International Journal of Multidisciplinary Research and Development
Online ISSN: 2349-4182, Print ISSN: 2349-5979, Impact Factor: RJIF 5.72
www.allsubjectjournal.com
Volume 4; Issue 4; April 2017; Page No. 196-200

A study on influence of physical related factors on performance of handloom weavers in Omalur Region, Salem Dist. Tamil Nadu, India

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Abstract
Handlooms have been known to India correct beginning the momentous times. This study explores the dynamics of local-level trade in plant based handloom product in Omalur region, Salem district. The handloom weaving region plays an essential role in the economic development of the rural areas. It supplies extensively by producing more employment opportunities and providing to the rural poor. In the present study, we have analysed, physical the influence of related factors on performance of handloom weavers. This studying is based on primary and secondary data sources. The study results revealed the situation of the weavers. Elongated hour's static works with awkward posture at traditionally designed looms cause high health problems among handloom weavers. An inclusive research was conducted in these regions with the objectives of determination of health problems. Most important factors associated with physical problems in handloom weaving occupation and Improvement of solutions of relieves and prevents their physical condition problems.

Keywords: Handloom, Omalur region, Handloom weavers, Physical problems assessment, solutions involvement

1. Introduction
Handloom production in India is an exceedingly older small house manufacturing with a decentralized setup. The production is an age old foundation of occupation for millions of public into the country. Thus, the industry represents single of the major sectors employing the largest number of persons after that just to agriculture.

Handloom work which can be dissimilar only as items produced by skill of hand which represent a division of the worker's temporary in addition to as centuries of evolutionary tradition. More than 90% of labour force and about 50% of the countrywide product are accounted for the informal economy.

Still the history of weavers cooperative dates back to the first quarter of 20th century, exactingly speaking serious efforts were made in the year 1934-35 to bring large number of weavers in Tamilnadu under the cooperative fold to strengthen entire handloom sector. It be single in this perspective, the Tamilnadu handloom weavers Cooperative Society Limited, traditionally known as "cooptex" was established in 1935.

The handloom industry is single of the largely earliest bungalow industries in Salem district of Tamilnadu, INDIA. Sari, Dhoti and angavasthram are finished exposed of silk yarn and cotton yarn. In the modern past, home furnishing items are also woven, mainly for export purposes. Added than 75,000 handlooms are working and the total value of cloth produced per annum is approximate at Rs. 5,000 crores.

The handloom tool also known as a lock is most commonly used handloom tool consists of a rectangle wooden loom with fixed to a handle which is an important part of rectangle loom.

Use of handloom tools in weaving tools may require exertion of significant hand force while Eye Pain, Hand Pain, Neck Pain, Back pain, Legs pain, Head pain, Stomach pain, Nose noise, Sitting pain and Routine work may be in awkward postures risk factors for problems have been developed due to unnatural postures and repetitive powerful physical exertion. Through with appropriate anthropometry studies the proportions of the human body.

1.1 Weaving
- Weaving is a process of fabric production in which two distinct sets of yarns are interlaced at right angles to each other to form a fabric or cloth.
- The lengthwise yarns are called the warp yarn and the width wise yarns are called the weft yarn.
- Selvedge: the length wise running edges of woven fabric are known as selvedges. It prevents unravelling of war yarns.

1.2 Sequence of Operations in Weaving (Handloom)

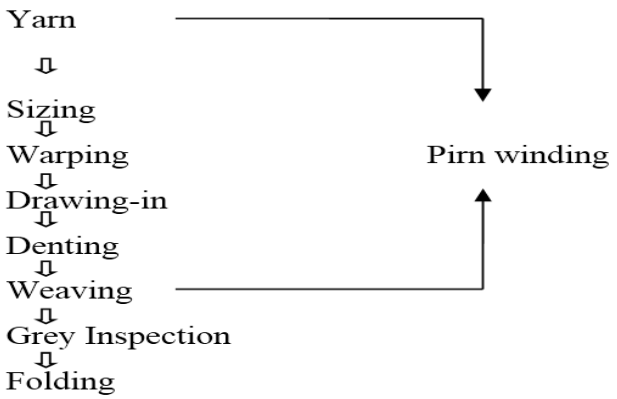

Fig 1

1.3 Theoretical structure
A theoretical structure is a systematic tool with a number of variations and contexts. It is used to create theoretical

differences and classify ideas. Tough theoretical structures confine something real and do this in a way that is easy to consider and concern. Similarly, theoretical structures are abstract demonstrations, associated to developments objective that direct the collection and analysis of data.

Working Hypothesis: Exploration or Exploratory research

Theoretical structures have been recognized by,

Table 1

Club of the Factors	Problems
1. i. Eye Strain / Pressure	Eye Pain
2. i. Shoulder pain ii. For arm pain iii. Soreness in elbow iv. Hand/ Wrist pain v. Stiffness in finger vi. Upper shoulder flexion vii. Upper arm postures	Hand Pain
3. Stiffness / Pressure in neck	Neck Pain
4. Low back pain	Back pain
5. Legs pain	Legs pain
6. Head ache	Head pain
7. Stomach ache	Stomach pain
8. Respiratory problems	Nose noise
9. Awkward posture	Sitting pain
10. Repetitive movement	Routine work

Visited place: Traditional handloom making process in Omalur region

1.4 Silk Handloom Weavers

Fig 2

1.5 Cotton Handloom Weavers

Notes: Best place towards outing to appreciate about traditional handloom making process which is located in lovely atmosphere, Down South Srilanka.

Fig 3

1.6 Objectives

1. To study the socio- economic conditions of cotton and silk handloom weaver's of Omalur region.
2. To analyse physical problems faced by cotton and silk handloom weavers of Omalur region.
3. To suggest the correct solutions for physical problems of cotton and silk handloom weavers of Omalur region.

2. Research Methodology

This present study has been conducted in Omalur region, Salem District. The current study is exploratory in nature and is generally based on primary data's. To investigate and assess the physical related factors of handloom work in Omalur region were visited and survey on general working status was conducted. Working on handloom involves long static standing posture where champs are mostly in repetitive motion leading to stress development on the body. Handloom divisions with 8-9 hours work list were selected for the study purpose; the weavers were both are healthy without any specific problems.

A assessment was carry out between Nov-2016 to Dec 2016 in different handloom work from 3 areas and around Omalur region, a district of Salem, to find out major work related problems be happening among the weavers. A sample of 108 respondents was chosen snowball (non-probability sampling) from unorganised (self-help group, small loom groups which are mainly home based) sectors to understand workstation related design problems be happening in the existing.

2.1Data Analysis and Interpretation

1. **Association between age group and Factor analysis of physical problems with cotton and silk hand looming weavers**

Table 1: Compare Age Group and Factors One Way Anova

Factors	Age group in years Upto 20	30-40 years	40-50 years	Above50	F value	P Value
Physical problems with cotton handloom weavers	10.000 (.000)	16.5385 (7.512)	13.5000 (6.098)	14.0000 (5.656)	1.587	.212
Physical problems with silk handloom weavers	19.800 (5.21)	18.000 (6.773)	21.5000 (4.676)	17.3636 (3.384)	1.801	.156
Overall physical problems	-	-	38.000 (5.656)	28.0000 (11.313)	1.250	.380

2.2 Inference

Since P value is greater than 0.05 % level is null hypothesis is accept 5 % level with respect to physical problems with cotton handloom weavers, Physical problems with silk handloom weavers and overall physical problems. Hence there is significant differ among age group with respect to physical problems with cotton handloom weavers, Silk handloom weavers and overall physical problems. Based on Duncan multiple range test (DMRT) the age group of upto 20 and 30-40years significantly differ with 40-50 years and above 50 years at 5% level with respect to physical problems of cotton handloom weavers. Also the age group of upto 20 and 30-40years significantly differ with 40-50 years and above 50 years at 5% level with regard to physical problem of silk handloom weavers and overall handloom weavers.

2. **Relationship between income and preference of Treatments compare with cotton and handloom weavers**

Table 2: Chi-Square Test for Preference of Treatments Required Problems Based On Monthly Income

Income	Govt. primary Health Centre	Govt. Hospital	Private Hospital	Clinic	Home remedies	Total	Chi-Square Value	P Value
<10,000	14 10.7	13 9.3	24 23.3	04 4.0	17 24.7	72 72.0	19.18	.014
10001-20000	02 4.4	18 10.3	07 9.7	02 1.7	01 1.7	30 30.0		
20001-30000	00 0.9	02 2.1	04 1.9	00 0.3	00 0.4	06 06.0		
Total	16 16.0	37 37.0	35 35.0	06 06.0	14 14.0	108 108.0		

2.3 Inference

Since P value greater than 0.05 the level null hypothesis accept 5% level of significant. Hence concluded that there is association between incomes and treatments of hospitals required problems. Based on Rows 04% of income have low level of treatments in clinic among 24% of Private hospitals treatments. Also 18% of incomes have high level of treatments in government hospitals.

2.4 Percentage Analysis of physical problems of cotton handloom weavers:

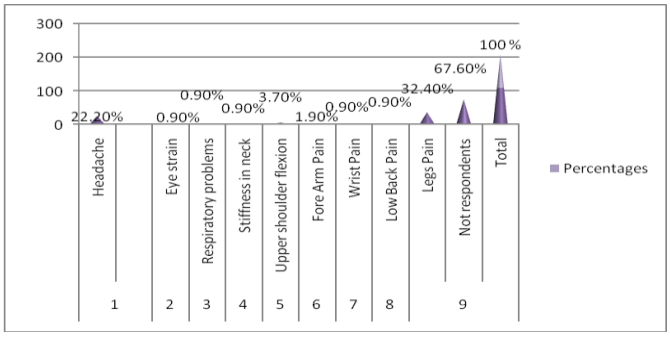

Fig 4

2.5 Inference

1. Chart shows that cotton handloom weaving worker highly affected were physical problems 32.40% of legs soreness and 22.20% of headache. Slowly affected by upper Shoulder pain.

2.6 Percentage Analysis of physical problems of silk handloom weavers

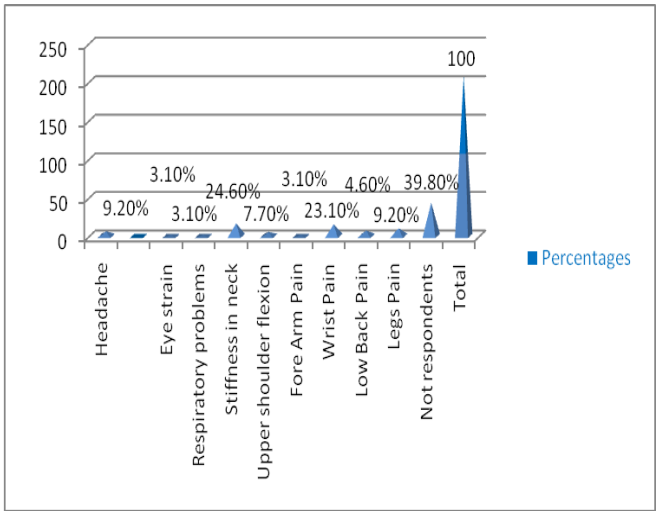

Fig 5

2.7 Inference

1. Chart shows that silk handloom weaving worker highly affected were physical problems 24.60% of stiffness in neck and 23.10% of wrist pain. Equally affected by headache and legs pain.

3. Findings

i. Weaving engages highly going over job, where the weavers spend more than 8 hours job schedule in a fine floorboard. The weavers are establishing to take on dissimilar styles of attitude nonstops and regular for achieving silk and cotton weaving. Above all this state of affairs, there is refusal physical rest to settle down at some stage in relax delay.

ii. If the headache is caused by weaving outfit observed. Also the ache and pain inadequate to one side of the head and can extremely severe. They are often come with by other symptoms on the side of the headache such as neck stiffness. Headache extremely occurred in cotton weavers. Neck stiffness mainly occurred in silk weavers.

iii. Pulling force is needed for shuttle process with a reproduction of frequently for 10 to 15 minutes essential to the expansion of tiredness in Trapeziums muscles. Due to affect upper shoulder pain. USP mostly affected to cotton weavers.

iv. Textile revolving is an exhausting applies which engages several steps and has to be ended past every 20- 30 minute intervals. At first, someone has to get out of the seat and go to previous surface of the loom. Revolve is then required to be not closed followed by tightening and adjusting the textile revolve. The ray is relocked which is followed by recurring and reaching on to the seat. Due to cause by wrist pain and low back pain. Its pain mostly affected to silk weavers.

v. Standing associated occupation the gap between 2 hours which results legs to activate for burdening is affected by legs soreness. Legs Soreness is common for cotton and silk.

vi. Most of the cotton and silk handloom weavers are used pain relieving system was home remedies and depend upon private hospitals.

4. Suggestions

i. Charming an over-the-counter pain reliever such as finding ways to relax, rest, correct poor posture, and exercise can all help to relieve and prevent headache and neck stiffness.

ii. Avoid highly repetitive activity of pulling force and also avoid this whole process, they lean forward and maintain this posture during weaving, as long as possible, leading to development of severe back pain. Acupuncture is a best of treating an upper shoulder pain and low back pain. Standards treatment is relieve long time pains.

iii. Stretching and massaging the muscle may help to solve the legs pain and wrist pain. No drugs are recommended for the treatment of simple legs pain and wrist pain.

iv. Suggest not only treatment was secure the physical problems must take nutritive food habit need for their health.

v. Need to know about medical facilities and home remedies crash are very fair.

vi. Government should provide free health insurance, health checkups; create awareness in acupuncture treatment to handloom weavers etc.

5. Conclusions

A results show that legs soreness, headache, stiffness in neck, wrist pain and upper shoulder pain was the big problem of handloom weavers. The learning highlight the require for extra research concerning the postural strain of weavers and also suggests the implementation of yoga meditation and food taking plan into weaver workstations to the advice minimize the current working problems. Improving upon the weaver's work-posture could improve their quality of life.

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