



Role of Rest Period: An Ergonomic Study on Sewing Machine Operators

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Abstract

The study was conducted in readymade garment manufacturing units. The sample size was consisted of 55 men and women working as sewing machine operators. The questionnaire, observations method and body map was used in the workplace. It is revealed male 45.5 per cent and 41.8 per cent female workers took the rest period of maximum half an hour and one hour. 52.8 per cent male and female 34.6 per cent workers experienced pain once in between a week and one month. Majority of male and female workers experienced pain once in between a week and one month. Shoulder, neck, hand and back pains are the symptoms of some musculoskeletal disorders (MSDs). The results showed that the rest period is very important in order to keep the body in healthy condition. After doing continuous work one develops fatigue which causes MSDs.

Keywords: Garment manufacturing units, ergonomics, rest periods.

Introduction

In India, the readymade garment industry providing employment to more than 3 million persons¹. People working in these industries are more prone to MSDs. The work environment in a majority of these units is unsafe and unhealthy. MSDs or musculoskeletal disorders are disorders of the muscles, tendons, ligaments, joints and cartilage and nervous system. It affects nearly all body parts including arms, back, hands, leg. People who do continuous, repetitive work in fixed and static positions are more susceptible to getting health related problems. Long working hours without rest periods in between the work give rise to physical as well as mental fatigue. But the change in body posture and position of the body will also provide rest or relaxation to the body. Evidences from a number of studies suggest that all these disorders principally result from constrained working postures, monotonous and repetitive work and psychological fatigue. William² found that muscle pain is often experienced by workers who do continuous and repetitive work. Pascal³ did study on MSD in computer operators and reported that static posture increases the risk of work related MSD whereas varied posture and rest periods may lower risk of MSDs. Whereas the rest periods provided in between the working hours may lower the risk of MSDs. The results of a cohort study conducted on nurses reported that women exposed to long terms (six or more years) of shift work have 50% increased risk of coronary heart disease⁴. Metgud et al.⁵ found that ergonomically designed furniture such as provision of a backrest, workplace, healthy environment and rest periods are some of the factors that could remediate the musculoskeletal symptoms.

Objectives: To find out the role of rest periods to avoid frequency of pain and MSDs.

Methodology

The study was conducted in garment manufacturing units located in Ghaziabad. Total of 110 sewing machine operators consisted of 55 men and 55 women of garment manufacturing units aged between 30-55 years were selected. Semi-structured interview schedule, observation guide and body map (for checking body pain in various body parts) were used to collect information from the sewing machine operators.

Results and Discussion

The above Table 1 shows that maximum male 45.5 per cent and 41.8 per cent female workers took the rest period of maximum half an hour and one hour while 30.9 per cent men and 23.6 per cent women took rest for one hour and 2 hour. Whereas 7.2 per cent male and 16.3 per cent female workers took rest period for more than two hour. Therefore, it was concluded that no rest periods were provided during working hour besides lunch break of half an hour. Some of the workers did not give any importance to rest periods as they reported that they can stitch one shirt in rest period time and they didn't want to waste time by taking rest periods.

Table 2 reveals that majority of male 52.8 per cent and female 34.6 per cent workers experienced pain once in between a week and one month whereas 23.6 per cent female and 18.1 per cent male workers faced pain once in less than a week. A lower percentage 5.4 per cent male and 9.1 per cent female felt constant pain for 1 or 2 days with the result they had to take leave at least for two days.

Table-1
Distribution of workers according to rest periods during work

Total Respondents =110				
Rest periods	Male workers		Female workers	
	Frequency (n=55)	Percentage (%)	Frequency (n=55)	Percentage (%)
For ½ an hrs	25	45.5	10	18.1
1 hrs	17	30.9	23	41.8
2 hrs	9	16.3	13	23.6
> than 2 hrs	4	7.2	9	16.3

Table-2
Distribution of workers according to their frequency of pain

Total Respondents =110				
Frequency of pain	Male workers		Female workers	
	Frequency (n=55)	Percentage (%)	Frequency (n=55)	Percentage (%)
Less than a week	8	14.5	13	23.6
Between a week and 1 month	29	52.8	19	34.6
Longer than a month but not constant	10	18.1	12	21.8
constant	3	5.4	5	9.1
No pain	5	9.1	6	10.9

Table-3
Distribution of workers according to the incidences of pain in various body parts

Total Respondents =110				
Incidences of pain in various body parts.	Male workers		Female workers	
	Frequency (n=55)	Percentage (%)	Frequency (n=55)	Percentage (%)
Shoulders	25	45.4	17	30.9
Neck	12	21.8	21	38.1
Back	16	29.0	33	60
Hand	9	16.3	5	9.0

*more than one response

The table 3 reveals that majority 45.4 per cent male were suffering from shoulder pain while 60.0 per cent women were suffering from back pain while 29.0 per cent male and 38.1 per cent female faced problem due to back and neck pain. A minor percentage 16.3 per cent male and 9.0 per cent female complained of pain in their hands. So, it concluded that these are the symptoms of some musculoskeletal disorders (MSDs) which occur due to repetitive motion and awkward postures adopted while stitching.

Conclusion

It is found that no rest periods were provided during working hour besides lunch break of half an hour and most of them don't give importance to rest periods. Rest periods provided in between the working hours help the workers to relieve them from fatigue and monotonous routine work. otherwise it may cause frustration and stress at workplace. Majority of male and female workers experienced pain once in between a week and one month. Shoulder, neck, hand and back pains are the symptoms of some musculoskeletal disorders (MSDs) which occur due to repetitive motion and awkward postures adopted while stitching. These MSDs includes Carpel tunnel

syndrome, Rotator cuff tendonitis, De-quervain's disease, Supraspinatus tendonitis, Bicapital tendinitis, Cervical spindolytis, Lumbago (Low back pain), Sciatica, Faciatis and Bursitis. People working in such poor or substandard environment are more prone to occupational hazards and musculoskeletal disorders.

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