

A Study and Analysis on the Major Health Problems of Females Working in Garment Export House in Jaipur

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Abstract

Jaipur is known for its textiles and workmanship. Its became a garment export powerhouse due to its location. The accessibility to airports, railroads, and roads makes it ideal for garment exports. This attracts clothing producers and exporters. Due to its many benefits, women are joining the sector. Working in garment export houses near their homes minimizes commute time and improves work-life balance for many women. The industry's flexible hours allow women to manage their households while working. This research examines the main health issues facing garment export house women. A long hours, bad working conditions, and excessive production objectives can cause health issues for female export house workers. This study seeks to discover and explain female workers' health concerns. A detailed literature analysis on female garment worker health issues was done. Interviews, questionnaires, and focus groups with female export house workers provided main data. This study found numerous major health issues for women.

Keywords

Garment Industry, Occupational Hazards, Jaipur Garment, Cotton Industry, Health Problems

Introduction

The foundation of this study comes from the realization that Jaipur's garment export business has grown significantly over the past few years, drawing in a sizable number of female employees. However, the expansion of this sector has also raised awareness of the health issues that female workers confront. For the purpose of creating suitable strategies and treatments that can enhance the well-being and working circumstances of female employees, it is crucial to comprehend these health concerns and their underlying causes. Numerous reasons have contributed to the expansion of Jaipur's garment export sector. First of all, Jaipur has a long tradition of fine workmanship and textile manufacture. The region is well-known for its elaborate hand-printed textiles, which draw buyers from both local and foreign markets. This has given the clothing sector in Jaipur a solid platform on which to grow [1-2].

Additionally, the expansion of the business has been aided by the availability of trained workers. There is a sizable labor force in Jaipur and the surrounding areas with knowledge of conventional textile methods. The availability of trained labor has made it simpler for clothing export companies to make high-quality goods that satisfy consumer demand.

Jaipur's geographic position has also been a major factor in its development becoming a center for the export of clothing. Jaipur has logistical benefits for exporting clothing to many regions of the world because to its location adjacent to important transportation networks, like as airports, railroads, and roads. Because of this, it is becoming a popular place for exporters and makers of clothing [3].

However, there have been worries about the health issues experienced by female employees despite the expansion and good elements of the garment export business in Jaipur. Workers' health may be at danger because to the nature of the job in garment export houses, which frequently entails repetitive

duties, extended sitting or standing, and exposure to numerous physical and environmental variables. These dangers might include everything from physical health conditions including musculoskeletal ailments, respiratory troubles, and eye strain to mental health conditions and concerns around reproductive health [4].

Addressing the health issues these workers encounter is critical given the significance of the garment export business in Jaipur and the rising proportion of female employees involved. This study intends to explore the distinct health problems experienced by female employees of Jaipur garment export firms, comprehend their origins, and evaluate how they affect both professional and home life. This study aims to offer useful insights and recommendations that can help create a safer and healthier working environment for female employees in the garment export industry in Jaipur by examining the current health promotion measures and identifying potential areas for improvement [5][14].

Related Works

In order to better understand the health risks encountered by female garment workers in Jaipur, Mehta Rena (2012) performed a research. The study chose five garment companies and gathered information from a sample of 2,000 workers, choosing 60 people at random from each production line. In-person interviews with the chosen participants were used to collect information. The results showed that the cramped working conditions in garment factories had a considerable negative influence on the health of the workers. The respondents were subjected to a number of health concerns due to the nature of their employment in the apparel business, including headaches, musculoskeletal discomfort, and eye strain. Intriguingly, the study discovered that employees in cutting sheds were more prone to accidents than those in stitching and finishing sheds. Shaheen Ahmed and Nazrul Islam (2015) focused on the physical and emotional health of workers in Bangladesh's ready-made clothing sector in a different research. They identified 14 important occupational health concerns that are pervasive in the workplace through interviews with 265 individuals. These conditions included aches and pains in the body's muscles, problems with abortion, tainted food, pruritus, blemishes, hepatitis, headaches, nausea, common colds, numbness in the fingers and arms, and stomach discomfort and helminthiasis. The authors stressed the significance of action being taken by the government and other relevant parties to address these health issues and boost worker engagement and advancement in the apparel business. Md. Shohel Mahmud et al.'s (2017) study sought to ascertain the frequency of health risks among women working in the textile sector. According to the study, women frequently suffer from a variety of physical problems, such as headaches, eye conditions, hand discomfort, and breathing issues. In order to address these health challenges, the study also examined the contributing factors and behaviors of female textile industry workers.

The health, mental health, nutritional status, and common problems of pregnant women employed in the apparel industry were investigated by Dr. Hoimonty Mazumder in 2017. 228 pregnant employees were chosen for the research using simple random selection. The investigation revealed that there were no discernible changes in pregnant women's health despite an increase in monthly household income. In just 20.2% of pregnancies, prenatal care was received throughout the first six months. The survey also showed that just 15.84% of births took place in medical facilities, with the rest (84.2%) taking place at home. To evaluate the nutritional health of pregnant women, mid-upper arm circumferences and blood hemoglobin levels were employed. The important contribution of the ready-made clothing sector to Bangladesh's economy was explored by Kaniz Farhana et al. in 2015. The sector, which employs more than four million people, 80% of whom are women, is essential for creating job opportunities, enhancing living circumstances, and promoting education. The writers stressed the need for more reforms despite the fact that the government has established minimum salaries to raise employees' living conditions. Specifically at BIMS in Bidar, Karnataka, India, Bhaskara K. et al. (2014) focused on fractures and dislocations in the textile sector. The goal of the study was to categorize and account for these injuries. According to Deepthi Shanbhag et al. (2012), working in the apparel industry has an impact on survival and self-esteem as well as causes ongoing strain and stress. They stressed

the significance of taking into account the elements that affect women's mental health in the fashion business. ShaheenAhmed et al. (2014) did research on Bangladeshi female garment workers' health conditions. The authors discovered that the health status of female employees was insufficient for them to do their jobs properly, with 5,100 garment manufacturers employing 3.6 million people. The research sought to identify and solve the health problems experienced by female workers in the sector. An assessment of the health and standard of living of women working in Sri Lanka's textile sector was presented by De Silva PV et al. (2013). The country now earns a sizable amount of foreign currency from the textile sector. The importance of garment factories to India's economic development and their position as one of the main employment sectors were both covered by Lillypet S et al. (2017). They emphasized the health issues brought on by extended, heavy, monotonous labour in the absence of personal protection equipment and ergonomically sound tools. Abeer A. Ibrahim et al. (2018) examined how the workplace environment affects workers' well-being, spirits, productivity, and devotion. They stressed the necessity for a secure working environment, particularly in the printing services industry, where technological improvements have had an impact on safety and work procedures. In their 2019 study, S. M. Tazim Ahmed et al. emphasized the significance of health and safety in the apparel sector. They underlined the importance of health and safety initiatives in industrial settings for raising public awareness, lowering accidents, and enhancing workers' productivity and mental health. The importance of the textile sector to economic growth was highlighted by Gaurab Biswas et al. (2016), particularly in metropolitan areas where it employs people from lower socioeconomic backgrounds. According to the authors, skin allergies, headaches, sleep disruptions, respiratory problems, and occupational illnesses are caused in part by dyes, solvents, cotton, and synthetic powders. According to figures from the International Labor Organization cited by Sabbir Ahmed Galib et al. (2019), approximately two million people die each year as a result of work-related illnesses. They emphasized the value of stable employment and a safe working environment in lowering occupational diseases and raising general productivity. In 2013, Meenaxi Tiwari and Dr. Sudha Babel did a preliminary study on the musculoskeletal issues that women who work in the block printing industry encounter. They discovered that prolonged standing and bending, together with unpleasant postures and motions, increased the likelihood of health problems such as wrist pain, musculoskeletal discomfort, and backaches. In conclusion, these studies provide light on the many health risks, including physical, mental, and ergonomic difficulties, experienced by employees in the garment and textile sectors. To safeguard and enhance the wellbeing of employees in the sector, they underline the need of establishing safe and healthy working conditions and putting these health concerns into action.

Analysis of Health Hazards

Musculoskeletal Disorders

Musculoskeletal disorders (MSDs) are one of the major health problems faced by females working in garment export houses in Jaipur. MSDs refer to a group of conditions that affect the muscles, bones, tendons, ligaments, and other structures that support the body's movement. The nature of work in the garment industry, which often involves repetitive tasks, prolonged periods of sitting or standing, and manual handling of materials, puts significant strain on the musculoskeletal system of workers.

The repetitive nature of tasks such as cutting, sewing, and packaging garments can lead to overuse injuries and strain on specific muscle groups. Common musculoskeletal complaints among female workers include back pain, neck and shoulder pain, wrist and hand pain, and lower limb discomfort. These conditions can significantly impact the workers' ability to perform their tasks efficiently and can lead to chronic pain and long-term disability if left unaddressed. [6]

The causes of musculoskeletal disorders among female workers in garment export houses are multifactorial. The repetitive and monotonous nature of tasks, coupled with poor ergonomics and inadequate workstations, contribute to the development of musculoskeletal problems. The lack of proper training on ergonomic practices and the absence of adjustable furniture and equipment further

exacerbate the risk of MSDs.

To address the issue of musculoskeletal disorders, interventions should focus on ergonomic improvements in the workplace. This includes providing adjustable workstations and chairs, ensuring proper positioning of tools and equipment, and implementing regular breaks and stretching exercises to alleviate strain on specific muscle groups. Furthermore, training programs on ergonomics and proper lifting techniques should be provided to workers to raise awareness and promote safe work practices [4] [5][7].

Respiratory Problems

Respiratory problems are another significant health concern among female workers in garment export houses. The nature of work in this industry exposes workers to various respiratory hazards, including airborne particles, dust, chemicals, and poor indoor air quality. Tasks such as cutting fabrics, sewing, and finishing garments can generate airborne particles and dust, which, when inhaled, can have adverse effects on respiratory health [8].

Exposure to these respiratory hazards can lead to acute and chronic respiratory conditions such as coughing, wheezing, shortness of breath, asthma, bronchitis, and other respiratory infections. Prolonged exposure to harmful substances can also contribute to the development of occupational lung diseases, including occupational asthma and pneumoconiosis.

To mitigate the risk of respiratory problems, employers should prioritize measures that improve indoor air quality in the workplace. Adequate ventilation systems, such as mechanical ventilation and air purifiers, can help remove airborne particles and improve air circulation. Additionally, the use of personal protective equipment (PPE), such as masks or respirators, should be promoted to minimize workers' exposure to airborne contaminants [9].

Implementing proper housekeeping practices, such as regular cleaning and dust control measures, can also reduce the accumulation of dust and particles in the workplace. Furthermore, providing education and training on respiratory health, including the importance of proper respiratory protection and early detection of respiratory symptoms, is crucial for empowering female workers to safeguard their respiratory well-being [9].

Eye Strain and Vision Problems

Eye strain and vision problems are prevalent health issues faced by female workers in garment export houses, primarily due to prolonged exposure to visual display units (VDUs) and poor lighting conditions. Workers engaged in tasks such as pattern making, fabric inspection, quality control, and computer-based design work often experience prolonged periods of focusing on VDUs, which can lead to eye strain and discomfort.

Insufficient lighting in the workplace can further exacerbate eye strain and contribute to vision problems. Poorly lit workstations force workers to strain their eyes to see details, which can lead to eye fatigue and vision difficulties. Common symptoms experienced by female workers include eye fatigue, dryness, redness, blurred vision, and headaches [10].

To address eye strain and vision problems, it is important to prioritize proper lighting and ergonomics in the workplace. Adequate and adjustable lighting should be provided to ensure optimal visibility and reduce eye strain. Glare-reducing measures, such as anti-glare screens and curtains, should be implemented to minimize the impact of bright lights or reflections on VDUs.

Regular breaks and exercises for the eyes, such as looking away from the screen and focusing on distant objects, can help alleviate eye strain. Employers should also encourage workers to undergo regular eye examinations to detect vision problems early and provide appropriate corrective measures,

such as prescription glasses or contact lenses.

Education and awareness programs should be conducted to inform workers about proper eye care practices, including the importance of taking regular breaks, maintaining good lighting conditions, and seeking timely medical assistance for any vision-related concerns. Implementing these measures can significantly reduce eye strain and promote better eye health among female workers in garment export houses [9].

Mental Health Issues

Mental health issues are increasingly recognized as significant health problems faced by female workers in the garment export industry. The demanding nature of the work, long hours, production targets, and pressure to meet deadlines can contribute to high levels of stress and psychological distress. Female workers often face multiple responsibilities, balancing work with household chores and family obligations, which can further exacerbate stress levels.

Common mental health problems observed among female workers include anxiety, depression, burnout, and emotional exhaustion. These conditions not only impact the workers' well-being but also affect their overall productivity and job satisfaction.

To address mental health issues, it is crucial to create a supportive and inclusive work environment that promotes work-life balance and provides resources for managing stress. Employers should implement policies and practices that prioritize the mental well-being of workers, including flexible working hours, access to counseling services, and initiatives that foster a positive work culture.

Promoting awareness and reducing stigma surrounding mental health is also essential. Training programs and workshops on stress management, resilience building, and coping strategies can provide valuable tools for female workers to manage work-related stressors effectively. Additionally, providing opportunities for social support and creating platforms for open communication can help foster a supportive work environment that values and prioritizes mental health [10-11].

Factors Affecting Health Aspects

Physical Factors

Several physical factors contribute to the health problems faced by females working in garment export houses in Jaipur. These factors are related to the nature of the work, the physical demands placed on the workers, and the working conditions within the industry.

Firstly, the repetitive nature of tasks in the garment industry, such as cutting, sewing, and packaging garments, can lead to overuse injuries and strain on specific muscle groups. The constant repetition of movements without adequate rest can result in musculoskeletal disorders, including back pain, neck and shoulder pain, wrist and hand pain, and lower limb discomfort.

Prolonged sitting or standing for extended periods of time is another physical factor that contributes to health problems. Many female workers in garment export houses are required to maintain fixed positions for long hours, leading to postural issues, muscle fatigue, and circulatory problems. Poor posture and inadequate ergonomic support can further exacerbate these problems. [13]

Moreover, physical exertion and manual handling of materials in the garment industry can pose risks to the workers' health. Lifting and carrying heavy loads, bending and twisting, and repetitive motions involved in material handling can lead to injuries and strain on the musculoskeletal system.

To address these physical factors, it is important to implement ergonomic measures in the workplace. This includes providing adjustable workstations and chairs that support proper posture, ensuring the availability of ergonomic tools and equipment, and promoting regular breaks and stretching exercises

to alleviate strain on specific muscle groups. Training programs on proper lifting techniques and ergonomic practices should also be provided to workers to minimize the risk of physical injuries.

Work Environment Factors

The work environment within garment export houses plays a significant role in the health problems faced by female workers. Several factors within the work environment contribute to the risks and hazards that impact workers' health and well-being.

Inadequate ventilation and poor indoor air quality are common work environment factors that can affect respiratory health. Dust, airborne particles, and chemical fumes generated during various garment production processes can lead to respiratory problems and allergic reactions. Insufficient ventilation systems and the lack of proper control measures can result in the accumulation of harmful substances in the air, posing a risk to workers' respiratory systems.

In addition, poor lighting conditions in the workplace contribute to eye strain and vision problems. Insufficient or improper lighting can lead to visual discomfort, eye fatigue, and difficulties in focusing. Workers engaged in tasks that require visual precision, such as pattern making and fabric inspection, are particularly vulnerable to these issues.

Noise pollution is another work environment factor that can negatively impact workers' health. The constant noise generated by machinery, equipment, and production processes can lead to hearing impairments, stress, and fatigue. Prolonged exposure to excessive noise levels without proper hearing protection measures can result in long-term hearing damage.

To address these work environment factors, employers should prioritize the implementation of measures that promote a safe and healthy workplace. Adequate ventilation systems should be in place to ensure proper air circulation and reduce exposure to harmful substances. Regular maintenance and cleaning of work areas should be conducted to minimize the accumulation of dust and particles.

Improving lighting conditions by providing adequate and adjustable lighting fixtures can help reduce eye strain and visual discomfort. Noise control measures, such as installing sound barriers and providing hearing protection devices, should be implemented to minimize the impact of excessive noise on workers' hearing health.[14]

Psychosocial Factors

Psychosocial factors, including work-related stress, organizational culture, and social dynamics, significantly contribute to the health problems faced by female workers in garment export houses.

The demanding nature of work in the garment industry, coupled with long working hours and production targets, can result in high levels of stress among female workers. Pressure to meet deadlines, repetitive tasks, and the monotonous nature of work can contribute to increased stress levels. Additionally, female workers often face multiple responsibilities, such as managing household chores and family obligations, which further adds to their stress and mental strain.

Organizational factors, such as inadequate support systems, lack of recognition, and limited opportunities for growth and advancement, can also impact the well-being of female workers. A work environment that lacks support and fails to recognize and value the contributions of its employees can contribute to feelings of job dissatisfaction, low morale, and increased stress levels.

Social dynamics within the workplace, including workplace harassment, discrimination, and unequal power dynamics, can also have detrimental effects on the health of female workers. Experiencing gender-based discrimination or harassment can lead to mental health issues, including anxiety, depression, and emotional distress.[14]

To address psychosocial factors, it is important to create a supportive and inclusive work environment that prioritizes the well-being and mental health of female workers. This can be achieved through various strategies:

1. Implementing policies and practices that promote work-life balance, such as flexible working hours and options for remote work.
2. Providing resources and support systems for stress management and mental health, including access to counseling services and employee assistance programs.
3. Promoting a positive work culture that encourages open communication, collaboration, and teamwork.
4. Addressing issues of workplace harassment and discrimination through comprehensive policies and training programs that promote a safe and respectful work environment.
5. Providing opportunities for skill development, training, and career advancement to enhance job satisfaction and professional growth.

By addressing psychosocial factors and promoting a supportive work environment, garment export houses in Jaipur can contribute to the overall well-being and job satisfaction of female workers, thereby reducing the prevalence of mental health problems and improving the overall work experience.

In conclusion, the major health problems faced by female workers in garment export houses in Jaipur are influenced by a combination of physical, work environment, and psychosocial factors. Addressing these factors requires a comprehensive approach that includes ergonomic improvements, ensuring a safe and healthy work environment, and fostering a supportive and inclusive workplace culture.

By implementing appropriate measures and interventions, garment export houses can create an environment that promotes the health and well-being of female workers, enhancing their overall job satisfaction and productivity. It is crucial for employers, stakeholders, and policymakers to collaborate in addressing these health problems and creating sustainable solutions that prioritize the health and rights of female workers in the garment industry [15].

Impact of Health Problems

Work-related Consequences

The major health problems faced by female workers in garment export houses in Jaipur have significant implications for their work-related outcomes. These health issues can directly impact their productivity, efficiency, and overall job performance.

Musculoskeletal disorders, such as back pain, neck and shoulder pain, and wrist injuries, can limit the physical capabilities of workers, affecting their ability to perform tasks that require manual dexterity and prolonged standing or sitting. These physical limitations can result in decreased productivity and increased absenteeism, as workers may need to take time off to recover or seek medical treatment.

Respiratory problems, including allergies, asthma, and other respiratory conditions, can also hinder the work performance of female workers. Breathing difficulties, coughing, and fatigue associated with respiratory issues can lead to reduced stamina and diminished productivity. Workers may experience frequent sick leaves or the need for regular medical consultations, affecting their ability to meet work demands consistently.

Eye strain and vision problems can impact the accuracy and efficiency of workers' tasks, particularly those involving visual inspection, pattern making, or quality control. Blurred vision, eye fatigue, and discomfort can slow down work processes and increase the risk of errors or mistakes. This can result

in quality issues, rework, and decreased productivity.

Mental health issues, such as anxiety, depression, and burnout, have substantial consequences on the overall well-being and work performance of female workers. These conditions can lead to decreased concentration, difficulty focusing, and decreased motivation. Workers may experience decreased job satisfaction and engagement, higher levels of absenteeism, and reduced productivity.

Reproductive health concerns can also impact work outcomes for female workers. Pregnancy-related complications, fertility issues, and limited access to reproductive healthcare can result in increased absenteeism, decreased work efficiency, and the need for accommodations during pregnancy. These factors can disrupt work schedules, leading to decreased productivity and increased workload on other employees.

Personal Consequences

The major health problems faced by female workers in garment export houses also have personal consequences that affect their overall well-being and quality of life. These health issues can impact various aspects of their personal lives, including physical comfort, social relationships, and emotional well-being.

Musculoskeletal disorders can cause chronic pain, discomfort, and physical limitations, impacting the workers' ability to engage in daily activities outside of work. Simple tasks such as household chores, caring for family members, or participating in recreational activities may become challenging or even impossible. This can result in decreased overall satisfaction with their personal lives and reduced participation in social or leisure activities.

Respiratory problems can affect the workers' ability to engage in physical activities or enjoy outdoor environments. Breathing difficulties and fatigue can restrict their participation in sports, physical exercise, or social gatherings that involve outdoor settings. This can lead to feelings of isolation, reduced social interactions, and a diminished sense of well-being.

Eye strain and vision problems can impact the workers' ability to engage in activities that require visual acuity and focus, such as reading, watching movies, or using electronic devices during their leisure time. This can limit their enjoyment of recreational activities and entertainment, leading to frustration and decreased quality of life.

Mental health issues can significantly impact the emotional well-being and personal relationships of female workers. Anxiety, depression, and burnout can lead to feelings of sadness, irritability, and reduced enjoyment of life. These conditions can strain relationships with family members, friends, and partners, as the workers may have difficulty engaging in social interactions or maintaining healthy emotional connections.

Table 1: Major Health Problems Faced by Female Workers in Garment Export Houses

Health Problem	Description
Musculoskeletal Disorders	These include back pain, neck and shoulder pain, wrist injuries, and lower limb discomfort.
Respiratory Problems	Allergies, asthma, and other respiratory conditions caused by exposure to dust and chemicals.
Eye Strain and Vision Problems	Visual discomfort, eye fatigue, and blurred vision due to poor lighting and long hours of work.

Mental Health Issues	Anxiety, depression, and burnout resulting from work-related stress and demanding workloads.
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1. **Musculoskeletal Disorders:** Musculoskeletal disorders are common among female workers in garment exporthouses due to repetitive tasks, prolonged sitting or standing, and manual handling of materials. Back pain, neck and shoulder pain, wrist injuries, and lower limb discomfort are frequently reported. These disorders can significantly impact the workers' physical capabilities, leading to decreased productivity, increased absenteeism, and decreased overall job performance.
2. **Respiratory Problems:** Exposure to dust, airborne particles, and chemical fumes in the garment industry can cause respiratory problems among female workers. Allergies, asthma, and other respiratory conditions are common health issues. Inadequate ventilation and poor indoor air quality contribute to these problems. Respiratory issues can affect workers' stamina, result in frequent sick leaves, and reduce their overall productivity.
3. **Eye Strain and Vision Problems:** Poor lighting conditions and prolonged hours of work can lead to eye strain and vision problems. Female workers engaged in tasks that require visual precision, such as pattern making and fabric inspection, are particularly vulnerable. Visual discomfort, eye fatigue, and blurred vision can hinder their work performance, increase the risk of errors, and decrease productivity.
4. **Mental Health Issues:** The demanding nature of work, long hours, and production targets can lead to work-related stress and have detrimental effects on the mental health of female workers. Anxiety, depression, and burnout are commonly reported mental health issues. These conditions can result in decreased concentration, motivation, and job satisfaction, leading to reduced productivity and increased absenteeism.
5. **Reproductive Health Concerns:** Female workers face reproductive health concerns, including pregnancy-related complications, fertility issues, and limited access to reproductive healthcare. These concerns can lead to increased absenteeism, decreased work efficiency, and the need for accommodations during pregnancy. Reproductive health issues can disrupt work schedules, impacting productivity and placing additional workload on other employees.[12]



Figure 1: Symbolic Pictorial Presentation of Garment Sector Working

It is crucial for garment export houses in Jaipur to address these major health problems through appropriate interventions, including ergonomic improvements, ensuring a safe work environment, promoting mental well-being, and providing access to reproductive healthcare. By addressing these health issues, employers can enhance the overall well-being, job satisfaction, and productivity of female workers.

Sector wise analysis of Occupational Health Hazard

The cotton is placed in a machine that separates the cotton fiber from the cotton seeds before being sent to the textile industry to be made into yarn. Fire is one of the biggest hazards in the ginning business. It can be started by electrical sources, human error, sparks from machines, raw cotton that has been kept in the sun, and other things.

All employees are required to put in 12 hours of labor every day, regardless of whether they want to or not. Overtime is not included in these twelve hours. Some employees claim that they are being forced to work longer hours. According to the Factories Act of 1948's Chapter 6: Working Hours of Adults in Section 51, no employee shall work more than 48 hours per week, and extra working days must be compensated with a holiday. Cotton fiber inhalation causes BYSONIS, as is well known. Therefore, wearing a mask while working in these environments is required, yet nobody does so. According to § 27 of Chapter 4 of the 1948 Factory Act, women and children are not allowed to work near cotton openers.

- Physical dangers such as heat, noise, and fire.
- Electrical short circuits occur.
- Ergonomic dangers of ongoing operation at a bad workstation.
- Biological dangers
- Personal issues and financial difficulties

Parameters	Range	Mean
Noise (dBA)	88-92	90
Lightning(lux)	45-63	54
Temperature(.c)	28-30	29
Humidity (%)	-----	56.41

Table 2: Working Condition in Garment Industry

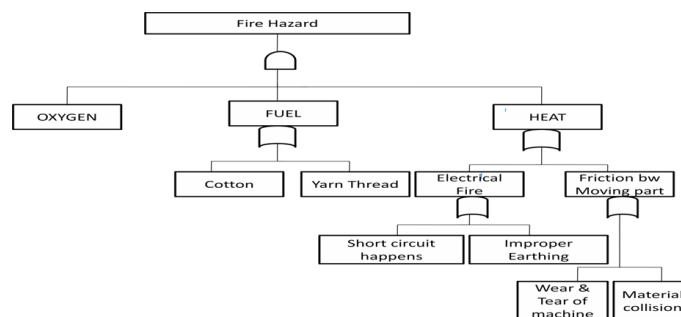


Figure 2: Fire Hazard in Garment Industry

Table 3: Analysis of Hazards in Garment Industry

S.NO	HAZARD	CONSEQUENCES	ACTION	REMEDIAL ACTION	RPN (No = Severity x Detectability x Probability)
1	Physical hazards	a) Noise	Noise-induced hearing loss, Tinnitus	1) Isolate the machine and use a silencer	$9 \times 9 \times 8 = 648$
		b) Dust	Causes respiratory problems, Byssinosis	1) Use dust collectors	$10 \times 10 \times 10 = 1000$
		c) Light	Eye strain, glaring	Ensure proper lighting conditions	$7 \times 8 \times 7 = 392$
		d) Lifting Heavy weight	Musculoskeletal Disorders	1) Maintain proper posture while lifting loads	$10 \times 7 \times 9 = 630$
2	Fire Hazards	a) Welding operation	Spark hazards	Restrict unauthorized personnel from welding	$10 \times 9 \times 10 = 900$
		b) Electrical short circuit happens	Sparks and fire	Install ACBs (Air circuit breaker) and MCBs (motor circuit breaker)	$8 \times 8 \times 8 = 512$
		c) Smoking	Fire hazards	Use safety signs and ensure workers avoid ignition products	$10 \times 10 \times 9 = 900$
3	Electrical hazards	a) Improper Earthing	Tripping hazards	Ensure proper earthing and connections	$10 \times 7 \times 9 = 630$
		b) Improper isolation	Electric shock hazards	Enclose circuit properly	$9 \times 10 \times 8 = 720$
		c) Moisture	Risk of electrical damage	Keep moisture under control	$9 \times 9 \times 7 = 567$
		d) Motor high-speed rotation due to high voltage	Machine problems	Use individual circuit breakers	$8 \times 7 \times 8 = 448$
		e) Usage of old wire	Improper current flow	Use wires according to electrical standards	$7 \times 9 \times 7 = 441$
		f) Input power cable exceeds more output	Cable melting, switch heating	Ensure input wire is more powerful than output wire	$8 \times 7 \times 8 = 448$

		g) Looping in the running line	Electronics PC Bdamage	Avoid looping	8 x 9 x 7 = 504
		h) Electrical Maintenance	ECB board check, motor grease	Perform preventiv emaintenance	8 x 7 x 8 = 448

Spinning is a significant component of the textile industry. Clothes are made from the fabrics. The major risk in the textile sector is noise. The Industrial Area Noise Pollution (Regulation and Control) Rule of 2000 set a noise limit of 75 dB for both daytime hours (6 AM to 10 AM) and nighttime hours (10 PM to 6 AM). The fire mishaps happen often in textile factories. Compared to other areas of the textile industry, the spinning mills have additional risks because cotton, the raw material, is more easily exposed to fire. Cotton dust is a severe health risk for spinners, and this risk was given a high RPN (Risk Priority Number).

The work area should not be larger than 0.2 m³ and be governed by a particular job. The cotton dust should be disposed of with caution, and open containers should never be used for storage. The Time Weighted Average (TWA) of wool dust at an 8-year exposure is 10 mg/m³. Avoid over-drying since cotton dust will spread quickly if it does. The first strategy for reducing dust is to properly inform people about the health effects of cotton dust. (b) giving the concerned personnel a thorough health examination (c) To prevent additional damage, efficient dust control measures should be put into place.

Table -4 Ergonomically Hazards

1	Uncomfortable work station and height.	Pain in hand and legs.	Importance to ergonomics	8x8x7 =448
2	Repetitive strain injuries	Wrist, Neck, Shoulder, Neck, Knee, Angle.	Proper working procedure	8x9x8=576

Table -5 Physiological Hazards

1	Not interested to work	Physiological problem	Give counseling.	8x6x6=288
2	Production target	Stress to the worker	Set achievable Target.	6x8x6=288

Table – 6 Details of working environment in spinning industries

Parameters	Location of the reading	Range	Mean
Lighting(lux)	Blow room	78-109	93.5
	Spinning area	51-60	55.5
Noise (dBA)	Spinning area	90-95	92.5
	Auto corner (off end & rear end)	86-89	87.5

Temperature(*c)	Preparatory unit	24 -30	27
	Spinning room	28-35	31.5
Humidity(%)	Preparatory unit	-----	51.61
	Spinning room	-----	56.41

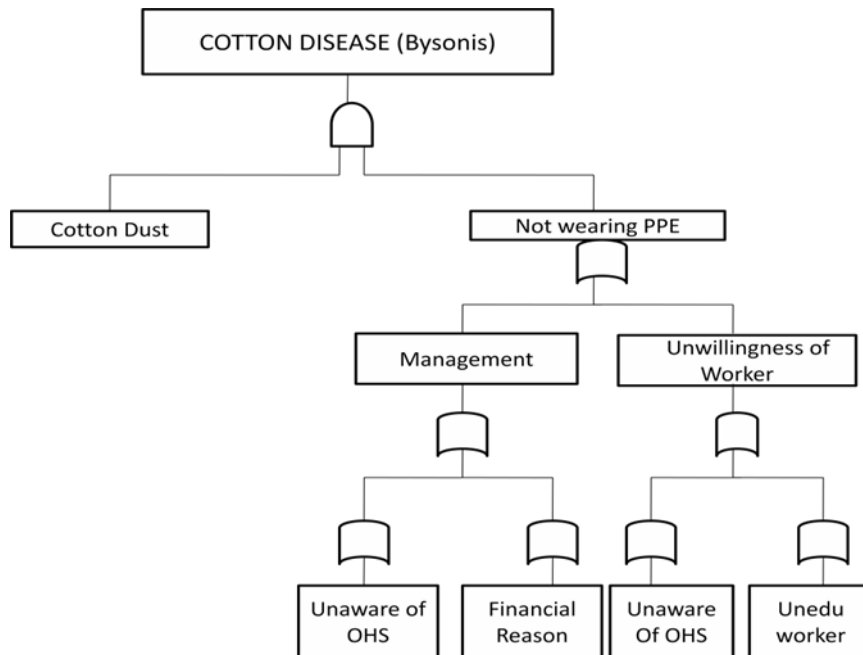


Figure 3 FEA for Cotton Disease in Ginning Industries

The risks and dangers associated with the spinning and ginning sectors have been made clear by the study that has been given. When comparing the computed RPN number to other threats, the greatest RPN is shown to be damaging to the employees. The primary hazards include noise, dust, fire, and electrical hazards. To protect employees' health and advance worker safety, these hazards must be immediately controlled [10].

Conclusion

Occupational health and safety regulations play a vital role in ensuring the well-being of female workers in garment export houses. These regulations establish standards and guidelines to minimize workplace hazards and protect workers from health risks. In Jaipur, as in many other regions, there are specific regulations and laws in place that address occupational health and safety. These regulations cover various aspects, including workplace safety, ventilation, lighting, ergonomics, and the use of personal protective equipment. Compliance with these regulations is essential to create a safe and healthy work environment for female workers.

Garment export houses must adhere to these regulations by implementing measures such as providing adequate ventilation systems, maintaining proper lighting conditions, ensuring ergonomic workstations, and conducting regular inspections to identify and address potential hazards. Employers must also provide appropriate personal protective equipment, such as gloves, masks, and safety goggles, to mitigate the risk of injuries and exposure to harmful substances. Health and wellness programs are an effective way to promote the well-being of female workers in garment export houses. These programs aim to enhance physical and mental health, prevent health problems, and encourage healthy lifestyles. Health and wellness programs can include initiatives such as health screenings,

awareness campaigns, fitness activities, stress management workshops, and nutrition education. These programs empower workers to take control of their health, make informed choices, and adopt healthy habits both at work and in their personal lives.

In Jaipur, garment export houses can collaborate with healthcare professionals, wellness experts, and organizations specializing in employee well-being to develop and implement comprehensive health and wellness programs. These programs can be tailored to address the specific health concerns of female workers, including musculoskeletal disorders, respiratory problems, eye strain, mental health issues, and reproductive health. Training and education programs are crucial for promoting health and safety awareness among female workers in garment export houses [15].

These programs provide workers with the knowledge and skills necessary to identify potential health hazards, adopt safe work practices, and take preventive measures.

Training sessions can cover topics such as ergonomics, proper lifting techniques, the use of personal protective equipment, respiratory health, eye care, stress management, and reproductive health. By equipping female workers with the necessary information and skills, employers can empower them to protect their health and well-being while performing their duties.

In collaboration with occupational health professionals, training programs can be designed to address the specific health challenges faced by female workers in the garment industry in Jaipur. These programs should be interactive, engaging, and easily accessible to ensure maximum participation and knowledge retention. Creating a supportive work environment is crucial for the health and well-being of female workers in garment export houses. A supportive work environment fosters a culture that values the health and rights of workers, promotes work-life balance, and encourages open communication and collaboration.

Employers can implement various measures to establish a supportive work environment, including:

- Providing opportunities for rest breaks and adequate time off.
- Offering flexible work schedules to accommodate personal and family responsibilities.
- Promoting a culture of work-life balance and discouraging excessive overtime.
- Encouraging regular physical activity and movement during work hours.
- Establishing channels for workers to voice their concerns, suggestions, and feedback.
- Implementing policies against workplace harassment and discrimination.
- Providing access to counseling services and mental health support.

A supportive work environment not only contributes to the physical and mental well-being of female workers but also enhances job satisfaction, productivity, and overall organizational performance.

By implementing these existing measures for health promotion, garment export houses in Jaipur can create a work environment that prioritizes the health and well-being of female workers. These measures should be integrated into the overall organizational culture and supported by strong leadership commitment. It is important for employers, management, and supervisors to actively promote and enforce these measures to ensure their effective implementation and sustainability. Regular monitoring and evaluation of these health promotion initiatives are also essential to assess their impact and identify areas for improvement. Feedback from female workers should be sought and incorporated into the planning and implementation of health promotion programs. This participatory approach empowers workers and ensures that their specific needs and concerns are addressed.

Furthermore, collaboration between garment export houses, industry associations, government

agencies, and other relevant stakeholders is crucial for the success of health promotion efforts. These collaborations can facilitate knowledge sharing, resource pooling, and the development of best practices in promoting the health and well-being of female workers.

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