WORK-RELATED MUSCULOSKELETAL DISORDERS AMONG TAILORS

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ABSTRACT

Work related musculoskeletal disorders are a group of painful disorders due to repeated basis or overuse for days, months or years and those effects bones, muscles, joints, ligaments, tendons, nerves, bursa and blood vessels are stressed and traumatized and those body tissues ultimately become damaged. Aim of the present study is to identify the prevalence of work related musculoskeletal disorders among tailors. This cross sectional study was conducted among 100 tailors and use of the standardized tool Nordic Questionnaire. Detailed information on Socio-demographic factors, Personal factors and musculoskeletal symptoms were obtained in face to face interview. The Exposure was assessed by a questionnaire regarding the type of year of experience, Age, BMI, working hours, working posture and nature of job. The study concluded that prevalence of moderate or severe musculoskeletal pain in the Neck area, shoulders and Wrist/hands, Lower back, knees and Ankle/feet regions. Elevated prevalence of musculoskeletal pain was associated with age less than 35, daily working hours more than eight hours, both gender, year of experiences more than ten, weekly working hours more than eighteen hours, working posture and nature of job were also effective in prevalence of musculoskeletal disorders. **Key words:** Work related musculoskeletal disorder, sitting posture, Prevalence, Tailors.

INTRODUCTION

WMSDs may also called over injuries, soft tissue disorders, cumulative trauma disorders, repetitive strain injuries (RSIs), repetitive motion injuries.¹ The high rate of WMSDs is characterized by a sitting posture with the worker's shoulders flexed and abducted, head and trunk flexed forward in this condition of job activities MSDs occurrence is expected.² WMSDs are found in the workers with persistent and overuse movements in improper posture.³ The Occupational disorders have not only effects psychological, physical and social consequences, but also effects the security impact and economic they reach level of severity that affects work capacity and decreased quality of life.⁴ There are various socioeconomic factors like lack of education, poverty, excess workings hours, poor diet and poor working conditions that effect health illness.⁵

The WMSDs primarily caused by repetitive movements, poor posture, continuous static work, heavy physical work, frequent bending twisting, whole body vibration, manual handling and improper ergonomic.³ In WMSDs poor posture is the main cause of which accepted to be the body distress and the related with decreased efficiency of performance resulting from the restricted postures.² WMSDs are more likely to develop every movement we make and every position we hold takes a lot more work. When WMSDs developed in the tailors, then they experienced the pain, swelling, as tissues become irritated, stiffness and loss of ROM and inability to work ADLs.⁶ The WMSDs generally caused by the recurrence with persistence of injury/trauma or pressure on tendons, bones or joints, muscles, due to continuous works without following ergonomic principles.⁷ Many studies shows that these all are problem common stress, accidents, skin disease, injuries, insomnia, MS problems, respiratory system diseases and eye diseases etc among tailors.⁸ Beside physical, biomechanical and ergonomic stressors, their etiology includes psychosocial and organizational risk factors, such as high occupational stress, inadequate social support, repetitive activities, anxiety and depression among others.⁹

The work with poor posture have caused risky problems with locomotion disorders which has given rise to the mental, physical and financial pressures in the community.⁷ Work gives profits and thus supplies to a improve socioeconomic state which, resolve, is associated high quality health. On the other hand, many workers depictions the work environment to health dangers that may outcome in eye damage, neurological and mental illnesses, hearing loss, cancers, MS diseases, injuries, reproductive diseases, cardiovascular disorders and communicable disorders.⁹ The early retirement of workers with elevate physical work demands are well documented to be higher risk for MS diseases, impaired work ability, cardiovascular diseases, continuing sickness absence and all-cause mortality.⁹ The cause of long term disability and sick leave of WMSDs among tailors retirement fund in the world.¹⁰ The main risk factor for the development of the MS disorder for long time adopting sedentary working style with wrong posture. In WMSDs, the most common signs and symptoms are muscle tightness, joint stiffness, swelling, numbness, redness, skin color changes and decreased sweating of the hands.¹

The complications of WMSDs are such as nerve compression disorders (carpal tunnel syndrome, sciatica), related conditions (tenosynovitis, epicondylitis, bursitis), osteoarthritis and other regional pain syndromes and other common work-related conditions included musculo-tendinous pressure or strain/degenerative changes, muscle spasm, sprain, strain stiffness with rigidity forearm tendonitis, lateral epicondylitis (tennis elbow), neck tension of vertebral column in the morning, radiating pain from sciatic nerve, wrist/digit tendonitis and less myalgia.¹¹

The raise occurrence of upper body pain was related to age less than thirty years, being single, Hispanic ethnicity, female gender, was finding of an MSD or systemic illness, working over ten

years as a tailors, utilizing a single sewing machine, work in expensive shops, higher work-rest degree, high physical isometric burdens, high physical effort, high occupation request and low work fulfillment. Because the commonness of modest or extreme MS pain in the shoulder/neck region was twenty four percentages and for distal extremity it was sixty percentages.¹² Environmental and personal factors were recognized as the potential risk factors associated with elbow and wrist MSDs among the study group. The work related elbow and wrist MS issue were high among sewing machine operators in preferred garment industries.¹³ The treatment strategies, including restoring of the workstations and seating the condition of training in basic ergonomic principles for enhancing the work life of these operators and give a base for further research on the occurrence of MSDs among tailors. The study showed that the neck, shoulder and back uneasiness were highly predominant among these sewing machine operators.¹⁴ The home-based workshops of carpet weaving, psychosocial factors and physical loading were connected with MSP. This result was reliable with studies conducted, among other jobs. In the view of the preventive programs, the same amount of concentration was paid to psychosocial risk factors and physical loading. Besides, further longitudinal studies are needed to investigate the association of psychological factors.¹⁵

All tailors utilized foot-operated tailors with the machine serving as a work table. Fifty five percentages of them utilized stools as sitting devices, while fifty percentages utilized chairs. Thirty five percentages of the stools and fourth three percentages of the chairs were cushioned. The tailors sat at the edge of their seats with serious flexion of the trunk and neck greater forty five. Additionally, ninety percentages flexed their knees forward around one hundred ten without the seat having the capacity to tilt. Ninety seven percentages complained of neck-shoulder pain, forty three percentages of upper arm pain, three percentages of pain in the elbow and forearm area, fifty eight percentages of chest pain and two percentages of pain in the fingers.¹⁶ A study observed a sensational decline (seventy two percentages) in self-reported pain intensity in the one month of follow up, followed by a small raise from the one-four month (four percentages per month). Workers who supposed and reported their physical workload as high or worked extra time experienced less overall pain reduction. Higher standard pain intensity, being of Hispanic ethnicity and taking combined every day rest time during the work of thirty five minutes or more allowing muscles to rest were associated with a larger pain reduction in the one month, but not from that point.¹⁷ Employment can prevent WMSDs hazard by properly designing the jobs or workstations and selecting the suitable apparatuses or equipment.³ A study showed the body leaning forward and continuous seated position on a stool without backrest had maintained females. Continuing tailors work had a cumulative load on the musculo-skeletal structures, involving spinal column and reflected in the shape of elevated prevalence of uneasiness and pain in different body parts. A painful work accident of the needle through the fingers had common in tailors, mostly the right forefingers. The major troubles of the tailors including work posture and fatigue, inadequate man-machine inappropriateness, inappropriate coordination of eye, hand and leg. The workplace may be design mis-match considerably the modifying the workplace may improve by taking females anthropometric dimensions, examples: the work height, seat surface, seat height, backrest etc.¹⁸ Objective of this study is to identify the prevalence of work related musculoskeletal disorders among tailors.

MATERIAL AND METHODS

100 participants were randomly selected in different tailors working in Karachi and Sukkur. The duration of the study was six months from July 2016 to December 2016. The participants were

randomly selected, who were working in different tailor shops of Karachi and Sukkur. First we had taken informed concern from willing tailors and then we ask about demographic information, Personal factors and musculoskeletal symptoms. The targeted population of this study was both gender, aged between 18 to 35 years with at least one year working experience were included in this study. Those participants who were not willingly participating were excluded from this study. The participants were given a letter of informed consent which was narrated the purpose of study and significance of the contribution made by the participant. It was also assure the participant that the information will be completely confidential and that they can withdraw their information at any point in time. Data was analyzed by the use of software Statistical Packages of Social Sciences (SPSS) version 23. Descriptive Statistics was used to calculate frequency, percentage for analysis.

RESULTS

In present study we take data from 100 tailors of Karachi and Sukkur. Out of 100 participants 50% were male and 50% were females. Out of 100 participants 43% were belongs to 18-25 years age group and 26% were belongs to 26-30 years whereas 31% participants were belong to 31-35 years age groups. Out of 100 participants, 22% participants had nature of job as cutting, 53% had nature of job as stitching whereas 25% had nature of job as ironing. 72% participants had acquired high sitting working posture whereas 28% acquired w-sitting posture. 91% participants had neck pain during the last 12 months, 88% had shoulder pain, 85% had wrist/hand pain, 83% low back pain, 8% ankle pain, 80% had knee pain, 76% had thigh/hip and elbow pain whereas 76% had upper back pain during last 12 months.

Table IV-1: Demographic Data of participants

Demographic Data	Percent
Age of the Respondent (N= 100)	
18 to 25 years	43
26 to 30 years	26
31 to 35 years	31
Gender (N= 100)	
Male	50
Female	50

Table IV-2: Work-related Data of participants

Variable	Percent
Nature of job	
Cutting	22
Stitching	53
Ironing	25
Working posture	
W-Sitting	28
High-Sitting	72

Figure IV-1: Regional pain during the last 12 months

Figure IV-2: During the last 12 months have you been prevented from carrying out normal activities (e.g. Job, housework, Hobbies) because of this trouble.

DISCUSSION

In this current study, it assesses the high prevalence of musculoskeletal disorders especially among tailors. The results showed that both work-related factors as well as personal associated with elevated prevalence of upper body WMSDs among tailors and which was support the findings of the current study.¹² The age of participants in this study was similar to the current study.¹⁵ The prevalence of upper body work-related musculoskeletal disorders increases with years of experiences as tailors were resemble with the current studies.¹²

The less flexible work plan typical large shops may be causative to the observed higher prevalence of work-related musculoskeletal disorders.¹² The current study small shops and home working operators were participating. The result who reported that for many tailors, shoulder and neck indications were reversible and may be influenced by reallocation to more different work tasks.¹⁹ Most studies suggest that perceptions of intensified monotonous work, workload, job dissatisfaction, limited job control and low social support were risk factors for work-related musculoskeletal disorders of the shoulders, neck and upper limb area.¹²

The current study showed that over time work, over use and prolonged adopted position are also the risks of WMSDs. The elevated prevalence of shoulder and neck symptoms were found among tailors which correspondence with the results of many studies among workers performing repetitive or sustained static work with their arms and hands.¹⁹ The prevalence of neck and shoulder MS disorders were compared with the current studies.²⁰ The prevalence of MS disorders of neck area, both shoulders, Upper and Lower back and both knees showed that doing tailors work for a extended time in an incorrectly seated position has been causative factor due to non-standard working position including chairs and work desks causing workers to bend their back excessively and sit on the chair improperly in order to more leading upon their work.²¹ It distinct constant pain as pain which lasted for most days throughout 1 month or more within the past year and establish twenty percentage of the workers having constant shoulder pain.²²

The prevalence of shoulder and neck revealed that the twenty five and sixteen percentage correspondingly. The prevalence of wrist/hand and elbow revealed that the sixteen correspondingly.²³ The tailors among shoe manufacturing revealed that the females were more risk to develop elbow Musculoskeletal disorders.¹⁴ Furthermore, development of such disorders in people of higher ages and higher work records, can imply that these disorders are work related diseases, since work related diseases are developed in long term due to repeated non-standard movements or contacts of the individual, which again is a result of not observing ergonomic regulations and standards in designing work posts and also inappropriate body position during work or poor work posture. The result showed in a study that musculoskeletal problems of back area cause absence and reduction in activity levels of workers.²¹ In addition, some musculoskeletal disorders cause reduction in productivity of the work while many financial losses like expenses of treatment, indemnity, absenteeism and lost work days and also expenses of retraining and replaced person and so on. It was shown that the number of complaints from musculoskeletal disorders was very high. It was established that the number of complaints from disorders of neck, back and upper part of body by workers was very high and caused a great deal of expenses and lost workdays.²⁴

CONCLUSION

There was elevated prevalence of musculoskeletal disorders among tailors in this study. In this study most of respondents was suffering from musculoskeletal disorders. The main complain in this study was pain and muscular weakness due to overuse and over time work. Therefore,

Promoting operator's involvement in efforts to improve workplace condition was critical element in Organization process to improve worker motivation, added problem solving capabilities and greater knowledge of work experiences.

ACKNOWLEDGEMENTS

First of all, I would like to pay my gratitude to Almighty Allah who given me the ability to complete this project in time with great success. I would like to pay my gratitude towards my parents who constantly encouraged me to carry out this project. I would like to express my gratitude to my respected teacher DR. Muhammad Asif (Principal) and my supervisor in ISRA University, for their tireless effort with excellent guidance and support. I would like to thanks all participants for helping me at the time of data collection.

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