Original Article

Spectrum of rheumatologic disorders among patients attending with musculoskeletal symptoms: experience from medicine outpatient department of a tertiary care hospital of Bangladesh

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ABSTRACT

Background: Musculoskeletal conditions are prevalent and their impact is pervasive. They are one of the most common causes of long-term pain; affect hundreds of millions of people around the world; they significantly affect the psychosocial status of the affected people as well as their families and carers. This study was done to evaluate the spectrum of rheumatologic disorders among patients attending at medicine outpatient department (OPD) with musculoskeletal symptoms.

Methods: This cross-sectional study was done at OPD of Medicine, BIRDEM General Hospital from January 2014 to June 2017. All patients attending at OPD having musculoskeletal symptoms, who fulfilled criteria of definite rheumatologic disease and known rheumatologic disorders were consecutively and purposively included in this study.

Results: Total patients were 495 with female predominance (71.31%). Mean age was 48.6 years (range 18-76 years). Among the study population majority had inflammatory joint and spine diseases (69.69%);then degenerative joint and spine diseases (22.02%), connective tissue diseases (2.22).Two-thirds of the patients had rheumatoid arthritis (RA) (76.23%) among inflammatory joint and spine diseases, then ankylosing spondylitis (AS) (13.33%).Regarding connective tissue disease, systemic lupus erythematosus (SLE) was more frequent (45.5%). Among soft tissue rheumatism and metabolic bone disease, all study subjects had fibromyalgia (FM) and osteoporosis respectively. Rheumatoid factor was positive among two-thirds and anti-CCP antibody in two-fifths of RA cases, HLA-B27 was positive in 4.3% of AS, antineuclear antibody (ANA) and anti-ds DNA were positive in all SLE patients. Common co-morbidities were diebetes (41.4%), ischaemic heart disease (20.6%) and hypertension (19.1%).

Conclusion: RA was the most common inflammatory joint disease. Degenerative diseases were the second most common condition. Common connective tissue disease was SLE.

Key words: Disease spectrum, rheumatologic disease, tertiary care hospital.

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INTRODUCTION

Rheumatologic disorders are one of the commonest health problems with disability worldwide and cause huge public health burden.[1, 2] According to a report of World Health Organization, rheumatologic and musculoskeletal diseases were the second most reported cause of disability around the globe.[3] The chronic complications of these diseases are responsible for high morbidity and mortality.[4] It is important to know the prevalence and demography of rheumatologic diseases for assessing its burden.[5-7] But the prevalence and incidence of it is variable, mostly due to environmental factors as well as ethnicity.[8,9] It includes inflammatory and degenerative diseases, soft tissue rheumatism and metabolic bone diseases.[10] The purpose of this study was to evaluate the spectrum of rheumatologic disorders among the patients attending at outpatient department (OPD) of medicine with musculoskeletal symptoms.

METHODS

This cross-sectional study was done from January 2014 to June 2017 at the OPD of Medicine, BIRDEM General Hospital to evaluate the spectrum of rheumatologic disorders among patients attending with musculoskeletal symptoms. All the patients having musculoskeletal symptoms with criteria of definite rheumatologic diseases and known rheumatologic disorders were included consecutively and purposively in this study. Those who did not fulfill definite criteria of any rheumatologic disease were excluded. Diagnosis of the diseases was based on American College of Rheumatology (ACR) as well as European League Against Rheumatism (EULAR) Classification Criteria, supplemented by appropriate laboratory investigations. Investigations were adjusted to the need of individual cases. Different serological tests like rheumatoid factor (RF), anti-citrullinated peptide antibody (ACPA), human leukocyte antigen (HLA)-B27, antinuclear antibody (ANA), anti-double stranded-DNA (anti-ds DNA) were done in relevant cases according to clinical diagnosis. X-ray and magnetic resonance imaging (MRI) of spines and joints were done where needed. All the necessary data were collected from patient's guidebook as well as OPD registry book and recorded in preformed data sheets for the purpose of this study. Data were analyzed by Statistical Package for Social Sciences (SPSS) version 20.0 for Windows and results presented in figures and tables.

RESULTS

Total study subjects were 495. Mean age was 48.6 years (range 18-76 years) with female predominance (Figure 1). Among them majority had inflammatory joint and spine diseases (345; 69.69%) followed by degenerative joint and spine diseases (109; 22.02%), connective tissue diseases (11; 2.22), soft tissue rheumatism (18; 3.64%) and metabolic bone diseases (12;2.43%) (Table I).Three-fourths of patients had RA (263; 76.23%) among inflammatory joint and spine diseases, then AS (46; 13.33%), psoriatic arthritis (15; 4.35%), gout (12; 3.48%) and reactive arthritis (9, 2.6%) (Table II). Regarding connective tissue disease, SLE (5; 45.5%) was more frequent, then poly/dermato-myositis (2; 18.2%), systemic sclerosis (SS) (2; 18.2%), mixed connective tissue disease (MCTD) (2; 18.2%) (Table III). Among soft tissue rheumatism, all the subjects had fibromyalgia (FM) (18; 100%) and in metabolic bone disease, (100%; 12) had osteoporosis. Autoimmune markers for RA, RF was positive among (180; 68.44%) and anti-CCP antibody in (104; 39.5%) cases, HLA-B27 for AS was positive in (2; 4.3%), ANA and anti-ds DNA were positive in all SLE patients (5; 100%), Anti-scl 70 was positive in PSS (2; 100%), anti-RNP was positive in MCTD (2; 100%) (Table IV). Common co-morbidities were DM (205; 41.4%), IHD (102; 20.6%), HTN (95; 19.1%), CKD (45; 9%), and hypothyroidism (20; 4%) (Table V).
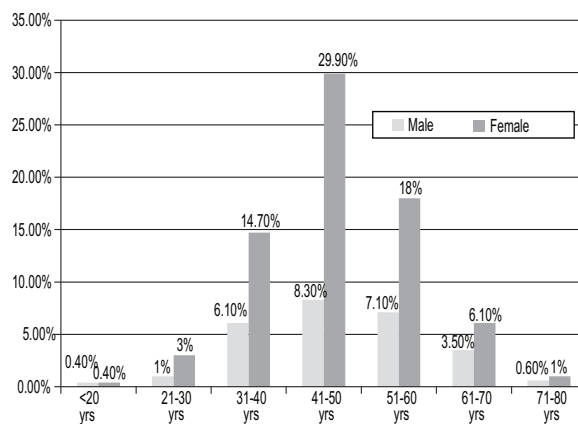
Figure 1 Age and sex distribution of patients with rheumatological diseases (N = 495)

Table I Distribution of patients according to disease spectrum (N = 495)

Diagnoses	Number of patients	Percent	Sex distribution(F:M)
Inflammatory joint and spine diseases	345	69.69	2:1
Degenerative joint and spine diseases	109	22.02	1.8:1
Connective tissue diseases	11	2.22	10:1
Soft tissue rheumatism	18	3.64	8:1
Metabolic bone diseases	12	2.43	3:1

Table II Inflammatory joint and spine diseases (n=345, female 230, male115)

Diagnoses	Number	Percentage	Female	Male
Rheumatoid arthritis (RA)	263	76.23	219 (83.26%)	44 (16.73%)
Ankylosing spondylitis (AS)	46	13.33	16 (34.78%)	30 (65.21%)
Psoriatic arthritis	15	4.35	7 (46.66%)	8 (53.33%)
Gout	12	3.48	3 (25%)	9 (75%)
Reactive arthritis	9	2.6	4 (44.44%)	5 (55.55%)

Table III Patterns of connective tissue disease (n=11)

Diagnosis	Number	Percentage	Female	Male
Systemic lupus erythematosus (SLE)	5	45.5	5 (100%)	0 (0%)
Poly/dermato-myositis	2	18.2	1 (50%)	1(50%)
Systemic sclerosis (SS)	2	18.2	2 (100%)	0 (0%)
Mixed connective tissue disease (MCTD)	2	18.2	2 (100%)	0 (0%)

Table IV Autoimmune markers among patients with rheumatological diseases

Disease	Marker	Positive	Percentage
RA (n=263)	Rheumtoid factor	180	68.44
	Anti-CCP Ab	104	39.5
AS (n=46)	HLA-B27	2	4.3
SLE (n=5)	ANA	5	100
	Anti-ds DNA	5	100
PSS (n=2)	Anti-scl 70	2	100
MCTD (n=2)	Anti-RNP	2	100

Table V Common co-morbidities of patients with rheumatological disorders (N = 495)

Diagnosis	Frequency	Percentage
DM	205	41.4
IHD	102	20.6
HTN	95	19.1
CKD	45	9
Hypothyroidism	20	4

DISCUSSION

Musculoskeletal (MSK) disorders are the most relevant health issuesworldwide owing to human sufferings as well as increasing social and economic burden.[11, 12]The prevalence of this disorders in developing countries is largely unknown. In this current study, we have tried to describe the spectrumof different rheumatologic diseases in a tertiary care hospital in Bangladesh.

In our study, demographic characteristics of patients with rheumatologic disorder revealed that the mean age

was 48.6 with female predominance, which was almost same like different studies from different countries.[10, 13]The common co-morbidities were diabetes mellitus, hypertension, ischemic disease, chronic kidney disease and hypothyroidism.

According to a COPCORD study from Bangladesh, the prevalence of musculoskeletal pain was 26.3% and definite rheumatic disorders was 24.0%, among them common rheumatic disorder was osteoarthritis of the knees (7.5-10.6%) and non-specific low back pain was (6.6-9.9%).[14]

However, in our study, almost two-thirds of the study subjects had inflammatory joint diseases and rest of them had degenerative joint diseases, connective tissue disease and soft tissue rheumatism, this may not reflect the true prevalence in our society, as most of our patients were diagnosed cases.Therefore, there were differences in the frequency of diseases in our study and other hospital-based studies such as retrospective study from Bangladesh, Nepal, Belgium, Iranand Nigeria.[15-18]The population-based prevalence of RA is variable.[19] Worldwide its prevalence is about 1% .[19-21]Low incidence of RA had been described in some western studies in the last decades, especially in females with older age groups. [22-23] But there was the rise of incidence in young females in developing countries.[19,22-23] Our study found RA in 76.23%, AS in 13.33 %, PsA in 4.35%, gout in 3.48% and reactive arthritis in 2.6% cases among inflammatory joint diseases that was different from a previous study.[15] In our study, female were predominant in RA while males were more prone to develop other inflammatory arthritis.

SLE was the most common (45.5%) connective tissue disease and all patients were female, then the frequency of poly/dermatomyositis, systemic sclerosis and MCTD. Other studies from Bangladesh, Italy, Malaysia and Congo showed much less prevalence of SLE but females were predominant in that studies.[15, 24-27]

Osteoporosis was present in 12% cases, which was lower than other studies from Nepal and Belgium[16,17]as endocrinologists manage many osteoporosis cases. Regarding autoimmune markers for RA, two-thirds of the patients had positive rheumatoid factor and 39.5% cases had positive Anti-CCP Ab but in AS only 4.3% subjects had positive HLA-B27. In case of SLE, PSS and MCTD all patients had positive specific autoantibody.

Limitations

This study did not represent the prevalence among Bangladeshi population, as it was a clinic based, single-centre study. Most patients were diabetic; whether rheumatologic disorders are similarly distributed among non-diabetic populations were not clear. Therefore, larger and multi-center survey is required.

Conclusion

In conclusion, it can be said that, this study has shown variability among the different rheumatic diseases and its burden in different age groups and genders along with co morbidities. Among musculoskeletal disorders, inflammatory joint diseases were the most common rheumatologic disease followed by degenerative joint disease and connective tissue disease. Regarding common co morbidity, diabetes was in the upmost position.

Authors' contribution: HFH planned the research, searched literature, analyzed data and drafted the manuscript. AKMSA, KNU, FA, SRA revised the manuscript. MTH collected data. All authors read and approved the final version of the manuscript for submission.

Conflict of interest: Nothing to declare.

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