Saudi Journal of Medical and Pharmaceutical Sciences **ISSN 2413-4929 (Print)**
Scholars Middle East Publishers **ISSN 2413-4910 (Online)**
Dubai, United Arab Emirates
Website: https://saudijournals.com/ **DOI** : 10.36348/sjmps.2015.v01i04.011

Research Article

Prevalence and Management of Myofascial Pain Syndrome among Patients with Chronic Pain

Dr. Md. Abul Kalam Azad[1*], Dr. Md. Nadim Kamal[2], Dr. Md. Ruhul Kuddus[3], Dr. M.A. Shakoor[4]

[1]Medical Officer, Department of Physical Medicine & Rehabilitation, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh
[2]Research Assistant, Department of Physical Medicine & Rehabilitation, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh
[3]Medical Officer, Department of Neurosurgery, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh
[4]Associate Professor, Department of Physical Medicine & Rehabilitation, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh

***Corresponding Author:**
Dr. Md. Abul Kalam Azad

Abstract: ***Background:*** Myofascial Pain Syndrome (MPS) is a common but underdiagnosed cause of chronic musculoskeletal pain, characterized by trigger points causing localized and referred pain. Understanding its prevalence and management is crucial for optimizing treatment, especially in resource-limited settings like Bangladesh. ***Methods:*** This cross-sectional study was conducted at the Department of Physical Medicine & Rehabilitation, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh, from July 2014 to June 2015. A total of 150 chronic pain patients were assessed for MPS through clinical examination. Data on demographics, affected regions, and management approaches were analyzed using descriptive statistics. ***Results:*** MPS was present in 60.67% (n = 91) of patients. The neck and shoulder (59.34%) were the most commonly affected areas, followed by the lower back (30.77%). Management strategies included pharmacological treatment (68.13%), physical therapy (56.04%), heat/cold therapy (47.25%), and stretching/strengthening exercises (32.97%). Alternative therapies like acupuncture were used by 9.89%. Recurrence was reported in 41.76% of cases. ***Conclusion:*** MPS is a major contributor to chronic pain, primarily affecting the neck and shoulder region. While pharmacological treatment is widely used, physical therapy and rehabilitation play a key role in symptom relief. Due to high recurrence rates, a multidisciplinary approach incorporating lifestyle modifications and preventive care is essential. Further research should explore comprehensive treatment strategies for improved MPS management in Bangladesh.

Keywords: Myofascial Pain Syndrome, Chronic Pain, Prevalence, Management, Physical Therapy.

Received on: 22.11.2015 | Accepted on: 25.12.2015 | Published on: 30.12.2015

INTRODUCTION

Chronic pain is a major health concern; it results in disability, poor quality of life, and increased healthcare costs among millions of individuals worldwide [1]. Of the many causes for chronic musculoskeletal pain, Myofascial Pain Syndrome, or MPS, is one of the most common yet poorly diagnosed conditions due to the presence of myofascial trigger points, local muscle tenderness, and referred pain patterns [2]. MPS primarily affects the skeletal muscles and characteristically involves the neck, shoulder, low back, and upper limbs to a large extent, interfering with daily activities and functional mobility [3].

MPS is produced by the formation of hyperirritable nodules inside a taut band of muscle fibers; spontaneous pain may emanate or be mechanically triggered [4]. These trigger points are further divided into active and latent. Active trigger points cause persistent pain even at rest, while latent trigger points contribute to muscle stiffness and restricted movement [5]. The pathophysiology of MPS is not known exactly, but factors like overuse of muscles, poor posture, psychological stress, and repetitive microtrauma have been implicated in the development of MPS [6]. It is also believed that inflammation, neuromuscular dysfunction, and altered central pain processing mechanisms contribute to the chronicity of MPS. Because many different populations were studied, the prevalence of MPS varies widely, with estimates suggesting that 30% to 85% of patients presenting with chronic musculoskeletal pain have it [3, 8]. MPS is mostly underdiagnosed or misdiagnosed because of its high prevalence due to symptoms somewhat similar to other pain disorders such as fibromyalgia, cervical or lumbar radiculopathy, and inflammatory arthritis [6]. Lack of standard diagnostic criteria and poor awareness among practitioners adds to underrecognition of the condition. Early identification and appropriate management may help in reducing pain intensity, improving physical function, and prevention of long-term disability in MPS patients [9].

Both pharmacological and non-pharmacological methods are applied in the management of MPS. The

commonly used pharmacological measures include NSAIDs, muscle relaxants, and antidepressants, which may relieve pain and muscle tension but are of uncertain efficacy in restoring normal myofascial function [10, 11]. Non-pharmacological interventions such as physical therapy, myofascial release techniques, stretching exercises, dry needling, trigger point injections, ultrasound therapy, and the application of heat have shown promising results in pain relief and the restoration of muscle function [12]. Multimodal treatment strategies that combine pharmacological and rehabilitative therapies are often recommended for optimal patient outcomes [13].

The present study aimed to find out the prevalence of Myofascial Pain Syndrome among chronic pain patients attending the Department of Physical Medicine & Rehabilitation, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh. It also aimed at assessing the various treatment modalities, pharmacological and non-pharmacological, in the management of MPS.

METHODOLOGY AND MATERIALS

This cross-sectional study was conducted at the Department of Physical Medicine & Rehabilitation, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh, from July 2014 to June 2015. A total of 150 patients with chronic pain were included using a purposive sampling method based on predefined inclusion and exclusion criteria. Patients aged 18 years and above with chronic musculoskeletal pain lasting more than three months were included, while those with inflammatory arthritis, malignancies, neurological disorders, or recent trauma were excluded. A detailed history and clinical examination were performed to diagnose Myofascial Pain Syndrome (MPS), characterized by the presence of myofascial trigger points, localized tenderness, and referred pain patterns. The diagnosis was made based on established clinical criteria, including taut bands, jump signs, and restricted range of motion in the affected muscles.

Data collection involved structured interviews and physical assessments, and findings were recorded in a predesigned case record form. Pain intensity was measured using the Visual Analog Scale (VAS), while functional limitations were assessed using the Patient-Specific Functional Scale (PSFS). Management strategies included pharmacological interventions such as nonsteroidal anti-inflammatory drugs (NSAIDs) and muscle relaxants, along with non-pharmacological approaches such as physical therapy, stretching exercises, and heat/cold therapy. The choice of treatment was individualized based on the patient's symptoms and preferences. Follow-up data on recurrence and treatment response were obtained through periodic assessments.

Data were analyzed using SPSS software, with descriptive statistics used to summarize demographic characteristics and prevalence rates. Informed consent was taken from all participants before enrollment. Confidentiality and anonymity were strictly maintained throughout the study.

RESULTS

Table 1: Demographic Characteristics of the Study Population (N = 150)

Characteristics	Frequency	Percentage (%)
Age		
18-30 years	52	34.67
31-45 years	69	46.00
46-60 years	25	16.67
61 years and above	4	2.67
Gender		
Male	82	54.67
Female	68	45.33
Occupation		
Sedentary/Desk Job	63	42.00
Manual Labor	59	39.33
Others	28	18.67

Table 1 presents the demographic characteristics of the study population (N = 150). The majority of participants were aged between 31-45 years (46%), with 34.67% aged 18-30 years, 16.67% aged 46-60 years, and 2.67% aged 61 years and above. The gender distribution showed that 54.67% were male, while 45.33% were female. Regarding occupation, 42% of participants had sedentary or desk jobs, 39.33% were involved in manual labor, and 18.67% had other occupations.

Table 2: Prevalence of Myofascial Pain Syndrome (MPS) Among Chronic Pain Patients (N = 150)

Parameter	Frequency	Percentage (%)
Prevalence of MPS	91	60.67
Non-Prevalence of MPS	59	39.33
Total	150	100

Table 2 shows the prevalence of Myofascial Pain Syndrome (MPS) among chronic pain patients (N = 150). Of the total participants, 60.67% (91 individuals) were diagnosed with MPS, while 39.33% (59 individuals) did not have MPS.

Table 3: Common Areas Affected by Myofascial Pain Syndrome (N = 91)

Area of Pain	Frequency	Percentage (%)
Neck and Shoulder	54	59.34
Lower Back	28	30.77
Upper Back	5	5.49
Other (e.g., arms, legs)	4	4.40
Total	91	100.00

Table 3 illustrates the common areas affected by Myofascial Pain Syndrome (N = 91). The neck and shoulder region was the most commonly affected area, reported by 59.34% of participants. Lower back pain was reported by 30.77%, followed by upper back pain (5.49%) and other areas such as arms and legs (4.40%).

Table 4: Management Strategies for Myofascial Pain Syndrome (N = 91)

Management Approach	Frequency	Percentage (%)
Pharmacological Treatment	62	68.13
Physical Therapy	51	56.04
Stretching and Strengthening	30	32.97
Heat/Cold Therapy	43	47.25
Alternative Therapies (e.g., acupuncture)	9	9.89

Table 4 presents the management strategies employed for Myofascial Pain Syndrome (N = 91). The most common approach was pharmacological treatment, used by 68.13% of participants. Physical therapy was the second most frequently used strategy, reported by 56.04% of patients. Heat and cold therapy was employed by 47.25% of participants, while stretching and strengthening exercises were utilized by 32.97%. Alternative therapies, such as acupuncture, were the least used, with only 9.89% of participants opting for this approach.

Table 5: Frequency of Recurrence in Myofascial Pain Syndrome (N = 91)

Recurrence Status	Frequency	Percentage (%)
No Recurrence	53	58.24
Occasional Recurrence	29	31.87
Frequent Recurrence	9	9.89
Total	91	100

Table 5 shows the frequency of recurrence in Myofascial Pain Syndrome (N = 91). The majority of participants (58.24%) reported no recurrence, while 31.87% experienced occasional recurrence, and 9.89% experienced frequent recurrence.

DISCUSSION

MPS is a common condition among chronic pain patients, as expressed in this study, where 60.67% of participants were diagnosed with MPS. This finding is supported by previous literature, where Gerwin et al. reported a high incidence of MPS in individuals suffering from persistent musculoskeletal pain [14]. Similarly, Borg-Stein et al. pointed out that MPS is one of the major contributors to chronic pain and is often underdiagnosed because of its overlapping symptoms with other musculoskeletal disorders [15].

The demographic findings of our study showed that the most affected age group was 31-45 years, with 46% of cases. Vázquez Delgado et al. believed that MPS is more common in individuals of working age because of occupational strain and frequent use of muscles [16]. Regarding the distribution of cases by gender, this study showed a slightly higher prevalence in males, 54.67%, compared to females, 45.33%. While some, such as Altindag et al., demonstrated a higher prevalence of MPS in females due to pain perception and other hormonal influences, others, such as Velly et al., claimed that men were more disposed because of their professional involvement with hard labor [17, 18]. In turn, this was supported by an occupational analysis as sedentary workers were mainly affected, numbering 42%; and manual labourers, accounting for 39.33%, respectively. While physical strain remains a significant cofactor in causing MPS, its development is closely related to extensive postural stresses, according to Borg-Stein et al [15].

The above study revealed a neck and shoulder area to have the highest share of 59.34%; the lower back accounted for about 30.77%. Bron et al. also found similar patterns in their study, postural stress, repetitive movements, and muscular overuse contribute to MPS in

these regions [19]. Giamberardino et al. have also documented chronic muscle tension and the presence of active trigger points in these areas [20]. The less frequent involvement of pain in the upper back and other regions was 5.49% and 4.40%, respectively, which demonstrates the great impact of localized muscle dysfunction on the symptoms.

Pharmacological treatment had the highest prevalence among the various management strategies adopted, with a percentage of 68.13%, followed by physical therapy, 56.04%, heat/cold therapy, 47.25%, and stretching/strengthening exercises, 32.97%. Only 9.89% of participants adopted alternative therapies such as acupuncture. As reported by Hong et al., the most common pharmacological interventions for MPS include NSAIDs and muscle relaxants [21]. While medication may alleviate symptoms, it does not eliminate the trigger points themselves; thus, adjunctive treatments such as physical therapy become necessary. Batista et al. introduced the role of physical therapy management in MPS disease, pointing to its effectiveness as a pain management modality due to techniques related to ultrasound, manual therapy, and dry needling [22]. Its use in the present study as a physical approach (56.04%) is in agreement with conclusions made by Meeus et al., who indicate that therapeutic exercise is an intervention of paramount relevance in the process of rehabilitation regarding MPS [23]. Besides, 47.25% were on heat/cold therapy, which also coincides with the view of Sharan et al. that it works by improving the circulation and relieving stiffness in the muscles of the patients [24]. The alternative therapies were being utilized by 9.89 percent, which was due to lesser availability and even lesser awareness among the masses of Bangladesh at large.

Recurrence of MPS: In 41.76 percent cases, the recurrence was noticed: 31.87 percent presented occasional recurrence while 9.89 percent complained of frequent recurrence. As Yap et al. emphasized, the most commonly identified factors for symptom persistence are untreated trigger points, poor ergonomic habits, and psychological factors such as stress and anxiety [25]. Henry et al. found that chronic pain patients usually have increased central sensitization, which may result in recurrence of symptoms [26]. Further, Bruehl et al. also identified that chronic pain disorders, including MPS, have a greater incidence of clinical elevations in blood pressure that are likely to predispose these conditions to further enhancing pain sensitivity and recurrence [27]. In the same vein, incomplete rehabilitation approaches or merely pharmacologically treated patients were likely to experience a recurrence, as pointed out by Lacomba et al [28].

These findings are in concert with many studies globally on prevalence, risk factors, and management of MPS [15, 22]. However, there are some differences, especially in access to the treatment modalities. Trigger point injections and advanced rehabilitation techniques, though common in high-resource settings, as mentioned by Borg-Stein et al., are still limited in Bangladesh [29]. This indicates the need for raising awareness and integrating multidisciplinary pain management into health systems in developing countries.

Limitations of the study

Although the present study provided a great insight into the prevalence and management of MPS, some limitations are considered. First, this study was conducted in one tertiary care center, which might not fully represent the broader population. Second, psychosocial factors such as stress, depression, and sleep disturbances well-known contributors to MPS were not extensively evaluated.

CONCLUSION

In conclusion, this study highlights the significant burden of MPS among chronic pain patients, with neck and shoulder pain being the most commonly affected areas. While pharmacological treatment remains the predominant management strategy, physical therapy and rehabilitative interventions play a crucial role in long-term symptom relief. Given the high recurrence rate, a multidisciplinary approach focusing on education, lifestyle modifications, and preventive strategies is essential for improving patient outcomes. Further research is needed to enhance accessibility to evidence-based treatments and develop region-specific management protocols for MPS in Bangladesh.

Financial support and sponsorship: No funding sources.
Conflicts of interest: There are no conflicts of interest.

REFERENCES

1. Gerwin R. Myofascial pain syndrome: here we are, where must we go?. Journal of Musculoskeletal Pain. 2010 Oct 1;18(4):329-47.
2. Yunus MB. The prevalence of fibromyalgia in other chronic pain conditions. Pain research and treatment. 2012; (1):584573.
3. Simons DG. Myofascial pain and dysfunction. The trigger point manual. 1999.
4. Fleckenstein J, Zaps D, Rüger LJ, Lehmeyer L, Freiberg F, Lang PM, Irnich D. Discrepancy between prevalence and perceived effectiveness of treatment methods in myofascial pain syndrome: results of a cross-sectional, nationwide survey. BMC musculoskeletal disorders. 2010 Dec;11:1-9.
5. Shah JP. Uncovering the biochemical milieu of myofascial trigger points using in vivo microdialysis. Journal of Musculoskeletal Pain. 2008 Jan 1;16(1-2):17-20.
6. Buskila D. Fibromyalgia, chronic fatigue syndrome, and myofascial pain syndrome. Current Opinion in Rheumatology. 2001 Mar 1;13(2):117-27.
7. Fricton JR, Kroening R, Haley D, Siegert R. Myofascial pain syndrome of the head and neck: a review of clinical characteristics of 164 patients. Oral surgery, oral medicine, oral pathology. 1985 Dec 1;60(6):615-23.

8. Sanita PV, de Alencar Júnior FG. Myofascial pain syndrome as a contributing factor in patients with chronic headaches. Journal of Musculoskeletal Pain. 2009 Jan 1;17(1):15-25.
9. Hong CZ. Myofascial trigger points: pathophysiology and correlation with acupuncture points. Acupuncture in Medicine. 2000 Jun;18(1):41-7.
10. Bennett R. Myofascial pain syndromes and their evaluation. Best practice & research Clinical rheumatology. 2007 Jun 1;21(3):427-45.
11. Alvarez DJ, Rockwell PG. Trigger points: diagnosis and management. American family physician. 2002 Feb 15;65(4):653-61.
12. Desai MJ, Saini V, Saini S. Myofascial pain syndrome: a treatment review. Pain and therapy. 2013 Jun;2:21-36.
13. Dommerholt J, Bron C, Franssen J. Myofascial trigger points: an evidence-informed review. Journal of Manual & Manipulative Therapy. 2006 Oct 1;14(4):203-21.
14. Gerwin RD. Classification, epidemiology, and natural history of myofascial pain syndrome. Current pain and headache reports. 2001 Oct;5:412-20.
15. Borg-Stein J, Iaccarino MA. Myofascial pain syndrome treatments. Physical Medicine and Rehabilitation Clinics. 2014 May 1;25(2):357-74.
16. Vázquez Delgado E, Cascos-Romero J, Gay Escoda C. Myofascial pain syndrome associated with trigger points: a literature review.(I): Epidemiology, clinical treatment and etiopathogeny. Medicina Oral, Patología Oral y Cirugia Bucal, 2009, vol. 14, num. 10, p. 494-498.
17. Altindag O, Gur A, Altindag A. The relationship between clinical parameters and depression level in patients with myofascial pain syndrome. Pain Medicine. 2008 Mar 1;9(2):161-5.
18. Velly AM, Gornitsky M, Philippe P. Contributing factors to chronic myofascial pain: a case–control study. Pain. 2003 Aug 1;104(3):491-9.
19. Bron C, De Gast A, Dommerholt J, Stegenga B, Wensing M, Oostendorp RA. Treatment of myofascial trigger points in patients with chronic shoulder pain: a randomized, controlled trial. BMC medicine. 2011 Dec;9:1-4.
20. Giamberardino MA, Affaitati G, Fabrizio A, Costantini R. Myofascial pain syndromes and their evaluation. Best practice & research Clinical rheumatology. 2011 Apr 1;25(2):185-98.
21. Hong CZ. Treatment of myofascial pain syndrome. Current pain and headache reports. 2006 Sep;10:345-9.
22. Batista JS, Borges AM, Wibelinger LM. Physical therapy to treat miofascial pain syndrome and fibromyalgia. Revista Dor. 2012;13:170-4.
23. Meeus M, Nijs J, De Meirleir K. Chronic musculoskeletal pain in patients with the chronic fatigue syndrome: a systematic review. European Journal of Pain. 2007 May 1;11(4):377-86.
24. Sharan D. Myofascial pain syndrome: Diagnosis and management. indian journal of rheumatology. 2014 Dec 1;9:S22-5.
25. Yap EC. Myofascial pain-an overview. Annals-Academy of Medicine Singapore. 2007 Jan 1;36(1):43.
26. Henry R, Cahill CM, Wood G, Hroch J, Wilson R, Cupido T, VanDenKerkhof E. Myofascial pain in patients waitlisted for total knee arthroplasty. Pain Research and Management. 2012;17(5):321-7.
27. Bruehl S, Chung OY, Jirjis JN, Biridepalli S. Prevalence of clinical hypertension in patients with chronic pain compared to nonpain general medical patients. The Clinical journal of pain. 2005 Mar 1;21(2):147-53.
28. Lacomba MT, Del Moral OM, Zazo JL, Gerwin RD, Goñí AZ. Incidence of myofascial pain syndrome in breast cancer surgery: a prospective study. The Clinical journal of pain. 2010 May 1;26(4):320-5.
29. Borg-Stein J, Simons DG. Myofascial pain. Archives of physical medicine and rehabilitation. 2002 Mar 1;83:S40-7.