflammatory diseases. Pain is the commonest symptom of inflammatory arthritis as well as non-inflammatory disorders, such as fibromyalgia, diabetic neuropathy and psychosomatic problems. Such differentials make early referral and diagnosis difficult.

The current study has certain limitations. First, the date at

which a patient is referred and the day the patient attends the rheumatology clinic needs to be recorded with confirmation. However, we had to depend on patients' recollection of the date at which symptoms began and the date of first presentation to the PCP. No documentary evidence was available in most cases. Patients with a long history and insidious onset of symptoms frequently approximated these dates. In addition, the study relied upon rheumatologists' experience in determining the onset of disease. Secondly, PCPs were not questioned directly and patients' perspective alone was taken into account. Finally, the study was mainly conducted at CMH Lahore, and the patients were bound to consult the available doctor. At the CMH, rheumatology services were not available before 2018, and patients were previously referred to the Military Hospital (MH), Rawalpindi, for expert opinion which further delayed treatment.

In the light of the findings, it is strongly recommend that organizational alterations be made in healthcare systems and awareness be raised on a social scale about rheumatic diseases to limit diagnostic delays. Counselling of patients is essential. Although MSK diseases are primarily treated by rheumatologists, training of PCPs may improve earlier diagnosis and, hence, referral. PCPs should be encouraged to follow guidelines to diagnose and rapidly refer these patients for early initiation of treatment. Early triage clinic should be made. Targeted efforts are needed to promote timely consultations in order to achieve desirable outcomes in patients.

Conclusion

Majority of the patients had a delayed presentation to a rheumatologist. The main reason was delayed referral by PCPs. The primary reason for patient delay was ignoring early symptoms and lack of awareness about rheumatology.

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