

Patterns of Nonarticular Rheumatism in a Rural Area of Bangladesh

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Abstracts:

Objectives: Estimate the prevalence of nonarticular (soft tissue) rheumatism in a rural population of Bangladesh.

Methods: The survey was carried out in eight villages of Sonargaon upazila of Narayanganj district about 30 kilometers from Dhaka. All subjects of both genders (5217) of ≥ 15 years old of 8 villages were evaluated. Door to door survey was done to cover missing cases. Trained field workers identified subjects with musculoskeletal pain using Bengali version of the COPCORD (Community Oriented Program for the Control of Rheumatic Disease) questionnaire. Positive respondents were examined by trained internist and rheumatologists for definite non articular rheumatic disorders. COPCORD guideline was used for diagnosis.

Results: MSK pains (positive respondent) were 1260 (24.2%) in out of 5217 (male 2556, female 2661). Among of them definite soft tissue rheumatic diseases were identified in 439 (male 102 and female 337). Major occupations were house wives (54.7), weavers (18%), and peasants (5.1%). Definite point prevalence of nonarticular rheumatism was 8.41% (male 3.7%, female 11.09%). The most common diseases were fibromyalgia (3.95%), repetitive strain injury (2.3%), nocturnal muscle cramp (0.59%), myofascial neck pain (0.48%), planter fasciitis (0.46%).

Conclusion: Prevalence of nonarticular rheumatism is common in this rural community. Fibromyalgia is the leading disease.

Keyword: Nonarticular rheumatism, soft tissue rheumatism, fibromyalgia, repetitive strain injury.

Introduction:

Nonarticular rheumatism refers to a group of musculoskeletal (MSK) pain syndrome that results from pathology of extra-articular and extraosseous periarticular structures like soft tissue & their synovial sheaths, entheses, muscles & fascia. A major point conceptually is that pain from nonarticular rheumatism is not due to pathology of structures within the joint proper. Chronic widespread musculoskeletal pain has been subjected to several epidemiological studies during the last decade and approximately 10% of the general populations report such complaints.¹ Chronic widespread musculoskeletal pain is the clinical hallmark of fibromyalgia

and the prevalence of fibromyalgia is reportedly 3-5%, again with a significant female predominance.¹ Many of the MSK pain conditions are self-limiting and respond to conservative measures.² Prevalence data for nonarticular rheumatism have been reported in Europe and United States, but in Asia it is still emerging.³ The prevalence data of nonarticular rheumatism from the first Indian COPCORD survey (Stage 1) in 1996 was 5.5%, in a Filipino urban study was 3.8% & 4% in a Pakistani study.⁴⁻⁶ In the study conducted by Haq et al in a Bangladeshi rural area has shown fibromyalgia and other soft tissue rheumatic diseases were also common rheumatic disorders and their prevalence estimates 4.4% and 2.7% respectively in 2005 in another study in 2008 the prevalence of fibromyalgia was 2.9%.^{7, 8} In a review where data reported from 15 countries of Asia/Europe in the Asia-Pacific region of COPCORD reflects the prevalence of musculoskeletal pain which varies from 11.6% to 45.4% and nonarticular rheumatism was one of the commonest rheumatic disorders in this region.⁹ The aim of this study is to gather data on nonarticular rheumatism in Bangladeshi rural community.

Materials and methods:

Out of 5217 participants 2485 men and 2732 women (from eight villages of Sonargaon) were interviewed in a house to house survey designed to determine musculoskeletal pain with the Bengali version of phase 2 questionnaire of COPCORD questionnaire. The positive respondents were screened by rheumatologists and Internists, experienced in

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rheumatology who tried to reach specific diagnosis. All of the respondents were 15 years and above.

Study was performed from November 2003 to April 2004. Sampling was done by non-probability method. In preparatory phase, interviewers were trained by rheumatology experts. COPCORD questionnaire was translated in Bengali in an easily understandable way. Modified data sheet was prepared by the author, which comprised information covering clinical features of all possible soft tissue rheumatic disorders as well as fibromyalgia tender points.

In the next phase, Union Parishad member, school teachers and Imams of Mosques were informed and consent was taken. They were briefed about the study before taking an interview and consent was taken. The appointed interviewers moved door to door and administered the questionnaire and interviewed the target people.

Phase 2 and phase 3 COPCORD questionnaires records the occurrence of musculoskeletal pain in various body sites by interviewers. It was the preparatory phase. Interviewers were university graduate and had previous experience with data collection in a rural area in health related epidemiological studies. Standard English COPCORD questionnaire was translated to Bengali, a language universally understood in Bangladesh. The subjects with possible definite disease were then examined by a doctor familiar with rheumatic diseases.

In the third phase doctors experienced with rheumatologic disorders examined the positive respondents complaints (occurrence of pain at muscles, bone and joints or any part of the body), screened by trained interviewers. Different cases were reexamined by rheumatologists. The diseases were diagnosed by available and accepted clinical criteria for example ACR criteria for FM¹⁷ and in their absence, by clinical judgments.

Data analysis was done by SPSS version 13. The prevalence was estimated by 95% confidence interval. The chi-square test was used for the difference between proportions.

Results:

There were 439 positive respondents identified in this study. The mean (+SD) age of positive respondents was 39.10+13 years. Most of the respondents were female (76.7%).

There were 337 female and 102 male. Female were affected 3 times more frequently than male. 84% affected persons were

married, 54.7% were housewives, 4.8% were laborers, 18% were weavers, 2.8% were mill workers, 5.1% were peasants, 2.5% were tailors, 2.3% were businessman, 2% were garment workers (Table-I).

Table-I
Socio-demographic character of total cases:

Parameter		Number of subjects	Percent(%)
Age (years)	Mean+ SD	39.10+13;	
		Range 16-80	
	Male	102	23.3%
	Female	337	76.7%
Occupation	Housewife	240	54.7
	Labor	21	4.8
	Weaver	78	18
	Mill worker	12	2.8
	Peasant	22	5.1
	Tailor	11	2.5
	Business	10	2.3
	Garments worker	9	2
	Others	36	7.8
Marital status	Married	368	83.8
	Unmarried	26	5.8
	Widow/Widower	42	9.6
	Separated	3	0.8
Education	Illiterate	271	61.8
	Primary	104	23.8
	Secondary	56	12.7
	Degree	8	1.8

Fibromyalgia was the most commonest disorder affecting soft tissue (3.95%), followed by other periarticular diseases(2.3%). In , diseases identified were rotator cuff disease 0.5%, lateral epicondylitis 0.2%, Achilles tendinitis 0.2%, deQuervans tenosynvitis 0.1%, bicipital tendonitis 0.1%, infrapatellar bursitis 0.04%, prepatellar bursitis 0.02%, and occupational overuse syndrome 0.9%, and other tendinopathy 0.3% (table-II).

Table-II
Prevalence of soft tissue rheumatic disorders:

Parameter	No of subjects	Percent (%)
Fibromyalgia	206	3.95
Periarticular diseases(Rotator cuff disease, lateral epicondylitis, Achilles tendinitis, deQuervans tenosynovitis, bicipital tenosynovitis, infrapatellar bursitis, prepatellar bursitis, occupational overuse syndrome and other tendinopathy)	120	2.30
Nocturnal muscle cramp	31	0.59
Myofascial neck pain	25	0.48
Planter fasciitis	24	0.46
Adhesive capsulitis	8	0.15
Myofascial pain syndrome	6	0.12
Anserine bursitis	3	0.06
Costochondritis	3	0.06
Anterior tibial compartment syndrome	2	0.04
Osgood Schlatters disease	2	0.04
Carpal tunnel syndrome	3	0.06
Teitzes syndrome	1	0.02
Lower rib pain syndrome	1	0.02
Reflex sympathetic Syndrome	1	0.02
Posterior chest wall Syndrome	1	0.02
Meralgia paresthetiica	2	0.04
Total	439	8.43

The mean age of fibromyalgia patients were 39.4 and 38.6 in repetitive strain injury. Fibromyalgia patients were mostly female (94.3%), repetitive strain injury was also more common among women. Both fibromyalgia (84.9%) and repetitive strain injury (85.6%) were common in married people.

Table-III
Socio demographic relations between fibromyalgia and (RSI)

	Fibromyalgia	Repetitive strain injury	Chi square test
Total	193	104	
Age: mean +SD	39.4+12.9	38.6+13.9	
	T=42.4, P=0.000	T=28.4, p=0.000	
95% CI (Range 16-80)	37.6-41.3	35.9-41.3	
Sex: Male	11(5.7%)	43(41.3%)	X ² =57.73, P<0.00
Female	182(94.3%)	61(58.7%)	
Married	141(84.9%)	77(85.6%)	X ² =4.93, P<0.00

Discussion:

Prevalence of nonarticular rheumatism in Bangladesh (except fibromyalgia 2.7%) was a little higher than that in some Asian countries, 2.5% to 5.7% in China and 3.8% in Philippine.^{8,9,14} Those studies were conducted to see overall prevalence of rheumatic disorders in contrary to our study which focused to soft tissue rheumatic disorders only. Prevalence of nonarticular rheumatism in our series (8.4%) was higher than that of the previous study (7.1%).⁷ In the present study, male female ratio was 1:3 which is also consistent with previous study. It was also observed that married and housewives are the main sufferers of soft tissue disorders.

In our series, the most common rheumatic disorder was fibromyalgia (point prevalence 4%), it was 4.4% in the previous study.^{7,8} Fibromyalgia alone is the major contributor in our study followed by repetitive strain injury (2.3%) and 94.1% subjects were found to be female. In a North American study, the prevalence of fibromyalgia was 2.0% for both sexes,¹⁸ in Denmark 0.66%,²¹ in Finland 0.75%.²² Fibromyalgia was seldom seen in China; only two cases were found in Shantou among 2,350 people and one in Taiwan in 3,915 people.¹⁰ Twenty eight years ago, the prevalence of FM was reported ranging from 0.5% to 5% and up to 15.7% in the clinic in a western population.¹⁹ Fibromyalgia affected women more than men in all studies including our one. Bangladeshi and other people of Asia except China, has increased prevalence of soft tissue disorders than Europeans.

Prevalence rates of rheumatic pain reported from Australia, Bangladesh, India, Indonesia, Philippines, Thailand and Vietnam were 33%, 26.3%, 18.2%, 23.6% to 31.3%, 16.3%, 36.2% and 14.9%, respectively,⁸⁻¹⁵ indicating variation by locality, methods of survey, definition of disease categories and ethnic group. It is thus of importance to investigate how socioeconomic status, environmental differences, sex, age, occupation, and awareness of seeking medical care influence the prevalence of rheumatic complaints. Regarding nonarticular rheumatism, studies are not as enriched as other rheumatic disorders and it will be more informative if we can study individual soft tissue disease in our society.

Widespread pain was more common in three South Asian ethnic groups ranging from 2.7 to 5.8 in the different South Asian subgroups²³. The prevalence in this study was higher.

Rotator cuff disease, lateral epicondylitis, Achilles tendinitis, nocturnal muscle cramp, myofascial neck pain, planter fasciitis are present in a alarming ratio. In our study, repetitive strain injury is present in both male and female and the ratio is 2:3. Both the conditions were documented more in the married group, which is nearly 90%.

Conclusion:

The high prevalence of soft tissue diseases exerts substantial burden in our community. Its prevalence is very high and females are the main sufferer. Soft tissue rheumatic disorders are more prevalent among married population. Fibromyalgia is a disease of female, whereas repetitive strain injury is present in both male and female. Lifetime recurrence and disease burden and their research for the elements of burden, disability and economic impact need to be addressed. Prevalence of repetitive strain injury is another important field to be studied. Another important subject is how urban and rural influences affect diseases.

Conflict of Interest : None

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