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Socio-Demographic and Clinical Outcome of the Patients with Shoulder Pain

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Abstract

Introduction with Objective: *Shoulder pain is a common musculoskeletal presentation in the general practice which can lead to absenteeism from work, inability to perform social activities and serious economic hardship for affected individuals and their families. The aim of this study was to assess the socio-demographic and clinical outcome of the patients with shoulder pain in a tertiary care hospital in Bangladesh.* ***Methods:*** *This Prospective observational Study was carried out among 101 patients attending at the Department of Physical Medicine and Rehabilitation, Dhaka Medical College and Hospital (DMCH), Dhaka within the defined period from July 2021 to December 2021. Ethical clearance was obtained from the Ethical review committee of Dhaka Medical College Hospital. Purposive sampling was done according to availability of the patients. Statistical analyses of the results were obtained by using window based computer software devised with Statistical Packages for Social Sciences (SPSS-20.1).* ***Results:*** *Majority of the patients (59.4%) were in 41-50 years age group where the mean age of the patients was 50.3 ± 7.9 years and 51 (50.5%) patients were male. Majority of the patients (45.5%) were housewives. Most of the patients (n=94, 93.1%) had normal body mass index. Majority of the patients (56.4%) had duration of pain for 1-3 months where the mean duration of pain of the patients was 3.9 ± 2.5 months. The mean pain score in VAS was 4.9 ± 1.1 where 47 patients (46.5%) had score from 3-4. Local tenderness was present in rotator cuff muscle in 88 (87.1%) patients while 65 (64.4%) had tenderness on Gleno-humeral joint. Majority of the patients (59.4%) had shoulder pain on right shoulder.* ***Conclusion:*** *Shoulder pain is more common in older people, with the peak prevalence occurring in people aged 41-50 years and more common in male. Obesity is a risk factor for shoulder pain. Recognizing high-risk patients can help physicians for counseling them and recommend strategies for prevention.*

Keywords: *Socio-demographic, clinical outcome, shoulder pain.*

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Introduction:

Shoulder pain is a common clinical symptom and a notable cause of work disability and health care costs. In general populations, the prevalence of shoulder pain during the preceding 30 days ranges between 18% and 31%[1]. Shoulder pain is the most common and incapacitating upper limb overuse injury and can be caused by bicipital tendinitis, rotator cuff impingement syndrome, subacromial bursitis, capsulitis, and osteoarthritis[2]. There have been numerous studies illustrating the association between repetitive movements and/or exertional force and shoulder pathology. At-risk occupations for shoulder pain include fish-processing workers', electricians, garment

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workers, hospital workers, and construction workers[3]. The commonest cause of pain around the shoulder is a disorder of the rotator cuff. This is sometimes referred to rather loosely as 'rotator cuff syndrome', which comprises at least four conditions with distinct clinical features and natural history of supraspinatus impingement and tendinitis, tears of the rotator cuff, acute calcific tendinitis and biceps tendinitis and/or rupture[4]. Metabolic factors such as diabetes, cigarette smoking, hypertension, hypercholesterolemia, and obesity may also play a role in the multi-factorial etiology of rotator cuff disease[5].

Materials & Methods:

This Prospective observational Study was carried out among 101 patients attending at the Department of Physical Medicine and Rehabilitation, Dhaka Medical College and Hospital (DMCH), Dhaka within the defined period from July 2021 to December 2021. Ethical clearance was obtained from the Ethical review committee of Dhaka Medical College Hospital. Purposive sampling was done according to availability of the patients. Body mass index was calculated by the formula. BMI = weight in kg / (Height x Height) in the meter. Normal BMI 18.5—22.9 Kg/ m^2, Underweight BMI <18.5 Kg/ m^2, Overweight BMI 23—24.9 Kg/ m^2, Obese-1 BMI 25—29.9 Kg/ m^2, Obese-II BMI >30 Kg/ m^2. The collected data were entered into the computer and analyzed by using SPSS (version 20.1) to assess the demographic and clinical outcome of the patients with shoulder pain.

Results:

Majority of the patients (59.4%) were in 41-50 years age group where the mean age of the patients was 50.3 ± 7.9 years and 51 (50.5%) patients were male. Majority of the patients (45.5%) were housewives followed by businessman (26.7%) (Table I).

Table I: Socio-demographic Characteristics of the study population (n=101)

Parameter	Number	Percentage
Gender		
Male	51	50.5%
Female	50	49.5%
Age in years		
41-50	60	59.4
51-60	31	30.7
61-70	10	9.9
Mean ± SD (min-max)	**50.3 ± 7.9 (41-70)**	
Occupation		
Homemaker	46	45.5
Businessman	27	26.7
Service holder	21	20.8
Retired person	5	5.0
Others	2	2.0

Most of the patients (n=94, 93.1%) had normal body mass index while remaining 7 patients (6.9%) had over weight (Figure 1).

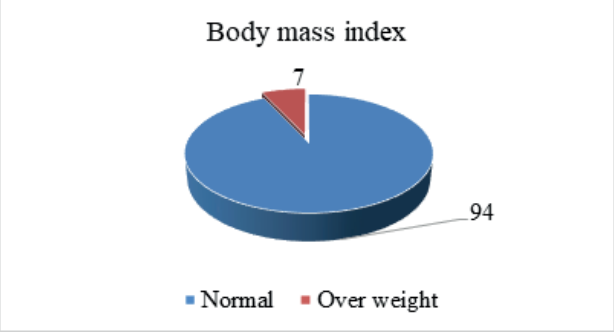

Figure 1: Distribution of patients by body mass index

Majority of the patients (56.4%) had duration of pain for 1-3 months where the mean duration of pain of the patients was 3.9 ± 2.5 months (Table II).

Table II: Distribution of patients by duration of pain (n=101)

Duration of pain (in months)	Frequency (n)	Percentage (%)
1-3	57	56.4
4-6	33	32.7
7-12	11	10.9
Total	101	100.0
Mean ± SD	**3.9 ± 2.5**	

The mean pain score in VAS was 4.9 ± 1.1 where 47 patients (46.5%) had score from 3-4 and another 47 patients (46.5%) had score from 5-6 (Table III).

Table III: Distribution of patients by pain in visual analog scale (n=101)

Visual analog scale (VAS)	Frequency (n)	Percentage (%)
3-4	47	46.5
5-6	47	46.5
7-8	7	7.0
Total	101	100.0
Mean ± SD	**4.9 ± 1.1**	

Local tenderness was present in rotator cuff muscle in 88 (87.1%) patients while 65 (64.4%) had tenderness on Gleno-humeral joint and 64 (63.4%) had tenderness on Acromio-clavicular joint (Table IV).

Table IV: Distribution of patients by local tenderness (n=101)

Local tenderness	Frequency (n)	Percentage (%)
Rotator cuff	88	87.2
Gleno-humeral joint	65	64.4
Acromio-clavicular joint	64	63.4

Discussion:

The mean age of the patients in this study was 50.3 ± 7.9 years which was comparable to the study of Khan et. al (2019)[6] and Choi & Kim (2020)[7]. In the study of Khan et. al (2019)[6], the mean age of the patients was 52 years while in

the study of Choi & Kim (2020)[7] the mean age of the patients was 51 years. Study conducted in Spain[8] found the mean age 57.5 years while the Korean study[9] found the mean age 55.3 years. This difference might be due to the wider age range of patients of those studies. Though other studies conducted by Kim HA et. al (2007)[10] found predominant female patients with shoulder pain but in this study male to female proportion was almost equal. Majority of the patients (56.4%) had duration of pain for 1-3 months where the mean duration of pain of the patients was 3.9 ± 2.5 months (range: 1-12 months). Study of Choi & Kim (2020)[7] found mean duration of pain for 5 months. Local tenderness was present in rotator cuff muscle in majority (87.1%) of patients which was similar to other study conducted by Deshpande SV et. al (2018)[11]. However, Kim et al.[10] found Subacromial joint tenderness was the most frequent site of tenderness. This dissimilarity might be due to the difference of study population between the two studies. Kim et al.[10] included patients with degenerative changes while the present study did not.

Conclusion:

Shoulder pain is more common in older people, with the peak prevalence occurring in people aged 41-50 years and more common in male. Though obesity is a important risk factor for shoulder pain but in our study most of the patients were belonged to normal weight. Recognizing high-risk patients can help physicians for counseling them and recommend strategies for prevention.

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Conflict of Interest: None.

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