ISSN No: 3048-5851 (Online)
Vol.2, Issue No.1, June 2025:51-63

DOI: https://doi.org/10.21276/smprt.202506.21.a5

Occupational Health Issues among the Bhulia Handloom Weavers in Western Odisha

Bedaprakash Narayan Tanty[1] and Rashmi Pramanik[2]

Received: 26-03-2025 *Accepted: 15-05-2025*

How to cite this article:
Tanty, Bedaprakash Narayan and Rashmi Pramanik. 2025. 'Occupational Health Issues among the Bhulia Handloom Weavers in Western Odisha'. *Sampratyaya,* 2(1):51-63. DOI: 10.21276/smprt.202506.21.a5

Abstract

Handloom weaving, a traditional craft, is a primary livelihood for the Bhulia community in Western Odisha. This study, conducted in six Bhulia-dominated villages of Ullunda Block, Subarnapur district, surveyed 240 weavers (120 men and 120 women) to assess health issues arising from prolonged weaving activities. Findings reveal that 25.84 per cent of men and 18.34 per cent of women weavers suffer from various MSDs. Common issues include back pain, eye strain, digestive disorders, joint and muscle pain, headaches, and respiratory problems. These are largely due to the static and repetitive nature of weaving tasks - bending, sitting for long hours, and continuous hand and eye movements. Data was collected through structured surveys, interviews, and focus group discussions. The study concludes that health issues among weavers are occupational, not natural, and calls for targeted interventions to improve working conditions and revive the traditional handloom sector through better health and productivity.

Keywords: Occupational Health Issues among Handloom Weavers, Gendered-based Division of Weaving Tasks, Musculo-skeletal Disorders.

1.0 Introduction

Handloom weaving is a primary occupation for many communities around the world. It reflects their art, skill, knowledge, and culture. In rural India, many weaving communities continue this tradition, preserving skills passed down through generations.

The Bhulia community in Western Odisha is one such community. The handloom weaving is their traditional occupation and the main source of livelihood. The skills are usually passed from parents to children, helping to maintain the craft over time (Sarkar 2016). In a typical Bhulia household, the head of the family leads the weaving work and guides other members. Women in the family assist in weaving and related tasks. Children sometimes help,

[1] Research Associate (PDF), Research Centre of Excellence-Regional Development and Tribal studies (RCOE-RDTS), Sambalpur University. Email- bedaprakashtanty1986@gmail.com

[2] Assistant Professor, Dept. of Anthropology, Sambalpur University., Email- rashmipramanik@yahoo.co.in

Corresponding author's email: rashmipramanik@yahoo.co.in

but they are not directly involved in the weaving process. The Musculoskeletal Disorders (MSDs) disorders are common among men and women in the Bhulia community.

Handloom weaving is a household-based activity that involves all members of the family in different supporting tasks. Since the work is mostly done within the home premises, the allied workers, often women and other family members contribute in it. Almost all the tasks require sitting on the ground in a fixed position. Traditional weavers usually sit on the floor and operate the loom manually. They use foot pedals placed in a pit to run the loom (Singh and Singh 2019).

While there is much literature on the socio-economic aspects of handloom weavers, the health wellbeing of the weavers, an issue with significant well-being and economic consequences for both the weavers and their families has often been overlooked in research and policymaking. The prevalence of MSDs, such as low back pain, carpal tunnel syndrome, and tendonitis, are among the most prevalent health issues affecting handloom weavers. These disorders result from repetitive motions, awkward and non-neutral postures, long working hours, and poor working conditions. In addition to these musculoskeletal issues, weavers also face other occupational health hazards, including weakened eyesight, early cataracts, vision loss, high or low blood pressure, cardiac problems, lung damage, gastroenteritis, filaria, arthritis, joint pain, spondylitis, noise-related issues, digestive disorders, and frequent headaches. Handloom weavers often face various health problems and psychological stress due to their continuous involvement in weaving and related activities. These tasks expose them to different work-related stress factors and a hazardous working environment (Durlov et al. 2019). Among these, MSDs are more common and are directly linked to the nature of handloom work. However, weavers who work for fewer hours per day generally do not face such serious health problems. The incidents of MSDs among senior weavers are highly common. Poor nutrition and low intake of healthy food may also contribute to these health issues.

Handloom works in a weaving family includes a series of tasks - from yarn collection to winding, denting, and maintaining a static posture to weave the fabric (Goel and Tyagi 2012). In general, a weaver works around 12 hours a day sitting in the same position. The task of weaving needs specific skills and physical strength; it cannot be carried out by any random member, but the skilled one. There is a clear-cut gender division of supplementary works, mostly accomplished by women. These women-centric allied tasks are also time-consuming, which they have to manage along with their casual household chores and care responsibilities. Often, they work late at night to finish the processing-related tasks of weaving. The overall responsibilities of women, though they might not be the prime weaver, are very challenging and form the backbone of the traditional domestic industry. Often, they too get affected by several forms of MSDs due to prolonged working hours.

The present study aimed to investigate the various health issues faced by both women and men handloom weavers, with a focus on musculoskeletal disorders, eyesight problems, and other work-related health challenges. Additionally, the study sought to explore the coping mechanisms employed by the weavers to manage these health issues.

2.0 Literature Review

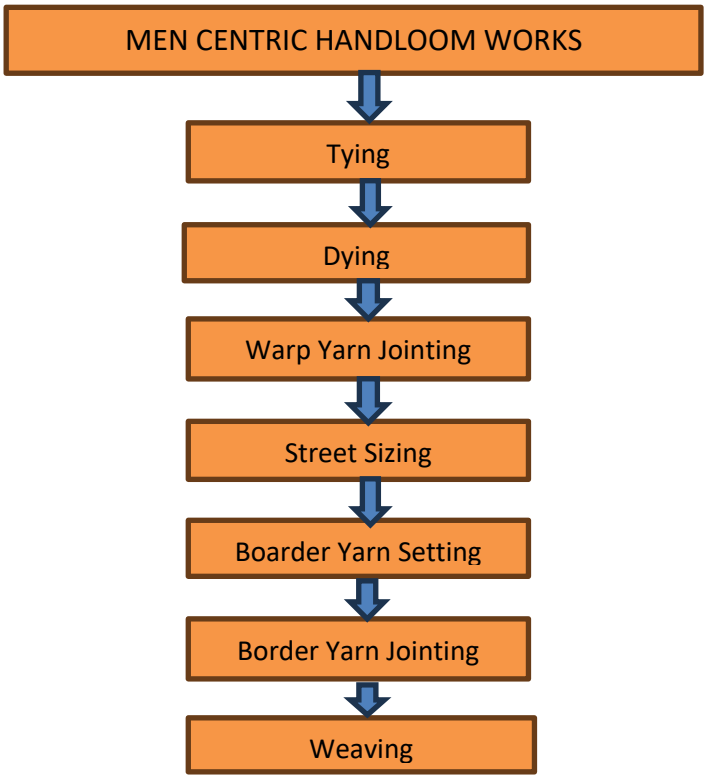
Several studies have examined the occupational health issues faced by handloom weavers, particularly musculoskeletal disorders (MSDs). Niraja et al. (2016) identified neck and shoulder-related musculoskeletal problems as common among experienced handloom weavers. Similarly, Awan et al. (2010) reported frequent complaints of continuous coughing,

back pain, joint pain, and common colds among carpet weavers. Their study also highlighted a heightened risk of developing carpal tunnel syndrome within this group. Shazli (2014) emphasised the significant contribution of women in the handloom sector, while also drawing attention to their social, economic, and health-related challenges. She noted that the nature of tasks performed by women, often involving prolonged sitting and intense concentration, frequently leads to pain in the back, neck, shoulders, and feet. Sarkar (2016), in a study on handloom weavers in Pondicherry, found similar patterns of high incidence of pain in the back, knees, and joints due to extended periods of sitting in fixed postures. Further, Rahman et al. (2017) focused on health problems associated with specific sections of handloom work. Their research identified Work-Related Musculoskeletal Disorders (WMSDs) as a major health concern affecting weavers in both developed and developing countries. The study also examined socio-demographic factors contributing to the prevalence of WMSD symptoms in the handloom sector.

3.0 Methodology

This study was conducted in six villages predominantly inhabited by the Bhulia weaving community, located in the Ullunda Block of Subarnapur district in Western Odisha. The selection of villages was purposive, based on specific criteria such as a larger concentration of Bhulia households, high levels of handloom-based employment, diverse and traditional weaving practices, and the continued use of indigenous pit looms. A total of 240 weavers were selected for the study, comprising 120 men and 120 women engaged in handloom weaving and related activities. The study employed a mixed-methods research design, combining both quantitative and qualitative approaches to obtain a comprehensive understanding of the occupational health issues faced by the weavers.

Flow Chart 1. Men centric handloom weaving and various allied works. *Source*: Author



Primary data were collected through structured questionnaires, while qualitative insights were gathered through informal interviews and Focus Group Discussions (FGDs). All participants were followed over a two-year period. Standardized clinical examinations of the neck and arms were conducted to assess health conditions among the weavers. Audio and video recordings were used to document the physical setup of the handloom workstations, working postures, and the environment in which the weavers operated. A few case studies were developed to document specific health issues among both male and female weavers. Secondary data were sourced from research journals, local magazines, and newspapers. All collected data were systematically organized in Excel sheet and analysed using standard statistical tools.

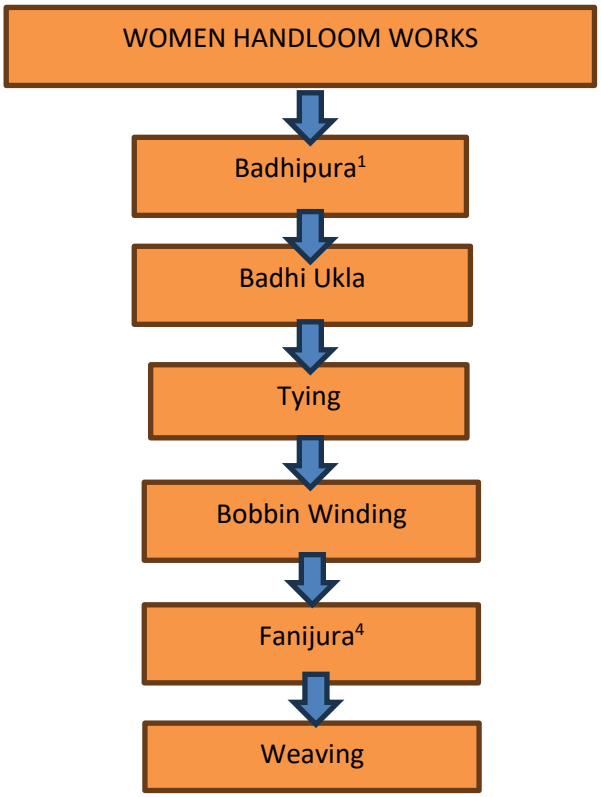
4.0 Findings and Discussion

The primary survey of 240 handloom weavers of *Bhulia* community in western Odisha found that the handloom related tasks are divided by gender. As per the nature of work, the health issues are different. The adult women are more involved in supplementary activities, while men primarily focus on weaving. The findings are explained distinctly for men and women weavers.

4.1 Gender-Based Division of Labour in the Handloom Sector

In handloom weaving, several processing activities before the final weaving are divided by gender. Tasks such as winding roles, preparing warp yarn[6], attaching warp yarn with the reed and existing yarn, street sizing, weft yarn preparation, transferring hank yarn to wooden.

Flow Chart 2. Women Centric handloom weaving and allied works. *Source*: Author



The women-centric works require women to sit in fixed positions for long hours, stretching their hands, which causes back, neck, joint, arm, and knee pain. Attaching 2,800 warp yarns to the existing yarns involves sitting for over 24 hours, focusing on thin yarns,

often leading to eyesight problems. With age, weavers also experience heartburn, acidity, and chest pain (Gastroesophageal Reflux Disease).

In the street sizing process, 2,800 warp yarns are stretched over 24 feet to produce two fabrics at once. Two men comb the yarn surface while women monitor and reattach thin yarns. They stand and work the entire day.

In weft yarn processing, raw yarns are stretched on a moving wheel. Women perform the *Badhipura* task, sitting on a stool for at least six hours, moving their right hand between two pillars. The yarns are later tied using a *Komoda* (wooden frame), traditionally done by men but now also by women. They sit holding the *Komoda* on their laps, watching fine yarns for long hours, which causes neck pain and eyesight issues over time.

Dyeing the tied yarns is a man-centric task involving daily standing and head bending, leading to back pain and noise-related problems.

Setting up border yarns is done before weaving. Though once male-dominated, both men and women now do it. It requires sitting a whole day in the loom shed to attach 2,800 yarns, bending the head and stretching hands, which affects the neck and eyesight.

5.0 Men Handloom Workers and Health Issues

Men in a weaving community engage in various weaving and allied handloom tasks within home environment, where the occupational and domestic settings are inseparable (Ahmad and Nengroo 2013). Prolonged work in a fixed position leads to health issues, including wrist and back pain due to continuous sitting and weaving from morning to night (Meher 2017).

Table 1. Prevalence of Health Issues (% of Total Sample)

Occupation-specific Health Issue	Number	Percentage (%)
Back Bone Pain	9	7.50%
Joint Pain	5	4.20%
Muscle Pain	5	4.20%
Eye Sight Problem	6	5.00%
DTD/Headache	4	3.30%
Noise Induced Problem	2	1.70%
No Health Issue	89	**74.20%**
Total	**120**	**100%**

Source: *Primary Survey*

The table 1 presents the distribution of health issues among handloom weavers, based on a total sample of 120 men weavers. Overall, a significant majority of weavers (74.2%) of the respondents reported no health issues. However, the remaining 25.8 per cent reported various ailments, primarily related to musculoskeletal and vision-related concerns. The severity of health issue depends on the working hours.

Among the reported health issues, back bone pain was the most common, affecting 7.5 per cent weavers, which is attributed to sitting in a fixed position for more than 10 hours a day in the loom shed. This prolonged sitting, combined with the pressure of constant work, affects the workers' back and neck. It was followed by eye sight problems (5%), joint pain (4.2%), and muscle pain (4.2%). Many of these workers, who have been practicing the craft for over a

decade, face difficulty in catching detached yarn during weaving. The strain from focusing on fine yarns for extended periods over the years leads to vision issues. DTD/headache and noise-induced problems were relatively rare, reported by 3.3 per cent and 1.7 per cent, respectively. These issues are common among weavers who sit in the loom shed for more than 10 hours a day.

Table 2. Age Group wise Distribution of Health Issues

Age Group (Years)	Sample Size	Men Weavers with Some Health Issues	% Men with Health Issues
21–30	26	0	0.00%
31–40	40	7	17.50%
41–50	20	7	35.00%
51–60	20	9	45.00%
60+	14	8	57.10%
Total	**120**	**31**	**25.83**

Source: Primary Survey

A closer look at the age-wise distribution reveals a clear trend: the prevalence of health issues increases with age. In 21–30age group, no health problems were reported, suggesting that younger weavers are largely unaffected. It might be attributed to lesser working hours. In contrast, 17.5 per cent of weavers in 31–40 age group, 35 per cent in 41–50 group, and 45 per cent in 51–60 group reported at least one health issue. The incidence of health issues was highest in the 60+ age group, where 57.1 per cent of weavers reported health problems.

This pattern clearly indicates that health deterioration among weavers is progressive and cumulative, influenced by years of exposure to the physical demands of handloom weaving. Senior weavers, having spent decades in the profession, are far more likely to develop musculoskeletal problems, visual impairments, and other chronic conditions. The data also implies that long working hours, poor posture, lack of ergonomic equipment, and limited access to healthcare contribute significantly to these health issues.

There is a clear need to take better care of the health of handloom weavers, especially as they get older. Simple and targeted steps can help reduce the health problems they face. These include improving their working conditions by making their tools and seating more comfortable, doing regular health check-ups, providing better nutrition, and allowing older weavers to work fewer hours. These actions can help prevent serious health issues and improve their overall well-being.

The tasks typically performed by men in handloom weaving. These tasks naturally fall under male domain. Performance of these tasks has several health issues because of the nature of body position the performer adopts. The tasks and the health issues arising from them are outlined below.

5.1 Tying

Tying knots on warp and weft yarns, based on graph paper designs, is done by expert workers. A light-weight *Kamada* (1 to 3 kg) is used for simple designs, while a heavier *Kamada* is used for tying complex *Bandha*[3]. When weft yarn is loaded onto the *Kamada*, its weight increases. To avoid holding the heavier *Kamada* on their laps, workers place it on a stand at a suitable for working while seated on a stool.

Figure 1: A tyer tying knots (Photo: Authors)

Tying is a skilled task. *Bandhakar* usually sits on the floor or a *charpai* and works from morning to night at home. Constantly watching the yarn while bending their heads leads to health issues such as back pain, neck pain, eyesight problems, and digestive disorders (acid indigestion) (Figure1).

5.2 Dying

Warp yarn dyeing is done after tying and is carried out by the dyer in a designated area. Although synthetic dyes are harmful, dyers typically use hand gloves during the process. They work standing in front of a fire, often in poor air conditions, which affects their health over time. Frequent bending during dyeing puts strain on the wrist and muscles. Weavers who regularly perform this task often suffer from joint pain and headaches.

5.3 Warp Yarn Joining (Fanijura)

Men perform the *fanijura* process by sitting on the ground with folded legs to align and attach 2,800 warp yarns with the previous set in a systematic manner. This task requires constant sitting and bending of the head to observe and join the fine yarns. Due to difficulty in seeing fine threads, older weavers usually avoid this task. Prolonged sitting in the same posture leads to back pain, while folding legs causes muscle and joint pain (Parida 2019). Continuous strain on the eyes results in eyesight problems, and the task often causes stress and headaches (Figure 2).

Figure 2: A man attaching new warp yarn (*Fanihura*) (Photo: Authors)

5.4 *Street Sizing (Tanasora[7])*

Figure 3: Men are doing street sizing and flowing comb (Photo: Authors)

During the process, a weaver stands, almost in the same position until the task is completed. He sets all the warp yarns using rice water and systematically flows *kunchi* over the stretched yarns. The work involves repetitive hand movements—pushing, pulling a brush, and striking a stick on the yarn surface—which often results in muscle and joint pain. In some cases, it also leads to digestive problems (Figure 3).

5.5 Border Yarn Setting

Setting border yarns takes around 5 to 6 hours. The weaver performs this task outside his house. It requires prolonged standing for positioning the warp yarns at a suitable height. It affects the wrist and knees. During the process, tie-dye figures may get slightly detached from their position. To correct this, the weaver ties and adjusts each figure manually. This requires constant downward head movement and focused eye strain, often leading to eyesight problems, neck pain, wrist pain, and back pain.

5.6 Border Yarn Jointing

Similarly, a weaver sits on the ground in the loom shed to join the border warp yarns with the existing yarns, one by one, over a prolonged period. During this task, he remains seated with folded legs and a bent head, closely observing the small, fine yarns. This posture and visual strain often lead to back pain, muscle pain, joint pain, stress, and headaches.

5.7 Weaving

Handloom weaving is a full-day task for the weaver. While working, he places his legs inside a pit and cannot move them freely. Keeping the legs hanging in the pit for years often leads to muscle pain. During weaving, the weaver operates the fly shuttle continuously from left to right and vice versa, while using the left hand to pull and push the striker. This repetitive motion can cause shoulder pain. Prolonged sitting in the same position also leads to back pain and wrist pain. Additionally, weavers who continue working after lunch without rest often suffer from acid indigestion (Figure 4).

Figure 4: A man weaving at the loom (Photo: Authors)

6.0 Women Handloom Weavers and Health Issues

Like men, women in *Bhulia* community are also actively engaged in various subsidiary activities of handloom. These tasks are generally performed within their homes in the courtyard. Prolonged engagement in handloom-related work over the years leads to multiple health concerns among women too.

Table 3: Prevalence of Health Issues (% of Total Population) among Women Weavers

Occupation-specific Health Issue	Number	Percentage (%)
Back Bone Pain	8	6.70%
Joint Pain	3	2.50%
Muscle Pain	3	2.50%
Eye Sight Problem	4	3.30%
DTD/Headache	4	3.30%
No Health Problem	98	**81.70%**
Total	120	100%

Source: Primary Survey

Most women workers engaged in weaving and winding tasks sit on stools or the floor. Due to the fineness of the yarn, detached yarn is often difficult to spot among the thousands of strands stretched in the loom.

Table 3 reveals that the majority of women engaged in tasks of weaving (81.7%) reported no health problems, However, 18.3% experienced several health issues, with back bone pain (6.7%) being the most frequently reported ailment; often caused by sitting for long hours in the same position. Another 2.5 per cent of women are affected by muscle pain, resulting from repetitive motions and static postures during daily tasks. Due to continuous engagement with fine yarns, 3.30 per cent of women reported eyesight problems, likely caused by strain from focusing on thin, often barely visible threads. Additionally, 3.30 per cent of women also suffer from digestive tract disorders and headaches, which are associated with long working hours without adequate rest, especially after meals. Notably, the study found no cases of noise-induced health issues among the women handloom workers, likely because most of their tasks are performed in quieter domestic settings.

Table 4. Age Group wise Distribution of Health Issues among Women

Age Group (Years)	Total Sample Size	Women with Some Health Issues	% Women with Any Health Issues
21–30	30	0	0.00%
31–40	35	8	22.90%
41–50	25	5	20.00%
51–60	17	6	35.30%
60+	13	3	23.10%

Source: *Primary Survey*

When the findings are analysed by age group (table 4), a clear pattern emerges. The youngest group (21–30 years) reported no health complaints. The health issues began appearing in the 31–40 age group, where 22.9 percent women reported problems, mainly back pain, joint pain, and headaches. A similar trend continues in the 41–50 group (20% with health issues) and increases further in the 51–60 group, where 35.3 per cent women reported health problems which is the highest among all age brackets. The oldest group (60+) also showed notable health concerns, with 23.1 per cent experiencing issues like back pain and eyesight problems.

Overall, the data suggests that although a large proportion of women engaged in handloom tasks remain free of health issues, there is a gradual rise in physical ailments with increasing age, especially those related to posture, vision, and repetitive work. This underscores the need for preventive health measures and suitable work environment targeted at older workers in the handloom sector.

The tasks typically performed by women in handloom, along with the associated health issues, are outlined below.

6.1 *Weft yarn sizing process* (*Badhipura*)

A *Badhipura* is a task exclusively performed by the women of the weaving community. When a woman begins this work, she first arranges all the necessary materials around her. On her left-hand side, she places a *chhota*, which holds a bundle of hank yarn. She then releases the yarn from this bundle and winds it onto a frame called *Badhipura*. During the process, the woman repeatedly moves her right hand back and forth between two pillars while focusing on the yarns. This repetitive motion and constant visual strain often lead to eyesight problems, shoulder pain, wrist pain, and backbone pain, especially among women performing this task for long durations (Figure 5).

Figure 5: A woman doing weft yarn sizing (Badhipura) (Photo: Authors)

6.2 Tie & dye weft yarn twist on a wooden frame (Badhi Ukla[2])

Figure 6: A woman transferring tied yarn in to the sari frame (*Badhi Ukla*) (Photo: Authors)

The *Badhi Ukla* refers to transferring yarn onto a frame, done just before bobbin winding. Women typically sit on a stool or the ground for this task. They set the Ashari (wooden frame) in place and hold it in their right hand, while the *Bandha* yarn rests on a *Chhota* (yarn holder) to the left. As they move the Ashari with their right hand, the yarn automatically releases from the *Chhota* and winds onto the Ashari. It affects their shoulder and wrist due to long time working in a position sitting on the floor & holding the *Asari* on a *charpai* (Figure 6).

6.3 Tying

Both women and men equally participate in the task of tying knots using the *Kamada* (a wooden frame used to tie yarns). Women sit with the *Kamada* on their laps, bending their heads and constantly focusing on the yarns. This prolonged posture and repetitive activity lead to several health issues, including wrist pain, backbone pain, indigestion, and eyesight problems.

6.4 Bobbin Winding[5]

Bobbin winding is a task commonly performed by all family members. When done by women, they choose a safe and convenient place, usually sitting on a wooden stool. The winding frame is placed on their right-hand side, and a bundle of yarn is set on the wheel. During the task, they

Figure 7: A woman doing bobbin winding. (Photo: Authors)

move their right hand to turn the wheel while holding and guiding the yarn with their left hand to wind it onto the bobbin. This activity takes around 4–5 hours. Continuous arm movement, prolonged sitting in the same posture, folding the legs, and sustained visual focus on the yarn contribute to several health issues. These include back pain, wrist pain, shoulder and knee joint pain, eyesight problems, digestive disorders, and headaches (Figure 7).

6.5 Warp yarn attaching process (Fanijura)

Women usually perform this task while sitting on the floor, as it provides a stable position for handling the materials. Before starting, she arranges all the necessary instruments. The task requires bending the head and maintaining constant visual focus on the yarns to ensure the warp threads are set systematically. Throughout the process, she holds the warp yarn in her left hand and works either from left to right or vice versa. Sitting for extended periods with folded legs, combined with repetitive wrist movements and poor posture, often leads to back pain, wrist strain, and increased muscle pain.

6.6 Weaving

Handloom weaving is a central activity in weaving households. While it was traditionally performed by the male head of the family, women—particularly housewives—are increasingly participating to share the workload. Women who engage in weaving for more than six hours a day in the same posture are often affected by wrist pain (The Samaja 2018). They typically sit in the loom shed from morning until late at night, balancing weaving with household responsibilities. Prolonged hand-stretching during the operation of the reed and fly shuttle can lead to musculoskeletal disorders, including thigh muscle pain, which is more commonly reported among men (Tirlapur 2018). For women, sitting in a fixed posture with limited leg movement in the narrow pit may cause stress and headaches. Extended periods of weaving also contribute to back pain and wrist strain. Additionally, weaving immediately after meals without rest has been associated with acid indigestion and a burning sensation in the chest (Figure 8).

Figure 8: A woman weaving in the loom shed (Photo: Authors)

6.0 Conclusion

Health issues among handloom workers are deeply embedded in the nature of their occupation, which involves long hours of repetitive manual tasks, static postures, and inadequate ergonomic conditions. This study highlights the physical strain faced by both men and women in the weaving community of Western Odisha, particularly lower back pain, poor eyesight, musculoskeletal disorders, digestive problems, and headaches. These health issues are not isolated incidents but a systemic outcome of extended working hours, lack of rest, and the absence of occupational health awareness.

The burden is especially pronounced among women, who shoulder dual responsibilities—participating in both weaving and household chores. Many women weavers step into their husbands' roles in the loom shed while also managing domestic duties, often without adequate rest or recovery. Their involvement in knot tying, bobbin winding, and fabric weaving for prolonged periods without ergonomic support results in cumulative physical stress.

The economic dependence on handloom weaving compels workers to ignore early signs of physical discomfort, often continuing laborious tasks until the onset of chronic health conditions. However, the study emphasizes the urgent need for practical interventions—primarily encouraging periodic rest breaks every 2–3 hours, better lighting in work areas, and ergonomic adjustments to tools and seating.

Sustaining the handloom tradition, which is both culturally significant and economically vital, requires addressing the health and well-being of its artisans. Protecting weavers from occupational health hazards is not just a matter of personal welfare but essential for preserving this heritage craft. A healthier workforce can contribute more efficiently, with greater longevity in their careers, and help revive the diminishing glory of handloom weaving. Strategic health interventions, policy support, and community awareness are crucial to ensuring that this invaluable tradition thrives without compromising the health of those who sustain it.

Notes

1. It is a task through which the weft yarn (width) is prepared using two wooden pillars /Weft Yarn Preparation process.
2. The act of transferring of tie-dye weft yarn to a wooden frame, called 'Asari' before transferring it into the bobbins/rolls, it is a women-centric work.
3. Tie & dye warp & weft yarn is called Bandha.
4. Attaching warp yarn with the reed and existing yarn in the loom shed, mostly done by men.
5. It is called Bobbin winding is also known as *Fuijugra*. Tie-dye weft yarn wound on the bobbins.
6. Warp yarn preparation process is called *Tanapura,* where a woman sits and transfers 24 feet of hank yarn into a frame called 'Tanapura'
7. *Tanasora* means street sizing process.

References

Awan, S., Nasrullah, M. and Cummings, K.J. 2010. 'Health hazards, injury problems, and workplace conditions of carpet-weaving children in three districts of Punjab, Pakistan'. *International Journal of Occupational Environment Health*, 16:115–121.

Ahmad, Fayaz and Asif Hussaimn Nengroo. 2013. 'An Analysis f handloom sector of Jammu & Kashmir: A Case Study of District Budgam'. *International Journal of Management and Business Studies,* 3 (1): 106-109.

Durlov, Santu, Atanu Saha **,** Sasangbaha Mandi and Subhashis Sahu. 2019. 'An ergonomic Survey of Health Status of the Handloom Weavers'. *International Journal of scientific research in biological sciences*, 6 (1):197-202.

Goel, Alka and Isha Tyagi 2012. 'Occupational Health Hazards related to weaving'. *International Journal of Applied Mathematics and Statistical Sciences*.1 (1): 22-28.

Meher, Kishor, 2017. 'Bhulia Bunakar Mananka Sarira Byadhi abom Ehara Nirakarana'. In *Smoranika-Meherjyoti,* 40- 43. Padampur: Nihi Prakashini.

Rahman, Moshifur, Manjurul Haque Khan, Irin Hossain, Shazly Bari and M. M.Aktaruzzaman. 2017. 'Musculoskeletal Problems among handloom Workers'. *Taxila International Journal of Public Health*, 5 (3). https://www.texilajournal.com

Neeraja, T, Ch. Hemamalini and Ch.Bhavya Padmini. 2016. 'Neck and shoulder Related Musculo Skeletal Disorders Among Handloom weavers'. *International Journal of Information Research and review*, 3 (11): 2967-2970.

Parida, R . 2019. 'Health Hazard faced by the Handloom Weavers in Odisha'. *Economic and Political Weekly*, 54 (40).

Sarkar, K. 2016. 'A study on Health issues of Weavers (Handloom Weaving)'. *International Journal of Technology, Research and management*, 3(11):1-4.

Shazli, Tasmin and Abdul Munar. 2014. 'Female work participation in handloom industry: A case study of mubarakpur town, Azamgarh district, Uttarpradesh'. *Journal of Education & Research Policy*, 1 (1): 76-83.

Singh, Pebam Surjit and Kumam Praphullo Singh. 2019. 'A case study on Handloom Weavers Health hazards and their new livelihood prospects of its clue in Bishnupur district, Manipur'. *International journal of Innovative Research of Multidisciplinary filed*. 5 (11):83-86.

The Samaja, 25th October, 2018.Sambalpur: 69 (215) (www.thesamaja.com/ www.samajaepaper.com)

Tirlapur, V. R. 2018. 'A study on socio-economic status and health problems of handloom weavers of Godag-Betgeri'. *Journal of emerging technology & innovative research*, 5(5):253-259.