

DIFFERENCES OF BEHAVIOUR IN MEDICAL AND NON-MEDICAL STUDENTS SUFFERING FROM MYOFASCIAL PAIN

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ABSTRACT

Aims: The aim of this study is to determine whether there is a difference in triggering factors of myofascial pain, the frequency, professional help seeking, the use of exercise, and the use of drugs between the students of the medical faculty and the other faculties.

Methods: This survey study was conducted among 200 voluntary Trakya University students; 100 of them were from the medical faculty and the other 100 were from the other faculties. All participants suffered from myofascial pain. "Standardized Nordic Questionnaires for The Analysis of Musculoskeletal Symptoms" has been used to prepare the questionnaires. Chi-Square test was used for statistical analysis.

Results: It was found that the most common trigger factor of myofascial pain is studying. In the medical faculties, the proportion was 62% and in the other faculties, it was 44%. The second most common factor was the usage of computers (medical faculty students (16%) other faculty students (27%)). Pain frequency was more than 5 times a week among medical school students it was 32% and 40% among the other faculty students. 34% of medical school students and 17% of other faculties' students were doing exercise to relieve myofascial pain. 18% of medical faculty students and 33% of other faculties' students were taking medication to relieve myofascial pain. 15% of medical faculty students and 18% of other faculties' students at least once consulted a doctor because of myofascial pain.

Conclusion: There was no significant difference found in terms of triggering factors and frequency of pain. However, usage of medication and participating in regular exercise were found to be significantly different between medical students and other faculties' students.

Keywords: Myofascial pain syndrome, neck pain, survey

INTRODUCTION

Myofascial pain syndrome (MAS) is a clinical syndrome of soft tissue pain caused by skeletal muscle. Myofascial pain is localized and typically characterized by referred pain that is continuous and repetitive from a trigger point in the skeletal muscle (1, 2).

The trigger point is small and hypersensitive. Referred pain typically gets worse and intensifies with stimulations such as pressure, needling, stretching, extreme heat and cold applied to the trigger point (3-6). There may be more than one trigger point associated with a single referred pain region (7). Although the

mechanism of the referred pain is known, the underlying mechanism in myofascial pain syndrome is not completely understood (8, 9).

Four major criteria and four confirmatory observations can be mentioned in the diagnosis of MAS (10, 11). They are described as follows:

Major Criteria

1. Tension band palpation (if muscle can be reached)
2. Instant sensitivity in the tense band
3. Patient's pain indication on the sensitive nodule (determines the active trigger point)
4. Painful limitation of all passive range of motion

Confirmatory Observations

1. Visual or tactile determination of local twitch response
2. Observation of the local twitch response by needle immersion on the sensitive nodule
3. Sensitive nodular pain or increased sensation by pressing
4. Electromyographic demonstration of spontaneous electrical activity specific to the active locus in the sensitive nodule of the tense band

There is no important laboratory finding that contributes to diagnosis. Radiological examinations are recommended to reveal the causes and make differential diagnosis. MAS is the most common cause of musculoskeletal pain and its prevalence in the society is reported as 12-55% (12, 13).

MATERIAL AND METHODS

This study was approved by Scientific Researches Ethics Committee of Trakya University Medical Faculty. This descriptive, cross-sectional survey study was applied to 200 volunteers, including 100 medical faculty students and 100 other faculties' students of Trakya University. Among the participating volunteers, 100 were selected as female and 100 of them were male. The including criteria were having myofascial pain and being a student at Trakya University. The students who are using nonsteroidal anti-inflammatory drugs for myofascial pain were not included in the questionnaire.

We were inspired by The Standardized Nordic Questionnaires for the Analysis of Musculoskeletal Symptoms when preparing the questionnaire (14). Name, gender and program of study were among the obtained data as socio-demographic variables. The questionnaire consists of 6 questions including myofascial pain and the volunteer's attitude towards it. The activity triggering the pain, the frequency of pain, the severity of pain as well as the volunteer's consumption of painkillers, exercise habit and professional help seeking behaviour were compared between genders and university faculties. Studying, mobile phone usage, computer usage and hobbies were considered as parameters that trigger myofascial pain (15-17). The frequency of pain episodes in a week was noted. The Wong-Baker Faces Pain Rating Scale was used to describe the severity of the pain (18). Following questions were included:

1. Which activity caused your pain?
2. How often does your pain occur?
3. What is the severity of your pain? (1-10)
4. Have you consulted a specialist for your pain?
5. Do you use any painkillers for your pain?
6. Do you have a regular exercise for your pain?

The data were input into the software SPSS version 23 by IBM for statistical analysis. Chi-square test was performed for the comparison of categorical data between the groups. Statistical significance was set at p -value < 0.05 .

RESULTS

According to the results of the survey, among the triggering factors of myofascial pain in all participants, studying was the common one with 53%. This rate was 62% for medical faculty students and 44% for other faculties' students ($p=0.077$) (Figure 1). This rate was found to be 64% for female students and 42% for male students ($p=0.004$) (Figure 2).

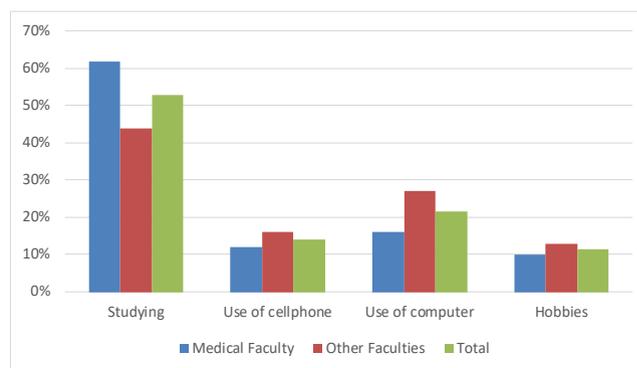


Figure 1: Comparison of triggering factors of myofascial pain among medical and non-medical students.

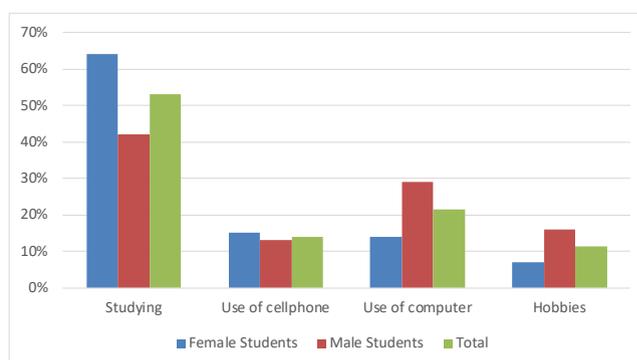


Figure 2: Comparison of triggering factors of myofascial pain among female and male students.

Thirty three percent of medical faculty students stated that they suffered from myofascial pain at least 5 days a week. This rate was determined as 40% for the non-medical students ($p=0.355$) (Figure 3). 41% of female students and 31% of male students stated that they had suffered from myofascial pain at least 5 days a week ($p=0.234$) (Figure 4).

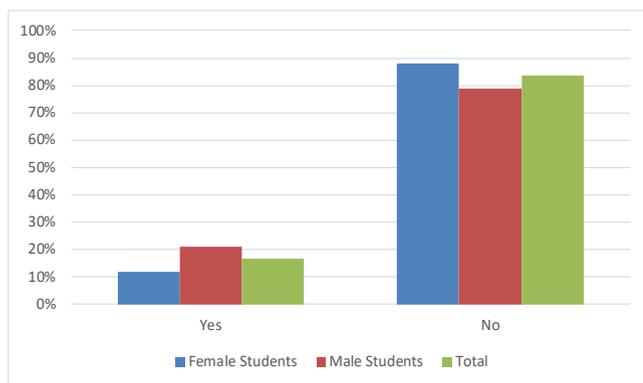


Figure 3: Percentage of myofascial pain sufferers among female and male students.

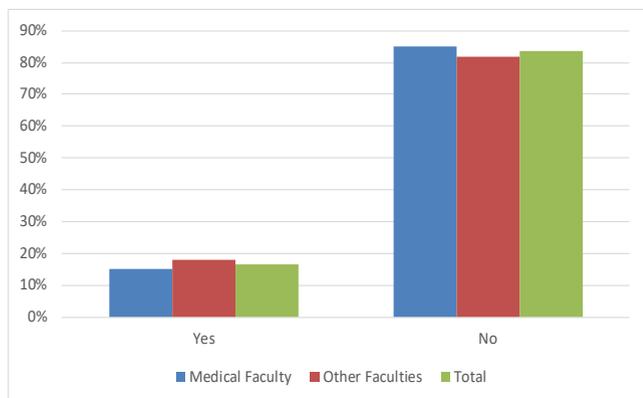


Figure 4: Percentage of myofascial pain sufferers among medical and non-medical students.

While 15% of medical students had consulted to a specialist for myofascial pain, 33% in other faculties' students had done so ($p=0.568$) (Figure 5). The rate of consulting to a specialist was found to be 12% for male students and 21% for female students ($p=0.086$) (Figure 6).

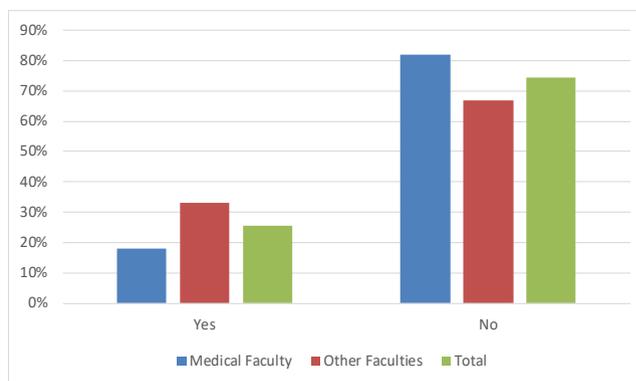


Figure 5: Percentage of medical and non-medical students who have consulted a specialist because of myofascial pain.

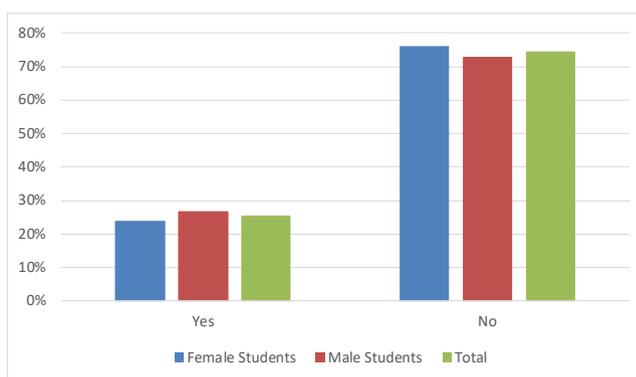


Figure 6: Percentage of female and male students who have consulted a specialist because of myofascial pain.

The usage of medication to relieve myofascial pain was 18% in medical faculty students and 33% in other faculties' students ($p=0.015$) (Figure 7). This rate was 24% for female students and 27% for male students ($p=0.624$) (Figure 8).

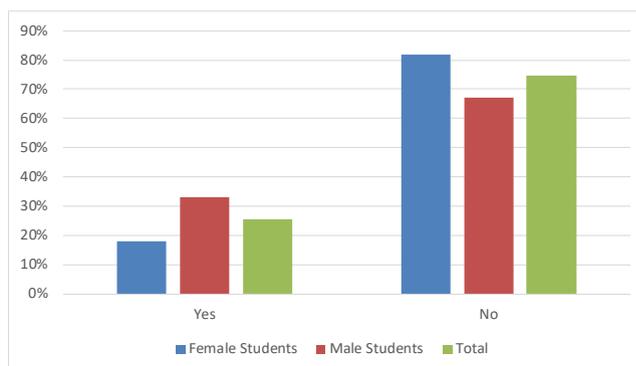


Figure 7: Percentage of male and female students who have used medication for myofascial pain.

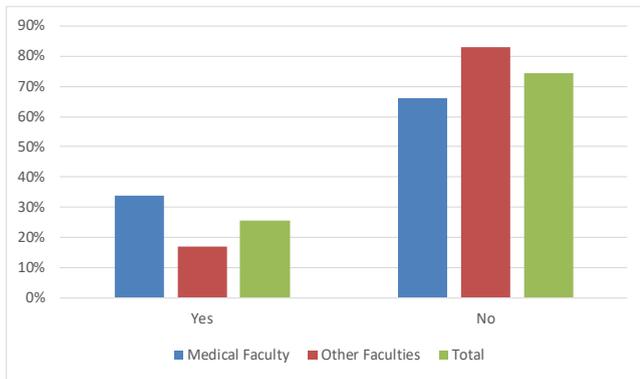


Figure 8: Percentage of medical and non-medical students who have used medication for myofascial pain.

The rate of those who exercise regularly to relieve myofascial pain was found to be 34% in medical faculty students and 17% in other faculties' students ($p=0.006$) (Figure 9). This rate was found to be 18% for female students and 33% for male students ($p=0.015$) (Figure 10).

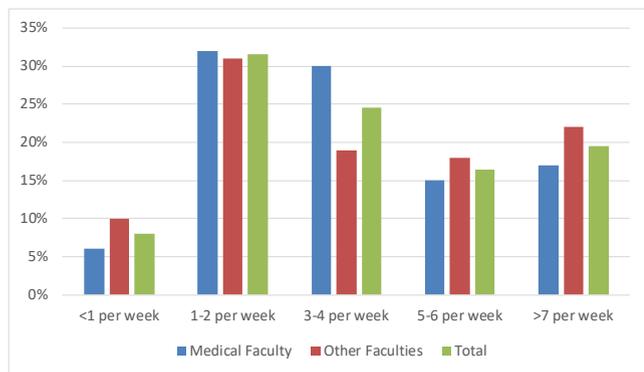


Figure 9: Regular exercise frequency among medical and non-medical students.

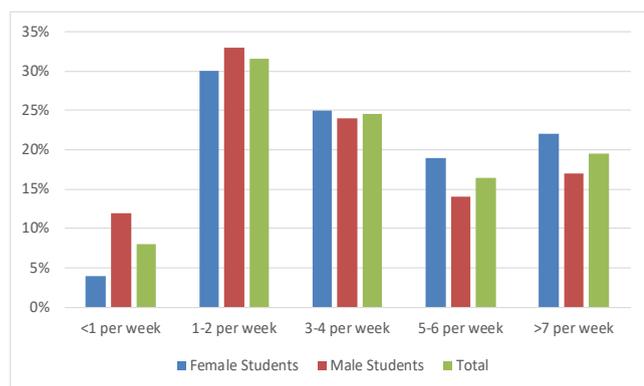


Figure 10: Regular exercise frequency among male and female students.

When the severity of myofascial pain was evaluated on a scale of 10, with "0" representing "no pain at all" and "10" representing "the worst imaginable pain, 34% of the medical faculty students and 41% of the other faculty students reported that their pain scale would be over 5 (Figure 11). 54% of the female students and 21% of the male students have defined their pain as 5 and above over 10 (Figure 12).

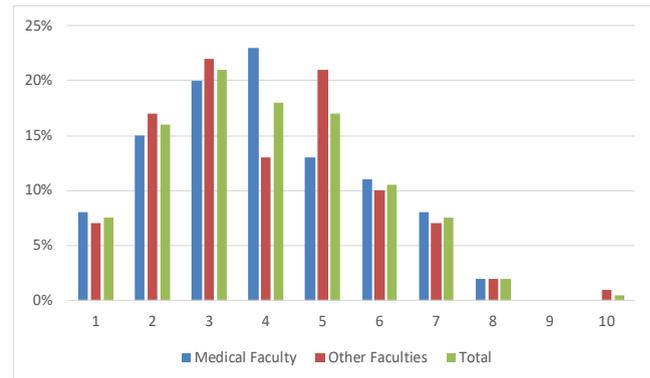


Figure 11: Distribution of myofascial pain severity scores in medical and non-medical students.

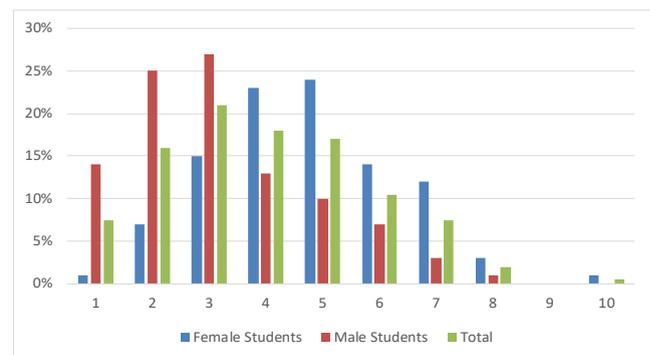


Figure 12: Distribution of pain severity scores in female and male students.

DISCUSSION

Posture and visual stress might be playing a role in the development of myofascial trigger points (19, 20). Hoyle et al. (19) reported that sitting and doing computer work contributes to the development of myofascial trigger points. Treaster et al. (20) also concluded that visual stress is involved in trigger point development, in their study on subjects doing computer work they reported that electromyographic recordings of trapezius muscle reveal that visual stress is related to trigger point development (20).

In our study, we aimed to target a similar condition by questioning postural triggers such as studying and computer usage. There was no significant difference between the students from medical faculty and the other faculties regarding the causes of myofascial pain ($p=0.077$). However, the fact that studying as a factor is more common in the medical faculty by virtue of the medical faculty being more intensive and the medical students having to prepare for residency admission tests. However, there was a significant difference between male and female students ($p=0.004$). In terms of pain triggering in female students, course work took the first place with 64%. In male students, computer usage is significant with 29%.

No significant difference was found in tendency to seek professional help between medical and non-medical students as well as the comparison of male and female ($p=0.568$, $p=0.086$ respectively). However, the low rate of professional help seeking was due to the fact that the students do not worry about their pain until the pain reaches high levels.

When the medical students were compared with the students from other faculties, a significant difference was found in terms of medication use ($p=0.015$). This is based on the fact that medical students are more aware about medication usage and they prefer to exercise instead of taking medications. No significant difference was found between students of both genders ($p=0.624$).

There was also a significant difference in doing regular exercise between the medical and non-medical students as well as between female and male students ($p=0.006$, $p=0.015$ respectively). We attribute this to the fact that medical faculty students are more aware and male students are more willing about the profits of doing exercise.

This study shows that posture has a role in myofascial trigger point development, and a population with a higher awareness of myofascial pain would prefer a non-drug treatment. Further studies are recommended to reveal the exact nature of myofascial trigger point development and the benefits of both medical and non-drug treatment options.

Ethics Committee Approval: This study was approved by Scientific Researches Committee of Trakya University School of Medicine.

Informed Consent: Written informed consent was obtained from the participants of this study.

Conflict of Interest: The authors declared no conflict of interest.

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