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REACTION AND THINKING ABOUT SYMPTOMS BY RHEUMATOID ARTHRITIS PATIENTS: HELP SEEKING DELAY

Community Medicine

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ABSTRACT

INTRODUCTION: Rheumatoid arthritis (RA) is a chronic systemic autoimmune inflammatory disease that affects mainly the small joints of the hands and feet. RA is one of the most common inflammatory joint diseases and causes premature mortality, disability and compromised quality of life. RA is widely prevalent throughout the world. RA affects approximately 1% of the adult population in general, but this percentage increases with age. Women suffer three times more often than men in rheumatoid arthritis.
The authors discuss one class of barriers in help seeking of RA which are due to reaction to symptoms and thinking about symptoms before seeing the doctor.
AIMS & OBJECTIVES: The aims and objectives of the study are to identify the time interval between onset of symptom and presentation to a health care provider (rheumatologist) among early RA patients and to analyze delay in help seeking due reaction to symptoms and thinking about symptoms by patients with RA before seeing the doctor.
MATERIALS & METHODS: The study tool consisted of a predesigned pretested questionnaire. Data collected were fed in Microsoft Excel and the analysis was carried out using standard statistical software Stata 15.1.
RESULTS: 52% of participants after development of symptoms ignored them and 70% panicked. 37% of 250 participants thought that symptoms are stress related. Reaction of panicking on development of symptoms was found to be statistically significant ($p \leq 0.05$). There is a significant association between thought that symptoms are injury related and stress with treatment delay ($p \leq 0.05$).
CONCLUSION: The RA patients may be educated to do away with unwarranted reaction to symptoms and to dispel wrong thinking about symptoms of RA. The patients should promptly consult GP/rheumatologist as and when symptoms of RA arise.

KEYWORDS

ACR, EULAR, GP, help seeking, rheumatologist

INTRODUCTION

Rheumatoid arthritis (RA) is a chronic systemic autoimmune inflammatory disease that affects mainly the small joints of the hands and feet. RA is one of the most common inflammatory joint diseases and causes premature mortality, disability and compromised quality of life. RA is widely prevalent throughout the world[1,2].RA affects approximately 1% of the adult population in general, but this percentage increases with age. Women suffer three times more often than men in rheumatoid arthritis. The incidence of this chronic disease ranges between 0.1 and 0.3/1000. RA usually manifests between the ages 20 and 50, and is more prevalent amongst females, with a sex ratio ranging from 2:1 to 4:1[3,4].

The joints most commonly involved in RA are the wrists, small joints of the hands and feet. As the disease progresses, larger joints such as the ankles, knees, elbows, and shoulders frequently become affected. RA is a polyarthritis. Joint involvement is classically bilateral and symmetrical.

Risk factors leading to the development of RA include obesity, smoking, high red meat consumption, a previous blood transfusion and an adverse pregnancy outcome. Protective factors include the oral contraceptive pill and adequate fruit intake. The signs and symptoms of RA are weight loss, fever, fatigue, malaise, depression and severe cases of cachexia. They generate high degree of inflammation and may precede onset joint symptoms .Excess mortality is predominantly due to cardiovascular disease.

According to the European League Against Rheumatism (EULAR) recommendations from 2016, effective treatment should be started within 12 weeks from the onset of symptoms of RA[5]. Rheumatoid arthritis usually requires lifelong treatment, including various medications, physical therapy, education, and possibly surgery. Treatment is aimed at relieving symptoms and preserving joint function [6]. "Help-seeking trajectory in patients with rheumatoid arthritis indicates that problems for the ideal medical care utilization for RA are also a challenge because it is located at the intersection of clinical, socio-medical, epidemiological, and health care research [7].

OBJECTIVES

1. To identify the time interval between onset of symptom and presentation to a health care provider (rheumatologist) among RA patients.
2. To analyze delay in help seeking due to reaction to systems and thinking about symptoms RA before seeing the doctor.

MATERIALS & METHODS

This hospital based cross sectional study was undertaken in the Department of Rheumatology KIMS, Bhubaneswar from December 2016 to October 2018. The study population was patients diagnosed as rheumatoid arthritis by a rheumatologist.

Sample size: Considering the prevalence of help seeking behaviour as 31%[8] in Rheumatoid arthritis with 95% confidence level and the desired level of precision as 6% and 10% non-respondents, the optimum sample size calculated was 250.

The Inclusion criteria were patients aged 18 to 65 years diagnosed with early rheumatoid arthritis using 2010 American College of Rheumatology (ACR) / European League Against Rheumatism (EULAR) criteria.

The study tool consisted of a predesigned pretested questionnaire including details about a) Demographic profile (Age, sex, marital status, BMI and socio-economic status) b) Time interval between onset of symptoms and reported to a doctor and c) Questionnaire on reaction to systems and thinking about symptoms RA before seeing the doctor.

All the analysis was carried out by using standard statistical software Stata 15.1.

RESULTS

The study of medical help seeking behavior Rheumatoid arthritis patients attending Rheumatology OPD in a tertiary care hospital-Bhubaneswar included the patients who attended the Rheumatology OPD & diagnosed clinically as early Rheumatoid arthritis. A total number of 250 Rheumatoid Arthritis patients enrolled in this study. The results are analyzed and presented as per the objective in the following tables.

TABLE-1: SOCIO-DEMOGRAPHIC PARAMETERS OF PARTICIPANTS(N= 250)

Age (Mean Age in yrs)	Male		Female		Total	
	42.96±18.49		48.20±12.51		47.59±13.40	
Sex	Male N=29	% 11.60	Female N=221	% 88.40	Total N=250	
Body Mass Index (BMI)	Obese N=94	% 37.6	Not-obese N=156	% 62.4	Total N=250	
Marital Status	Married N	%	Unmarried N	%	Widowed N	%
	227	90.80	22	8.80	1	0.40
Social Economic Status (SES)	N=0 Upper %	N=175 Upper Middle %	N=44 Lower Middle %	N=27 Upper Lower %	N=04 Lower %	Total N
	0.00	70.00	17.60	10.80	1.60	250

Table -1, depicts the socio-demographic characteristics (Age, sex, marital status, BMI & Socio-economic status of the study participants. All the study participants are ≥ 18 yr of age. The mean age of the total study participants is 47.59±13.40 years, of which mean age of male is 42.96±18.49yrs & female participants is 48.20±12.51 yrs. Out of the participants 37.6% were obese, 90.80% were married and 70% were upper middle SES.

TABLE-2 TIME INTERVAL BETWEEN ONSET OF SYMPTOMS & REPORTED TO A DOCTOR(N=250)

SEX	N	%	TIME INTERVAL			
			≦ 6 weeks		.> 6 Weeks	
			N	%	N	%
MALE	29	11.6	6	2.4	23	9.2
FEMALE	221	88.4	25	10.0	196	78.4
TOTAL	250	100	31	12.4	219	87.6

Table -2, depicts the time interval in between the onset of symptoms and reported to a doctor. Only 2.4% of the patients who were male reported to doctor within 6 weeks of onset of RA symptoms and 10% of the patients who were female reported to doctor within 6 weeks of onset of RA symptoms.

TABLE-3 REACTION TO SYMPTOMS OF RA BEFORE FIRST VISIT TO A DOCTOR(N=250)

Question	Response	Delayed		Not Delayed		Total	P value
		N	%	N	%	N	
Ignored symptoms hoping that it will go away	Yes	116	89.92	13	10.08	129	0.250*
	No	103	85.12	18	14.88	121	
At the beginning tried to pretend	Yes	48	90.57	5	9.43	53	0.460*
	No	171	86.80	26	13.20	197	
Patient thought symptoms normal	Yes	85	88.54	11	11.46	96	0.721*
	No	134	87.01	20	12.99	154	
Developed symptoms caused panic	Yes	149	85.14	26	14.86	175	0.048*S
	No	70	93.33	5	6.67	75	
Other worries ignored joint symptoms	Yes	18	79.17	5	20.83	23	0.292*
	No	201	88.50	26	11.50	227	
	TOTAL	219	87.60	31	12.40	250	

*Pearson λ 2 test S- Significant

Table-3, describes the reaction to symptoms of RA before visit to a doctor. 52% of participants after development of symptoms ignored them and 70% panicked. Patient panicking after development of symptoms has a significant association with delay in first visit to doctor ($p \leq 0.05$).

TABLE-4 ASSOCIATION OF PATIENT THINKING ABOUT SYMPTOMS WITH TREATMENT DELAY (N=250)

Question	Response	Delayed		Not Delayed		Total	P value
		N	%	N	%	N	
symptoms are due to relation of Work / sports /games /around house	Yes	34	85.00	6	15.00	40	0.586*
	No	185	88.10	25	11.90	210	
Symptoms are stress related	Yes	82	88.17	11	11.83	93	0.044*S
	No	137	87.26	20	12.74	157	
Symptoms are injury related	Yes	10	71.43	4	28.57	14	0.049**S
	No	209	88.56	27	11.44	236	
Symptoms are hormonal changes related	Yes	6	85.71	1	14.29	7	1.000**
	No	213	87.65	30	12.35	243	
Symptoms are lifestyle related	Yes	3	100.00	0	0.00	3	1.000**
	No	216	87.45	31	12.55	247	
Symptoms are due to other than arthritis like cancer	Yes	4	80.00	1	20.00	5	0.487**
	No	215	87.45	30	12.55	245	
	TOTAL	219	87.60	31	12.40	250	

*Pearson λ 2 test **Fisher's exact test S- Significant

Table-4, describes the details of participants thinking about symptoms before they first saw to the doctor. 37% of 250 participants thought that symptoms were stress related. Thinking about development of symptoms due to injury and development of symptoms due to stress are significantly associated with delay in first visit to doctor ($p \leq 0.05$).

DISCUSSION

All the study participants are ≥ 18 year of age. The mean age of the total study participants is 47.59±13.40 years; of which mean age of male is 42.96±18.49yrs & female participants is 48.20±12.51 years (Table-1). Similar study also reveals in their study that the participants having mean age of the was 46.5±9.2 years as reported by Resorlu H et al[9].

The age profile is very nearer to other studies as Simons et al had subjects with mean age are 58 yrs[10]. The study by Hussain W et al, shows in their study from symptoms to diagnosis: An Observational Study of the Journey of Rheumatoid Arthritis Patients in Saudi Arabia that the mean age of the study participants was 43.3±12.0 years[11]. Out of the total study participants, female participants 221(88.40%) are more as comparable to male counterpart 29 (11.60%). The study by Hussain et al[11] participants notably, the majority of these patients were female (84.8%) was found in their study, which is quite similar to this current study . Similar kind of study participants female (96%) and male (29%) were found in the study by Iversion et al[12].

Among the study participants maximum were found to be non-obese 156 (62.4%), whereas obese were found to be 94 (37.6%) (Table-1). The risk of development of rheumatoid arthritis (RA) could be affected by immune activation in obesity. Other two studies reported no statistically significant associations between BMI or BMI categories and RA[13,14].

The results from the Nurses' Health Study indicated a stronger association between obesity and RA development at a younger age[15]. Maximum study participants were married (90.80%), unmarried (8.80%) and widowed (0.40%) (Table-1). Similar study participants also found in Hazes JMW et al[16] as married (79%), unmarried (16%) and widowed (5%).

In a study on Marital Status in Rheumatoid Arthritis by Lars Hellgren([17]) reported that no significant differences in marital status was found among the rheumatoid arthritis.

Socio economic status was assessed based on income, education and occupation and divided patients into five groups as per revised Kuppuswamy and B G Prasad socio-economic scales for 2016 [18]. Most of the study participants belong to upper middle socioeconomic status (70%), followed by lower middle (17.60%) & lower class (1.60%). None of the study participant has attained upper

socioeconomic status (Table-1).

Patient delay was defined as the period from the onset of symptoms to the time that help was sought from a healthcare professional who could prescribe disease modifying treatment. As according to the European League Against Rheumatism (EULAR) recommendations from 2016, each patient with persistent swelling in at least one joint should be referred to a rheumatologist and examined within 6 weeks of the onset of symptoms, and effective treatment should be started by the end of the 12th week[5].

Among these females 196 (78.4%) of them took >6 weeks of time to report to a doctor after the onset of symptoms as compared to males 23 (9.2%). Both in males and females in total 219 (87.6%) have took >6 weeks time to report to a doctor, whereas only 31(12.4%) have reported within <6weeks of onset of symptoms(Table-2). In a study by Raciborski F et al [19] reported that after the onset of symptoms of rheumatic disease, 28% of patients delayed seeing any doctor for 4 months or longer; 36% of patients waited 4 months or longer for a referral to a rheumatologist; majority of the patients (85%) made an appointment with a rheumatologist within a month of receiving a referral and 25% of patients waited 4 months or longer to see a rheumatologist. In an another study by Mota et al reported that a significant reduction in diagnostic delay, probably reflecting a stronger awareness of the importance of early diagnosis in North America and Europe which is not a reality in Latin America (LA)[20]. The study by Hussain W et al shows in their study on from Symptoms to Diagnosis: An Observational Study of the Journey of Rheumatoid Arthritis Patients in Saudi Arabia observed that the mean time from onset of symptoms to first physician visit was 6.2±5.5 months[21].

The study by Smolen JS et al reported that rapid attainment of the targeted end point is critical, and to achieve the treatment goal of remission or at least low disease activity within the time frame of 6 months[5]. Like any other disease, the RA patient's journey involves 3 distinct stages: onset of symptoms to consultation (lag1), consultation to rheumatology referral or definite RA diagnosis (lag2), and diagnosis to proper treatment (lag3). These lag times have been of interest to rheumatologists and have been reported by numerous studies[22,23] with some studies focusing specifically on the factors that contribute to these delays and measures undertaken to overcome these.

Patients with RA often do not seek the advice of rheumatologists at the onset of their symptoms and non-rheumatologists fail to refer RA patients to rheumatologists soon enough. In Saudi Arabia, although patients consulted with physicians at a mean of 7 months after the onset of RA symptoms, very few subjects initially sought a consultation with rheumatologists, who were ultimately responsible for diagnosing most RA patients[21].

Table-3, describes the response to symptoms related questions before visit to a doctor. Sometimes the patients gathered Information about joint pain and attempt to validate symptoms and in some cases they make self-diagnosis[24].

In this study 89.92% study participants has delayed treatment onset because of ignoring their symptoms, hoping that it will correct automatically. Whereas very less number 10.08% of participants did not delay their treatment ($p > 0.05$). Stack RJ also reported that one important source of delay is the patient themselves who often wait many weeks before seeking medical attention [25]. The other patients sometimes pretend themselves as such nothing has happened and they delay the treatment (90.57%), on the other side though the participants pretend but they did not delay their treatment (9.43%), which was found to be not significant ($P>0.05$).Study reports also reveals that one important source of delay is the patients themselves[26]. Sometimes the underlying psychological processes which may lead to delayed help-seeking behaviour.

At some point of time when the symptoms starts, in this study participants thought these symptoms are normal and it will fade away with due course of time. With this view they delayed the treatment (88.54%). Similar study results also found by Stack R J et al[27]. Participants describe early symptoms are normal as like aches and pains[28] as of their age, gender, life circumstance etc. Ignoring the symptoms some allowed themselves to continue with normal daily activities and this attitude make them delay in their first visit to a doctor and delay in their treatment. For some, other life events meant that they did not prioritise their symptoms[27].

Majority of the study participants become panic when they got the symptoms and they delayed 149 (85.14%) the start of treatment. Very few 26 (14.86) did not delay the treatment being panic after getting the symptoms. Rheumatic disease has itself been characterized as a stressor. A patient's reaction to having a rheumatic disease can, therefore, have substantial implications for their mood and continued physical and psychosocial function[29]. Anxiety disorders are common in patients with RA[30]. Several mechanisms are thought to link RA with overall psychological functioning, including cognitive, emotional, and behavioural reactions to having RA[31] and psychological reactions to RA-related physical symptoms, including pain intensity, fatigue and altered inflammatory responses[32].

Due to other worries of day to day activities the participants did not ignore the joint symptoms 201 (88.50%), but still they delayed in treatment, whereas very few have ignored and they too delayed the treatment. People presenting with rheumatoid arthritis today can expect to achieve disease suppression, can avoid or substantially delay joint damage and deformities, and can maintain a good quality of life. Optimal management requires early diagnosis and treatment. Ignorance of the benefits of early application of modern treatment regimens, and avoidable delays in securing specialist appointments may hinder achievement of best outcomes for many patients[33]. Participants sometimes do not understand very much about rheumatoid arthritis. They have many misconceptions about the sign and symptoms of rheumatoid arthritis. This may be the cause of ignorance of early treatment. A great deal is said these days about how important it is for doctors to pay attention to the patient's beliefs about his or her disease. Better knowledge of such beliefs, it is argued, will enable the doctor to counter ignorance, enhance communication, and reduce non-compliance[34].

Table-4, describes the details of participants thinking of their symptoms before they first saw to the doctor. Majority of participants thought that their joint symptoms may have been not caused by something they had been doing related to their work/ during sports, while playing games or around house and they delayed their treatment are 185 (88.10%) as compared to the symptoms related to sports and other relations, but still they delayed the treatment 34 (85%), whereas 15% of participants have not delayed their treatment though the above symptoms are related to sports and games, etc. Along with this few participants (11.90%) thought these symptoms are not related to these sports and games and they did not delay the treatment. It has been reported that stress itself has identified as an aggravating factor for RA[35].

In this study it is observed by the study participants that the symptoms of arthritis were stress related and for this cause they delayed the treatment about 88.17%, whereas 11.83% participants did not delay the treatment. One important risk factor for the development of RA is psychological stress[36]. Stressful life-events have preceded the onset of RA in as many as 86% of cases[37] and higher stress at the onset of disease predicts worse disease prognosis [38-40]. Stress has been shown to be associated with disease onset, and disease exacerbations in rheumatoid arthritis, as well as other autoimmune conditions[41].

At some point of time majority of study participants felt the symptoms are not due to injury related and still this makes delay in their treatment (88.56%), whereas 11.44% did not delay their treatment. Study also reported that function in RA is strongly associated with radiographic joint damage; inhibiting progressive joint damage is a key treatment goal in RA[42].

People often delay in seeking medical help at the onset of RA symptoms. The early interpretation of symptoms and the process of making sense of symptoms impacts on both help-seeking decision-making and self-management. Coming to study participants thinking of symptoms are not related to hormonal changes in rheumatoid arthritis, majority of them still delayed their treatment (87.65%), whereas 12.35% did not delay their treatment.

Thinking of these symptoms is not related to life style by the study participants and it was found that 87.45% of them delay their treatment, whereas 12.55% did not delay their treatment. As study shows that Impairment of the quality of life (QoL) has been reported in RA[43].

Studies reported that factors influencing choice of treatment are the patient's disease activity, functional status (ability to perform activities of daily living), underlying medical conditions, lifestyle (e.g., childbearing potential, social use of alcohol), and work status[44]. Participants were more likely to envision self-managing symptoms when confronted with the symptoms of RA compared to the other vignettes. Participants would look for information to share responsibility for decision making and get advice and reassurance. This kind of attitude makes them delay in consultation with the doctor.

The limitations of the study are that sample consisted mainly of participants from a particular area of coverage and men were relatively underrepresented (1 male for every 7.6 females) instead of normally observed 1:3 ratio in RA.

Conclusion: The RA patients may be educated to do away with unwarranted reaction to symptoms and to dispel wrong thinking about symptoms of RA. The patients should promptly consult GP/rheumatologist as and when symptoms of RA arise.

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