

# Pattern of Musculoskeletal Disorders among Geriatric Population in Hilly Area

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## Abstract

Geriatric people are increasing in Bangladesh. So, it is the high time to take necessary and relevant measure for their wellbeing. To take any welfare measure, it is required to find out their health status particularly musculoskeletal condition. The study focuses on the musculoskeletal problems among older people residing in Rangamati district of Chittagong Hill Tracts. A cross sectional study was conducted. The subjects were selected conveniently and conducted among 230 geriatric people living with family or alone. A well designed semi-structured standard questionnaire was used to collect required data from the study subjects. Average age of the respondents was 66.78±6.09 years. Most of the respondents were illiterate. About 80.40% subjects suffered from musculoskeletal problems and 19.60% did not have. Back pain and knee pain was prominent i.e. 35.70% and 34.60%. Neck pain, shoulder pain, elbow pain and heel pain were seen among 13%, 7.60%, 2.70% and 3.80% respondents. No statistical significant association was found between age group, gender and musculoskeletal problem.

**Keywords:** Pattern; Musculoskeletal Disorder; Geriatric Population; Hilly Area

## Introduction

The proportion of older people will be tripled by the next couple of decades. Research interest on population aging is a very recent origin and still a lot of research endeavor is needed to address the different issues relating to the same and inter-relation of those issues. There is need for further studies to improve health care of the elderly people. Very little studies have done in hilly area of Bangladesh. In spite of increase in elderly populations almost no studies have been done with the Bangladeshi elderly hilly population. So, there is a need for study to focus on pattern of musculoskeletal disorder related with them. This study tends to focus the problems of the ethnic elderly residing in hill tracts.

## Materials and Methods

### Study design

A cross-sectional analytical study was conducted to identify the state of pattern of musculoskeletal disorders among geriatric population in hilly area. Considering time period and resource availability, cross-cut study design was most feasible for this study.

### Study period

This was a six (06) month long study (November 2018 to April 2019). Proposal writing, preparatory activities including

questionnaire development, piloting, data collection, data processing, analysis, literature review and thesis writing was done within this period.

### Study place

This study was conducted in Rangamati hilly district. This area was selected for data collection and get adequate sample for this study.

### Study population

Aged above 60 years people residing in old home as well as community irrespective of gender were study population.

### Inclusion criteria

- Those were willing to participate
- Age above 60
- Not seriously sick

### Exclusion criteria

- Those were not willing to participate
- Age below 60
- Seriously sick

**Sampling technique**

Non-probability convenient sampling was used to collect study subjects.

**Data collection method:** Data were collected from senior citizen residing in Rangamati sadar upazila from January 2019 to February 2019 through questionnaire by personal interview. Face to face interview was carried out. Health status was determined by taking history and conducting physical examination. Medical records were checked if available.

**Data processing and analysis:** After administering questionnaire, data were checked for consistency. Individual sheet was checked and cleaned to avoid any error. Descriptive statistics (mean, SD,

frequency, percentage) and inferential statistics (Chi-square) were used.

**Ethical consideration**

Permission from ethical review committee of Gono Bishwabidyalay was taken. Consent was sought from old home authority. The study never discloses the name and personal information of any individual respondent at any point of time. As I had to depend on their verbal response, so there might be some discrepancy on their income level. Accurate diagnosis was not possible because I had to depend on their history and physical examination. Radiological and pathological examination were absent in many cases.

**Result**

**Table 1:** Age group of the study subjects (n=230).

Age in year	Frequency	Percentage
60-70	193	83.9
71-80	32	13.9
81-90	5	2.2
Total	230	100.0
Mean±SD	66.78±6.09	

Average age of the respondents was 66.78±6.09 years. Majority of the subjects (83.9%) belonged to 60-70 years and 13.9% belonged to 71-80 years

**able 2:** Occupation of the study subjects (n=230)

Occupation	Frequency	Percentage
Housewife	79	34.3
Service	20	8.7
Business	91	39.6
Others	40	17.4
Total	230	100.0

Housewife, service and business were 34.3%, 8.7% and 39.6%. About 17.4% subjects did different types of activities.

**Table 3:** Duration of suffering from musculoskeletal problem (n=185).

Suffering from musculoskeletal problem in years	Frequency	Percentage
<5	122	65.9
5 to 10	48	25.9
>10	15	8.1
Total	185	100.0
Mean±SD	5.27±3.89	

More than half of the respondents (65.9%) suffered musculoskeletal problem from less than five years followed by 25.9% from 5-10 years and 8.1% from greater than 10 years.

**Table 4:** Association between age group and musculoskeletal problem (n=230).

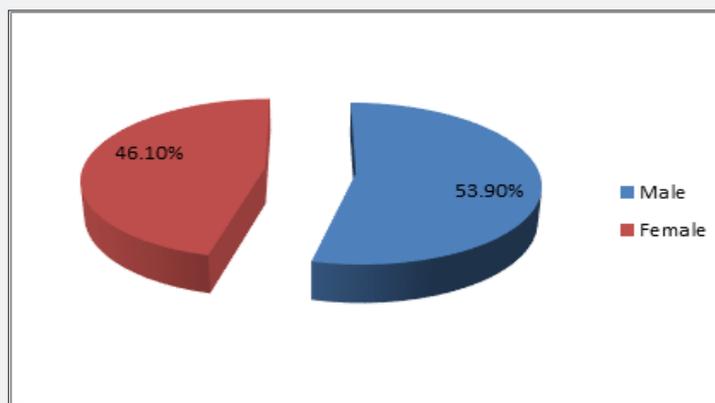
Age group	MSK		Total	$\chi^2$	p-value
	Yes	No			
60-70	156(67.8)	37(16.1)	193(83.9)	0.128	0.938
71-80	25(10.9)	7(3.0)	32(13.9)		
81-90	4(1.7)	1(0.4)	5(2.2)		
Total 185(80.4) 45(19.6)			230(100.0)		

No statistical significant association was found between age group and musculoskeletal problem ( $p=0.938>0.05$ ).

**Table 5:** Association between gender and musculoskeletal problem (n=230).

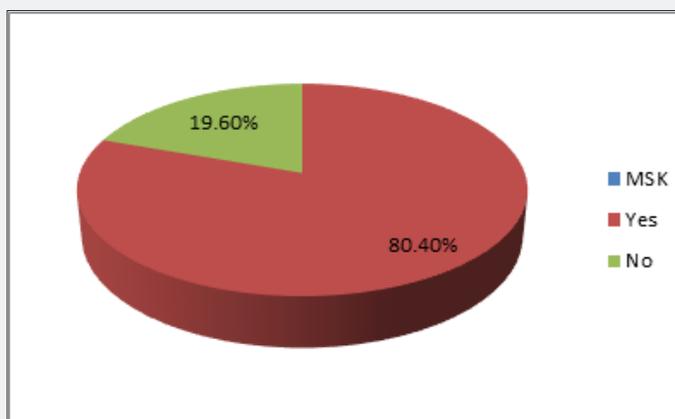
Gender	MSK		Total	$\chi^2$	p-value
	Yes	No			
Male	96(41.7)	28(12.2)	124(53.9)	1.555	0.212
Female	89(38.7)	17(7.4)	106(46.1)		
Total	185(80.4)	45(19.6)	230(100.0)		

No statistical significant association was found between gender and musculoskeletal problem ( $p=0.212>0.05$ ).



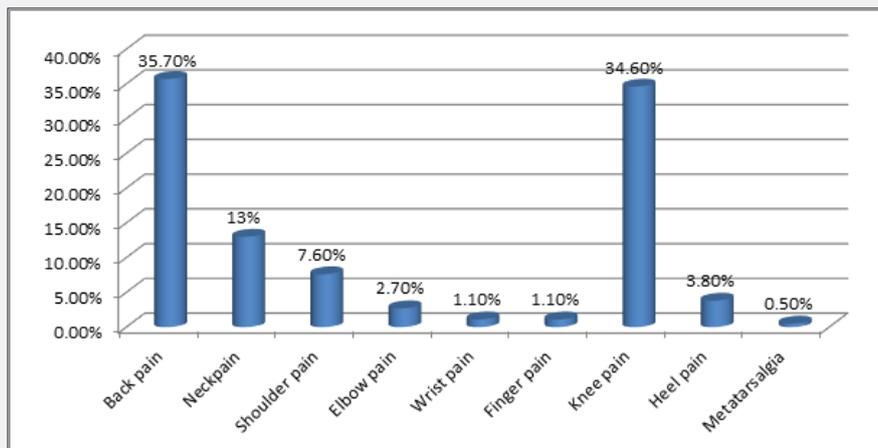
Male and female distribution was 53.90% and 46.10%.

**Figure 1:** Gender of the respondents (n=230).



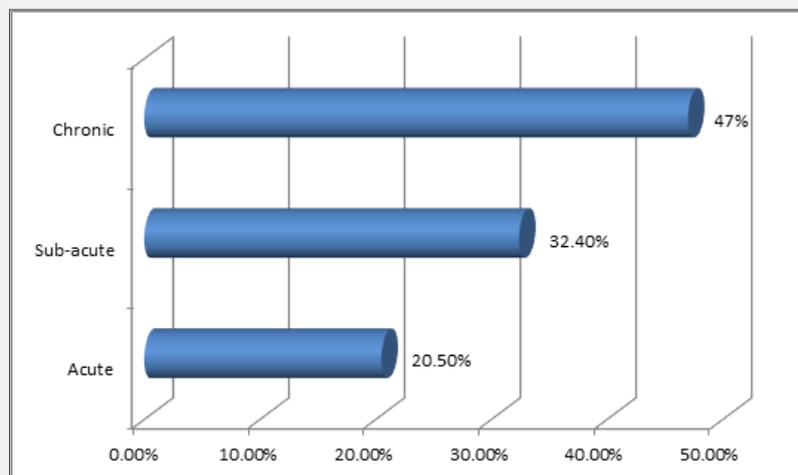
About 80.40% subjects suffered from musculoskeletal problems and 19.60% did not have.

**Figure 2:** Prevalence of Musculoskeletal problems (n=230).



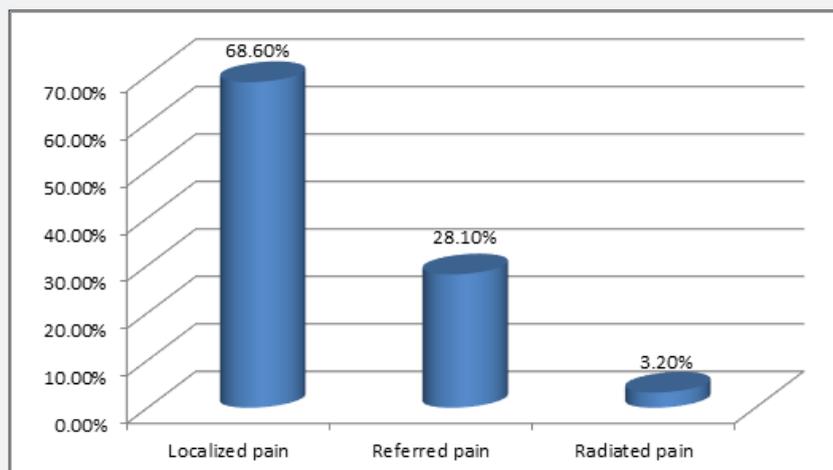
Back pain and knee pain was prominent i.e. 35.70% and 34.60%. Neck pain, shoulder pain, elbow pain and heel pain were seen among 13%, 7.60%, 2.70% and 3.80% respondents.

**Figure 3:** Site of musculoskeletal problem (n=185).



About 47% suffered from chronic pain followed by sub-acute 32.40% and acute 20.50%.

**Figure 4:** Nature of musculoskeletal pain (n=185).



About 68.60% of study subjects complained localized pain and 28.10% was found referred pain and 3.20% radiated pain.

**Figure 5:** Nature of musculoskeletal pain (n=185).

## Discussion

Senior citizen is a burning issue now. This study was an initiative to explore prevalence of musculoskeletal symptoms among ethnic senior group in Rangamati hilly district of Bangladesh. It is reasonable to equate this practice-based study with the population because the great majority of people from ethnic minority communities are known to be registered with primary care practices [1]. Joint pain lasting for more than one month in the past month were slightly more prevalent among ethnic minorities. The present study found that back pain and knee pain was 35.70% and 34.60%. Gibson et al found similar levels of joint disease in Pakistan and in white European populations [2]. In the USA, levels of self-reported arthritis have been found to vary little by ethnicity [3] and musculoskeletal disability was similar in African-American and white populations [4]. A telephone study of acute back pain in North Carolina, USA, found a slightly lower prevalence in non-white subjects [5]. The present study has made a contribution to a study of this issue, but further work is needed to assess specific healthcare needs, whether the actual needs are for musculoskeletal care, and then to deal with those needs. There was a significant association between education and knee OA. No association was found between gender and OA in the adult population, whereas in the elderly population there was a significant association between female gender and OA [6].

The present study showed that no statistical association between age group, gender and musculoskeletal problems. Based on the study findings, recommendations are made with view to prevent and minimize the musculoskeletal disorders of geriatric population. Preventive, curative and rehabilitative measurement can be taken for people as wider prevalence of back pain, neck pain and knee pain. Promoting physiotherapy services specifically designed for elderly people is required bearing in mind of their

diverse life style. More depth study with large sample can be conducted to get precise result.

## Conclusion

Musculoskeletal disorders are among the most common problems affecting the elderly. The resulting loss of mobility and physical independence can be particularly devastating in this population. Most of the respondents were illiterate and primary level education completed. Most of subjects suffered from musculoskeletal problems. Back pain and knee pain was prominent than Neck pain, shoulder pain, elbow pain and heel pain. Intermittent pain was highly prevalent than constant pain. The study revealed that localized low back pain was widely prevalent followed by radiating pain.

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