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PREVALENCE OF MYOFASCIAL PAIN, SOMATIZATION & IT'S ASSOCIATION WITH OCCUPATIONAL STRESS IN ADVOCATES OF PESHAWAR

Original Research

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Conflict of Interest: None

Grant Support & Financial Support: None

ABSTRACT

Background: Occupational stress refers to the physiological and psychological responses resulting from the inability to meet workplace demands, often leading to adverse health outcomes such as somatization and musculoskeletal disorders. Advocates, due to the high-pressure nature of their profession, are particularly vulnerable to such stress-related conditions. Understanding the prevalence and associations between workplace stress, somatization, and myofascial pain is critical for developing targeted interventions to improve well-being and professional efficiency in this population.

Objective: To determine the prevalence of workplace stress and its association with somatization and myofascial pain among advocates of the Peshawar Bar Association.

Methods: A cross-sectional study was conducted over six months involving 288 advocates aged 30–50 years. Participants completed three validated questionnaires: the Myofascial Diagnostic Scale for myofascial pain, the Patient Health Questionnaire-15 (PHQ-15) for somatic symptoms, and the Workplace Stress Survey for occupational stress. Data were analyzed using SPSS version 22, and chi-square tests were applied to assess associations between workplace stress and health outcomes, with a significance level of $p<0.05$.

Results: Of the 288 participants, 239 (83%) were male and 49 (17%) were female, with a mean age of 36.31 ± 5.212 years. Somatic symptom severity was minimal in 25.3%, low in 40.3%, moderate in 29.5%, and high in 4.9% of participants. Occupational stress levels were mild in 34.4%, moderate in 63.2%, and severe in 2.4%. Myofascial pain was present in 45.8% of participants. A significant association was observed between workplace stress and somatization ($p=0.020$), but no significant association was found between workplace stress and myofascial pain ($p=0.084$).

Conclusion: The study concluded that as occupational stress increases, somatic symptoms significantly rise, while no significant link was found between workplace stress and myofascial pain. These findings underscore the need for effective stress management interventions to enhance the health and efficiency of professionals in high-stress roles.

Keywords: Advocates, Myofascial Pain, Occupational Stress, Peshawar, Prevalence, Somatization, Workplace Stress.

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INTRODUCTION

Workplace stress, a global phenomenon, has been extensively linked in behavioral and organizational research to adverse impacts on performance, health, and overall well-being. Stress, as defined by Colligan and Higgins, is a multifaceted scientific concept rooted in the broader understanding of physiological and psychological responses triggered when adaptive limits are exceeded, culminating in detrimental mental or physical health outcomes (1). Occupational stress, specifically, arises from a misalignment between workplace demands and an individual's ability to cope with or manage those demands, often leading to long-term imbalances between resources and environmental pressures (1). This imbalance manifests in patterns of behavior marked by difficulty in meeting expectations that exceed the individual's knowledge, skills, or capacities, resulting in significant challenges to their ability to function effectively (2). Long-term job stress has been associated with numerous adverse health outcomes, including cardiovascular diseases and musculoskeletal disorders, particularly involving the back, neck, shoulders, and upper extremities (2).

While varying degrees of occupational stress are reported across professions, some occupations inherently entail higher stress levels due to their demanding nature. Lawyers, as defenders of justice and advocates of clients' rights, operate under high-pressure environments requiring intense client communication and meticulous analysis of complex legal matters. This occupational stress often translates into physical symptoms, a phenomenon termed somatization, where psychological distress manifests as physical complaints without identifiable medical causes. Somatization, defined by Lipowski as the tendency to express psychosocial stress through physical distress and seek medical attention for it, encompasses a wide array of symptoms across multiple body systems, posing challenges in quantification and diagnosis (3). Biological mechanisms underpinning somatization include physiological arousal, changes in blood flow and endocrine responses, disruptions in cerebral hemisphere function, and abnormalities in neurotransmitter activity, including serotonin levels (4). Evidence suggests that interventions such as cognitive-behavioral therapy and multimodal psychotherapy can enhance psychological functioning and alleviate symptoms in affected individuals (5, 6).

Similarly, myofascial pain, characterized by localized pain stemming from hyperirritable myofascial trigger points within taut skeletal muscle bands, is a prevalent musculoskeletal condition with significant implications for occupational health. Common etiologies include repetitive strain, postural dysfunction, physical deconditioning, and direct or indirect trauma (7, 8, 9). As a chronic pain disorder, myofascial pain is frequently exacerbated by psychological factors such as anxiety and depression, supported by the biopsychosocial paradigm that emphasizes the interplay of social, psychological, and biological factors in its manifestation. Effective management often necessitates addressing underlying causes to prevent recurrence of trigger points and symptom persistence (10,11). However, the complexity of these conditions necessitates further exploration of their interconnections, particularly within high-stress occupational groups.

This study aims to examine the prevalence of myofascial pain and somatization among advocates in Peshawar, while exploring their association with occupational stress (12). By addressing this gap, the research seeks to contribute to a deeper understanding of the interplay between occupational stress and related health conditions, ultimately informing targeted interventions for stress reduction and health improvement in this professional cohort (13.14).

METHODS

A cross-sectional study was conducted over six months among advocates registered with the Peshawar Bar Association. The study received approval from the Institutional Review Board, and data collection commenced following this ethical clearance. Additionally, approvals were secured from the relevant research committee and departmental heads. Participants were informed about the purpose of the study, and written informed consent was obtained prior to their inclusion. Participants were subsequently asked to complete the study questionnaire, ensuring their full understanding of the process and objectives. The sample size was determined as 288 using the Raosoft online calculator, based on a 95% confidence interval and a 5% margin of error. Participants were recruited through a non-probability purposive sampling technique, which was deemed appropriate for this specific occupational group.

Inclusion criteria comprised advocates aged 30 to 50 years with a minimum of two years of professional experience. Exclusion criteria included neurological conditions affecting cognition or mental capacity, such as Parkinson's disease, Alzheimer's disease, myasthenia

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gravis, and multiple sclerosis, as well as musculoskeletal disabilities impacting ergonomics or systemic illnesses (e.g., HIV/AIDS or kidney disorders) that could interfere with work performance. Data collection involved face-to-face interviews, during which demographic information and relevant history were meticulously recorded for each participant.

Standardized tools were utilized to ensure the reliability and validity of the data. The Workplace Stress Survey questionnaire assessed occupational stress, the Patient Health Questionnaire Physical Symptoms (PHQ-15) evaluated somatic symptoms, and the Myofascial Diagnostic Scale examined myofascial pain. Data were coded and analyzed using SPSS version 22. The relationship between occupational stress, somatization, and myofascial pain was examined using the Chi-square test. Statistical significance was set at a p-value of less than 0.05 for all analyses, providing a robust threshold to determine meaningful associations between variables.

Ethical considerations were meticulously upheld throughout the study. Participants were treated with respect and dignity, and their rights were protected at all times. Confidentiality was ensured, and all collected data were securely managed to prevent unauthorized access. The study adhered to rigorous ethical standards, reinforcing the integrity of the research process.

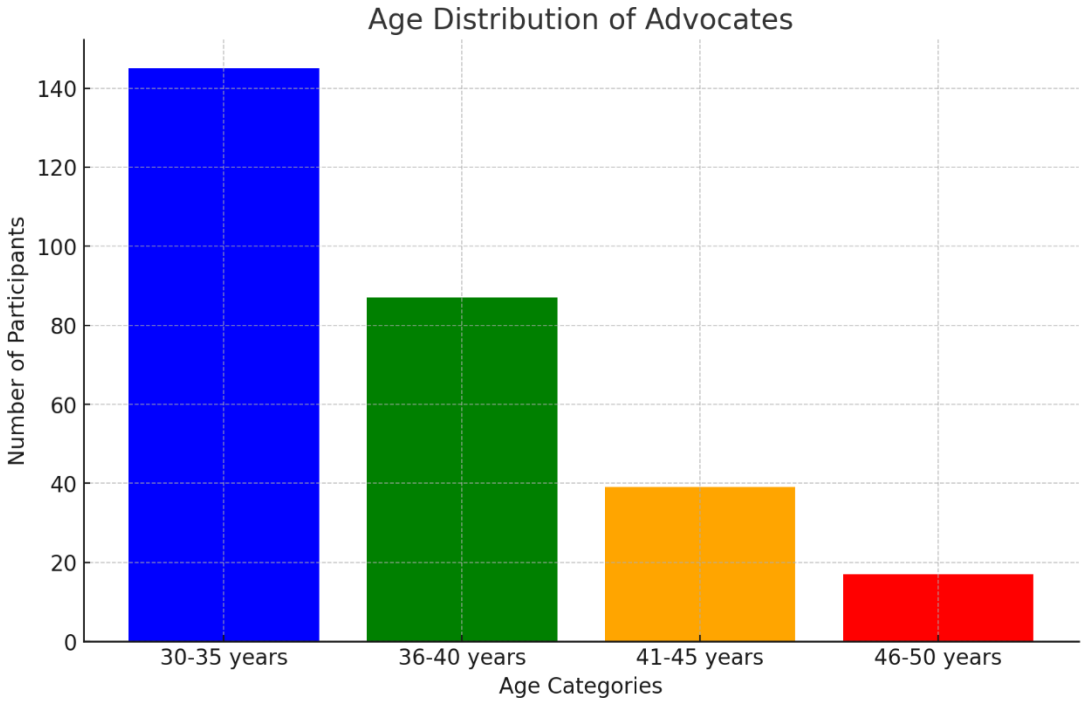
It is noteworthy that the use of non-probability purposive sampling may limit the generalizability of findings, as the sample may not fully represent the broader population of advocates. However, given the specific objectives and occupational focus of the study, this approach was considered appropriate. Overall, the methodology ensured a structured, ethical, and systematic approach to data collection and analysis, facilitating the exploration of associations between occupational stress, somatization, and myofascial pain within this professional group.

RESULTS

The study analyzed the frequency and percentage distribution of demographic variables and explored the association between workplace stress, somatization, and myofascial pain among advocates. The mean age of the participants was 36.31 ± 5.212 years. Advocates aged 30–35 years constituted the majority, with 145 participants (50.3%), followed by those aged 36–40 years, comprising 87 participants (30.2%). Participants aged 41–45 years accounted for 13.5% (39 individuals), while the smallest group was aged 46–50 years, making up only 5.9% (17 participants). A marked decline in participation was observed beyond the age of 40, indicating a younger-dominated sample. Gender distribution revealed a predominance of male advocates, with 239 participants (83%), while female advocates constituted 49 participants (17%).

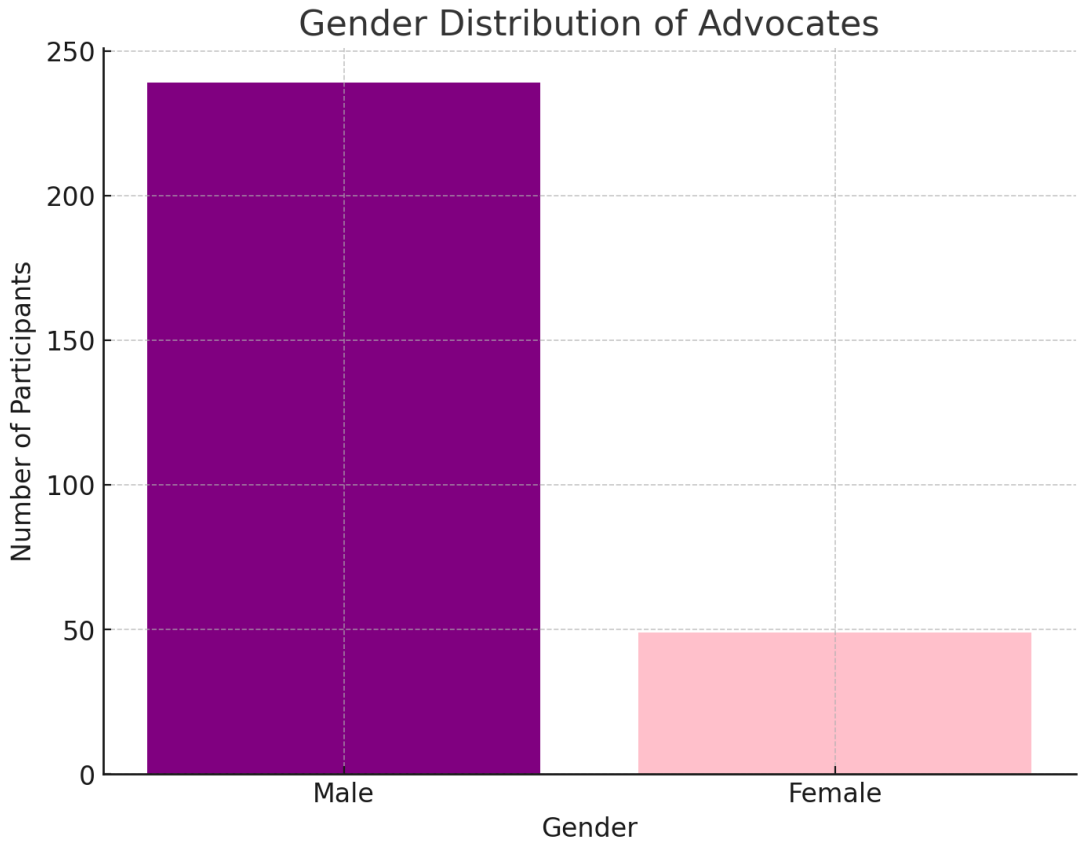
The assessment of somatic symptoms using the PHQ-15 scale showed that 25.3% of participants reported minimal symptoms (scores 0–4), 40.3% experienced low symptoms (scores 5–9), 29.5% reported medium symptoms (scores 10–14), and 4.9% exhibited high symptom severity (scores 15–30). Occupational stress levels, evaluated through the Workplace Stress Survey, revealed that 34.4% of participants experienced mild stress (scores 10–39), 63.2% reported moderate stress (scores 40–69), and 2.4% exhibited severe stress (scores 70–100). Myofascial pain assessment indicated that 54.2% of participants had no active trigger points (scores 0–8), while 45.8% had active trigger points (scores 9–17).

The chi-square analysis identified a statistically significant association between workplace stress levels and the severity of somatic symptoms, with a p-value of 0.020 ($p < 0.05$). This finding suggests that as workplace stress levels increase, somatic symptoms become more severe. However, no statistically significant association was found between workplace stress levels and myofascial pain, with a p-value of 0.084 ($p > 0.05$). This indicates that the severity of myofascial pain did not vary significantly with changes in workplace stress levels.



The chart "Age Distribution of Advocates" illustrates that the majority of participants (50.3%) fall within the 30–35 years age group, followed by 36–40 years (30.2%), with a sharp decline in older age categories (41–45 years at 13.5%, and 46–50 years at 5.9%). This indicates a predominantly younger sample.

Figure 1 Age Distribution of Advocates



The chart "Gender Distribution of Advocates" shows a significant male majority, with 83% of participants being male and 17% female.

Figure 2 Gender Distribution of Advocates

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Table 1 Somatic Symptoms and Occupational Stress Distribution

Variables	Category	Frequency (%)
Minimal (0-4)	Somatic Symptoms	73 (25.3%)
Low (5-9)	Somatic Symptoms	116 (40.3%)
Medium (10-14)	Somatic Symptoms	85 (29.5%)
High (15-30)	Somatic Symptoms	14 (4.9%)
Mild (10-39)	Occupational Stress	99 (34.4%)
Moderate (40-69)	Occupational Stress	182 (63.2%)
Severe (70-100)	Occupational Stress	7 (2.4%)

This table presents the distribution of somatic symptoms and occupational stress among advocates. For somatic symptoms, 25.3% reported minimal symptoms (0–4), 40.3% experienced low symptoms (5–9), 29.5% had medium symptoms (10–14), and 4.9% exhibited high severity (15–30). Regarding occupational stress, 34.4% experienced mild stress (10–39), 63.2% reported moderate stress (40–69), and 2.4% had severe stress (70–100). These findings highlight that most advocates (69.8%) had low to medium somatic symptoms, and a majority (65.6%) experienced moderate to severe occupational stress.

Table 2: Association between Somatization and occupational Stress

Workplace stress survey	Patient health questionnaire (PHQ-15)				Total
	minimal(0-4)	low(5-9)	medium(10-14)	high(15-30)	
mild(10-39)	37	35	25	2	99
moderate(40-69)	35	77	59	11	182
severe(70-100)	1	4	1	1	7
Total	73	116	85	14	288

The association between somatization and occupational stress revealed that among participants with mild stress (10–39), 37 reported minimal somatic symptoms, 35 had low symptoms, 25 exhibited medium symptoms, and 2 experienced high symptoms. In the moderate stress category (40–69), 35 had minimal symptoms, 77 reported low symptoms, 59 exhibited medium symptoms, and 11 experienced high symptoms. For those with severe stress (70–100), 1 participant fell into each category of minimal, low, medium, and high symptoms. Overall, the majority (63.2%) experienced moderate stress, with 40.3% reporting low somatic symptoms, indicating a significant interplay between stress and somatization severity.

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Table 3: Association between myofascial pain and occupational Stress

Workplace stress survey	The myofascial diagnostic scale		Total
	no active trigger point (0-8)	active trigger point(9-17)	
mild(10-39)	57	42	99
moderate(40-69)	98	84	182
severe(70-100)	1	6	7
Total	156	132	288

The association between myofascial pain and occupational stress showed that among participants with mild stress (10–39), 57 had no active trigger points, while 42 exhibited active trigger points. In the moderate stress category (40–69), 98 had no active trigger points, and 84 showed active trigger points. For those experiencing severe stress (70–100), 1 participant had no active trigger points, while 6 had active trigger points. Overall, 54.2% of participants had no active trigger points, while 45.8% exhibited active trigger points, with moderate stress being the most common across both categories.

DISCUSSION

This cross-sectional study, conducted among advocates of the Peshawar Bar Association, aimed to explore the prevalence of occupational stress and its association with somatic symptoms and myofascial pain (16). The findings provide comprehensive insights into the demographic characteristics, occupational stress levels, and associated physical symptoms in a high-stress professional environment (17,18). The sample consisted of 288 participants with a mean age of 36.31 years (SD = 5.212). The majority were male (83%), with females comprising 17%. This demographic distribution aligns with the traditionally male-dominated nature of legal practice in the region (19,20).

The prevalence of myofascial pain, assessed through the Myofascial Diagnostic Scale, was high, with 45.8% of participants exhibiting active trigger points. This aligns with prior research by Muhammad Kashif et al. (2021), which emphasized the role of stress in myofascial pain ($p<0.001$) (21). However, unlike that study, the current findings did not establish a statistically significant association between workplace stress and myofascial pain. This discrepancy may stem from methodological differences or varying stress thresholds and coping mechanisms among participants. While the results do not negate the relevance of stress management in addressing myofascial pain, they highlight the need for a broader focus on other contributing factors, such as ergonomics, physical activity, and preexisting musculoskeletal conditions (21).

Job satisfaction emerged as a notable aspect of workplace dynamics, with 76.7% of participants reporting satisfaction despite significant stress levels. These results contrast with earlier findings by Patel Kriti A et al. (2012), which reported low job satisfaction among 51.6% of lawyers, intermediate satisfaction in 40%, and high satisfaction in only 8.4% (22). This variation suggests that job satisfaction is influenced by factors beyond workplace stress, including organizational support, resources, and personal coping mechanisms. Despite higher job satisfaction in the current study, stress remained a significant concern, underscoring the multifactorial nature of occupational stress that transcends job satisfaction alone. Factors such as excessive workload, lack of work-life balance, and organizational culture likely contributed to the stress observed in the study cohort (22).

The study's strengths include its use of validated diagnostic tools, comprehensive analysis of stress and health complaints, and its focus on a specific professional cohort with high stress levels (23,24). However, limitations such as reliance on self-reported measures, non-probability sampling, and a single geographic location may limit generalizability. Furthermore, while the findings contribute to understanding occupational stress in advocates, longitudinal studies are needed to explore causal relationships and the long-term impact of workplace stress on physical health outcomes (25). Overall, the results underscore the importance of addressing occupational stress through multifaceted interventions to improve both mental and physical well-being in high-stress professions.

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CONCLUSION

This cross-sectional study explored the relationship between occupational stress, somatization, and myofascial pain among advocates in Peshawar, providing valuable insights into the challenges faced by professionals in high-stress occupations. The findings revealed a high prevalence of workplace stress, which was closely associated with increased somatic symptoms, emphasizing the significant impact of stress on physical health. While myofascial pain was also prevalent, no significant association was established between workplace stress and myofascial pain, suggesting the influence of additional factors. These results underscore the importance of implementing effective stress management strategies to enhance overall well-being and professional efficiency in such demanding occupational settings.

AUTHOR CONTRIBUTIONS

Author	Contribution
Brekhana Gul	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Talha Hayat	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Muhammad Junaid	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Muhammad Suleman Sikander	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Wajiha Aziz	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published

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