*Original Article*

# Audit of patients attending the pain clinic of Shaheed Suhrawardy Medical College Hospital in Bangladesh during the period 2022-2023

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**ABSTRACT**

***Background:*** *Pain is an unavoidable part of life. More than 1.5 billion people worldwide live with chronic pain and the prevalence rate is about 11.6%. Pain clinics are healthcare facilities that provide standard services to help people manage their pain and regain control of their lives. The objective of this study was to analyze the chronic pain patients of the pain clinic of Shaheed Suhrawardy Medical College Hospital between 2022 and 2023.*

***Methods:*** *This was a retrospective observational study conducted in the pain clinic of Shaheed Suhrawardy Medical College Hospital, Dhaka, Bangladesh. Patients with persistent pain for more than 3 months attending the pain clinic between 1 January 2022 and 31 December 2023 were included. Sociodemographic variables, pain characteristics, pain intensity at the first visit, pain duration, and treatments were extracted from the records.*

***Results:*** *After reviewing the clinical records, 934 patients were selected for this study. The mean age of the patients was 41.62 ± 10.87 years. The persistent pain duration was 10.52 ± 2.25 months and 542 (58%) experienced moderate pain measured by visual analogue scale (VAS). Most of the patients suffered from chronic musculoskeletal pain 456 (49%) followed by chronic neuropathic pain 196 (21%) and chronic post-traumatic pain 159 (17%). A large proportion complained of localized pain 719 (77%) and the lower back was the most prevalent site 446 (48%). A great number of patients 662 (71%) were treated conservatively rather than interventions 272 (29%) to manage their pain. The most common type of intervention was epidural injection (30%) followed by intra-articular injection (21%) and nerve blocks (15%).*

***Conclusion:*** *This research sheds light on the role of pain clinics in crafting tailored pain management strategies. This study's findings give insight into chronic pain patients and pain management practices who attended the pain clinic.*

**Key Words:**
Chronic pain, Pain clinic, Pain management, Pain interventions, Bangladesh

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## Introduction

Pain is one of the most common symptoms for which people seek help from physicians[1]. The International Association for the Study of Pain (IASP) defines pain as "An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage"[2]. The prevalence of pain at the country level around the world varies widely[3]. In Bangladesh, 89.8% of patients presented with pain as their primary symptom in the "Outpatient Department (OPD)" of Bangabandhu Sheikh Mujib Medical University[4].

Pain is classified based on the pathophysiological mechanism, duration, anatomic location, and the presence of malignancy. Each classification is important and understanding those classifications and their definitions is crucial to guide diagnosis and management[5]. Acute and chronic pain are different clinical entities. A specific disease or injury provokes acute pain, serves a useful biological purpose, and is self-limited. In contrast, chronic pain is considered a disease state that outlasts the normal healing time, if associated with a disease or injury[6].

The new definition and classification of chronic pain introduces chronic primary pain syndromes and chronic secondary pain syndromes[7]. Primary is defined as chronic pain in one or more anatomical regions. Secondary pain syndromes are linked to other diseases as the underlying cause. In all cases, chronic pain syndromes are associated with significant emotional distress or functional disability, which negatively affects the quality of life or the enjoyment of life, as well as with significant increases in morbidity and mortality[8]. Therefore, a comprehensive and inter/trans-disciplinary approach is needed to treat chronic pain, considering pharmacological, non-pharmacological, and interventional management.

Pain clinics provide healthcare services that focus on the diagnosis and management of chronic pain. It follows holistic, evidence-based models with an interdisciplinary approach representing the gold standard of multimodal approaches[9]. A multimodal approach includes non-opioid analgesics such as non-steroidal anti-inflammatory drugs (NSAIDs), opioids, complementary therapies, adjuvants, and invasive techniques that can effectively manage patients with chronic pain[8].

In Bangladesh, the first pain clinic was established in Bangabandhu Sheikh Mujib Medical University in 1992. After that, many pain management clinics were established in the government and private sectors. The pain clinic in Shaheed Suhrawardy Medical College Hospital started in 2019. This pain clinic provides services in the outpatient departments and thousands of patients receive quality services from this clinic every year. This study aimed to analyze the patients with chronic pain attending the pain clinic (2022-2023) regarding geographical profiles, pain characteristics, and treatments.

## Methods

This was an observational, cross-sectional study retrospectively reviewing clinical records. This study was conducted in the pain clinic, Department of Anaesthesia, Intensive Care and Pain Medicine, Shaheed Suhrawardy Medical College Hospital, Dhaka, Bangladesh. Patients aged between 18 and 70 years who attended the pain clinic between 1 January 2022 and 31 December 2023, and whose pain persisted for more than 3 months were included. Patients with migraine or headaches, chronic cancer pain, and incomplete or unclear medical records were excluded. Socio-demographic variables, pain characteristics, pain intensity at the first visit, pain duration, and treatments were extracted from the records. Statistical analyses were carried out by using the Statistical Package for Social Sciences version 20.0 for Windows (SPSS Inc., Chicago, Illinois, USA). The qualitative variables of this study were expressed as percentages. Quantitative variables were expressed as mean ± standard deviation. P value <0.05 is considered as statistically significant.

## Results

About 1432 patient records were documented in the pain clinic from January 2022 to December 2023. According to inclusion and exclusion criteria, 934 patients were selected for this study. Table I shows the demographic and clinical profile of the patients. The average age of the patients was 41.62 ± 10.87 years. The male and female ratio was 1:1.27. Most (47%) worked in the garment sector. The average duration of pain was 10.52 ± 2.25 months and 542 (58%) experienced moderate pain. Out of 934, 211 (23%) and 204 (22%) patients had hypertension and diabetes mellitus, respectively.

The most common pain type was chronic musculoskeletal pain 456 (49%) followed by chronic neuropathic pain

196 (21%) and chronic post-traumatic pain 159 (17%). The other types of chronic pain include chronic visceral pain 57 (6%) and chronic primary pain 65 (7%). Figure I displays the chronic pain characteristics of 934 patients.

**Table I: Sociodemographic and clinical profile of the patients**

| Characteristics | Value (N=934) |
|---|---|
| Age in years (mean±SD) | 41.62 ± 10.87 |
| Gender | |
| Male | 411 (44%) |
| Female | 523 (56%) |
| Occupation | |
| Unemployed | 87 (9%) |
| House wife | 232 (25%) |
| Garments worker | 436 (47%) |
| Day laborer | 77 (8%) |
| Business | 54 (6%) |
| Service | 48 (5%) |
| Marital status | |
| Married | 738 (79%) |
| Unmarried | 196 (21%) |
| Co-morbidities | |
| Hypertension | 211 (23%) |
| Diabetes mellitus | 204 (22%) |
| Bronchial asthma/COPD | 96 (10%) |
| Chronic kidney disease | 16 (2%) |
| Ischemic heart disease | 12 (1%) |
| Inflammatory arthritis | 49 (5%) |
| Duration of pain in months (mean±SD) | 10.52 ± 2.25 |
| Pain intensity by VAS (0-10) | |
| Mild (0-3) | 215 (23%) |
| Moderate (4-6) | 542 (58%) |
| Severe (7-10) | 177 (19%) |

Data expressed as mean ± SD; absolute number and percentage (within parenthesis percentage over column total)

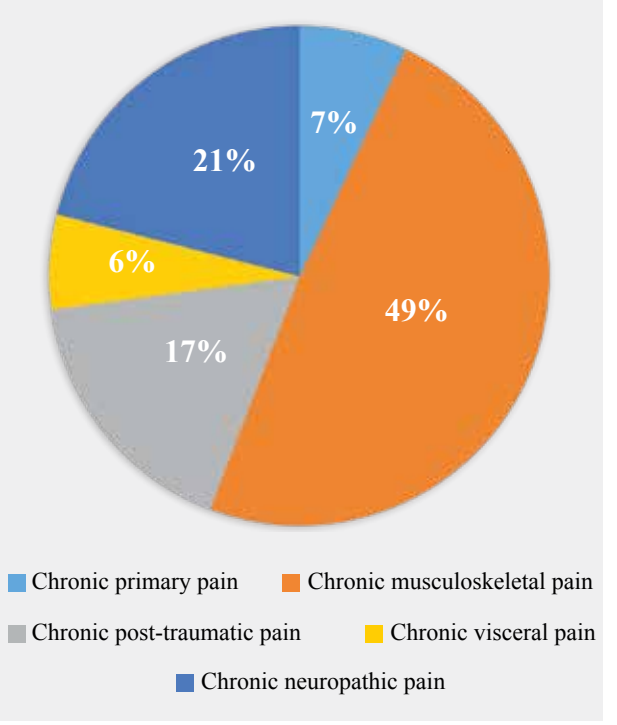


**Figure I: Chronic pain characteristics of patients**

All patients reported pain at different locations of the body (table II). Most of the patients had localized pain 719 (77%). Of a group of patients 168 (18%) had radiating pain. Only a few complained of whole body pain 47 (5%).

**Table II: Location of pain reported by patients**

| Pain location | Value (N=934) |
|---|---|
| Whole body | 47 (5%) |
| Localized | |
| Neck | 47 (5%) |
| Upper limb | 16 (2%) |
| Lower limb | 112 (12%) |
| Upper back | 73 (8%) |
| Lower back | 446 (48%) |
| Chest | 12 (1%) |
| Abdomen | 13 (1%) |
| Localized with radiation | 168 (18%) |

Data expressed as absolute number and percentage (within parenthesis percentage over column total)

Most of the patients 662 (71%) were treated conservatively by pharmacological and non-pharmacological methods. About 272 (29%) patients needed interventional treatments to manage their pain. Patients needed interventional treatment mostly for low back pain (40%) followed by lower limb pain (24%), upper limb pain (15%), and upper back pain (10%). Figure II shows the number of patients who received interventional treatments.

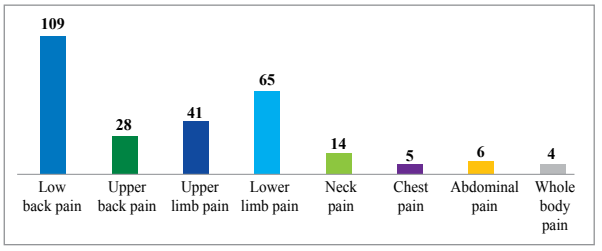


Figure II: Frequency of interventional treatments received by patients.

Pain interventions were performed under the guidance of fluoroscopy and/or ultrasonography. The interventional treatments received by patients were epidural injection (caudal, interlaminar, and transforaminal), nerve blocks, sympathetic ganglion/plexus blocks, intra-articular injection, intradiscal injection, PRP therapy, prolotherapy, trigger point injection, and intravenous lidocaine/ketamine infusion. Table III demonstrates the frequency of different types of interventional treatments.

**Table III: Frequency of interventional treatments.**

| Interventions | Frequency (n=272) |
|---|---|
| Epidural injection | 81 (30%) |
| Nerve blocks | 42 (15%) |
| Sympathetic blocks | 9 (3%) |
| Intra-articular injection | 56 (21%) |
| Trigger point injection | 23 (8%) |
| PRP therapy | 32 (12%) |
| Prolotherapy | 24 (9%) |
| Intravenous infusion | 5 (2%) |

Data expressed as absolute number and percentage (within parenthesis percentage over column total)

## Discussion

Chronic pain is a prevalent complaint seen in outpatient medical clinics with a projected global prevalence of 20%10. Failure to diagnose and effectively manage chronic pain can significantly impair an individual's quality of life, leading to physical limitations, emotional distress, and social isolation which increase morbidity and mortality rates among affected individuals[11]. A comprehensive understanding of the multifaceted nature of chronic pain, including its evaluation, treatment modalities, and evidence-based interventions emphasizes the importance of an integrated approach to chronic pain management.

Pain clinics offer an integrated approach to providing holistic care for effective pain management. The International Association for the Study of Pain (IASP) has set principles for classifying chronic pain treatment services, categorizing them as pain centers, clinics, and practices[12]. The current study analyzed the patients with chronic pain who attended the pain clinic of Shaheed Suhrawardy Medical College Hospital.

This study found that the frequency of pain increased with age and women had a higher frequency of pain compared to men. Most of the studies demonstrated similar findings[3, 8,10,13,14]. This sex difference could be accounted for by hormonal responses to pain; the psychosocial and cultural influence on pain perception, expression, and tolerance; and seeking medical treatment[15]. Chronic pain was common among the garment workers. Poor ergonomics, sedentary work, weight gain, and lack of exercise might have contributed to the development of chronic pain[13]. We have found that the average duration of pain was 10.52 ± 2.25 months. Pandelani et al. also reported that the highest proportion of pain lasted between 6 months to 12 months10. Another study by Kamal et al. found that the duration was 6.82 ± 3.45 years14, though they have included patients suffering from chronic pain of at least 2 years. Most of the chronic pain patients experienced moderate pain in our study, as was reported by other studies[8,10,14].

Musculoskeletal conditions are the most common cause of long-term pain and physical disability[16]. In this study, the most prevalent pain was chronic musculoskeletal pain. Our finding is in concordance with other studies[8,10,13,14]. We have also found patients suffering from chronic neuropathic pain, chronic post-traumatic pain,

chronic visceral pain, and chronic primary pain. The majority of the population experienced localized pain. Some patients complained of radiating and/or referred pain, but few described pain in the whole body or widespread pain. The most common site of pain was the lower back as reported by other studies in Bangladesh13,14,16,. Intervertebral disc (IVD) pathologies (degenerated disc, prolapse disc, modic change, etc.) are responsible for nearly 40% of chronic low back pain cases among several generators of pain[17,18]. A substantial group of patients had neuropathic components or radiculopathy. Studies revealed that the prevalence of neuropathic chronic low back pain is quite high and approximately 37% of patients suffer from predominantly neuropathic pain[19].

In the current study, pharmacological management was given to most of the patients. Latina et al. reported that 68.7% of their patients received pharmacological treatments for chronic non-cancer pain[8]. Only 29% of patients were treated with interventions or invasive procedures in this study whereas 48.1% of patients received invasive treatments in a tertiary pain clinic in Italy[8].

Epidural injections were the most commonly performed procedures in the pain clinic of Shaheed Suhrawardy Medical College Hospital. More than 45 placebo-controlled studies and dozens of systematic reviews supported the use of epidural injections for pain relief and it is the most widely utilized pain management procedure in the world[20]. The second most common procedure was intra-articular injection for different pathologies. Platelet-rich plasma (PRP) therapy is practiced in our institution for various conditions, mostly for knee osteoarthritis (OA) as evidenced by different studies[21,22]. We also practice intravenous infusion of ketamine and lignocaine for severe chronic primary pain, mostly for fibromyalgia (FM). A study by Kamal et al. found that the prevalence of fibromyalgia is about 12% among chronic pain patients and the intensity of pain is higher than other chronic pain conditions[23].

This study did not demonstrate the efficacy of the treatments or interventions but only described the treatment recorded in the outpatient department. Every pain clinic uses different approaches that reflect the heterogeneity of the treatments provided by the individual pain center. Although there are guidelines in some countries[24,25,] no guidelines have been published on chronic pain management in Bangladesh.

## Conclusion

Many patients experience chronic pain of different clinical complexity in their everyday lives. This audit mainly observed the type of chronic pain patients who attended the pain clinic, the approaches, and the interventions used for pain management. Further studies in different centers are required to provide more substantial evidence in the field to support clinical practice and improve the resources of healthcare facilities.

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