

Fear Of Fall And Activity Limitation In Subjects With Rheumatoid Arthritis

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ABSTRACT: Background: Falls are common event in Rheumatoid Arthritis subjects. Subjects with rheumatoid arthritis maybe at increased risk of falling because they frequently experience muscle weakness, gait impairments, and depressions. Thus, the study aimed to explore fear of falling and activity limitation in Rheumatoid arthritis subjects.

Materials and methods: Rheumatoid arthritis subjects (N=52) between the age group 35-50 years were assessed for fear of fall by using Fall efficacy scale-International and activities of daily living was assessed by use of Health assessment questionnaire i.e. HAQ (Indian version)

Results: 51% reported severe risk of falling, 27% moderate and 21% low risk of falling. 52% subjects with rheumatoid arthritis showed severe activity limitation and functional disability. 42% showed moderate activity limitation and functional disability. Activities commonly affected included stair climbing, walking, arising, shopping, getting in/out of vehicle.

Conclusion: Activity limitation due to fear of fall is the common concern indicated by subject with Rheumatoid Arthritis.

KEYWORDS: Activity limitation, Fear of fall, Fall efficacy scale, Health assessment questionnaire, Rheumatoid arthritis

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I. INTRODUCTION

Falls are a common event in subjects with Rheumatoid arthritis. Previous studies have found a fall incidence between 33% and 54% within 1 year of disease duration¹. About 68% of subjects with RA have an increased risk of falling^{2,3}. Despite the often serious consequences, falls are still an underestimated and poorly researched issue of RA⁴. For the normal population, age and other related comorbidities are considered to be the most important risk factor for falls⁵. Surprisingly, the fall frequency in RA subjects appears to be age independent¹. Subjects with rheumatoid arthritis (RA) may be at increased risk for falling because they frequently experience muscle weakness, gait impairments, and depression^{2,3,4,5}. All of these are known to be associated with falls. Other characteristics associated with RA, such as stiff and painful joints and decreased mobility, may also affect fear of falling in those who fall or are at high risk for falling.

The purpose of this study was to examine how fear of falling affects activities among adults with Rheumatoid Arthritis

II. MATERIAL AND METHODOLOGY

Departmental review and Ethics permission was taken for this study. The research was conducted at physiotherapy department of K.J. Somaiya College Of Physiotherapy. The subjects in the age group of 35 to 50 years and diagnosed with rheumatoid arthritis according to ACR/EULAR⁶ criteria were included in the study. A written informed consent was taken from all the subjects. Subjects were asked how many times they had fallen during the past 12 months. A fall was defined as "falling and landing on the floor or ground, or falling and hitting an object like a table or stair." Those who fell were asked whether they had fractured a bone, hit or injured their head, suffered a sprain or strain, sustained a bruise, experienced some other kind of injury from a fall, or visited a physician for treatment for fall-related injuries they were also queried about fear of falling. Fear of falling was assessed using Fall Efficacy Scale-International⁷. Fall efficacy scale is a questionnaire that assesses fear of fall. It measures the level of concern about falling during social and physical activities inside and outside home whether or not the person actually does the activity. Subjects were instructed to mark the best option which they feel after reading the following questions which are included in Fall efficacy scale-International. The

questionnaire were given to subjects in the language which they understand ,prevalidated version of fall efficacy scale in Hindi and Marathi was used and the final score of the Fear efficacy scale was calculated and was interpreted. The level of concern is measured on a four point liker scale(1=not at all concerned to 4=very concerned). Scoring of FES-I is as follow low concern16-19, moderate concern 20-27 and high concern 28-64. The scale grades the fall risk from the final score. All subjects were also asked if they limited activities in any way because of concern or fear of falling. Limitation of activity was measured using HAQ. Health assessment questionnaire provides a comprehensive assessment of subject's health outcome. HAQ is a core set efficacy measure and has led to better subjects care.The Indian HAQ requires 5 minutes to complete. The basic design and scoring system of Indian HAQ is 12 questions items. Each answer may vary between zeros (without any difficulty) to 3 unable to do.The total score is calculated by sum of score divided by 12 to get the total score. The HAQ scores were also used to assign the patients to functional class I = HAQ score 0,class II=0.125-1,class III=1.125-2,class IV=2.125-3. HAQScore <1 indicated low activity limitation, HAQ 1.125-2 indicated moderate activity limitation,HAQ score 2.125-3 indicated severe activity limitation⁸. Indian HAQ is a valid and clinically useful subjects outcome measure in Rheumatoid Arthritis⁹.

III. RESULTS

The data of 52 subjects (N=52) with 45 females and 7 males in the age groupof 35-50 years of age (mean=42.5) was collected. 60% reported high concern of fall, 22% reported moderate and 10% low concern of fall. One-half of our sample reported fear of falling. Activities like walking in a place with crowds,going up and down by stairs,walking up or down the slope,walking on uneven surface showed high concern whereas activities like taking cleaning the house,reaching for the telephone before it stops ringing,getting in and out of chair showed lower concern and remaining activity showed moderate to fair concern. 52% subjects with rheumatoid arthritis showed severe activity limitation and functional disability,42% showed moderate activity limitation and functional disability. Nearly Fear of falling was more common in females than in male

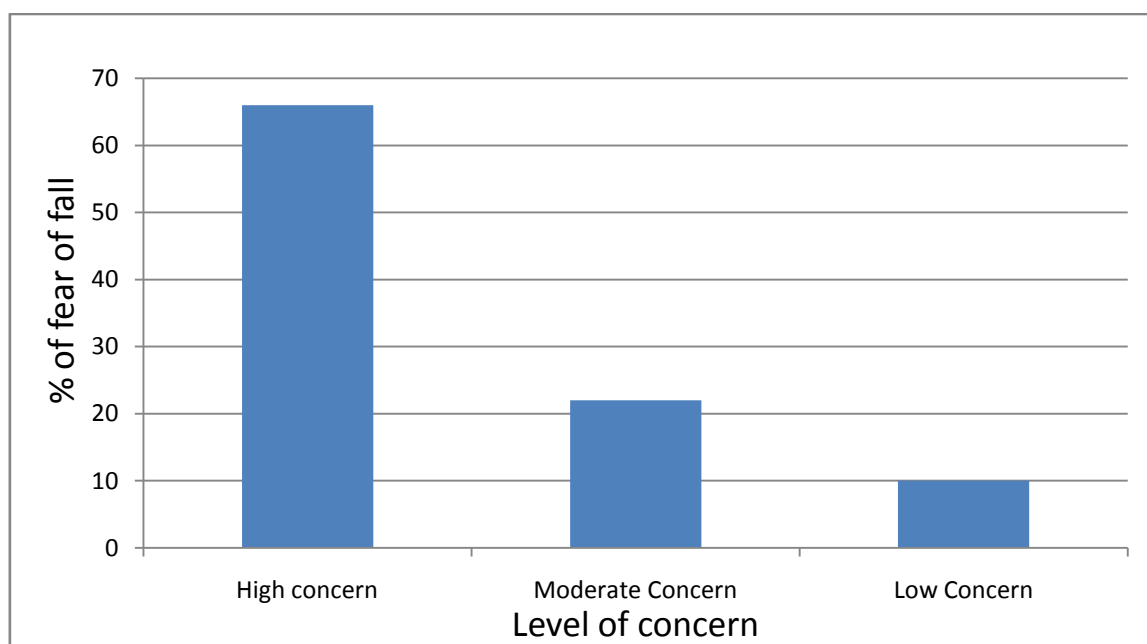


Fig.1 Level of concern of fall in subjects with rheumatoid arthritis

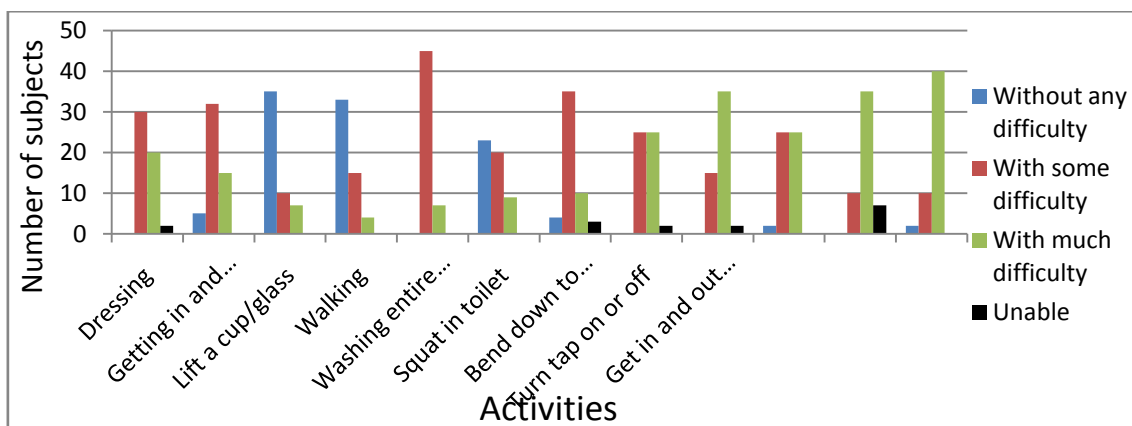


FIG 2: Affection of health assessment components in subjects with rheumatoid arthritis

Table 1 Fall efficacy scale activities and score in subjects with rheumatoid arthritis

ACTIVITIES	LEVEL OF CONCERN
<ul style="list-style-type: none"> Walking in a place with crowds, Walking on an uneven surface Walking up or down the slope Going up or down the slope Visiting a friend or relative Going to the shop 	High concerned
<ul style="list-style-type: none"> Taking a bath or shower Preparing simple meals Getting dressed or undressed Reaching for something above your head or on the ground 	Fairly concerned
<ul style="list-style-type: none"> Cleaning the house Getting in and out of the chair Walking around the neighborhood Going to answer the telephone before it stops ringing 	Somewhat concerned

IV. DISCUSSION

Results of the study suggest that fear of falling and limitation of activity due to fear of falling were very common among subjects with Rheumatoid arthritis. 60% reported high concern of fall. It is possible that these elevated rates of fear of fall can be due to conditions associated with arthritis, such as a high number of painful joints and impairment in physical functioning or because of joint deformities^{2,3,4}. We found that many subjects limited their outdoor activities such as walking, climbing, recreational activities as well as social activities as a response to fear of falling. They even avoid or limit doing certain activities alone due to fear of falling, such as walking, shopping and travelling alone. This suggests that fear of fall might contribute to increased dependency for basic functional tasks. Like walking, using public transportation, and shopping. Avoiding or giving up the activity altogether might come later as and it indicates a greater magnitude of fear combined with a higher level of self-perceived disability. Nearly 52% of those who limited activities due to fear of fall indicated that they modified walking. Of these, many limited or were more cautious during walking, and many modified walking outdoors. Others avoided walking alone or on rough ground, or only walked with assistive devices. Approximately one-third reported that they walked with more caution, limited, or avoided climbing or descending stairs, ladder and carrying heavy weights. Others limited or gave up recreational activities. Due to the fear of fall, and limiting activities due to fear of fall may be viewed as marking the beginning of a downward health trajectory^{11,12,13,14}, the same has been reported by the subjects in the present study. Fear of falls assessment should be considered as a tool to realistically evaluate abilities and make appropriate musculoskeletal, behavioral and environmental adjustments to prevent falls in subjects with rheumatoid arthritis. Falls and fear of falling may serve as warnings for those with declining abilities that it is time to evaluate daily activities. Thus this study helped to increase self-awareness among the subjects of rheumatoid arthritis regarding fear of fall.

Modifying the environment to make it more supportive, by modifying the home and yard and using adaptive devices and aids, helps subjects to adjust to their functional declines¹². We conclude that fear of falling and activity limitation are common problems for subjects with RA and may be explained in part by conditions related to arthritis, such as impaired functioning and painful joints. Activity limitation due to fear of fall might

increase dependency on others and diminish quality of life. While the prevention or reduction of falls has been the focus of many recent studies, interventions to reduce excessive fear of fall and activity limitation have been few. Tinetti and colleagues suggest that fear of falling interventions should focus on improving persons confidence in their ability to perform various activities without falling, while providing necessary functional skills^{15,16}. Interventions that encourage persons to make realistic appraisals of both their abilities and their environments, gradually improve skills along with confidence, and make environments more accessible may be successful in reducing excessive fear of falling and unnecessary activity restriction without increasing the risk of falling. Persons with RA may especially benefit from such interventions. The result of the study shows majority of people have high concern about the fall and are limiting their daily activities because of fear of fall and modifying their activity too which is making them more dependent. It is essential to assess subjects with the risk of fall and level of limitation to administer appropriate intervention for the same. So it becomes very important to assess and know the subject's risk of fall and the level of limitation of activities to carry proper intervention for the same. It can play a key role to increase self-awareness in subjects with rheumatoid arthritis and also can be used as a prognostic factor for the assessor

V. CONCLUSION

Thus, the study concluded that fear of falling and activity limitation is common concern in subjects with rheumatoid arthritis.

Abbreviation-

- RA-Rheumatoid arthritis
- HAQ-Health assessment questionnaire
- FES-I-Fall efficacy scale-International

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