INSIGHTS-JOURNAL OF
HEALTH AND REHABILITATION

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Prevalence of Work-Related Musculoskeletal Disorders among Hairdressers and Beauticians in Peshawar: A Descriptive Cross-Sectional Study

Original Article

Wajahat Ullah[1], Rida E Zainab[2], Aqsa Ayaz[3], Rabia Naeem[4], Shahbaz Khattak[2], Inayat Ullah[5]*
[1]Clinical Physiotherapist Irfan General Hospital Peshawar, Pakistan.
[2]Clinical Physiotherapist, Physioplus Clinic, Afridi Medical Complex, Peshawar, Pakistan.
[3]Physical therapy internee, Paraplegic Center Peshawar, Pakistan.
[4]Senior Lecturer, Sarhad University of science & Information Technology, Peshawar, Pakistan.
[5]Assistant Professor, Sarhad University of science & Information Technology, Peshawar, Pakistan.
Corresponding Author*: Inayat Ullah: inayatullah.siahs@suit.edu.pk, Assistant Professor, Sarhad University of science & Information Technology, Peshawar, Pakistan.

Conflict of Interest: None
Grant Support & Financial Support: None

Abstract

Background: This study examined the prevalence of Work-Related Musculoskeletal Disorders (WRMSDs) among hairdressers and beauticians in Peshawar, specifically targeting the areas of Hayatabad, University Town, and Peshawar Saddar.

Objective: The objective of this study is to determine the prevalence of work-related musculoskeletal disorders (WRMSDs) among hairdressers and beauticians in Peshawar, focusing on associated risk factors and impacts on occupational health.

Methods: A descriptive cross-sectional design was employed, surveying a total of 340 participants, including 179 males and 161 females.

Results: The findings revealed a high prevalence of WRMSDs, with 73.8% of respondents reporting various musculoskeletal conditions. The most reported areas of pain were the ankles (62.1%), followed by the lower back (56.5%), hands/wrists (35.0%), and shoulders (34.4%). Other frequently affected areas included the neck, upper back, hips/thighs, knees, and elbows. Musculoskeletal symptoms had varying impacts on work performance, with 8.5% of respondents reporting no impact, 40.0% reporting a slight impact, 31.8% reporting a moderate impact, 13.2% reporting a high impact, and 6.5% reporting a severe impact.

Conclusion: The study found a significant association between repetitive tasks involving awkward postures and work-related stress contributing to musculoskeletal symptoms. Among the 340 participants, 283 reported both work-related stress and repetitive awkward postures as contributors to musculoskeletal symptoms, while only 7 participants reported neither. These findings suggest that repetitive tasks involving awkward postures are significantly associated with stress-related musculoskeletal symptoms among hairdressers and beauticians.

Keywords: Work-Related Musculoskeletal Disorders, Hairdressers, Beauticians, Ergonomics, health risks, Musculoskeletal pain prevalence, Occupational health in Peshawar, Beauty professionals and WRMSDs, Repetitive strain injuries in salons, Health risks for beauticians, Musculoskeletal disorders prevention.

INTRODUCTION

The musculoskeletal system (MSK) is fundamental for all body movements and its external appendages, consisting of a bony skeletal structure that provides a framework for movement and maintains the body's integrity. Joints within the MSK system facilitate various types of movement, and any disruption or hindrance to this system can result in painful, jerky, and uncoordinated body movements that may become involuntary or random (1). Maintaining a good body posture is essential as it reduces muscle and joint strain, preventing pain and discomfort. Optimal musculoskeletal health is critical for overall well-being, enabling individuals to effectively perform daily activities, work tasks, and recreational or leisure activities. A healthy MSK system supports mobility, flexibility, strength, and endurance, all of which enhance functional independence and quality of life(2, 3).

Work-Related Musculoskeletal Disorders (WRMSDs) and fatigue are prevalent issues across various occupations, often going unnoticed or unaddressed. Factors such as prolonged non-neutral postures, repetitive movements, working at a fast pace, stress, or standing for long periods increase the risk of developing musculoskeletal symptoms(4, 5). In particular, beauticians frequently work extended hours without sufficient breaks, which can lead to physical and mental fatigue, ultimately affecting their well-being and job performance (6)

WRMSDs are among the most common occupational health concerns and present significant socioeconomic burdens for both individuals and society. These disorders involve injuries or conditions impacting muscles, nerves, tendons, joints, cartilage, and spinal discs, often resulting from workplace risk factors. The impact of these conditions includes pain and limitations in function, affecting an individual's ability to perform tasks effectively(7, 8).

The beauty industry has evolved in the 21st century, shifting from a luxury service to an essential part of personal care, leading more individuals to pursue careers in cosmetology and hairdressing. Despite their focus on enhancing clients' appearances, beauticians and hairdressers often neglect their own health, leading to physical strain and fatigue (9). Over time, WRMSDs have significantly increased within the beauty sector(10, 11). Various terms, such as Cumulative Trauma Disorders (CTDs), Repetitive Strain Injury (RSI), Repeated Motions Injury (RMI), and Occupational Overuse Disorders (OODs), have been used to describe these issues (12). A beautician, as defined by the Cambridge Dictionary, is "a skilled professional who specializes in enhancing clients' appearance through makeup and beauty treatments for the face, body, and hair, typically within a beauty salon setting." Research indicates that individuals exposed to manual labor, restricted postures, repetitive or static work, vibrations, and adverse psychological or social conditions are at a higher risk of developing WRMSDs (4, 13, 14).

Hairdressers and beauticians spend most of their working hours standing, making it a physically demanding occupation. Consequently, they are at an increased risk of developing musculoskeletal symptoms. Studies have shown that hairdressers and beauticians experience work-related injuries in almost all body regions, including the neck, wrists, elbows, shoulders, back, hips, knees, and ankles(1, 15). Symptoms vary from person to person, with the most common being pain, fatigue, and sleep disturbances. These symptoms often stem from muscle tissue injuries caused by repetitive movements or maintaining sustained postures over extended periods (16). Such workers may experience full-body aches due to muscle overuse, and the repetitive movements or sustained postures can lead to discomfort during and after work. The term "musculoskeletal" is used broadly, as most specific terms fail to accurately describe the range of problems encountered(17, 18). Most WRMSDs are associated with pain in the hands, wrists, neck, shoulders, and back due to repetitive movements or prolonged standing, which may also cause swelling and pain in the legs and feet. Since much of the work involves the arms and hands, these areas are frequently affected. Similarly, tasks requiring the use of legs can result in WRMSDs affecting the lower body, such as the legs, ankles, feet, and hips (3). It is important to note that these disorders are not solely caused by repetitive strain but also by awkward positions maintained during work(11, 19).

METHODS

This descriptive cross-sectional study was conducted in various parlors and salons located in Hayatabad, University Town, and Saddar Cantt in Peshawar. The study population included all beauticians and hairdressers working in these locations during the study period, which spanned six months from March 2024 to August 2024. The data collection was based on a census approach. Participants were enrolled according to specific criteria: individuals aged 18-55 years, of both genders, performing shifts of 5-8 hours per day, and willing to participate. Exclusion criteria included those with less than two years of working experience, individuals under 18 or over 55 years of age, those currently experiencing acute injuries unrelated to their profession, pregnant individuals, those with cardiac issues, individuals who did not provide informed consent, and those with existing comorbidities(20, 21).

Data were collected using a modified version of the Nordic Musculoskeletal Questionnaire (NMQ), supplemented by the Visual Analogue Scale (VAS) to assess the intensity of pain. Approval was obtained from the research committee of Sarhad University of Science and Information Technology, Peshawar, before the study commenced. Consent was secured from the owners of each participating salon prior to data collection. Data were analyzed using SPSS version 20, with bar charts, percentages, and tables employed to present the findings(22).

RESULTS

Table 1: Demographic and Clinical Characteristics of Participants

Category	Subcategory	Frequency (%)
Age Group	18-26	170 (50.0%)
	27-35	93 (27.4%)
	36-44	53 (15.6%)
	45-55	24 (7.1%)
Existing MSK Disorder	Yes	251 (73.8%)
	No	89 (26.2%)

The table titled "Demographic and Clinical Characteristics of Participants" presents an integrated overview of the age distribution and the prevalence of musculoskeletal (MSK) disorders among the study participants. The age distribution is categorized into four groups: 18-26, 27-35, 36-44, and 45-55. The majority of participants fall within the 18-26 age group, accounting for 50.0% (170 participants),

followed by the 27-35 age group at 27.4% (93 participants). The 36-44 age group constitutes 15.6% (53 participants), while the smallest proportion, 7.1% (24 participants), is represented by those aged 45-55. This breakdown highlights a predominantly younger participant pool in the study. Additionally, the table details the presence of existing musculoskeletal disorders (MSK) among the participants, indicating that a significant majority, 73.8% (251 participants), reported having an MSK disorder. In contrast, 26.2% (89 participants) reported no such condition. This data underscores the prevalence of MSK disorders within the sampled population, which is critical for understanding the demographic and clinical context of the participants in relation to the study's objectives. This comprehensive overview provides essential insights into the distribution of age and health conditions among the participants, offering a foundation for further analysis and understanding of the target population.

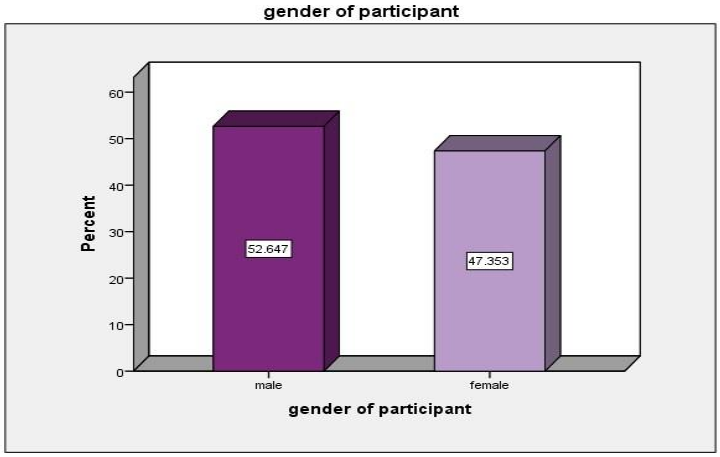


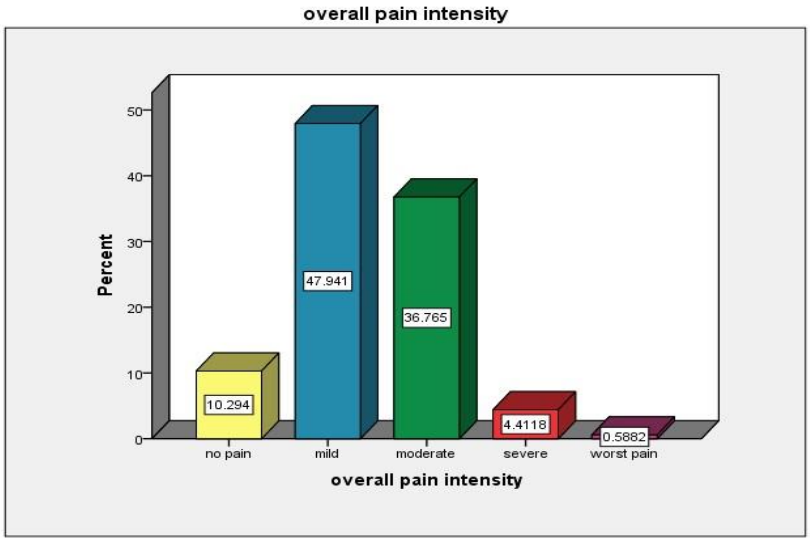
Figure 1 Gender of Participants

This figure shows the gender wise distribution of the research participants. The total population was 340 out of which 179 (52.6%) were male and 161(47.35%) were females.

Table 2: Prevalence of Musculoskeletal Disorders (WMSDs)

Body Region	Percent
Neck Pain	25.9%
Shoulder Pain	34.4%
Upper Back Pain	22.4%
Lower Back Pain	56.5%
Elbow Pain	5.6%
Hand/Wrist Pain	35.0%
Hip/Thigh Pain	20.9%
Knee Pain	25.9%
Ankle Pain	62.1%

Table 3 illustrates the prevalence of Work-Related Musculoskeletal Disorders (WMSDs) across various body regions among the study participants. The most affected area is the ankle, with 62.1% of respondents reporting pain, followed by the lower back at 56.5%. Hand/wrist pain affects 35.0%, while shoulder pain is reported by 34.4% of participants. Neck and knee pain are both reported by 25.9%, and upper back pain by 22.4%. Pain in the hip/thigh is experienced by 20.9%, while the least affected region is the elbow, with only 5.6% reporting discomfort.



This Figure illustrates the distribution of overall pain intensity among the respondents. A total of 340 participants were surveyed. Most respondents reported experiencing mild pain (47.9%), followed by moderate pain (36.8%). A smaller proportion reported no pain (10.3%), severe pain (4.4%), or the worst pain (0.6%). These findings suggest that mild and moderate pain are the most reported intensities among the surveyed population

Table 3: Work-related stress contributed to musculoskeletal symptoms and repetitive tasks involving awkward postures Cross-tabulation

		Repetitive tasks involving awkward postures		Total
		Yes	No	
Work-related stress contributes to musculoskeletal symptom	Yes	283	7	290
	No	43	7	50
	Total	326	14	340

This table shows that repetitive tasks involving awkward postures were significantly associated with work-related stress contributing to musculoskeletal symptoms, with 283 respondents reporting both factors compared to 7 participants reporting neither out of 340 participants.

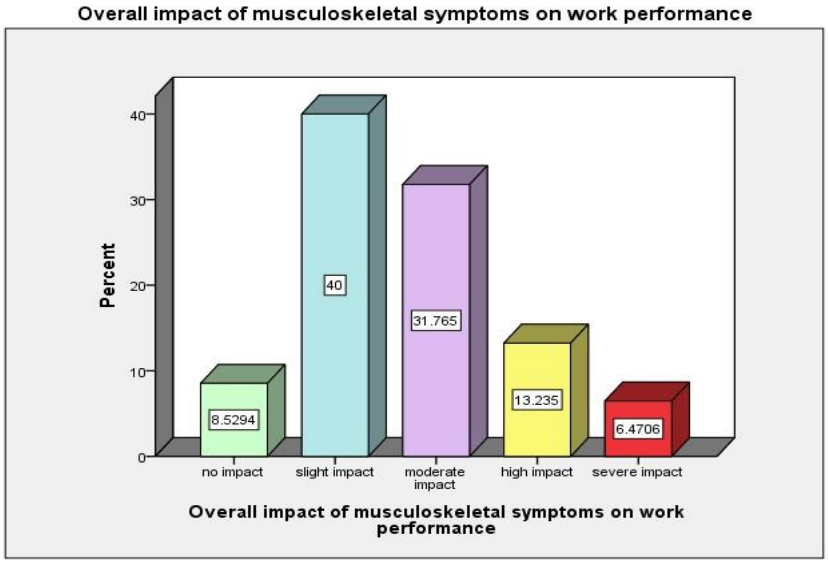


Figure 2 Overall impact of musculoskeletal symptoms on work performance

This figure 4.8 shows that musculoskeletal symptoms had varying impacts on work performance, with 29(8.5%) respondents reporting no impact, 136(40.0%) respondents' slight impact, 108(31.8%) respondents' moderate impact, 45(13.2%) respondents high impact, and 22(6.5%) respondents severe impact.

DISCUSSION

Our research focused on determining the prevalence and impact of work-related musculoskeletal disorders (WMSDs) among hairdressers and beauticians in Peshawar. Most of the hairdressers complained about the lack of ergonomic measures and poor workstation design offered by their workplaces. A study conducted by Alharbi et al. in Saudi Arabia also highlighted that workstation design and the absence of ergonomic practices were significant contributing factors to musculoskeletal disorders among professionals in beauty industries(2, 23).

In our study, we noticed that prolonged standing and repetitive upper body movements were the main causes of discomfort, especially in the neck and shoulder regions. This is consistent with the findings of Dissanayaka, Nakandala, and Sanjeewa in Sri Lanka, where their study indicated that poor posture and inadequate workstation design played a critical role in the onset of musculoskeletal pain.

Additionally, they identified that lack of awareness and technical issues were further barriers to improving ergonomic practices(7). Furthermore, a study conducted by Özden reported that hairdressers working for extended hours experienced chronic lower back pain, similar to our findings, where participants indicated musculoskeletal discomfort, particularly in the lumbar region. Özden emphasized the significance of taking frequent breaks and the adoption of better work postures to mitigate these issues(8).

In our research, the majority of respondents (40%) reported a slight impact of musculoskeletal symptoms on their work performance, while 31.8% reported a moderate impact, 13.2% a high impact, and 6.5% a severe impact. This finding is closely aligned with the results of Aloyuni & Alharbi, who emphasized the considerable effect of musculoskeletal disorders on the work performance and productivity of beauty professionals(4). Lastly, Sosa et al.'s study, which focused on the attitudes, knowledge, and practice of physical therapists in the Philippines regarding ergonomic principles, further supports our observations. Although our target population was different, the study highlights the importance of proper ergonomic practices, which can help alleviate musculoskeletal symptoms and enhance workplace productivity. Our findings similarly revealed that the lack of ergonomic training and understanding could exacerbate musculoskeletal disorders(10).

The study faced several limitations, including a constrained timeframe, which necessitated the use of a descriptive cross-sectional design rather than a more robust analytical or experimental approach. Additionally, the majority of participants were uneducated, making it challenging to obtain accurate responses, and the study's scope was restricted to specific regions due to limited resources. To mitigate these issues in future research and enhance the health of hairdressers and beauticians, it is recommended to conduct studies with larger, more diverse populations using analytical or experimental designs. Furthermore, policymakers should prioritize creating safer work environments and implementing educational seminars on ergonomics to increase awareness and promote healthier practices within this professional group, aligning with the need for targeted interventions discussed earlier(11, 19).

CONCLUSION

The findings reveal that a significant proportion of beauticians and hairdressers experience WRMSD's problems. The most commonly affected body regions included ankles, lower back and wrist so, the findings concluded significant association of WRMSD's and repetitive tasks and awkward postures adapted by beauticians and hairdressers.

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