

Arthritis among Patients Attending GMC Hospital, Ajman, UAE: A cross sectional survey

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ABSTRACT

Objective: To assess the frequency and contributing factors of arthritis among patients in GMC hospital, Ajman, UAE.

Materials and Methods: A cross sectional study using a self-administered questionnaire was conducted in 304 patients attending the Out-patient departments of GMC hospital. Variables included socio –demographic variables, type and location of arthritis, aggravating and relieving factors. The data was analyzed using IBM SPSS Statistics Version 20. Chi square test was done for associations, p value less than 0.05 is considered to be significant.

Results: The total number of patients surveyed 17.4% had arthritis, 18.8% of males and 13.4% of females had arthritis. Patients with the highest BMI had the highest frequency of arthritis (20.4%). Arthritis was seen in 31.9% of smokers 11.0% of non-smokers highest frequency of arthritis was seen in UAE nationals. The frequency of arthritis increased with increasing age. The most common type of the disease was osteoarthritis at 47.1%. Knee was the most common site of arthritis. The workers in the skilled category had the highest percentage of arthritis. Pain was reported as the most common symptom amongst Arthritis patients. The most common exercise among arthritis patients was walking. The most common aggravating factor was changing position and the least common was temperature. The most common relieving factor was rest and the least common was medication. Among the different management therapies for our arthritis patients, the most commonly used therapy Analgesics.

Conclusion: The frequency of arthritis was in about one fifth of our patients. Arthritis was more among smokers and obese individuals. These risk factors can be modified by increasing awareness among patients.

Keywords: arthritis, risk factors, BMI, smoker

INTRODUCTION

Arthritis is a disease involving joint inflammation. Several types of arthritis are known. The major forms are: osteoarthritis, rheumatoid arthritis, gout, ankylosing spondylitis, juvenile arthritis, psoriatic arthritis, systemic lupus erythematosus, and infectious arthritis. "Osteoarthritis-also called degenerative arthritis occurs when the cushioning cartilage in a joint breaks down, commonly affects feet, knees, hips, and fingers. Affects 16 million Americans, mostly 45 and older. About half of those 65 and older have this form."¹ In rheumatoid arthritis, the immune system "attacks the lining, or synovial membrane of the joints"¹ Gouty arthritis can affect any joint and occurs when a "metabolic disorder in which uric acid builds up in the blood and crystals form in joints and other places." Usually gout starts attacking when the patient is in their 40s or 50s¹. Systemic Lupus Erythematosus affects the "skin, joints, muscles, and sometimes internal organs." This disease occurs nine times more in women. Infectious arthritis can occur from bacterial infections. "Infectious arthritis can cause serious damage, but usually clears up completely with antibiotics¹." Some general symptoms of arthritis include, "aching muscles, tiredness, generalized weakness, low mood/depression, fever, loss of weight, loss of appetite"². A study was also done gathering data on different factors of arthritis patients of different races, which showed that for Arabs the total number of arthritis patients studied were 38. 32 females had arthritis while only 6 males had it. The average age in years was 42.2 +/-14.3. Evidence exists which shows that obesity and arthritis are probably linked³. Patients suffering from both of these conditions are probably at extra risk for disability and various other adverse health consequences⁴. Some of the most common medications for arthritis are COX 1 and 2 inhibitors, NSAIDs, DMARDs, TNF blockers, and corticosteroids. Additional symptoms according to article are, "joint pain, stiffness, inflammation, and limited movement of joints"⁵. Studies have also shown that "pain and disability accompanying all types of arthritis can be minimized through early diagnosis and appropriate management, including self-management, physical and occupational therapy, joint replacement surgery, weight control, and physical activity"⁵. The objective of the study was to assess the frequency of arthritis among a sample of patients attending GMC hospital and to identify the most common symptoms, aggravating and relieving factors and to determine how arthritis affects the quality of life of patients.

MATERIALS AND METHODS

A cross sectional study was conducted among patients aged 18 years and above attending GMC hospitals and Research Center Ajman. Data was collected using a validated, pilot tested questionnaire. The questionnaire included the socio-demographic profile which included age, gender, nationality, education and occupation as well as arthritis related questions and life style questions. The study was approved by the ethics and research committee of GMU.

Written and informed consent was obtained from the participants before they answered the questionnaire. The identity of the participant was kept anonymous and the participants were offered the right to withdraw anytime from the study. Participant were assured that the data which was collected will be merely used for research purposes. Permission from the Hospital was also taken. All Patients who fulfilled the inclusion criteria were approached in all the departments of the hospital. The purpose of the study was explained before giving the participants the survey.

Only those who provided written consent were included in the study. Any doubts or questions were clarified to the patients.

The data from the questionnaire was entered in Microsoft excel spread sheet. Data was imported to IBM SPSS statistical program for statistical analysis The Data was presented as tables and graphs and for associations chi square test was done. A P-value below 0.05 was considered significant.

RESULTS

53 (17.4%) out of the 304 patients who participated in our study were suffering from Arthritis.

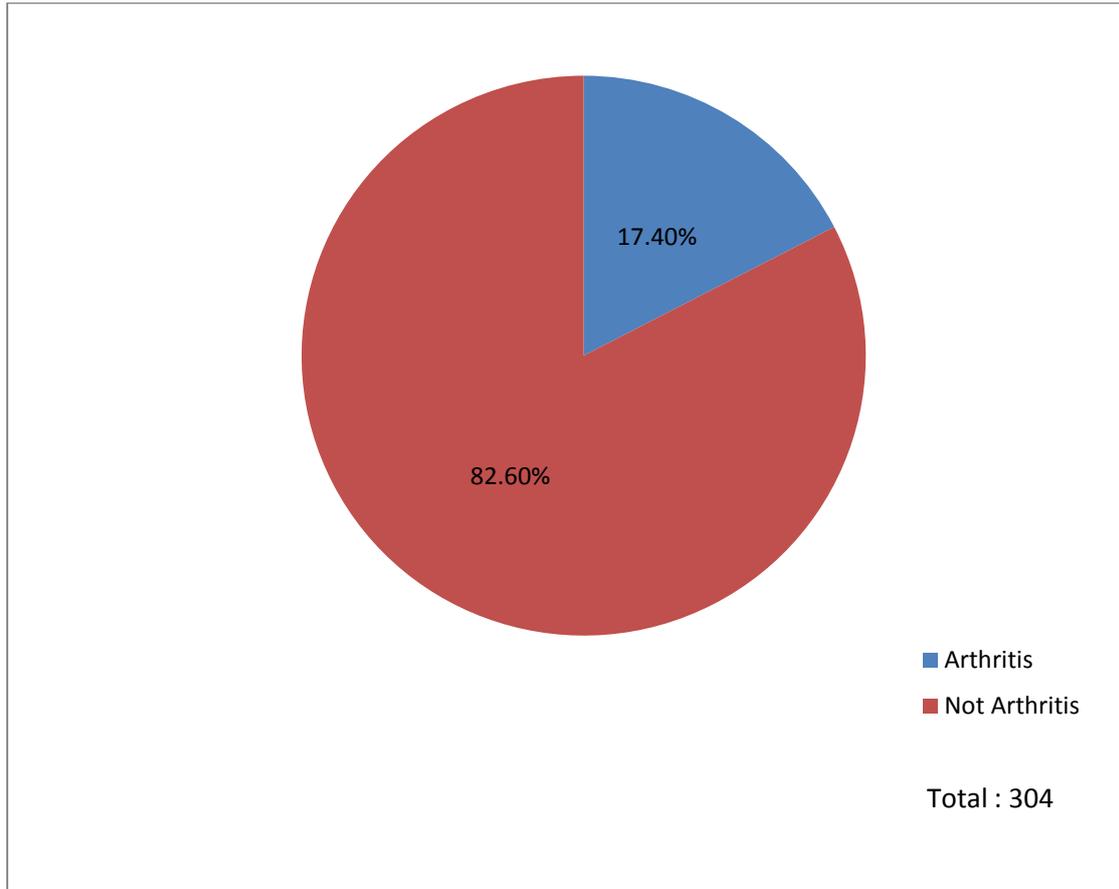


Figure1: Pie Chart Frequency of Arthritis amongst GMC patients

Among the 53 patients out of the survey who had arthritis, Osteoarthritis was the most common, followed by others, gout, rheumatoid arthritis, traumatic arthritis, unknown (the patients did not know what type they had), SLE and Ankylosing spondylitis.

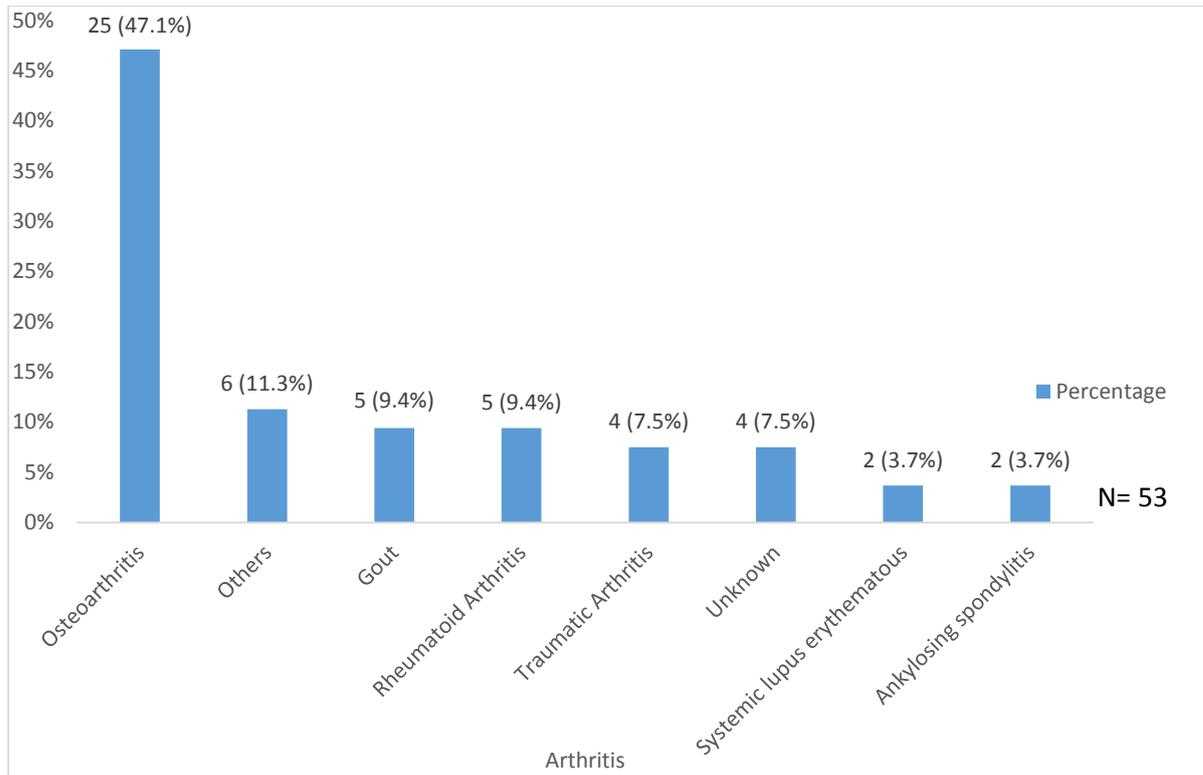


Figure 2. Types of Arthritis

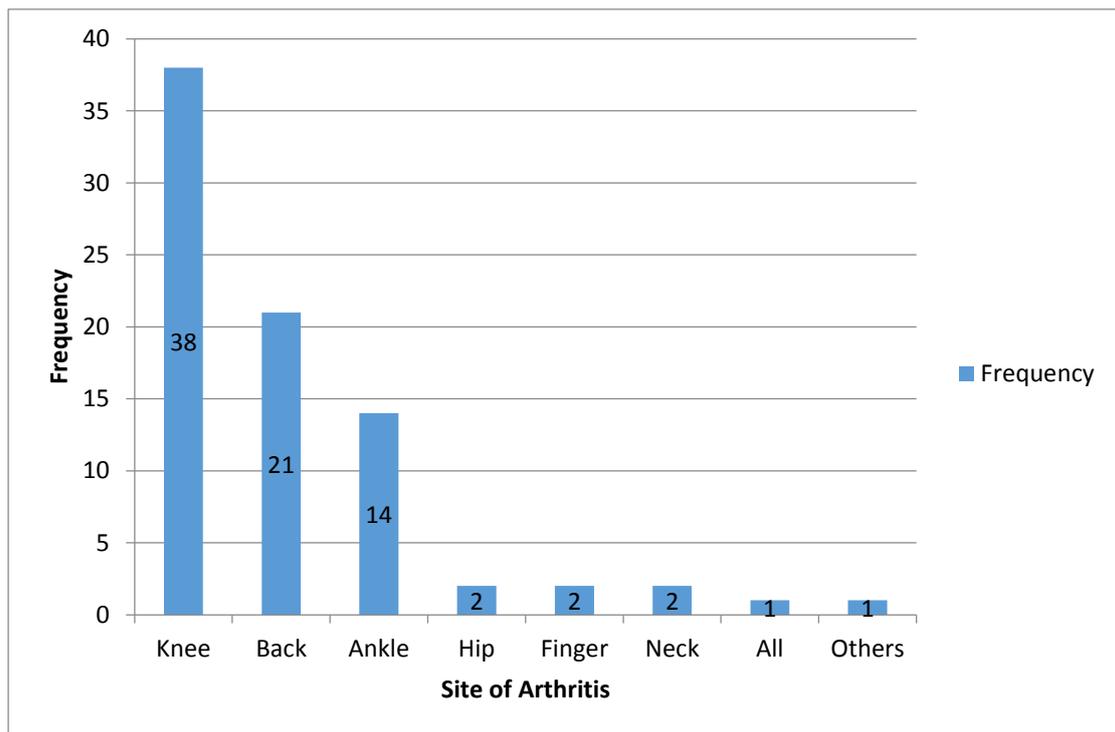


Figure 3. Sites of Arthritis

Knee received the most complaints, followed by: back, ankle, hip, finger, neck, all, and other.

Table 1. Relationship between Age, gender, Occupation BMI and Arthritis

Age	Arthritis (%)	Non arthritis (%)	Total	P value
18-25 years	9 (11.5%)	69 (88.5%)	78	0.016
26 -35 years	16 (13.9%)	99 (86.1%)	115	
36-55 years	24 (24.0%)	76 (76.0%)	100	
56-75 years	4 (44.4%)	5 (66.6%)	9	
Total	53 (17.5%)	249 (82.5%)	302	
Gender				
Male	44 (18.8%)	190 (81.2%)	234	0.309
Female	9 (13.4%)	58 (86.6%)	67	
Total	53 (17.7%)	248 (82.3%)	302	
Occupation				
Professional	19 (15.5%)	103(84.5%)	122	0.185
Skilled	11 (26.1%)	31 (73.9%)	42	
Semi-Skilled	3 (8.3%)	33 (91.7%)	36	
Non-Skilled	19 (19.19%)	80 (80.81%)	99	
Total	52	247	299	
BMI				
Underweight	0 (0.0%)	7 (100%)	7	0.132
Normal	8 (11.9%)	59 (88.1%)	67	
Overweight/Obese	45 (20.4%)	176 (79.6%)	221	
Total	53 (18%)	242 (82%)	295	
Smoker				
Yes	29 (31.9%)	62 (68.1%)	91	0.001
No	23 (11.0%)	186 (89.0%)	209	
Total	52 (17.4%)	248 (82.6%)	300	

Table one shows that most of the patients who were suffering from arthritis were aged 56-75 years. The second highest age group for arthritis sufferers was 36-55 years. The third highest age group was 26-35 years, and the age group least affected by arthritis was 18-25 years. With a p- value of 0.016 there is a significant relationship between Arthritis and Age. For the occupation category our theory was that the types of occupations requiring the most movement of joints would correlate with higher frequencies of arthritis cases. With a p value of 0.185 there was not a great significance among occupation and arthritis, however the workers in the skilled category had the highest percentage of arthritis, followed by non-skilled workers, professional workers, and skilled workers.

As expected the overweight/obese category had the highest percentage of arthritis, followed by normal BMI, and also as expected the underweight class had

the least (0%) cases of arthritis. Among our arthritis patients surveyed, 56% of them were smokers, while 44% were nonsmokers. Most patients suffering from arthritis were smokers, thus demonstrating a significant association.

Table 2: Symptoms of patients with arthritis

Symptom	Yes (%)	No (%)	Total
Pain	43 (89.5%)	5 (9.5%)	48
Stiffness	10 (20.8%)	38 (79.2%)	48
Swelling	3 (6.2%)	45 (93.8%)	48
Decreased Motion	1 (2%)	47 (98%)	48

Table 2 shows that pain was reported as the most common symptom amongst Arthritis patients. Joint Stiffness, Swelling and Decreased motion were less commonly found in our arthritis patients. The most common exercise among arthritis patients was Walking, then Range of Motion Exercises, followed by Swimming, Stretching, Muscle Strengthening exercises, Biking, and Yoga. 10% of our arthritis patients said that change in temperature made their arthritis worse. 33.30% said that other factors made their arthritis worse. 37.50% said over exertion made their arthritis worse, and 39% said that changing position made their arthritis worse. 30.9% of Arthritis patients on medications said that pain is relieved only on taking medications. 42.8% of patients said that resting relieved their arthritis symptoms, while 33.3% said that other activities relieved their arthritis symptoms.

Table 3: Management of Arthritis

Management of Arthritis	Yes	No	Total
Analgesics	24 (36.9%)	41 (63.1%)	65
Physical Activity	14 (35%)	26 (65%)	40
Patient Education	11 (30.50%)	25 (69.5%)	36
Weight Loss	8 (21%)	30 (79%)	38
Assistive Aids	6 (16.6%)	30 (83.4%)	36
Surgery	6 (14.6%)	35 (85.4%)	41
Other Medications	9 (9.2%)	88 (90.8%)	97
Corticosteroids	2 (6%)	31 (94%)	33

Among the different management therapies as seen in table 3 for our arthritis patients, the most commonly used therapy Analgesics, then physical activity, then patient education, then weight loss, then assistive aids, then surgery, then other medications, and lastly corticosteroids were used. Most participants in our survey had a good knowledge of types of exercises useful in prevention of arthritis and maintenance of good joint health. Patients of Arthritis reported that their condition had a significant effect on their social life.

Table 4: Quality of Life of patients with arthritis

Effect of Arthritis on Quality of Life	Yes (%)	No (%)	Total
Effect on Job	27 (58.6%)	19 (42.4%)	46
Effect on Social Life	28 (60.8%)	18 (39.2%)	46
Sleep Disturbances	16 (36.3%)	28 (63.7%)	44

Patients of Arthritis reported that their condition had a detrimental effect on their job and social life.

DISCUSSION

This study found that out of 304 patients surveyed in GMC hospital, 53 (17.4%) of them were suffering from arthritis. The general prevalence of arthritis is the same in the Gulf countries as the west, 1 % for Rheumatoid Arthritis – up to 20% for all forms of arthritis¹. The eldest age group in our survey of patients was the highest among arthritis patient, according to CDC over 70% of population that get affected by arthritis in north America are over 65 years old⁶. More males in this study had arthritis than females. This finding is in contrast to the data in CDC, which states that females are most commonly affected than males⁶. The patients with the higher BMIs had higher frequencies of arthritis. According to webMD⁷, excess weight is one of the major risk factors for progression of knee osteoarthritis, the prevalence of arthritis increases as body weight increases from 16.9% among normal/underweight adults to 29.6% among obese adults⁸. There was a strong association between Arthritis and Smoking. This was also observed in a study conducted by Stolt et al where cigarette smokers of both sexes had an increased risk of developing RF+ RA, but not RF- RA, compared with never-smokers⁹.

89.5% of arthritis patients in this study complained of pain, 20.8% complained of stiffness, 6.2% complained of swelling, and 2% complained of decreased motion. In a study done to identify the common complaints for which patients were referred for arthritis examination, the most commonly reported complaint was musculoskeletal pain⁸.

Amongst the types of physical activity exercised by the arthritis patients in this survey, walking was the most common, followed by range of motion exercises, swimming, stretching, muscle strengthening exercises, biking, and yoga. According to the Ottawa panel, therapeutic exercises are beneficial in rheumatoid arthritis¹⁰. This is also stressed in “Exercises for Arthritis”¹¹.

Analgesics were the most used managements (36.36%), followed by: Physical Activity (35%), Patient Education (30.5%), Weight-Loss (21%), Assistive Aids (16.6%), Surgery (14.6%), Other Meds (9.30%), and Corticosteroids (6%). The other medications include DMARD, and other various meds, our study shows that 4 out of 5 patients of RA used DMARD as treatment, on other study done in U.A.E, it shows that only 43% of the patients were on DMARD¹². The majority of patients 53.6% knew about types of exercises they should be doing to prevent arthritis and maintain good joint health. For the category of Quality of Life 58.6% of arthritis patients stated that their arthritis effected their job performance. 60.8% of arthritis patients said that their condition had an effect on their social life, and 36.3% said arthritis caused them sleep disturbances, according to 2002 National Health Interview survey, the prevalence of activity limitation in doctor-diagnosed arthritis patients was 42%. 31% suffer from work limitation⁸. In conclusion the results of this study cannot be generalized due to the limited sample size, and the done it is fact that in one tertiary hospital. The modifiable factors that had a significant association was smoking and also there was an increased frequency of arthritis in patients with increased BMI, with these findings health education can be given to patients on the importance of smoking cessation and weight loss. A larger study can be planned given the gap in knowledge.

REFERENCES

1. Strange CJ. Common types of arthritis. *FDA Consum.* 1996;30(2):18
2. Crilly MA, Macdonald AG, Williams DJ, Kumar V, Clark HJ. Constitutional symptoms at the onset of rheumatoid arthritis and subsequent arterial stiffness. *ClinRheumatol.* 2010;29(10):1113-9.
3. McGhee JL, Burks FN, Sheckels JL, Jarvis JN. Identifying children with chronic arthritis based on chief complaints: Absence of predictive value for musculoskeletal pain as an indicator of rheumatic disease in children. *Pediatrics.* 2002;110(2):354-9.
4. Brooks DMJ. Exercises for Arthritis. *J Gerontol Nurs.* 2005;31(8):3-4.
5. Rados C. Helpful Treatments Keep People With Arthritis Moving. *FDA Consum.* 2005;39(2):30-6.
6. 4 Meeting the Challenge of Living Well at A Glance 2013[internet].2013 [updated 2013 Jul 18; cited 2013 jul 23]. Available from: URL: <http://www.cdc.gov/chronicdisease/resources/publications/AAG/arthritis.htm>
7. 5 Arthritis Basics [internet].2012 [updated 2012 jul 6; cited 2013 jul 23]. Available from: URL: <http://www.webmd.com/osteoarthritis/guide/arthritis-basics>
8. 6 Cheng YJ, Hootman JM, Murphy LB, Langmaid GA, Helmick CG. Prevalence of doctor-diagnosed arthritis and arthritis-attributable activity limitation — United States, 2007–2009. *MMWR* 2010;59(39):1261–1265.
9. Stolt P, Bengtsson C, Nordmark B, Lindblad S, et al . Quantification of the influence of cigarette smoking on rheumatoid arthritis: Results from a population based case-control study, using incident cases. *Ann Rheum Dis.* 2003;62(9):835-41.
10. Ottawa Panel Evidence-Based Clinical Practice Guidelines for Therapeutic Exercises in the Management of Rheumatoid Arthritis in Adults. *Phys Ther.* 2004;84(10):934-72.
11. Janssen I, Mark AE. Separate and combined influence of body mass index and waist circumference on arthritis and knee osteoarthritis. *Int J Obes.* 2006;30(8):1223-8.
12. Badsha H, Kong KO, Tak PP. Rheumatoid arthritis in the United Arab Emirates. *ClinRheumatol.* 2008;27(6):739-42.