International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2016): 79.57 | Impact Factor (2017): 7.296

Work - Related Musculoskeletal Disorder among Farm Women

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Abstract: ***Women have contributed actively towards national development but still their role generally goes unrecognized and undervalued. Women from rural and low income households are pushed to do strenuous work. Their hours of work are unrecognized and unpaid. The daily work schedule of farm women is very demanding and arduous. It is estimated that during peak period women work every day for about 8-9 hours in agriculture and 4 hours in household activities. Farm women adopt long static postures when they perform different activities such as sowing, transplanting, weeding, inter culture harvesting, threshing, and post-harvest operations like, shelling, cleaning, grading, fuel and fodder collection etc. They do the work which is very laborious and involve repetitive actions. Therefore, the present study was undertaken to find out the work- related musculoskeletal disorders related to pain and discomfort such as back pain, shoulder and arm pain, disorders of wrist, back and lower extremities. This is mainly due to lack of awareness of the basic principles, poor working conditions and reluctance to change existing and traditional work methods and tools. The study was conducted to find the health risks factors of women to gather information about their perceived health risk in Jawahar Nagar village in Udham Singh Nagar district of Uttarakhand. A descriptive cum experimental research was chosen purposively with the sample size of 200 farm women. The data was collected through personal interview technique. A major fraction of the population was in the age group 25- 40 yearsand literacy was found to be low in this study. Monthly family income from all the sources was found to be Rs. 7,500 to Rs. 10,000. The results showed that most common activities performed by farm women were carrying load, collection of fuel/fodder, harvesting, transplanting, sowing and weeding etcfor more than 8 hours a day. The most commonly affected regions among the farm women are shoulders, ankles/feet, wrist/ hands, elbows, knees, upper back, lower back for the last 12 months. It was concluded that ergonomically designed hand tool along with improved work may enhance the work efficiency and comfort of farm women; it may reduce the occurrence of musculoskeletal disorder problem and postural stress of farm women.***

Keywords: Musculoskeletal Disorder, Physiological Stress, Discomfort

1. Introduction

In rural India women plays a major role in shaping the economy of the country. There is little recognition of women's contribution of the socio- economic development of a nation. The contribution of women in agriculture and allied activities is a recognized factor. Most of the work performed by farm women is carried out by conventional or any available tools which are not women friendly causing fatigue and ill health. It is reported that men have adopted mechanized agriculture and women's work has remained predominantly manual. Musculoskeletal problems start as minor aches and pain, but when left unaddressed can results in serious injuries that can be permanently disabling the person. It the activities are continue, strain in the ligaments, bones and muscles for long duration of time results in musculoskeletal stresses. In addition, those painful injuries take long recovery periods and chances are that severely injured women may never be able to return to performed their work/ activities. Even now a days agricultural activities like sowing, transplanting, weeding, inter culture harvesting, threshing, and post-harvest operations like, shelling, cleaning, grading, fuel and fodder collection etc.being carried out manually for prolonged duration in bending posture with a very little rest period in between which results in fatigue. Hence, there is need to study the farm women's workload and to improve technology to reduce drudgery.

There is an urgent need to study the ergonomic aspect in detail to quantify the involvement in agricultural operations with respect to cutting and carrying the load activities. The investigation on ergonomic assessment of work related musculoskeletal disorders amongfarm women due to involvement in load carrying activities.Keeping this view the present study was carried out with the following objectives.

Ergonomic assessment of work related musculoskeletal disorders among farm women

2. Methodology

The present study was carried out at G. B. Pant University of Agriculture & Technology, PantnagarUdham Singh Nagar, Uttarakhand. Purposive sampling techniques was used for selecting the locale of the study, while proportional allocation method was used for selecting the sample size who were involved in cutting the grasses and carrying the load activities. For collecting the relevant data as per objectives of the study, an interview schedule was prepared. Interview schedule consisted of general information regarding age, occupation and socio- economic status of the respondents, profile of the agricultural work. Interview schedule also entailed with questions/ observations regarding the Nordic musculoskeletal based on checklist.

3. Research Findings and Discussion

Assessment of work - related musculoskeletal disorders was done by using the Nordic musculoskeletal questionnaire validated by Kuroinka et al. (1987). Categorical Yes/No questions were used to address the incidence on included body parts trouble (ache, pain, discomfort) during the whole life span, during 12 months, one month and during last 7 days.

Table 1: Prevalence of musculoskeletal pain and discomfort among farm women in the last 12 months, (n=40)

Body part	*Farm women (frequency)*
Neck	40 (100)
Shoulder	
Right	-
Left	-
Both	40 (100)
Elbow	
Right	-
Left	-
Both	30 (75)
Wrist/ hands	
Right	-
Left	-
Both	34 (85)
Upper back	40 (100)
Low back	37 (92.5)
Hips / thighs	38 (95)
Knees	35 (87.5)
Ankles / feet	27 (67.5)

Figures in parenthesis indicate the percentage values

All the selected farm women had given their responses, which were analyzed and the results depicts that the majority of the farm women were feeling pain/ discomfort in different body parts. Table- 1 depicts the prevalence of musculoskeletal symptoms in different body regions of the farm women. During the last 12 months 40 per cent of the respondents had pain and discomfort in neck and both shoulders. When asked about pain in elbow 75 per cent of farm women had complained pain in elbows, pain in wrist 85 per cent and lower back 92.5 per cent. All selected respondent reported, pain in upper back and almost 95 per cent respondent's pain in hips/ thighs. Respondents complained about pain in knees 87.5 per cent, whereas 67.5 per cent reported pain in ankles/ feet.

Table 2: Prevalence of musculoskeletal pain and discomfort among farm women in last one month's (n=40)

Body part	*Farm women (frequency)*
Neck	36 (90)
Shoulder	
Right	-
Left	-
Both	40 (100)
Elbow	
Right	7 (17.5)
Left	-
Both	25 (62.5)
Wrist/ hands	
Right	-
Left	-
Both	32 (80)
Upper back	40 (100)
Low back	40 (100)
Hips / thighs	34 (85)
Knees	32 (80)
Ankles / feet	31 (77.5)

Figures in parenthesis indicate the percentage values

Regarding pain and discomfort during last month total of 90 per cent of respondents, complained of neck pain. Concerning pain in both shoulders, all of the respondents reported discomfort. On the other hand nearly 18 per cent respondents complained pain in right elbow, whereas nearly 63 per cent of respondents reported pain in both elbow.

Majority of the respondents i.e. 80 per cent complained of wrist/ hand pain and knees. Studies clearly showed that all the respondents said that they had pain in upper and lower back during last one month. Total 85 per cent respondents suffered from the hips and thighs pain. On the other hand approximately 38 per cent farm women reported pain in ankles/ feet lasting for 12 hours.

Table 3: Prevalence of musculoskeletal pain and discomfort among farm women at any time during 7 days, (n=40)

Body part	*Farm women (frequency)*
Neck	40 (100)
Shoulder	
Right	-
Left	-
Both	40 (100)
Elbow	
Right	11 (27.5)
Left	-
Both	29 (72.5)
Wrist/ hands	
Right	3 (7.5)
Left	-
Both	37 (92.5)
Upper back	38 (95)
Low back	40 (100)
Hips / thighs	36 (90)
Knees	29 (72.5)
Ankles / feet	24 (60)

Figures in parenthesis indicate the percentage values

Further all the respondents reported pain on neck and both shoulder during last 7 days. Nearly 27.5 per cent respondents had right elbow pain, whereas 72.5 per cent complained pain in both elbow. Ninety five per cent women complained of the upper back pain, whereas all selected respondents had low back pain. Majority of the respondents i.e. 90 per cent reported pain in hips/thighs and 72.5 per cent had pain in knees. On the other hand sixty per cent respondents suffered from ankles/ feet pain.

4. Conclusion

From the study it was concluded that, prevalence of 12 month musculoskeletal pain/ discomfort that all farm women felt pain and discomfort in neck, both shoulder and wrists, upper and low back, knees and also in ankles/ feet. Regarding pain and discomfort during last month all the farm women felt pain/ discomfort in both shoulders, upper and in low back. It was also found that 80 per cent of the farm women had pain in neck, wrist/ hands/ thigh and in knees. It was further concluded that all the selected farm women had given their responses which were analyzed and the results showed that the majority of the farm women were feeling pain/ discomfort in difference body parts.

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