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Original Research Article

Epidemiology of pain disorders among outpatients at Joypurhat Sadar Hospital

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ABSTRACT

Background: Pain disorders represent a significant public health concern, especially in low-resource settings where data on their epidemiology are limited. Understanding the patterns and burden of pain among outpatients can inform appropriate management strategies and healthcare planning.
Methods: This cross-sectional study was conducted at the Department of Medicine, 250 Bed Sadar Hospital, Joypurhat, Bangladesh, between January and July 2024. A total of 200 adult outpatients presenting with various pain disorders were enrolled consecutively. Sociodemographic data, anthropometric measurements, clinical diagnoses and duration of pain were recorded. Data were analyzed using SPSS version 26.
Results: Most of the participants were female (77.5%) with a mean age of 37.7±12.6 years. Most were housewives (67.5%) and the predominant age group was 31-45 years (47.5%). The average BMI was 23.75±3.52. The most common diagnosis was mechanical low back pain (81.0%), followed by musculoskeletal chest pain (5.5%) and cervical spondylosis (4.0%). in terms of chronicity, 36.5% reported acute pain (<1 month), 34.0% had subacute pain (1–3 months) and 29.5% had chronic pain (>3 months).
Conclusions: Mechanical low back pain emerged as the most prevalent pain disorder among outpatients, with a substantial portion experiencing chronic symptoms. These findings highlight the need for early diagnosis, targeted intervention and resource-appropriate pain management strategies in district-level healthcare settings.

Keywords: Bangladesh, Cross-sectional study, Epidemiology, Low back pain, Musculoskeletal pain, Outpatient, Pain disorders

INTRODUCTION

Pain is one of the most common and distressing symptoms encountered in clinical practice and is a leading cause of disability worldwide.[1] It significantly impacts quality of life, physical functioning and psychological well-being, often resulting in substantial socioeconomic burdens on individuals and healthcare systems.[2]

According to the World Health Organization, pain disorders rank among the top contributors to years lived with disability globally. In low- and middle-income countries like Bangladesh, the burden of pain disorders is exacerbated by limited healthcare resources, lack of awareness and challenges in timely diagnosis and management.[3,4] Musculoskeletal pain, particularly low back pain (LBP), constitutes the majority of pain-related outpatient visits and is considered a major public health problem.[5]

Epidemiological studies estimate that nearly 60–80% of adults experience low back pain at some point in their lives, with a considerable proportion developing chronic symptoms lasting longer than three months.[6] Other common pain syndromes include cervical spondylosis, traumatic injuries, chest wall pain and nonspecific

abdominal pain, all contributing variably to the outpatient workload.[7] Despite its high prevalence, pain disorders remain under-recognized and under-treated, especially in rural and semi-urban areas where access to specialized care is limited.[8,9]

In Bangladesh, few studies have systematically explored the epidemiology of pain disorders among general outpatient populations, with most data derived from tertiary care centres in metropolitan areas.[8] There is a scarcity of literature focusing on district-level hospitals like Joypurhat Sadar Hospital, which serve a large rural population with unique demographic and occupational characteristics that may influence the pattern and burden of pain disorders. Understanding the socio-demographic profile, types of pain and chronicity among these patients is essential for guiding targeted interventions, resource allocation and health policy formulation.[10,11]

This study addresses the lack of data on pain disorders at Joypurhat Sadar Hospital by assessing the distribution of pain diagnoses, patient demographics, anthropometrics and pain duration among outpatients.

The findings will reveal predominant pain syndromes, especially mechanical low back pain and chronic pain prevalence, providing valuable regional insights. This knowledge aimed to guide clinicians, public health officials and policymakers in developing targeted, resource-appropriate management strategies to improve early diagnosis, patient education and multidisciplinary care, ultimately reducing pain-related morbidity.

METHODS

This cross-sectional study was conducted at the Department of Medicine, 250 Bed Sadar Hospital, Joypurhat, Bangladesh, from January 2024 to July 2024. A total of 200 consecutive outpatients presenting with complaints of pain disorders were enrolled. Inclusion criteria were adults aged 18 years and above who reported musculoskeletal, neuropathic or nonspecific pain symptoms and consented to participate.

Patients with known malignancies, recent trauma requiring emergency care or cognitive impairment affecting communication were excluded. A structured questionnaire was used to collect socio-demographic data, pain characteristics and clinical diagnoses after thorough history-taking and physical examination by the attending physicians.

Anthropometric measurements including height, weight, body mass index (BMI), upper arm circumference and waist circumference were recorded following standard procedures. Diagnoses were established based on clinical evaluation supported by relevant investigations when necessary. Data were entered and analyzed using SPSS version 26. Descriptive statistics such as frequencies, percentages, means and standard deviations were calculated to summarize the variables. Written informed consent was obtained from all participants prior to enrolment.

RESULTS

Table 1 outlines the socio-demographic distribution of the study participants. The majority of the respondents were aged 31–45 years, comprising 95 (47.5%), followed by those aged 18–30 years with 65 (32.5%). Participants aged 46–60 and ≥61 years each accounted for 20 (10.0%). The mean age of the population was 37.7±12.6 years. Most participants were female, 155 (77.5%), while males constituted 45 (22.5%). Regarding occupation, housewives were predominant at 135 (67.5%), followed by service holders 20 (10.0%), farmers 15 (7.5%), students 10 (5.0%), police personnel 5 (2.5%), businesspersons 5 (2.5%) and others 10 (5.0%).

Table 2 presents the mean values and standard deviations of key anthropometric parameters among the study participants. The average height was 151.88±7.03 cm and the mean body weight was 53.38±9.09 kg. The mean Body Mass Index (BMI) was 23.75±3.52, indicating a generally normal weight range. The mean upper arm circumference measured 27.93±3.09 cm and the average waist circumference was 86.25±11.33 cm.

Table 3 presents the distribution of clinical diagnoses among 200 outpatients presenting with pain disorders at the Department of Medicine, 250 Bed Sadar Hospital, Joypurhat. The most prevalent diagnosis was mechanical low back pain (LBP), affecting 162 patients (81.0%), indicating it as the dominant cause of pain-related consultations.

Other commonly observed conditions included Musculoskeletal (MSK) Chest Pain in 11 patients (5.5%) and Cervical Spondylosis in 8 patients (4.0%). Less frequently reported diagnoses were nonspecific abdominal pain (3.5%), traumatic chest pain (2.5%) and low back pain (general) in 1.5% of cases. a small number of cases involved nonspecific chest pain (1.0%), cervical spondylosis with frozen shoulder (0.5%) and lumbar spondylosis (0.5%).

Table 4 presents the distribution of pain duration among the study participants. The majority of patients (73 cases; 36.5%) reported experiencing pain for less than one month, suggesting a predominance of acute pain presentations.

A considerable proportion of patients (68 cases; 34.0%) had pain lasting between one to three months, indicating a transition toward subacute pain. Meanwhile, 59 patients (29.5%) suffered from pain for more than three months, reflecting a significant burden of chronic pain among the outpatient population.

Table 1: Socio-demographic characteristics of the study population (n=200).

Variable		Frequency (N)	(%)
Age (in years)	18–30	65	32.5
	31–45	95	47.5
	46–60	20	10.0
	≥61	20	10.0
	Mean±SD	37.7±12.6	
Sex	Male	45	22.5
	Female	155	77.5
Occupation	Housewife	135	67.5
	Service Holder	20	10.0
	Farmer	15	7.5
	Student	10	5.0
	Police	5	2.5
	Business	5	2.5
	Others	10	5.0

Table 2: Anthropometric measurements of the study population (n=200).

Variable	Mean	Standard Deviation
Height (cm)	151.88	±7.03
Weight (kg)	53.38	±9.09
Body Mass Index (BMI)	23.75	±3.52
Upper Arm Circumference (cm)	27.93	±3.09
Waist Circumference (cm)	86.25	±11.33

Table 3: Distribution of diagnoses among outpatients with pain disorders (n=200).

Diagnosis	Frequency (N)	(%)
Mechanical Low Back Pain (LBP)	162	81.0
Musculoskeletal (MSK) Chest Pain	11	5.5
Cervical Spondylosis	8	4.0
Nonspecific Abdominal Pain	7	3.5
Traumatic Chest Pain	5	2.5
Low Back Pain (general)	3	1.5
Nonspecific Chest Pain	2	1.0
Cervical Spondylosis & Frozen Shoulder	1	0.5
Lumbar Spondylosis	1	0.5

Table 4: Duration of pain among outpatients with pain disorders (n=200).

Duration of Pain	Frequency (N)	(%)
< 1 month	73	36.5
1–3 months	68	34
> 3 months	59	29.5
Total	200	100

DISCUSSION

This cross-sectional study sheds light on the epidemiological landscape of pain disorders among outpatients at a district-level hospital in Bangladesh. The findings indicate a predominance of mechanical LBP, particularly among women and housewives aged between 31 and 45 years. These results align with national and international data and emphasize the growing burden of musculoskeletal pain disorders in both clinical and community settings. The high prevalence of mechanical LBP (81.0%) observed in our study is consistent with national-level research conducted among Bangladeshi professionals, industrial workers and healthcare providers, all reporting LBP as a leading musculoskeletal complaint.[12-14] Occupational and domestic activities such as prolonged sitting, heavy lifting or repetitive bending are well-established risk factors for LBP and are particularly

relevant to our study population, where the majority were housewives engaged in physically demanding household chores.[15]

Musculoskeletal chest pain, cervical spondylosis and nonspecific abdominal pain were the next most common diagnoses in this population. Similar findings were reported in other Bangladeshi studies involving garment workers and elderly populations, suggesting a broad distribution of pain sites influenced by occupation, posture and aging.[16,17] A notable feature of our study is the chronicity of symptoms. Nearly 30% of the patients experienced pain for more than three months, underscoring a substantial burden of chronic pain in this outpatient setting. Chronic pain is not only associated with functional impairment but also with significant psychosocial consequences including depression, anxiety and reduced quality of life.[18,19] The prolonged duration of symptoms highlights the need for early intervention and patient-centered management strategies.

The gender disparity observed 77.5% of patients being female is in line with global data indicating higher pain reporting among women. Factors such as hormonal differences, psychosocial stress and differential health-seeking behaviors may account for this trend.[20] A large-scale review by Øverås et al, supports the notion that persistent low back pain commonly co-occurs with other musculoskeletal pain conditions in women, potentially explaining the clustering of pain sites seen in our female participants.[21] From an anthropometric perspective, the mean BMI of 23.75 in our cohort falls within the normal range, suggesting that while obesity is a known risk factor for musculoskeletal pain, it may not be the dominant contributing factor in this specific population. However, other ergonomic and mechanical stressors likely play a more significant role. The broader epidemiological implications of this study are also supported by global analyses. According to Liu et al, musculoskeletal disorders remain one of the top causes of disability worldwide, with LBP contributing significantly to years lived with disability (YLDs).[22] The Global Burden of Disease Study further reinforces the importance of prioritizing LBP as a public health issue due to its rising prevalence across all age groups and geographies.[23,24]

Our findings also resonate with regional and international calls for improving musculoskeletal care at the primary healthcare level. This includes adopting a multidisciplinary approach involving physiotherapists, pain specialists and mental health professionals to tackle the complex biopsychosocial dimensions of chronic pain.[25] Education campaigns to promote posture correction, exercise and safe lifting techniques may be particularly effective in rural and semi-urban communities like Joypurhat.

This study has several limitations. As a single-center, cross-sectional study conducted at a district hospital, the findings may not be generalizable to the broader population of Bangladesh. The reliance on clinical diagnosis without imaging or laboratory confirmation may have led to potential diagnostic bias. Additionally, self-reported data on pain duration and occupation are subject to recall bias. Finally, the study did not assess the impact of pain on quality of life or functional status, which could provide a more comprehensive understanding of the burden of pain disorders.

CONCLUSION

In conclusion, this study highlights the overwhelming burden of mechanical LBP among outpatients in a rural district hospital, dominated by females in their productive age group. The chronicity of symptoms and associated socio-occupational factors call for urgent public health interventions. Strengthening pain management strategies in primary care, promoting preventive ergonomics and integrating mental health services may collectively reduce the morbidity associated with chronic pain disorders in similar settings.

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