



PREVALENCE OF MUSCULOSKELETAL DISORDERS AMONG WOMEN WORKERS OF HIMADRI HANS HANDLOOM

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ABSTRACT Uttarakhand is a hilly region, and many have migrated for employment to plains. One major means of living there is handloom industry. A one year survey study was done among women workers of Himadri Hans Handloom, Almora to find the prevalence of musculoskeletal disorders. Standardised Nordic questionnaire was used among subjects taken conveniently. Results revealed there is high prevalence of WMSDs among weavers with maximum effect on low back (14.6%) followed by shoulder (13.6%) neck (13.1%), knees (12.6%), upper back (11.5%), wrists (10.4%), elbow (8.8%), ankles/feet (8.3%) and hip/thighs (7.0%).

KEYWORDS : Work related musculoskeletal disorders (WRMDs), Handloom workers.

INTRODUCTION

“Work-Related Musculoskeletal Disorders” (WRMDs) is a term used to describe a painful or disabling injury to the muscle, tendon or nerves caused or aggravated by work. Several studies on handloom weavers have showed that there are a high rate of work-related musculoskeletal problems throughout the world and is a major cause of disability affecting not only individual but the society as a whole.²

Weaving is considered to be one of the most tedious profession, that demands long hours of static work which can develop musculoskeletal disorders (MSD) as awkward posture, repetitive movements and contact in work, causing musculoskeletal strain increasing the possibility of fatigue and insufficient tissue recovery period leading to pain and discomfort.³ Work-related musculoskeletal disorders are injuries or disorders occurred to the muscles, nerves, tendons, joints, cartilage, and spinal discs.⁴

The process of weaving encompasses a multitude of activities involving repeated movement of upper and lower limbs to operate pedals and shuttles, with arms rose away from the body. As a result of this weaving and other handloom activities become a high risk occupation for developing musculoskeletal disorders.⁵

Work related musculoskeletal disorders adversely affect individual worker and business activities, including reducing work productivity and well-being of workers, increasing medical cost, decreasing job satisfaction, degrading the quality of the physical and mental dimensions of health, and causing daily activity limitation.⁶

The purpose of this study was to find the prevalence of work related musculoskeletal disorders among women working at Himadri Hans, Handloom Dinapani, Almora, Uttarakhand.

METHODOLOGY

Study Design

The study is a survey study of 12 months duration to find the prevalence of WMSD among women working at handloom.

Sampling Technique:

women workers from Himadri Hans Handloom Deenapani Almora were selected according to the inclusion and exclusion criteria. All subjects signed a consent form and were ready to take part in the study. Subjects were given instructions regarding procedure.

Source of data: 160 women workers of himadri hans, handloom, dinapani, almora, uttarakhand were taken as subjects of the study.

Eligibility

Inclusion Criteria

- Women workers age 19-55 years of Himadri Hans handloom Deenapani Almora.
- Complaint of non-specific pain at various body regions.

Exclusion Criteria

- Pregnant and lactating women.
- Recent Hospitalisation.
- Spinal surgeries.
- Evidence of a specific pathological condition

Procedure

The subjects were introduced to the study followed by signing of consent form, general assessment regarding the socio-demographic data (name, gender, age, education level, post medical history, & personal history, family history were gathered in participants assessment form.

Standardised Nordic musculoskeletal questionnaire was used for evaluation of musculoskeletal problems in body regions.

The questionnaire consisted of a series of objective questions with yes or no response and some were in multiple choice questions.

RESULTS

The entire questions were scored and submission of all scores was done. The collected data was analysed by IBM SPSS Statistics 23.

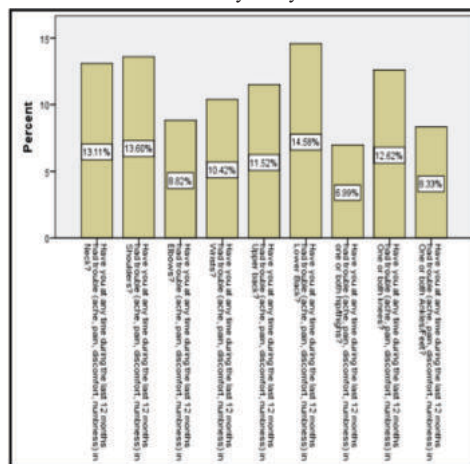


Fig 1: Bar Chart representing percentage of respondents who had trouble in last 12 months that prevented from doing normal work.

Table 1: Responses of trouble in last 7 days

	Responses	
	N	Percent
Have you had trouble at any time doing the last 7 days in Neck?	39	13.3%
Have you had trouble at any time doing the last 7 days in Shoulders?	37	12.6%
Have you had trouble at any time doing the last 7 days in Elbows?	23	7.8%

Have you had trouble at any time doing the last 7 days in Wrists?	28	9.5%
Have you had trouble at any time doing the last 7 days in Upper Back?	17	5.8%
Have you had trouble at any time doing the last 7 days in Lower Back?	61	20.7%
Have you had trouble at any time doing the last 7 days in one or both Hips/thighs?	21	7.1%
Have you had trouble at any time doing the last 7 days in one or both knees?	48	16.3%
Have you had trouble at any time doing the last 7 days in one or both Ankles/Feet?	20	6.8%
Total	294	100.0%

DISCUSSION

Musculoskeletal disorders is a graving issue among the informal sectors, and the handloom industry is no exception to this. Working for long hours, sitting in a static posture make the workers vulnerable to MSDs. In view of this, the present study aims to find the prevalence of MSDs among the women workers of Himadri Hans Handloom Deenapani, Distric Almora. The problems encompassed by the handloom workers is more in the lower back and neck, shoulder and the wrist/hands. MSDs preventing regular activities were significantly higher among handloom workers. In the present study, the highest prevalence of musculoskeletal disorder was found in low back, of which 14.6% had trouble in last 12 months, 20.7% was having trouble during last 7 days and 17.1% were prevented from doing normal activities during last 12 months. The prevalence of musculoskeletal disorders during last 12 months revealed that maximum of them i.e. 14.6% were having pain in lower back. A previous study finding by Pavana et al. showed highest prevalence of pain due to musculoskeletal disorders during last 12 months in lower back (79.2%)⁷ and in a study by Naz H et al. the highest prevalence was found in right wrist (76.56%)⁸ and in a study by Rahman M et al. the highest prevalence was found in Hips (78.0%)²⁴.

Among all workers mostly found in lower back (20.7%) had problem during last 7 days. Similarly, in study by Pavana et al. Maximum trouble during last 7 days was found in lower back (69.7%)³. A finding by Naz H et al. Showed (59.38%) respondents had trouble in lower back⁸ and in a study by Rahman M et al. Showed 69.72% respondents had trouble in neck pain.⁹

In this study it was observed that due to lower back pain 17.1% workers were prevented from carrying out their normal activities during last 12 months. Less than half i.e. 14.5% due to Neck and 14% due to Knees, followed by 13.1% due to Shoulder, Upper back 10.6%, Wrists 8.4%, Hips/Thighs 7.5%, Elbows 7.4% and Ankles/Feet 7.4% were prevented from their normal activities in last 12 months.

A study done by D. C. Metgud et al¹⁰ to outline cardio-respiratory and musculoskeletal profile before, during and at the end of work on women textile workers of Belgaum in the spinning section with similarly long sitting posture without back rest. The study revealed that 91% of the subjects suffered from at least one work- related musculoskeletal pain in relation to length of occupational exposure and region-wise mapping of pain showed that percentage of postural pain in the low back (47%) was highest.

From the above discussion it can be concluded that traditional handloom workers of Himadri Hans Handloom Deenapani Almora Uttarakhand are equally affected with a high prevalence of musculoskeletal disorders that affects their ADL and productivity. There is an almost and urgent need of appropriate measures to prevent musculoskeletal disorders among traditional handloom workers keeping in mind the cultural value of ancient weaving method.

Limitations

1. Current study was only determined to find the prevalence of musculoskeletal disorders and did not include management to prevent musculoskeletal disorders.
2. Other handloom working industry could have been included. (present study included only Himadri Hans Handloom)
3. Male handloom workers could have been included.

Clinical Significance

The data obtained from this study will help the clinicians to determine the musculoskeletal disorders among women workers. By knowing this they can use best preventive measures to avoid musculoskeletal

disorders , proper awareness and well planned exercises , stretching , and ergonomic activities protocol should be given to the handloom workers.

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