

Prevalence and Management of Myofascial Pain Dysfunction Syndrome: An Institutional Study

- **Shree Shreshta**

Undergraduate student Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai, India

- **Dr. M.P. Santhosh Kumar**

Professor, Department of Oral and Maxillofacial Surgery, Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai, India

- **Dhakshinya M**

Undergraduate student Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai, India

ABSTRACT

INTRODUCTION: Myofascial pain syndrome is a type of chronic pain. Pressure on sensitive spots (trigger points) in your muscles creates pain in the muscle and sometimes in seemingly unrelated sections of your body in this condition. Any muscle in the body can develop myofascial pain and trigger points.

OBJECTIVES: The aim of this study is to evaluate the prevalence and management of Myofascial pain dysfunction syndrome among patients treated in our institution.

MATERIALS AND METHODS: Data was collected from the patient record system used in our dental institution and following parameters such as gender, patients with MPDS and age group of 15-60 years was recorded. 86000 patient details were analysed between September 2020 to March 2021 out of which 23 patients who fulfilled the inclusion criteria were included in the study and evaluated.

RESULTS: Females were more likely to get affected by MPDS when compared to males which was 52.17% and 47.83% respectively. The prevalence seems to be high in females and the age group which was involved commonly was in between 20-40 years due to factors such as stress and also lifestyle. Association between gender and variables like pharmacotherapy, supportive therapy and muscles affected by MPDS were statistically not significant.

CONCLUSION: According to our study, prevalence of MPDS seems to be high in females especially in the age group of 20-40 years. A multimodal therapy consisting of pharmacotherapy and supportive therapy will be useful in the management of MPDS. Patients with MPDS are more likely to experience domestic stress. Patients exhibit a wide range of signs and symptoms of varied severity. To make a correct diagnosis, a thorough history and examination are required. Along with medicine, counselling patients on how to cope with stress should be an important element of managing these individuals.

KEYWORDS: Innovative technique, Innovative technology, MPDS, Masticatory muscles.

INTRODUCTION

Myofascial pain syndrome is a type of chronic pain (1). Pressure on sensitive spots (trigger points) in the muscles creates pain in the muscle and sometimes in seemingly unrelated sections of your body in this condition. Any muscle in the body can develop myofascial pain and trigger points (2). The muscles of the upper back, shoulder, and neck are the most typically afflicted. The most frequent ailment affecting the temporomandibular area is TMD (3). It affects more women than men, with a bimodal age distribution in the early 20s and around menopause. Parafunctional activity such as bruxism (teeth clenching or grinding), which is divided into two types: sleep and awake bruxism, each with its own set of etiologies, can produce both discomfort and trigger points (which induce referred pain) in the afflicted muscle. Pain and tenderness of the masticatory muscles, as well as pain and limiting of jaw excursion, are common symptoms(3,4). Both sleep bruxism and sleep-disordered breathing (5) (such as obstructive sleep apnea and upper airway resistance syndrome) are linked to a headache that is worse when you first get up and gradually improves throughout the day(6). Giant cell arteritis must be separated from this type of pain.

If parafunctional activity persists throughout the day, awake symptoms such as jaw muscle fatigue, jaw pain, and headaches frequently intensify. When the mouth opens, the jaw deviates, but not as dramatically or at the same time as it does with internal temporomandibular joint derangement(3). The examiner can extend the affected muscles by gently pressing on the bottom anterior teeth, allowing the patient to open their mouth further 1 to 3 mm beyond their unaided maximum opening(7).

There is a simple test in order to diagnose MPDS. On each side, 2 or 3 tongue blades are put between the backmost molars, and the patient is urged to softly seal their mouth. The diversion that is created in the joint region may help to alleviate the symptoms(7,8). X-rays are usually ineffective unless they are used to rule out arthritis. The erythrocyte sedimentation rate (ESR) is measured if giant cell arteritis is suspected. If sleep-disordered breathing is suspected, a polysomnography should be performed(9).

Treatment of MPDS include mild analgesics, oral appliances, an anxiolytic at bedtime, and physical therapy modalities. A dentist's oral appliance can prevent teeth from contacting each other, reducing the damage caused by bruxism. Many sports goods stores and drugstores provide over-the-counter heat-moldable (boil and bite) mouth guards; however, these devices should only be used for limited periods of time and as diagnostic tools(10). Oral appliances should ideally be constructed, fitted, and adjusted by a dentist because they may induce unintended tooth movement or a paradoxical increase in muscle activity.

Low doses of benzodiazepine at night are typically useful for acute exacerbations and brief relief of symptoms; however, anxiolytics and muscle relaxants should be used with caution in patients with concurrent sleep disorders, such as sleep apnea, because they can aggravate these diseases. Individually or in combination, mild analgesics such as nonsteroidal anti-inflammatory medications (NSAIDs) or acetaminophen are recommended(11). Cyclobenzaprine may assist some people relax their muscles. Opioids should not be utilised because the illness is chronic, save in the case of abrupt exacerbations. Antidepressant medication can be helpful in some situations of persistent pain when taken under medical care. TENS and "spray and stretch," which involves stretching the jaw open after freezing or spraying the skin above the painful area with a skin refrigerant such as ethyl chloride(11–15). Botulinum toxin works well for muscle spasms (16,17). Our team has extensive knowledge and research experience that has translated into high quality publications(18)(19)(20)(21)(22–31)(32)(33,34)(35)(36). The aim of our study is to evaluate the prevalence and management of MPDS among patients visiting our institution.

MATERIALS AND METHODS

It's a single-center retrospective analysis that took place in a private dental institution in Chennai. The information was gathered from the dental hospital's computer system between September 2020 and March 2021.

Study sample size:

Total sample data was 20,376 and after analysis of the inclusion and exclusion criteria, the sample size was minimized to 23. All the cases were collected in specified time and from patients with MPDS was included and were verified. Ethical clearance for this study was obtained from the Institutional review board.

Data collection and statistical analysis:

The DIAS Software was used to collect patient records and analyzed the data from September 2020 to March 2021. The data was cross verified with photographs. Data collection was done using the following parameters like age, gender, clinical features and treatment provided for patients with MPDS. The data collected was compiled in a Microsoft excel spreadsheets. The age was categorized into 15-30 years, 31-45 years, 46-60 years and 61-75 years. It was analyzed using SPSS software version 23. Descriptive statistics were expressed in mean, standard deviation and frequency, percentage. The chi-square test was used to assess the association between categorical variables. Statistical significance was set at a p-value of 0.05.

RESULTS

The outcomes of the study are depicted in Figures 1-5.

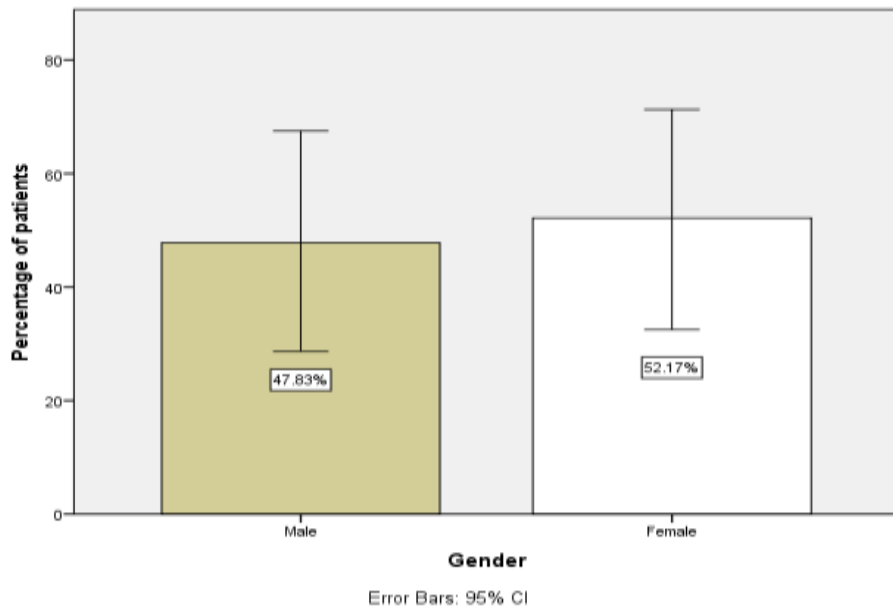


Figure 1: Bar graph depicting gender distribution of the study population. 47.83% were males and 52.17% were females.

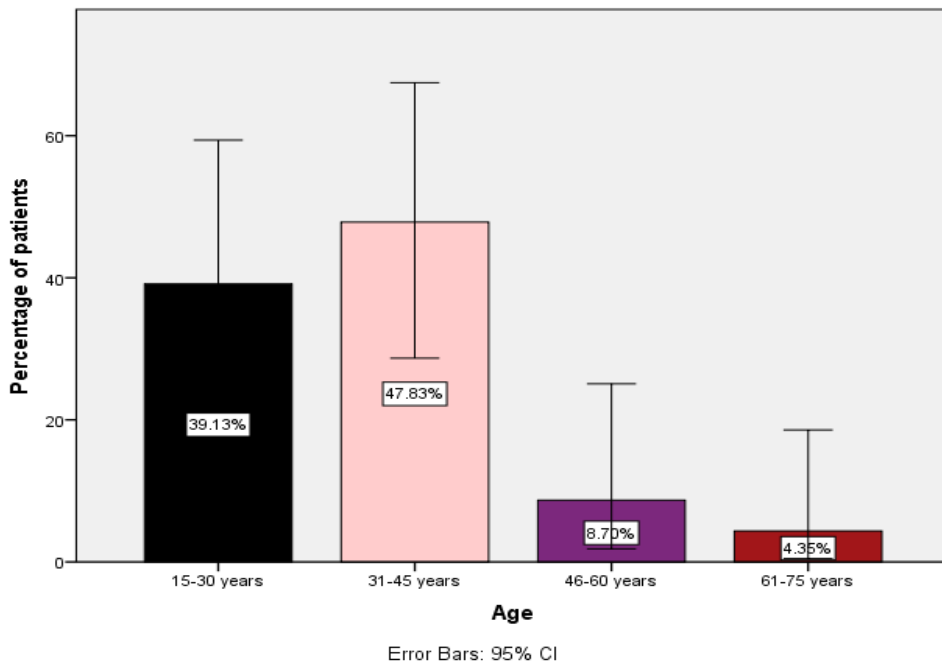


Figure 2: Bar graph depicting age distribution of the study population. 39.13% belong to the age group 15-30 years, 47.83% were between 31-45 years, 8.70% were 46-60 years and 4.35% of the participants lie in the age group of 61-75 years.

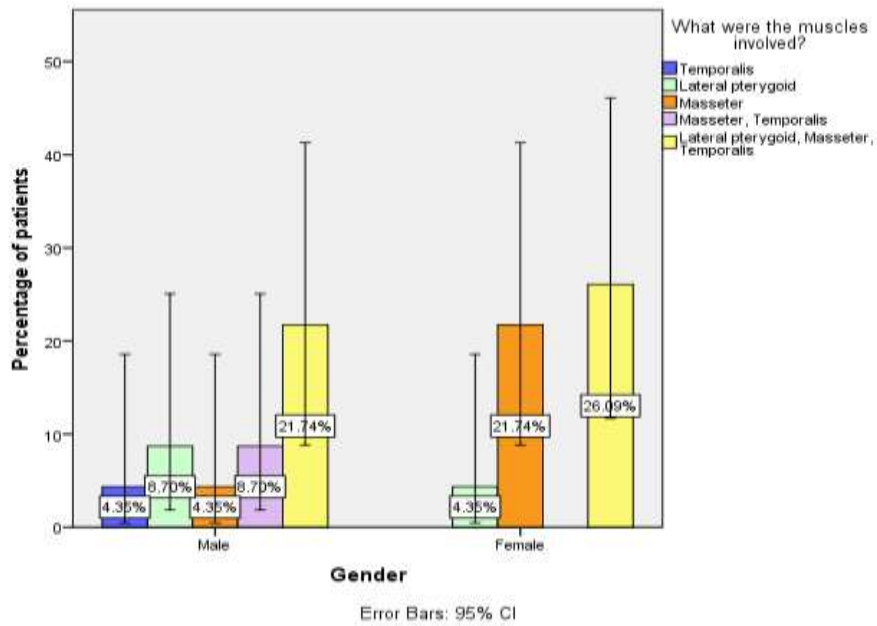


Figure 3: Bar graph depicts the association between gender and Muscles involved in patients affected by MPDS. 4.35% of males has involvement of only temporalis. 8.70% of males and 4.35% of females had Lateral pterygoid muscle involvement. 4.35% of males and 21,74% of females had involvement of Masseter. 8.70% of males had involvement of both Masseter and Temporalis muscle whereas 21.74% of males and 26.09% of females had involvement of all 3 muscles i.e. Masseter, lateral pterygoid and temporalis muscle. Chi-square value- 6.059; $p = 0.728 (>0.05)$, however, the results were statistically not significant.

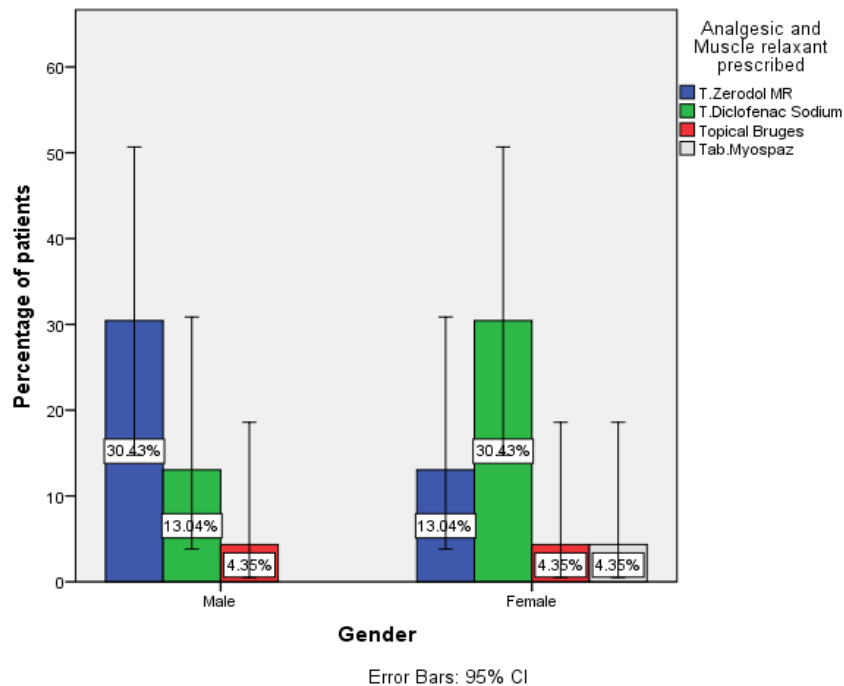


Figure 4: Bar graph depicts the association between Gender and Analgesics/Muscle relaxant prescribed. 30.43% of males and 13.04% of females were prescribed T.Zerodol MR, 13.04% of males and 30.43% of female participants were given T.Diclofenac Sodium, 4.35% of males and females were equally prescribed Topical Bruges and 4.35% of females were prescribed Tab.Myospaz. Chi-square value- 4.164; $p = 0.107 (>0.05)$, however, the results were statistically not significant.

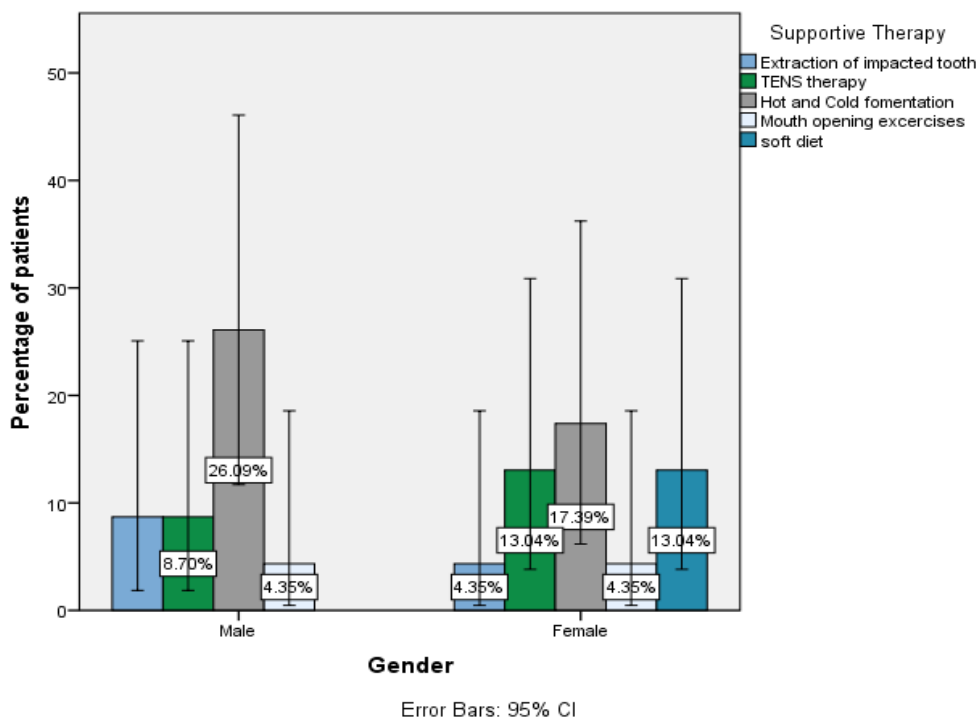


Figure 5: Bar graph depicts the association between Gender and supportive therapy. 8.70% of males and 4.35% of females were advised for extraction of their impacted teeth. 8.70% of males and 13.04% of females were asked to go for TENS therapy. 26.09% of males and 17.39% of females were asked to do Hot and Cold fomentation. 4.35% of males and females were asked to do mouth opening exercises. 13.04% of females were advised to take a soft diet. Chi-square value-3.897; $p=0.207$ (>0.05), however, the results were statistically not significant.

DISCUSSION

A cross-sectional study was done about clinical features and myofascial pain syndrome in older adults with knee osteoarthritis by sex and age distribution in terms of the number and existence of active and latent MPDs, and there were no significant variations ($P>0.05$) by sex or age distribution(37). There was another study with Myofascial Pain Syndrome in Chronic Back Pain Patients where 61.1% affected by MPDS were females and 38.9% were males and the results are similar to our study where 52.17% were females(38). According to another study, the prevalence of MPDS females was more ranging from 3:1 to 5:1. In a study on Myofascial pain dysfunction syndrome, the prevalence was more in the age group of 20-40 years whereas in our study 47.83% were in between the age group of 31-45 years (39).

There was a study conducted on Discrepancy between prevalence and perceived effectiveness of treatment methods in myofascial pain syndrome. Results of the cross-sectional, nationwide survey revealed that the most prescribed supportive therapy was TENS(72.9%) and the most prescribed analgesics was metamizol/paracetamol. In our study the most prescribed analgesic was Zerodol MR which has a combination of Aceclofenac and Tizanidine which relieves pain and also relaxes the muscle causing pain(40). The most advised supportive therapy in our study was Hot and cold fomentation which was around 43.48%. Establishing an accurate diagnosis and employing appropriate therapy depending on the etiology of the condition are critical to the successful care of MPDS patients. The patient should be advised and properly educated in jaw exercises. When taken care of properly, the best potential treatment for MPS could be one of the most rewarding. Dry needling and TrPs infusions are the cornerstones of interventional treatment among the modalities investigated. Various studies support their use; nevertheless, manageability is likely based on using these therapies prudently and in conjunction with manual treatments such as myofascial release. Ultrasound anesthetics, for example, are more modern treatments (41).

CONCLUSION

According to our study, the prevalence of MPDS seems to be high in females especially in the age group of 20-40 years. A multimodal therapy consisting of pharmacotherapy and supportive therapy will be useful in the management of MPDS. A patient with MPDS has a wide range of signs and symptoms that might be chronic or episodic. There is a large background of a range of strains, such as social, economic, domestic, and security difficulties, particularly in light of the country's current precarious law and order situation. The treating clinician should be aware of the psychological components of MPDS and should be able to investigate this factor in order to give more holistic therapy, and psychiatrist referral should be requested where appropriate.

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