

Muscular skeletal problems faced by working women

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ABSTRACT

The present study was carried out to identify the muscular skeletal problems faced by the working women of different professions *viz.* sweepers, vendors and construction workers. Ninety working women were surveyed by random method belonging to Teh. Jaora District Ratlam for studying the general background, frequency of postural changes and muscular skeletal problems faced by them and it was observed that the activities which were time consuming, highly difficult involved, maximum perceived exertion, increased heart rate and more energy demand increased maximum in muscular pain in the body particularly at upper back and lower back. Due to the severe pain in the body, they faced the health problems also.

Key words : Muscular skeletal problems, Body incidence pain, Working women.

Indian woman plays an important role in the unorganized sector. Her work often demands more time and energy resources. She performs the activities in her own usual way adopting casual postures without realizing the cost of energy and other muscular efforts which ultimately result in muscular skeletal problems leading to drudgery. According to Saha (1999), the major health problems related to abnormal working posture are the 'problems of aches' of the muscular skeletal system. While working abnormal postures such as bending, stooping, twisting etc. which might likely to cause many health problems particularly in the muscular skeletal system in the long run. These may lead to body deformities. In view of the above facts a systematic study on different professional activities was carried out to study the general background of the working women, observe frequency of postural change while performing the professional activities and identify muscular skeletal problems faced by sweepers, vendors and construction workers.

METHODOLOGY

Selection of the sample:

A purposive sample was selected by the random method for conducting the survey. The total sample consisted of 90 working women of different professions *viz.* sweepers, vendors and construction workers belonging to block Jaora Dist. Ratlam in 2006.

Survey:

In the survey questionnaire for data collection was used for assessing the information regarding general background and so on.

Identification of muscular skeletal problems:

Incidence of muscular skeletal problems of the

selected subjects was identified by using the 'body map'. After completing the activity incidence of body pain at different body parts *viz.* upper extremities and lower extremities were recorded on five point scale *i.e.* very severe (05), severe (04), moderate (03), light (02) and very light (01) (AICRP Project, 2000).

RESULTS AND DISCUSSION

General background of the working women:

Majority of the women were belonging to 30-41 yrs, illiterate, married and of nuclear family. In the remaining sample, 17.33 per cent women were 42-52 yrs age and 14.70 per cent were 20-29 years age. Most of them were primary school educated. Very few were belonging to the category of high school education. Only 20 ladies have completed higher education out of which 8 were graduates and 12 completed higher secondary. Though majority of were married, the sample also consisted of 8 widows. Most of the families were earning 2000 to 4550 rupees as monthly income.

Frequency of the postural change:

It was observed that maximum (100%) of the vendor respondents performed the activity of carrying vegetables and fruits in the standing posture whereas selling vegetables and fruits was performed in sitting posture. All the sweeper respondents used slight bending for sweeping and standing and bending for carrying garbage. The activities of construction workers were performed in standing and bending posture by all the respondents.

Incidence of muscular skeletal problems:

The muscular skeletal problems observed in sweeper respondents were presented in Table 1. No respondent

suffered with very severe problems. While carrying garbage however 3.33 per cent respondents suffered with very severe problems related to lower arm, lower back and leg/ feet while performing the activity sweeping. Maximum (50.00 to 53.33%) number of respondents suffered with moderate upper back or cervical problems followed moderate neck, mild upper arm, mild and moderate lower back problems, mild ankles / feet, mild leg or knee, moderate fingers/ palm problems while sweeping. In case of carrying garbage maximum percentage of respondents suffered with moderate upper back or cervical problems followed mild neck problems by moderate lower back, mild leg or knee, mild ankles / feet problems, mild upper arm and moderate knee and leg problems.

Muscular skeletal problems faced by vender's respondents are given in Table 2. None of the respondents suffered with severe problems in any activity. Very few respondents (3.33 to 40.00 %) suffered with severe problems in both the activities. However, the incidence of problems was more in carrying vegetables / fruits baskets whereas incidence of problems was less in selling vegetables / fruits. Similar trend was noted with respect to very mild problems in both the activities. Only 3.33 to 6.66 per cent of respondents suffered with very mild problems. In carrying vegetables / fruits baskets, the respondents suffered with head, eye, thigh muscles, leg / knee and ankles / feet problems, whereas in selling vegetables / fruits the respondents were suffered with leg / knee and ankles / feet problems. Majority of the respondents suffered with mild and moderate problems, mostly while carrying vegetables / fruits baskets. The

suffering was comparatively less in other activity. Maximum percentage of respondents suffered with moderate upper back or cervical problems followed by upper arm, mild ankles or feet, mild leg or knee and thigh muscles, moderate lower back, mild shoulder joint , mild lower arm and neck etc. while carrying vegetables / fruits baskets. On the other hand while selling the vegetables / fruits major per centage of the respondents suffered with moderate upper back or cervical followed by moderate upper arm, mild shoulder joint, mild leg or knee, mild lower arm and severe lower back problems. It is evident from the Table irrespective of the activity, majority of the vender respondents suffered with moderate upper back and cervical problems.

Table 3 explains the muscular skeletal faced by construction workers. In both the activities, no one suffered with the severe problems. The percentage of respondents suffered with either severe or moderate problems was found to be low and ranged from 3.33 to 26.66 per cent. The severe problems included neck, shoulder joint, upper arm, upper back / cervical, lower back, leg or knee and ankles or feet problems. Irrespective of the activity maximum number suffered with (26.66 %) severe lower back problems whereas minimum percentage (3.33 %) suffered with neck problems while carrying bricks and in leg muscles and ankles / feet while carrying sand and cement. Majority of the respondents while carrying bricks suffered with moderate upper back, cervical problems followed by moderate shoulder joint, mild leg or knee, moderate lower back, mild ankles / feet, mild and moderate upper arm, mild thigh muscles. In case of carrying mixture of sand

Table 1 : Muscular skeletal problems faced by the sweeper respondents (N=30)

Body Parts	Incidence of body pain (%)									
	I-Sweeping					II-Carrying garbage				
	1	2	3	4	5	1	2	3	4	5
Upper extremities										
Head	-	01(03.33)	-	-	-	05(16.66)	05(16.66)	02(06.66)	-	-
Eye	01(03.33)	04(13.33)	03(10.00)	-	-	-	01(03.33)	03(10.00)	-	-
Neck	01(03.33)	07(23.33)	15(50.00)	-	-	01(03.33)	17(56.66)	09(30.00)	-	-
Shoulder Joint	08(26.66)	08(26.66)	07(23.33)	-	-	08(26.66)	09(30.00)	05(16.66)	-	-
Upper arm	03(10.00)	14(46.66)	07(23.33)	-	-	02(6.66)	10(33.33)	07(23.33)	02(06.66)	-
Lower arm	05(16.66)	09(30.00)	04(03.33)	-	01(03.33)	03(10.00)	03(10.00)	01(03.33)	-	-
Fingers/Palms	03(10.00)	08(26.66)	11(36.66)	06(20.00)	-	-	-	04(13.33)	01(03.33)	-
Upper back/Cervical	-	07(23.33)	16(53.33)	07(23.33)	-	-	15(50.00)	18(60.00)	08(26.66)	-
Lower extremities										
Lower back	01(3.33)	13(43.33)	13(43.33)	02(6.66)	01(03.33)	03(10.00)	08(26.66)	14(46.66)	05(16.66)	-
Thigh muscles	08(26.66)	05(16.66)	06(20.00)	03(10.00)	-	08(26.66)	08(26.66)	01(03.33)	02(06.66)	-
Leg/Knee	03(10.00)	11(36.66)	11(36.66)	03(10.00)	01(03.33)	04(13.33)	12(40.00)	10(33.33)	01(03.33)	-
Ankles/Feet	05(16.66)	1(36.66)	6(20.00)	03(10.00)	-	6(20.00)	11(36.66)	05(16.66)	01(03.33)	-

1 = very mild, 2 = mild, 3 = moderate, 4 = severe and 5 = very severe.

(Figures in parenthesis indicate percentage)

Table 2 : Muscular skeletal problems faced by the vender respondents (N=30)										
Body Parts	Incidence of body pain (%)									
	II-Carrying vegetables / fruits					II-Selling vegetables / fruits				
	1	2	3	4	5	1	2	3	4	5
Upper extremities										
Head	01(03.33)	11(36.66)	06(20.00)	-	-	-	-	-	-	-
Eye	02(06.66)	-	-	-	-	-	-	-	-	-
Neck	-	12(40.00)	11(36.66)	-	-	-	08(26.66)	01(03.33)	-	-
Shoulder Joint	-	15(50.00)	15(50.00)	-	-	-	19(63.33)	11(36.66)	-	-
Upper arm	-	08(26.66)	19(63.33)	03(10.00)	-	-	05(16.66)	22(73.33)	03(10.00)	-
Lower arm	-	12(40.00)	01(03.33)	-	-	-	13(43.33)	02(06.66)	-	-
Fingers/Palms	-	01(03.33)	05(16.66)	01(03.33)	-	-	01(03.33)	04(13.33)	-	-
Upper back/Cervical	-	01(03.33)	25(83.33)	04(13.33)	-	-	05(16.66)	24(80.00)	01(03.33)	-
Lower extremities										
Lower back	-	11(36.66)	16(53.33)	02(06.66)	-	-	09(30.00)	09(30.00)	12(40.00)	-
Thigh/muscles	01(03.33)	16(53.33)	11(36.66)	-	-	-	05(16.66)	04(13.33)	-	-
Leg/Knee	01(03.33)	16(53.33)	11(36.66)	02(06.66)	-	01(3.33)	14(46.66)	07(23.33)	-	-
Ankles/Feet	02(06.66)	17(56.66)	11(36.66)	-	-	02(6.66)	11(36.66)	09(30.00)	-	-

1 = very mild, 2 = mild, 3 = moderate, 4 = severe and 5 = very severe.

(Figures in parenthesis indicate percentage)

Table 3 : Muscular skeletal problems faced by the construction workers (N=30)										
Body parts	Incidence of body pain (%)									
	1.Carrying bricks					2. Carrying sand and cement				
	1	2	3	4	5	1	2	3	4	5
Upper extremities										
Head	-	11(36.66)	10(33.33)	-	-	02(06.66)	15(50.00)	04(13.33)	-	-
Eye	-	-	-	-	-	-	-	-	-	-
Neck	-	09(30.00)	07(23.33)	01(03.33)	-	-	13(43.33)	04(13.33)	-	-
Shoulder Joint	-	11(36.66)	16(53.33)	03(10.00)	-	02(06.66)	13(43.33)	13(43.33)	02(06.66)	-
Upper arm	-	13(43.33)	14(46.66)	03(10.00)	-	01(03.33)	12(40.00)	14(46.66)	02(06.66)	-
Lower arm	02(06.66)	03(10.00)	01(03.33)	-	-	01(03.33)	05(16.66)	01(03.33)	-	-
Fingers/Palms	03(10.00)	03(10.00)	01(03.33)	-	-	02(06.66)	04(13.33)	01(03.33)	-	-
Upper back/Cervical	-	07(23.33)	18(60.00)	05(16.66)	-	-	07(23.33)	18(60.00)	05(16.66)	-
Lower extremities										
Lower back	-	07(23.33)	15(50.00)	08(26.66)	-	-	06(20.00)	16(53.33)	08(26.66)	-
Thigh/muscles	03(10.00)	13(43.33)	10(33.33)	-	-	-	11(36.66)	13(43.33)	-	-
Leg/Knee	01(03.33)	02(06.66)	01(03.33)	02(06.66)	-	02(06.66)	03(10.00)	03(10.00)	03(10.00)	-
Ankles/ Feet	03(10.00)	02(06.66)	02(06.66)	02(06.66)	-	02(06.66)	02(06.66)	03(10.00)	03(10.00)	-

1 = very mild, 2 = mild, 3 = moderate, 4 = severe and 5 = very severe

(Figures in parenthesis indicate percentage)

and cement, majority of them suffered with moderate upper back or cervical followed by moderate upper arm, moderate to mild neck and shoulder joint problems, moderate thigh muscles problems, mild leg / knees and ankles / feet problems etc. Irrespective of the activity 60 per cent of the respondents suffered with moderate upper back or cervical problems in construction workers.

Conclusion:

In the present study the data clearly projected that

the activities pertaining to venders and construction workers were time consuming, highly difficult involved, maximum perceived exertion, increased heart rate and more energy expenditure. Therefore, due to heavy strain under gone during professional work were suffering maximum with both upper and lower back problems and it is also quite true that different body postures were used while performing the activities like standing, sitting, squatting and standing cum bending posture were most strenuous than the sitting. Because of these two postures

maximum muscular skeletal problems were observed in vendors and construction workers.

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REFERENCES

AICRP (2000). Report of All India Coordinated Research Project (AICRP). Dept. of Home Management, College of Home Science. M.A.U., Parbhani (M.S.), India.

Saha, P.N. (1999). Ergonomics and its scope in the modern industrial society Background material of training course on ergonomics organized by P.G. Department of Family Resource Management. S. N. D. T. Women's University Juhu, Mumbai India.

