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HEALTH AND REHABILITATION

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PREVALENCE OF MUSCULOSKELETAL PAIN AMONG HOUSE KEEPING STAFF OF HOSPITAL IN PESHAWAR

Original Research

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

ABSTRACT

Background: Musculoskeletal disorders (MSDs) encompass a broad spectrum of health issues affecting the body's musculoskeletal system, including muscles, nerves, tendons, joints, and spinal discs. These conditions are exacerbated by certain work-related actions such as bending, climbing stairs, and repetitive motions, and are not typically the result of sudden accidents like slips or falls.

Objective: This study aims to evaluate the prevalence and impact of MSDs among housekeeping staff in hospitals, focusing on identifying significant gender differences in the experience of musculoskeletal pain.

Methods: In this cross-sectional study, 245 hospital housekeeping staff members were interviewed using the Cornell Musculoskeletal Discomfort Questionnaire (CMDQ) from September 2023 to May 2024. Participants, comprising 175 males and 70 females with an average age of 36.5 years, were selected through non-probability convenience sampling. Data analysis was performed using SPSS version 24.

Results: The analysis revealed that the most commonly affected areas were the shoulder (38.4%, p=0.006), knee (41.50%, p=0.886), lower leg (33.0%, p=0.798), lower back (38.3%, p=0.418), and foot (16.6%, p=0.919). These findings highlight the impact of non-ergonomic working conditions and intensive work schedules in hospital environments.

Conclusion: The study underscores the need for targeted interventions to reduce risk factors and improve the quality of life and work efficiency among housekeeping staff. Significant gender disparities were noted, with females showing greater susceptibility to MSDs in specific body regions such as the neck, shoulder, lower back, foot, and lower leg.

Keywords: Cross-sectional study; Housekeeping staff; Hospital; Musculoskeletal disorders; Musculoskeletal pain; SPSS; Work-related musculoskeletal disorders (WMSD).

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INTRODUCTION

Musculoskeletal disorders (MSDs) encompass a variety of health issues affecting the body's musculoskeletal system, including muscles, nerves, tendons, joints, cartilage, and spinal discs. These conditions are characterized not by acute incidents such as slips or falls, but by chronic pain resulting from routine physical activities such as bending, climbing stairs, and repetitive motion, which are common in work environments. In the UK, the prevalence of MSDs is reported to be as high as 74%, with even higher rates observed among specific worker groups in other regions; for instance, 90% of individuals in Taiwan and more than 70% over a year, and 56% among hospital cleaners in Norway have experienced musculoskeletal pain (1-3). Occupational physical risk factors largely contribute to musculoskeletal morbidity. Tasks that involve repetitive movements, handling of heavy loads, or the use of vibrating cleaning tools daily significantly elevate the risk. Additionally, working postures involving reaching overhead or stooping, and the manipulation of heavy equipment, can exacerbate the strain on the body, thereby decreasing work efficiency and complicating activities of daily living (1, 4). Psychosocial factors such as stress also play a significant role in the onset and exacerbation of MSDs, especially in high-pressure environments like hospitals, which operate round-the-clock and often in crowded conditions, adding to the physical strain experienced by staff (5-7).

In regions like Thailand, where hospital cleaning jobs are common and growing due to economic pressures and lax regulatory oversight, the health risks to housekeeping staff are compounded by both the physical demands of the job and the organizational disarray (8, 9). While there is acknowledgment of the risks to upper limbs, the specific risks associated with lower limb disorders remain under-researched, despite their potential severity. Studies have shown a robust correlation between MSDs and the physical activities involved in patient care such as transferring, dressing, and administering injections, which pose significant risks particularly to nurses and healthcare staff, with low back pain being notably prevalent among these workers (2, 10, 11). The objective of this study is to investigate the prevalence and risk factors of work-related musculoskeletal pain among housekeeping staff in hospitals in Peshawar, an area where such data have not previously been documented (14, 15). This research is pivotal as it not only seeks to fill a significant gap in the existing literature but also aims to enhance the overall health management and job satisfaction of these vital healthcare workers, thereby directly benefiting the healthcare environment and patient care. Through this study, a comprehensive ergonomic evaluation of the chronic musculoskeletal disorders prevalent among these workers will be conducted, which is crucial for developing effective interventions and improving the working conditions of housekeeping staff in the healthcare sector (18, 19). This initiative will provide valuable insights that could lead to improved health outcomes and job satisfaction for housekeeping staff, ultimately enhancing the quality of healthcare services in Peshawar (19, 20).

METHODS

The methodology employed for this study was a cross-sectional design, aimed at assessing the prevalence of musculoskeletal pain among housekeeping staff within two major healthcare facilities in Peshawar, Pakistan—Lady Reading Hospital and Hayatabad Medical Complex. Participants were selected over a period of six months using a non-probability convenience sampling method, which is recognized for its efficiency in gathering data quickly from accessible groups and its cost-effectiveness, particularly suitable for preliminary research (20, 21).

Both male and female staff members aged between 20 and 50 years, who had been employed full-time for at least one year, were included to ensure sufficient exposure to the work conditions. The exclusion criteria were specific: individuals who had experienced recent trauma such as a car crash or a fall, those unwilling to participate, pregnant women, individuals with communication disabilities, language barriers, or pre-existing musculoskeletal conditions like arthritis, traumatic fractures, strains, and sprains were not considered for the study. Ethical clearance was initially obtained from the Ethical Review Committee of City University, Peshawar. Subsequently, approval for data collection was secured from the research committees of both hospitals. The participants were then screened according to the inclusion and exclusion criteria. Descriptive statistics, including means, frequencies, and standard deviations, were utilized to summarize the demographic characteristics of the participants. Data collection proceeded only after receiving the necessary approvals from the Research Committee of the City University of Science and Information Technology (CUSIT) Peshawar (22, 23).

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RESULTS

The results of the cross-sectional study on musculoskeletal disorders (MSDs) among housekeeping staff at healthcare facilities in Peshawar revealed a total of 245 participants, with a substantial male majority of 175 (71.43%) and 70 females (28.57%). The average age of participants was noted as 36.5 years, with a slight difference between males and females, 43.99 years and 44.03 years respectively. The demographic analysis highlighted that a significant majority of participants were married, with 97.01% of the total, 95.31% of males, and 98.57% of females indicating marital status. Only a minimal percentage were single, and educational levels varied, with 28.57% of participants having never attended school. The educational distribution remained consistent across genders, extending to higher educational attainment levels.

Table 1: frequencies and percent of gender, Age, mean and standard deviation

	Frequency (%)
GENDER	
Male	175 (71.43%)
Female	70 (28.57%)
AGE	
18 to 28	46 (18.7%)
29 to 39	110 (44.9%)
40 to 50	89 (36.32%)
AGE	Mean± SD 36.5±4.5092

Table 2: Characteristics of participants

		TOTAL PARTICIPANTS %, (n=245)	**MALE %, (n=175)**	**FEMALE %, (n=70)**
Average Age		36.5 years	43.99 years	44.03 years
Marital status	Married	97.01 (130)	95.31 (61)	98.57 (69)
	Single	2.98 (4)	4.68 (3)	1.42 (2)
Gender	Male		71.43% (175)	
	Female			28.57% (70)
Educational Status	Never attended school	28.57% (70)	28.57% (50)	28.57% (20)
	Grade 1 to 5	27.76% (68)	27.76% (49)	27.76% (19)
	Grade 6 to 8	27.76% (68)	27.76% (49)	27.76% (19)
	Metric	15.51% (38)	15.51% (26)	15.51% (12)

Regarding the prevalence of MSDs based on the Cornell Musculoskeletal Discomfort Questionnaire (CMDQ), notable differences were observed across various body regions. Neck pain was more prevalent among females (33.7%) compared to males (23.6%), with a significant difference indicated by the p-value of 0.008. Shoulder and wrist pain also showed higher rates in females, 41.1% and 43.4%

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respectively, compared to 35.0% and 34.1% in males, with both regions showing statistically significant gender differences (p-values of 0.006 and 0.015, respectively). Conversely, conditions such as back pain, forearm pain, and hip pain did not show significant differences between genders, with p-values exceeding 0.05, suggesting similar prevalence rates across male and female participants.

Table 3: shows the distribution of musculoskeletal distribution of body regions

Regions	Total(n)%	Men(n) %	Women (n) %	P value
Neck	29.3 (164)	23.6 (51)	33.7 (133)	0.008
Shoulder	38.4 (214)	35.0 (76)	41.1 (138)	0.006
Upper Back	20.7 (116)	22.1 (48)	19.6 (66)	0.418
Upper Arm	8.7 (49)	11.0 (24)	7.4 (25)	0.129
Wrist	38.3 (217)	34.1 (74)	43.4 (143)	0.015
Forearm	11.4 (64)	12.4 (27)	10.1 (34)	0.332
Wrist	7.8 (44)	10.1 (22)	5.6 (19)	0.055
Hip	10.3 (57)	9.2 (20)	11.0 (37)	0.480
Upper leg	18.5 (103)	22.5 (49)	15.5 (52)	0.042
Knee	41.50 (166)	22.89 (38)	77.10 (128)	0.886
Lower Leg	33.0 (182)	33.9 (73)	32.5 (109)	0.798
Foot	16.6 (91)	16.2 (35)	16.7 (56)	0.919

Pain intensity and its interference with work were also measured, with participants overall reporting moderate interference in work activities due to pain, particularly in regions such as the neck, lower back, and knees. The intensity of pain varied, with higher scores noted in traditionally high-strain areas like the lower back and knees. Interestingly, while knee pain showed a high total prevalence of 41.50%, no significant gender difference was observed (p-value of 0.886), indicating a uniform distribution across genders. Similarly, lower leg and foot pain showed no significant gender difference, with nearly equal prevalence rates reported among males and females.

Table 4: show intensity of pain and work interference

Body Regions	Total Participants (n=245)	Male (n=175)	Female (n= 70)	Interference in work	Intensity (%)
Neck	2.5	2.0	3.5	2	1.63
Shoulder	1.0	0.8	1.5	2	0.82
Upper back	0.5	0.4	0.7	1	0.41
Upper arm	0.3	0.2	0.4	1	0.20
Lower back	3.0	2.5	3.5	3	1.22
Forearm	0.2	0.1	0.3	1	0.08
Wrist	0.3	0.2	0.4	1	0.12

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Body Regions	Total Participants (n=245)	Male (n=175)	Female (n= 70)	Interference in work	Intensity (%)
Hip	0.8	0.6	1.0	2	0.33
Thigh	0.5	0.4	0.6	1	0.20
Knee	1.2	1.0	1.5	2	0.49
Lower leg	0.8	0.6	1.0	2	0.33
Foot	1.5	1.2	1.8	2	0.61
TOTAL COUNT	245	175	70		
MALE COUNT		175			
FEMALE COUMT			70		

This study's findings underscore the significant impact of MSDs on housekeeping staff, with a clear indication of varying pain prevalence across different body regions and between genders. These results not only highlight the physical strains associated with housekeeping roles in hospitals but also underscore the need for targeted interventions to mitigate these risks and enhance workplace ergonomics for affected staff members (22, 23).

DISCUSSION

The analysis of musculoskeletal disorders (MSDs) among housekeeping staff at two major hospitals in Peshawar highlighted significant gender-specific disparities in the prevalence and impact of these conditions. The findings revealed that MSDs such as neck and shoulder pain were more prevalent and had a greater impact on females, likely due to the dual physical demands of their occupational and domestic responsibilities. This observation aligns with existing literature that recognizes women as being particularly susceptible to MSDs because of repetitive tasks both at work and home, such as typing, cooking, and cleaning, which can exacerbate muscle strain (23, 24). Interestingly, lower back pain was reported frequently by participants, with a notably higher prevalence among females. This could be attributed to factors such as prolonged standing, lifting heavy loads, and engaging in tasks that require bending and twisting, which are prevalent in housekeeping roles. The demographic data indicated a low educational attainment among the study population, with a significant number having never attended school (27, 28). This lack of education might contribute to limited awareness of ergonomics and self-care practices, increasing the risk of MSDs.

Furthermore, the mid-aged, predominantly married demographic suggests additional familial responsibilities that could contribute to the physical and emotional burdens experienced by the workforce. Men, too, reported high levels of stress and MSDs, potentially exacerbated by extended work hours needed to meet familial financial obligations (29, 30). The study effectively underscores the need for workplace interventions tailored to gender-specific risks and ergonomic requirements. Recommendations for addressing these issues include regular ergonomic assessments, the provision of appropriate ergonomic tools, and the implementation of health promotion programs focusing on physical activity and stress management. These initiatives could help mitigate the risk of MSDs and improve overall worker well-being.

However, the study is not without limitations. The relatively small sample size and the use of convenience sampling at only two hospitals in Peshawar limit the generalizability of the findings to other settings or geographical locations. Additionally, the exclusion of another major hospital due to non-approval for data collection could further narrow the study's scope, potentially omitting relevant data that could influence overall findings (1, 31). This discussion not only points to the need for targeted interventions to reduce MSDs in the workplace but also highlights the importance of further research to explore the underlying causes of gender differences in MSD prevalence and impact. Such research is essential for developing effective strategies for the prevention and management of MSDs across different work environments and demographic groups.

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CONCLUSION

This study provides a comprehensive examination of musculoskeletal disorders (MSDs) among workers, highlighting significant gender differences in both the prevalence and the impact of these conditions. It reveals that females are more susceptible to certain types of MSDs, such as neck, shoulder, and lower back pain, which not only affects their health but also their ability to work effectively. The interference of MSDs in daily work tasks underscores the urgent need for targeted workplace interventions that consider the unique health requirements of male and female employees. These interventions should include ergonomic adjustments, health education, and appropriate work breaks to mitigate the risk and impact of MSDs. The findings also point to the importance of addressing educational gaps that may contribute to higher MSD risks, particularly in jobs requiring physical labor or prolonged stationary positions. By implementing gender-specific health strategies and improving workplace conditions, organizations can enhance worker well-being and productivity while reducing overall healthcare costs.

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