IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

PREVALENCE AND RISK FACTORS OF MUSCULOSKELETAL DISORDERS AMONG WOMEN TAILORS

Chakka Tejaswi* Dr. V Vijayalakshmi, ** Dr. V Kavitha Kiran***

***Research Scholar, Dept. of Resource Management and Consumer Science, College of Community Science, PJTAU, Hyderabad**

**** Professor, Dept. of Resource Management and Consumer Science, College of Community Science, PJTAU, Hyderabad**

**** Asst. Professor, Dept. of Human Development and Family Studies, College of Community Science, PJTAU, Hyderabad**

ABSTRACT:

MSDs include a variety of disorders that impact the muscles, tendons, joints, and nerves, resulting in pain, discomfort, and decreased productivity at work. Additional difficulties that women tailors may encounter include a lack of ergonomic interventions and restricted access to healthcare, especially for those employed in home-based or small-scale settings. Developing effective preventive measures and enhancing their general occupational well-being requires an understanding of the prevalence and risk factors of MSDs in this population.

To lower work-related health problems, this study intends to determine the prevalence of musculoskeletal disorders among female tailors, pinpoint the risk factors that are linked to these conditions, and offer suggestions for ergonomic interventions. The results of the study show that wrist injuries, shoulder discomfort, neck strain, and back pain are all included in MSDS.

Developing effective preventive measures and enhancing their general occupational well-being require an understanding of the prevalence and risk factors of MSDs in this population.
To lower work-related health problems, this study intends to determine the prevalence of musculoskeletal disorders among female tailors, pinpoint the risk factors that are linked to these conditions, and offer suggestions for ergonomic interventions. The results of the study show that wrist injuries, shoulder discomfort, neck strain, and back pain are all included in MSDS. Poor workplace ergonomics, a lack of knowledge about posture correction, and insufficient rest periods are all associated with the prevalence of these disorders.

Using survey data from 35 participants, this study investigates the frequency, severity, and prevalence of MSD symptoms among women tailors in Guntur, Andhra Pradesh. According to the findings, 97.1% of respondents said they had back pain, 77.1% said they had neck pain, and 57.1% said they had shoulder pain. 34.2 percent of respondents reported having MSD symptoms weekly, with the majority of symptoms falling

into the mild (25.7%) and very mild (28.5%) categories. To lower the risk of MSDs, the study emphasizes the necessity of ergonomic interventions and recurring health examinations.

KEY WORDS:

Women Tailors, Musculoskeletal Disorder, Ergonomics, Repetitive motions.

INTRODUCTION:

Musculoskeletal disorders (MSDs) are a group of conditions that affect the muscles, bones, joints, tendons, ligaments, and supporting tissues. They can cause pain and possibly limit mobility and are frequently caused by injuries, overuse, or degenerative diseases. MSDs can have a significant impact on daily functioning and are among the leading causes of chronic disability globally.
Women tailors and other workers who perform repetitive tasks or postures are at high risk for musculoskeletal disorders (MSDs). These conditions cover a broad spectrum of ailments that impact bones, tendons, ligaments, muscles, and joints. Because of the nature of their jobs, women tailors frequently sit for extended periods, perform repetitive motions, bend, twist, and use small hand tools—all of which can lead to the development of MSDs.

Common MSDs Among Women Tailors:

1. **Upper Limb Disorders**: Repeated tasks like cutting fabric, sewing, or ironing can lead to conditions such as tendinitis, carpal tunnel syndrome, and rotator cuff injuries. These conditions are often caused by poor posture, awkward hand positions, and excessive force on the hands and arms.
2. **Neck and Shoulder Pain**: Sitting for extended periods in poor posture can cause strain on the neck, shoulders, and upper back, resulting in pain, stiffness, or even long-term musculoskeletal problems. This is especially true when working with sewing machines or in cramped spaces.
3. **Lower Back Pain**: Prolonged sitting or bending over for extended periods can lead to lower back strain and discomfort. This is common when tailors work for long hours without proper ergonomic support, causing stress on the spine.
4. **Wrist and Hand Disorders**: The use of hand tools for cutting, stitching, or pressing can result in repetitive strain injuries in the wrist, hand, and fingers. Carpal tunnel syndrome, trigger finger, and tendonitis are commonly reported conditions.

Risk Factors:

- **Repetitive Motion**: Constantly using the same hand movements, such as pushing a pedal on a sewing machine, can stress muscles and tendons.
- **Poor Ergonomics**: Inadequate seating arrangements, poor lighting, and uncomfortable working conditions can exacerbate the risk of developing MSDs.
- **Lack of Breaks**: Working long hours without sufficient rest or breaks increases the likelihood of strain on the body.

Preventative Measures:

- **Ergonomic Interventions**: Adjusting workstations, using ergonomic chairs, and ensuring proper lighting can help reduce strain. Tailors can benefit from using adjustable-height tables and chairs to improve posture.
- **Exercise and Stretching**: Incorporating stretching routines to maintain muscle flexibility and reduce stiffness can significantly help prevent MSDs.
- **Workplace Education**: Training workers on how to avoid prolonged static postures and repetitive motions can raise awareness and promote safer work practices.

OBJECTIVE:

The objective of this study is to investigate the prevalence, risk factors, and impact of musculoskeletal disorders (MSDs) in women tailors.

REVIEW OF LITERATURE:

Smrithi A, Pruthviraj R *et al* documented the work-related musculoskeletal disorders among self-employed female tailors in Bengaluru. Tailoring involves monotonous, highly repetitive tasks like cutting, assembling, pressing, and finishing performed in a sitting working posture with the upper back curved and the head bent over the sewing machine. The study conducted a cross-sectional study among the selected areas of Bengaluru. members were selected and screened for work-related musculoskeletal disorders using "The Nordic Musculoskeletal Disorder Questionnaire" and low back pain using the modified "Oswestry lower back disability index: and analysed the results in a statistical method. That shows the higher rate of women, and tailors facing musculoskeletal disorders and lower back pain which is about 79.2%. Frequent Breaks during work periods and back support would help in reducing the musculoskeletal stress on the lumbar region. Need to improve the maximum comfort to the tailors to promote their health and well-being and to enhance the productivity and quality of work.

Poonam Singh has studied to assess Postural analysis of the tailors of Allahabad district.30 members were selected using random sampling method between the age range from 25 to 40 years old. Investigated on work postural examination of the tailor in the ergonomic background. To Determine the monitor of postural strain of tailors in actual situation of work Evaluated the work and machine handling tailors with respect to the workload. The result revealed that few of them have compression of the discs It also causes Chronic back pain and possible nerve ending damage can impact on tailors' ability degradation of cervical Spine which have serious consequences. Theat also revealed that in traditional method that all the selected tailors who performed the tailoring activities experienced pain in neck, shoulder parts and lumbar region, whereas in Improved method, they did not experienced any Kind of pain at neck and shoulder parts while performing drafting and cutting activities by Improved methods.

METHODOLOGY:

The research methodology will encompass both quantitative and qualitative approaches, using surveys, physical assessments, and observational techniques to gather comprehensive data on the subject. Designated women tailors from Tailoring shops, workshops, or small-scale garment production units where women tailors are employed. A simple random sampling method is used to select 35 respondents of women tailors. Data was collected through a structured questionnaire and face-to-face interviews with the respondents. The data consists of Demographic Information like Age, years of Work experience, working hours, and type of work. It is also related to Health History Presence of any MSD symptoms such as pain, stiffness, and discomfort in various body parts (neck, shoulders, back, hands, and wrists). Workplace Environment Questions about working hours, posture, tools used, workstation setup, and ergonomic conditions. Nordic Musculoskeletal Questionnaire (NMQ) is used to assess the frequency and severity of musculoskeletal pain across different body parts. Quantitative analysis is observed through Correlation analysis will be used to examine the relationship between work-related factors and the severity of musculoskeletal symptoms. Qualitative Data is analysed through Thematic analysis that was applied to interview/focus group data. Common themes related to MSD experiences, workplace ergonomics, and health perceptions will be identified and categorized. The study provides valuable insights into the prevalence and impact of musculoskeletal disorders among women tailors. It helps to identify the key ergonomic risk factors.

RESULTS:

Table 1 Demographic Data of the Respondents (N= 35)

S. No	Items	Frequency	Percentage
1	Age		
	a. 20-30 years	12	34.3%
	b. 30-40 years	11	31.4%
	c. 40-50 years	12	34.3%
2	Education		
	a. Below 10^{th} class	16	45.7%
	b. 10^{th} class	10	28.6%
	c. Intermediate	9	25.7%
3	Work Experience		
	a. 2-5 years	12	34.3%
	b. 6-10 years	11	31.4%
	c. 11-15 years	9	25.7%
	d. 16-20 years	3	8.6%
4	Working hours per day		
	a. 3-5 hours	13	37.1
	b. 6-8 hours	22	62.8

The demographic information of the respondents, including age, education, work experience, and number of hours worked each day, is displayed in the above table. A discussion based on the data is given below:

Age Distribution

The respondents' ages are evenly distributed, with the majority falling into two groups: those aged 20–30 (34.3%) and 40–50 (34.3%), while the slightly lower percentage of those aged 30–40 (31.4%). This suggests that the workforce is fairly evenly distributed across age groups, including both younger and middle-aged workers.

Educational Background

The largest percentage of respondents (45.7%) have less than a 10th grade education, followed by those who have finished the 10th grade (28.6%) and those with an intermediate level of education (25.7%). This implies that a sizable percentage of the respondents have less formal education, which may have an impact on the kinds of jobs they hold.

Work Experience

Analysis of work experience reveals that a sizable percentage of respondents (34.3%) have two to five years of experience, while 31.4% have six to ten years. Just 8.6% of respondents have 16–20 years of experience, while a smaller percentage (25.7%) have 11–15 years. This suggests that there are fewer highly experienced workers and that most of the workforce is made up of relatively young or mid-level professionals.

Working Hours per Day

While 37.1% work three to five hours a day, the majority of respondents (62.8%) work six to eight hours. This indicates that most employees are working full-time schedules, while a smaller percentage may be working flexible or part-time schedules.

Table 2 Work-Space related Data of the Respondents (N=35)

S. No	Items	Frequency	Percentage
1	Type of tailoring machine used		
	a. Manual	23	65.7%
	b. Electrical	12	34.3%
2	Physical activities in between tailoring		
	a. Lifting	32	91.4%
	b. Bending	29	82.8%
	c. Kneel Downing	30	85.7%
	d. Sitting on floor	31	88.5%
	e. Pedalling	29	82.85
	f. Ironing/ Stretching	32	91.4%
3	Intervals in between work		
	a. Yes	25	71.4%
	b. No	10	28.6%
4	Frequency of breaks		
	a. Every 30 mins	4	11.4%
	b. Every hour	11	31.4%
	c. Every 2 hours	5	14.3%
	d. Rarely	15	42.9%
5	Type of furniture		
	a. Chair with arm rest	7	20%
	b. Chair without arm rest	21	60%
	c. Chair with backrest	12	34.3%
	d. Stool	10	28.6%
6	Material of furniture		
	a. Metal	15	42.9%
	b. Wooden	11	31.4%
	c. Furniture with cushion	9	25.7%
7	Lifting techniques during work		
	a. Yes	16	47.1%
	b. No	18	52.9%
8	Good lighting and well-ventilated		
	a. Yes	27	77.1%
	b. No	8	22.9%

The above table presents the data on the workspace conditions of respondents, focusing on aspects such as the type of tailoring machine used, physical activities, work intervals, furniture, lighting, and ventilation. Below is a discussion based on the findings.

Type of Tailoring Machine Used

While 34.3% of respondents use electrical tailoring machines, the vast majority (65.7%) use manual machines. This implies that manual labor is still prevalent in the tailoring industry, perhaps as a result of financial limitations, skill preferences, or the nature of the work.

Physical Activities in Between Tailoring

When tailoring, the majority of respondents participate in several physical activities. Common activities include sitting on the floor (88.5%), kneeling down (85.7%), lifting (91.4%), and ironing/stretching (91.4%). These motions demonstrate how physically taxing tailoring is.

Intervals in Between Work

While 28.6% of respondents do not take breaks between tasks, the majority (71.4%) do. Frequent breaks are crucial for preventing fatigue and lowering physical strain, indicating that most employees schedule some downtime.

Frequency of Breaks

Those who take breaks, 14.3% do so every two hours, and 31.4% do so every hour. Nonetheless, a noteworthy 42.9% of people rarely take breaks, which could lead to fatigue and possible health problems associated with extended physical activity.

Type of Furniture Used

The majority of respondents (42.9%) use metal furniture, followed by wooden furniture (31.4%) and furniture with cushions (25.7%). The lower proportion of cushioned furniture raises the possibility that many employees lack access to cozy seating, which could have an adverse effect on their physical and mental health.

Material of Furniture

Most respondents use **metal furniture (42.9%)**, followed by **wooden furniture (31.4%)**, and **cushioned furniture (25.7%)**. The lower percentage of cushioned furniture suggests that many workers may not have access to comfortable seating, which could impact their productivity and physical well-being.

Lifting Techniques During Work

Notably, 47.1% of respondents use proper lifting techniques, compared to 52.9% who do not. Because incorrect lifting can result in musculoskeletal problems, this raises concerns about possible workplace injuries.

Lighting and Ventilation Conditions

While 22.9% of respondents said their workplaces lacked adequate lighting and ventilation, the majority (77.1%) said they worked in well-ventilated areas. Maintaining comfort and productivity in the workplace requires adequate lighting and airflow, and those who lack these elements may experience problems like heat discomfort and eye strain.

Table 3 Musculoskeletal Disorder Symptoms Data of the Respondents (N=35)

S. No	Items	Frequency	Percentage
1	MSD Symptoms experienced in Last !2 months		
	a. Neck pain	27	77.1%
	b. Shoulder pain	20	57.1%
	c. Back pain	34	97.1%
	d. Arm pain	11	31.4%
	e. Hand pain	13	37.1%
	f. Wrist pain	13	37.1%
	g. Other	5	14.3%
2	Frequency of MSD symptoms		
	a. Daily	9	25.7%
	b. Weekly	12	34.2%
	c. Monthly	5	14.2%
	d. Rarely	9	25.8%
3	Intensity of MSD symptoms		
	a. Very mild	10	28.6%
	b. Mild	9	25.7%
	c. Normal	7	20
	d. Moderate	4	11.4%

	e. Severe	5	14.2%

The aforementioned table provides information on the types, frequencies, and intensities of musculoskeletal disorder (MSD) symptoms that respondents had during the previous 12 months. A discussion based on the results is given below:

Prevalence of MSD Symptoms

According to the data, the most frequently reported MSD symptom among respondents is back pain (97.1%). Hand pain (37.1%), wrist pain (37.1%), shoulder pain (57.1%), and neck pain (77.1%) come next. While 14.3% of respondents reported other forms of musculoskeletal discomfort, arm pain (31.4%) is comparatively less common.
These results imply that working as a tailor may be a major cause of neck and back strain, most likely as a result of extended sitting, bad posture, repetitive motions, and insufficient ergonomic support.

Frequency of MSD Symptoms

According to the data, 34.2% of respondents report having MSD symptoms once a week, 25.7% report having symptoms every day, 25.8% report having symptoms infrequently, and 14.2% report having symptoms monthly.
The high proportion of weekly and daily occurrences indicates that many respondents experience musculoskeletal discomfort on a regular basis, which may have an impact on their quality of life and productivity.

Intensity of MSD Symptoms

In terms of symptom severity, 28.6% of respondents said they had very mild symptoms, 25.7% said they had mild symptoms, 20% said their symptoms were normal, 11.4% said they had moderate symptoms, and 14.2% said they had severe MSD symptoms.

Table 4 Health and Well-Being Data of the Respondents (N=35)

S. No	Items	Frequency	Percentage
1	Taken Any treatment for MSD		
	a. Yes	25	71.4%
	b. No	10	28.6%
2	Any medications used for MSD		
	a. Yes	17	48.6%
	b. No	18	51.4%
3	Physical exercises		
	a. Yes	9	25.7%
	b. No	26	74.3%
4	Improvement in MSD after treatment		
	a. No change	17	48.6%
	b. Slight improvement	10	28.6%
	c. Good improvement	7	20%
	d. Better improvement	1	2.9%

The following table presents the health and well-being data of respondents regarding musculoskeletal disorders (MSD), including treatment, medication use, physical exercise, and improvement after treatment.

Any Treatment taken for MSD

The majority of respondents (71.4%) reported seeking treatment for their MSD symptoms, while 28.6% did not, suggesting that most workers are aware of the severity of their condition and actively seek out therapeutic or medical interventions.

Use of Medications for MSD

When it comes to medication, 48.6% of respondents reported using some form of medication for MSD, whereas 51.4% did not. This indicates that although medication is a common approach, a slightly higher percentage of people may not have access to medical treatment or may not rely on non-medication methods.

Physical Exercise Practices

Only 25.7% of respondents engage in physical exercises, while 74.3% do not. Given that regular exercise can significantly help in reducing MSD symptoms by improving posture, flexibility, and muscle strength, the low percentage of physical activity is concerning. This suggests a need for awareness and encouragement of exercise routines among workers to manage MSD effectively. Improvement in MSD After Treatment Regarding the effectiveness of treatment: • 48.6% reported no change in their condition. • 28.6% experienced slight improvement. • 20% saw good improvement. • Only 2.9% reported better improvement.

DISCUSSION:

The respondents' demographic information shows that they are a diverse age group, with the majority of them being between the ages of 20 and 50. Interestingly, 34.3% of respondents were in the 20–30 age range, 31.4% were in the 30–40 age range, and another 34.3% were in the 40–50 age range. The distribution of educational backgrounds was as follows: 25.7% had an intermediate level of education, 28.6% had completed the 10th class, and 45.7% had less than that.

There was also variation in work experience, with 34.3% having 2–5 years, 31.4% having 6–10 years, 25.7% having 11–15 years, and 8.6% having 16–20 years. Furthermore, the majority of workers (62.8%) put in 6–8 hours a day, whereas 37.1% put in 3–5 hours.

Lifting (91.4%), ironing/stretching (91.4%), sitting on the floor (88.5%), kneeling (85.7%), bending (82.8%), and pedaling (82.8%) were the most common physical activities associated with tailoring. While 28.6% of respondents did not take breaks while working, a sizable portion (71.4%) did. Of those who took breaks, 42.9% did so infrequently, 31.4% did so hourly, 14.3% did so every two hours, and just 11.4% did so every half an hour.

Sixty percent of respondents used chairs without armrests, thirty-four percent used chairs with backrests, twenty percent used chairs with armrests, and twenty-eight percent used stools. The furniture was made of wood (31.4%), metal (42.9%), and cushioned furniture (25.7%). 52.9% of respondents did not practice proper lifting techniques, whereas 47.1% did. Interestingly, 22.9% of respondents did not work in well-ventilated areas, whereas 77.1% did.

The most common symptom of a musculoskeletal disorder (MSD) was back pain (97.1%), which was followed by neck pain (77.1%), shoulder pain (57.1%), wrist pain (37.1%), hand pain (37.1%), and arm pain (31.4%) at the highest prevalence. Other unidentified symptoms were also reported by some respondents (14.3%).

The frequency of MSD symptoms was 34.2% per week, 25.7% per day, 25.8% infrequently, and 14.2% per month. 28.6% of respondents reported very mild symptoms, 25.7% mild symptoms, 20% normal symptoms, 11.4% moderate symptoms, and 14.2% severe symptoms.

While 28.6% of respondents did not seek treatment for MSD, a sizable portion (71.4%) did. Of those who were treated, 51.4% did not take medication, whereas 48.6% did. Only 25.7% of respondents reported engaging in physical activity, while 74.3% did not.

There was mixed improvement in MSD symptoms after treatment. Just 2.9% reported better

improvement, compared to nearly half (48.6%) who reported no change, 28.6% who saw slight improvement, and 20% who saw good improvement.

CONCLUSION:

The research offers important new information about the respondents' health-related variables, work environment, musculoskeletal disorders (MSD) symptoms, and demographic traits. The results show that a considerable number of employees suffer from MSD symptoms, with the majority reporting back pain, roughly three-fourths reporting neck pain, and over half reporting shoulder pain. Their working environment, which includes extended sitting, repetitive motions, and the kind of furniture they use, probably has an impact on these problems.

Furthermore, roughly three-fourths of those surveyed take breaks while working, though these are frequently insufficient in frequency to avoid musculoskeletal strain. Nearly half of the workers who sought treatment for MSD did not experience any notable improvement, highlighting the need for improved ergonomic interventions and awareness campaigns.

Moreover, according to the study, workplace ergonomics—which include better lighting, furniture, and lifting techniques—are essential for lowering the risk of MSDs. These problems can be lessened by supporting physical activity, good posture, and frequent breaks.

This study emphasizes how crucial workplace ergonomics, sufficient rest times, and appropriate health interventions are to managing and preventing MSDs in employees. Future suggestions include implementing ergonomic chairs, making sure that work breaks occur frequently, and raising awareness of the importance of physical activity and posture correction.

REFERENCES:

- Pavana, Smrithi. A, Pruthviraj. R. Prevalence of Musculoskeletal Disorders among Self-Employed Female Tailors in Selected Places of Bengaluru. Indian Journal of Physiotherapy and Occupational Therapy 2023;17(2).
- JAMRO, SABREEN & Asif, Muhammad & Rajput, Hira & CHUGHTAI, MUHAMMAD. (2018). WORK-RELATED MUSCULOSKELETAL DISORDERS AMONG TAILORS. INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCE AND HEALTH CARE. 2. 10.26808/rs.ph.i8v2.02.
- Kebede, Wakjira. (2014). Predictors of occupational exposure to neck and shoulder musculoskeletal disorders among sewing machine operators of garment industries in Ethiopia. Science Journal of Public Health. 2. 577-583. 10.11648/j.sjph.20140206.22.
- Tafese, Ararso. (2018). Predictors of occupational exposure to neck and shoulder musculoskeletal disorders among sewing machine operators of garment industries in Ethiopia. 2.
- Akinpelu, Aderonke & Oyewole, Olufemi & Odole, Adesola & Ogunbamowo, Funmilayo. (2016). Work-related musculoskeletal pain and health-seeking behavior among Nigerian sewing machine operators. Trop J Med Res. 19. 152-8. 10.4103/1119-0388.185446.
- Khan, Atiqur Rahman & Khan, Mohammad Jobair. (2018). Musculoskeletal Symptoms among Female Garments Worker: Working Environment. Journal of Exercise, Sports & Orthopedics. 5. 10.15226/2374-6904/5/2/00173.

- Hasan, Tanvir & Amin, Amina & Chowdhury, Md & Islam, Kuhel & Huq, Sk & Parvin, Rezvina & Ahmed, S. & Ali, Md & Rashid, Sabina. (2021). Health sufferings, healthcare seeking behavior, awareness about health insurance, and health-related rights of ready-made garments workers in Bangladesh: Findings from a cross-sectional study. Journal of Occupational Health. 63. 10.1002/1348-9585.12256.

- Rizwan, Abu Ansar & Anwar, Afsana & Mondal, Probal & Khalil, Md & Rahaman, Habibur & Begum, Mst & Chowdhury, Tripti & Ali, Md. Zulfiker. (2022). Problems faced by pregnant garment workers in different readymade garments (RMG) in Dhaka, Bangladesh. World Journal of Pharmaceutical Research. 11. 200-208. 10.20959/wjpr20224-23618.

- Kabir, Humayun & Maple, Myfanwy & Usher, Kim & Islam, Md Shahidul. (2019). Health vulnerabilities of readymade garment (RMG) workers: a systematic review. BMC Public Health. 19. 1-20. 10.1186/s12889-019-6388-y.

- Seidu, Raphael & Ofori, Emmanuel & Eghan, Benjamin & Fobiri, George & Osei Afriyie, Alex & Acquaye, Richard. (2024). A systematic review of work-related health problems of factory workers in the textile and fashion industry. Journal of Occupational Health. 66. 1-9. 10.1093/joccuh/uiae007.