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Original Research Article

Prevalence and prediction of occupational morbidities among male migrant workers in textile industries in Surat, India: a cross-sectional study

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ABSTRACT

Background: In the textile industry, male migrant workers from other Indian states predominate. Workers are more vulnerable to occupational hazards due to poor working conditions, such as long hours and workplace annoyances. These include noise, high temperatures, humidity, chemical fumes, and cotton or synthetic dust, which harm their health. This study investigated the morbidity patterns of textile migrant workers in Surat.
Methods: From April to November 2017, cross-sectional research was conducted in three blocks, utilizing multistage stratified cluster sampling to survey 348 TMWs. A pre-tested and pre-designed structured questionnaire was developed to collect data on three types of textile units: yarn, weaving, and processing. A bivariate and binary logistic regression examined the relationship between the self-reported prevalence of occupational morbidities (outcome variables) and occupation-related factors (predictor variables).
Results: Occupational morbidities affect 95% of workers. Self-reported morbidities include musculoskeletal morbidities (72.7%), respiratory morbidities (21.9%), ophthalmic morbidities (27.6%), skin morbidities (23.9%), and ENT problems (18.4%). Those working in weaving manufacturing units are 10% more likely to have ocular disorders ($P<0.05$). Those who engage in printing and dyeing processing units have a 27% higher chance of developing respiratory morbidities ($P<0.05$).
Conclusions: The prevalence of occupational morbidity is significantly higher among textile workers. The hazardous risk factors responsible for these morbidities can be mitigated by improving working conditions and implementing suitable protective measures for textile workers. Intervention initiatives are required to address textile workers' health concerns.

Keywords: Occupational morbidities, Occupational health, Textile industries, Migrant workers, India

INTRODUCTION

The Indian textile industry is significant to the economy. It is the world's largest single industry, accounting for approximately 20% of total industrial production. With a massive raw material and textile manufacturing base, this is the most influential sector in the economy in terms of output, foreign exchange earnings, and employment.[1] India's textile industry employs over 4.5 million people directly and another six million indirectly, including women and rural populations.[2] Health and safety are more crucial for textile workers. It is an industry in which the profession affects workers' health.[3,4] Workers in the textile sector are subjected to a wide range of hazards, including physical, chemical, biological, and psychosocial hazards such as mental stress and psychological imbalance.[5] Occupational illnesses are often caused by exposure to risk factors associated with job responsibilities.[6] In addition, working in the hazardous environment can also lead to serious long-term health problems, including respiratory diseases, musculoskeletal disorders, hearing impairment, chemical

burns and skin diseases.[7-12] Furthermore, textile industry workers are often exposed to high levels of noise and vibration.[13]

More than 80% of the world's workforce lives in developing countries, which bear a disproportionate part of the global burden of occupational morbidity and injury.[14] According to data from the National Program for Prevention and Treatment of Occupational Diseases, India has 100 million occupational injuries each year, resulting in 0.1 million fatalities.[15] It is also estimated that 17 million nonfatal occupational injuries (17% of the global total) and 45,000 fatal injuries (45% of total deaths due to industrial injuries worldwide) occur in India each year. India accounts for 1.9 million (17%) of the 11 million instances of occupational disorders worldwide, and 0.12 million (17%) of the 0.7 million fatalities worldwide.[16] Our country's workforce was 6 million in 1986, but it is currently 62 million due to the phenomenal proliferation of industries.[17]

Numerous studies conducted among workers across different occupational sectors in India have revealed that occupational illness is the leading cause of death. Iron and steel workers had a 60% increase in occupational morbidity, with musculoskeletal problems being more prominent.[18] In a study of textile industries in Solapur city, 85 percent experienced respiratory difficulties, 70 percent reported a rise in muscular tone, 48 percent complained of eye problems, and 73 percent reported musculoskeletal disorders.[19]

Many studies have been conducted across the world to estimate and analyse textile workers' health consequences. Such studies have been conducted in other regions of the world and in Surat. However, this is the first research study in the Surat region, including around 400 textile migrant workers. All of them were evaluated for respiratory, dermatological, and musculoskeletal issues through self-reported answers. As a result, this research was undertaken to examine the occupational health condition of exposed workers in Surat region in Gujarat state. Moreover, most prior research did not classify workers according to their employment characteristics to evoke workplace disparities with morbidity patterns. A cross-sectional study was done among textile migrant workers to investigate the morbidity pattern and its influencing factors in this circumstance. This was accomplished by a detailed occupational differential analysis.

METHODS

Study design

Preliminary cross-sectional industry-based research was undertaken among textile migrant workers from April to November 2017. Data were collected using multistage stratified cluster sampling in three blocks, according to the classification of textile industries: yarn, weaving, and processing (printing and dyeing) in the Surat region of Gujarat.

Study setting

Surat district is well-known as a textile and diamond hub in Gujarat, India. Due to the zero-unemployment rate in the textile sector, many migrants flock to the host city in search of jobs and substantial incomes. This is because of the vast labour markets and employment opportunities for skilled, semi-skilled, and unskilled labour. Therefore, many migrants come from other states for better prosperity. The study's source population was all textile migrant workers (TMWs) who were engaged in work during the data collection period.

Inclusion and exclusion criteria

The research study included all types of textile workers involved in textile-related jobs and employed in the textile industry and have more than one year of experience in this sector. The textile industries are dominated by male migrant workers, and the majority of inter-state migrants come from other states for employment. Because the number of local/intra-state workers and female workers was insignificant, they were eliminated from the research. Workers who participated in the study willingly and voluntarily were included.

Sample size and sampling technique

There was a 24% prevalence of respiratory illness among textile workers.[20] Based on the standard error of normal deviation $Z\alpha=1.96$ at 5% level of significance and 5% margin of relative error (d), assuming the Design effect (D)=1.25, and the non-response error (NR) of 5%, the estimated sample size was $Z\alpha^2 \times p\ (1\text{-}p) \times D \div d^2 \times (1\text{-}NR)=443$. Of the total 409 workers who participated in the study, 348 TMWs confirmed occupational or non-occupational morbidities, or both. In total, 348 TMWs participated in morbidity-related interviews.

Study instruments

A pre-tested and pre-designed structure questionnaire was developed for the following domains: i) morbidity profile: occupational and non-occupational morbidities, ii) anthropometric measure: Body mass index (BMI) measuring height and weight of the TMWs, iii) occupational characteristics: type of textile units, work pattern, work schedule, overtime, nature of work, iv) profile of the respondent: age, education, work experience and income.

Occupational health questionnaires

Self-reported health complaints were categorized as having dichotomous outcomes (yes or no). For example, does the respondent suffer from any morbidity? The response was coded '0' if the respondent said 'no'. If the

response was in 'Yes', it was coded '1' otherwise. The following domains are mentioned below:

ENT disorders

Ear, nose and throat-related symptoms such as difficulty hearing, sinus and throat-related problems.

Ocular disorders

Low visibility, eye itching, watering and redness in the eyes.

Respiratory symptoms

Coughing for a long time, chest pain, chest tightness, allergies, shortness of breath, wheezing.

Skin morbidities

Redness, rash, itching, infection, and allergy.

Musculoskeletal discomfort

Back pain, knee pain, calf muscle pain etc.

Psychological complaints

Occupational stress, irritation, anxiety.

Variables

Outcome variables

Respondents who reported morbidity-related symptoms for ENT and ocular disorders, respiratory disorders, skin disorders, musculoskeletal discomforts, psychologically related complaints, etc., due to work in the textile sector were considered to have occupational morbidities.

Risk factors

Most textile workers work in intolerable and hazardous conditions, depending on their textile manufacturing job profiles. They are highly susceptible to occupational morbidities since they work long hours, shifts, and additional hours or overtime. According to the study's objective, this research attempted to determine how occupational morbidities threaten workers in specific work contexts.

Confounding factors

Confounding variables chosen include age (less than 20 years, 20-40 years, and more than 40 years), education level, age at the start of the first textile work (less than or more than 18 years), workability (skilled, semi-skilled, and unskilled) and work experience (less than five years, 5-10 years, and more than ten years).

Statistical analysis

The collected quantitative data was entered into the CsPro 7.0 database software and checked for consistency. The data were analyzed using IBM SPSS 23.0. Descriptive statistics were applied to the prevalence of the morbidities by frequency, mean±standard deviation (x±SD), and bi-variate analysis. In order to determine an odd ratio, occupational variables were compared with occupational morbidities using binary logistic regression models. $P<0.05$ was considered to be statistically significant.

RESULTS

Morbidity pattern in textile sector

There are 348 out of 409 textile migrant workers (TMWs) suffering from work-related and non-occupational morbidities, which means 85% of textile workers accepted suffering from one or more types of morbidities, while 15% denied suffering any morbidities after engaging in textile-related work in the sector. Around 95% and 42% of TMWs reported work-related (occupational) and non-occupational morbidities (Figure 1).

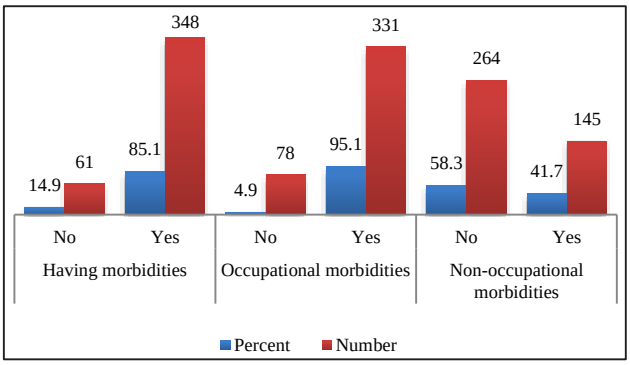

Figure 1: Morbidity pattern in textile industries.

However, TMWs are more engaged in 3D (dangerous, dirty, and degradable) jobs in the textile sectors. These jobs are often physically demanding and involve prolonged hours of physical work, adversely affecting their health and making them more susceptible to various occupational-related health issues. Additionally, they choose to reside close to their workplace to save time and money. Most TMWs live in an unhealthy and unhygienic environment. In addition to living in poor sanitation and unhygienic conditions, they are also at risk of non-occupational morbidities.

Morbidity profile of textile migrant workers

Table 1 demonstrates the morbidity profile of textile migrant workers. Nearly 95% of TMWs suffer from occupational morbidities such as ENT disorders (18.4%), hearing loss (11.2%), and ocular disorders (27.6%). A hazardous environment was also linked with respiratory-

related problems; 20% of the workers complained about respiratory-related illnesses such as shortness of breath, wheezing, breathlessness, and chest pain or tightness symptoms (10.6%). Dermatological disorders are more prominent issues in printing and dyeing processing units; skin-related problems are a common source of morbidity among TMWs, with 24% suffering from itching, redness, allergies, and skin infections. Besides, musculoskeletal discomfort is a more prevalent hazard in the textile industry. 73% of TMWs experience musculoskeletal disorders due to a long period of engaging in physical work and working in uncomfortable postures. Back pain (41%), calf muscle pain (45%), and knee pain (44%) were the most prevalent work-induced musculoskeletal disorders in their body regions. Besides, 51% of TMWs reported psychological complaints, including irritations, anxiety, occupational stress, and depression.

Table 1: Morbidity profile of textile migrant workers.

Morbidities (n=348)	%	N
Occupational morbidities	95.1	331
ENT disorders	18.4	64
Hearing loss	11.2	39
Ocular disorders	27.6	96
Respiratory problem	20.1	70
Chest pain or tightness	10.6	37
Skin disease	23.9	83
Musculoskeletal discomfort	72.7	253
Back pain	40.5	141
Calf muscle pain	45.1	157
Knee pain	44.0	153
Psychological complaints	50.9	177
Non-occupational morbidities	41.7	145
Vector borne disease	17.2	60
Fever and weakness	12.9	45
Waterborne disease	5.5	19
Abdominal disorders	4.3	15
Other morbidities	4.6	16
Body mass index (BMI)		
<18.5 (underweight)	24.7	86
18.5-24.9 (normal)	66.1	230
25.0-29.9 (overweight)	8.6	30
30.0 (obese)	0.6	02
Mean±SD	20.78±03.01	

Furthermore, 17% and 13% of TMWs reported vector-borne disease, fever and weakness, respectively. Working and living in unhygienic conditions, lacking sanitation in the surrounding area, and breeding mosquitoes are the main reasons workers face malaria, chikungunya, and dengue. Besides, they also suffered from waterborne illnesses (5.5%), abdominal disorders (4.3%), and other morbidities (4.6%). Poor sanitation leads to stagnant water buildup, which breeds mosquitoes. Workers are exposed to these vector-borne diseases due to living and working in unclean environments and working for prolonged times without proper rest and breaks, which causes physical and mental fatigue leading to fever and weakness. Workers can also become ill from waterborne illnesses such as typhoid, cholera, and dysentery without access to clean water for drinking and cooking and consuming unhygienic food outside.

Prevalence of occupational morbidities with workers' background

Table 2 shows the prevalence of occupational morbidities with TMWs' employment characteristics, such as work schedule patterns. Around 47% and 32% of TMWs complained about musculoskeletal discomfort and psychological problems in the age group of 20-40 years. ENT (10%) and ocular (13%) disorders in the weaving unit are more prevalent than in the yarn and processing units, with more hearing difficulties and low visibility complaints. Nearly 7-8% of respiratory disorders and 9% of skin-related disorders are reported in yarn and processing units. It is also observed that those working 12 hours per day, seven days a week, tend to have a higher prevalence of occupational morbidities. Those who are not engaged to perform extra shifts or overtime are more likely to have occupational morbidities. Besides, occupational morbidities are reported more among skilled TMWs and less among unskilled TMWs. Textile workers who started their first job at a very young age are more susceptible to occupational morbidities, which indicates that those working in this field for an extended period and beginning the job at a very young age are more likely to be diagnosed with occupational morbidities such as respiratory, skin, musculoskeletal, and psychological problems. Similarly, those with more than ten years of work experience reported occupational morbidities. Besides, the calculation of the body mass index of TMWs found that those who are healthy in weight (18.5-24.9) had more complaints about work-related health hazards.

Prediction of occupational morbidities

Table 3 indicates the adjusted odd ratio for occupational morbidity prediction. There is a significant association between TMWs' age and ENT disorders ($p<0.05$). Approximately 55% and 47% have a higher risk of ENT and ocular disorders, respectively. They are 2.2 times less likely to have skin-specific disorders for those who are more than 40 years old in comparison to the less than 40-year age group of TMWs, which indicates that increasing age also impacts the ENT and ocular systems, which are sensory organs of the human body and have more chances of complaining of difficulties in hearing and low visibility with the process of ageing. Besides, TMWs who engage in weaving units have 10% higher chances of ocular disorders ($p<0.05$), such as low visibility, than those in yarn and processing units.

Table 2: Prevalence of occupational morbidities reported by male textile migrant workers according to the workers' occupational profile in textile industries in Surat district, Gujarat, India, 2017.

Occupational profile (n=348)	Occupational morbidities						
	ENT disorders	Ocular disorders	Respiratory problems	Skin disorders	Musculoskeletal discomfort	Psychological complaints	Number (n)
Respondent's current age							
<20 years	2.6	2.6	4.6	4.6	10.3	7.5	55
20-40 years	10.1	16.7	12.9	16.7	46.8	31.9	226
>40 years	5.7	8.3	2.6	2.6	15.5	11.5	67
Completed level of schooling							
No schooling	2.3	2.6	3.4	4.3	7.8	5.7	34
1 to 4th	0.9	1.4	0.9	0.6	4.3	2.3	19
5 to 7th	4.3	4.3	1.7	3.7	13.2	8.6	61
8 to 10th	8.3	12.1	11.2	10.9	35.9	26.1	171
Above 10th	2.6	7.2	2.9	4.3	11.5	8.0	63
Textile units							
Yarn	4.3	6.3	7.5	8.6	19.5	14.1	101
Weaving	9.5	13.2	5.5	6.6	30.5	23.0	135
Processing	4.6	8.0	7.2	8.6	22.7	13.8	112
Number of working days per week							
6 days	4.6	7.5	7.5	6.0	18.4	12.4	88
7 days	13.8	20.1	12.6	17.8	54.3	38.5	260
Daily work hours							
8 hours	0.3	1.4	0.6	0.6	2.6	1.7	14
12 hours	18.1	26.1	19.5	23.3	70.1	49.1	334
Performing extra shifts/overtime							
No	11.5	16.7	11.2	13.2	44.8	31.6	209
Yes	6.9	10.9	8.9	10.6	27.9	19.3	139
Nature of work							
Skilled	10.3	17.0	11.5	14.4	45.4	32.2	220
Semi skilled	6.0	7.2	4.9	5.2	14.9	9.8	64
Unskilled	2.0	3.4	3.7	4.3	12.4	8.9	64
Age at first job in textile industry							
<18 years	10.6	13.8	12.6	14.9	42.8	28.7	204
>18 years	7.8	13.8	7.5	8.9	29.9	22.1	144
Total years of work experience							
≤5 years	4.9	7.2	8.6	8.9	23.3	15.2	117
6-10 years	2.3	3.7	2.9	4.0	11.5	9.2	62
>10 years	11.2	16.7	8.6	10.9	37.9	26.4	169
Body mass index (BMI)*							
<18.5	3.7	4.0	5.7	5.2	17.8	12.6	86
18.5-24.9	12.9	20.1	12.9	17.0	47.1	32.5	230
≥25.0	1.7	3.4	1.4	1.7	7.8	5.7	32
Total	18.4	27.6	20.1	23.9	72.7	50.9	348

Body mass index (BMI)*: Less than 18.5 BMI are underweight, 18.5 to 25.0 BMI are healthy weight and more or equal to 25.0 BMI are included in overweight and obese category.

In comparison, those engaged in printing and dyeing processing units have 27% higher chances of developing respiratory morbidities ($p<0.05$) due to chemical fumes and airborne pollutants, which are significantly associated with respiratory morbidities. Besides, psychologically related complaints were significantly associated with the processing units of TMWs ($p<0.001$), whereas processing unit TMWs have 2.5 times more likely chances of psychological problems than yarn and weaving unit TMWs. Working days are also strongly associated with ocular and respiratory disorders. Those who engage in textile jobs seven days a week without holiday or leave are 1.3 times more likely to have the possibilities of ocular disorders, 1.9 times more likely to suffer from respiratory morbidities, and 1.2 times more susceptible to mental health-associated complaints in comparison to those who work for six days and have a 1-day break from work. Work nature is also significantly correlated to ENT

disorders and musculoskeletal discomfort (p<0.05). Unskilled TMWs are 3.3 times more likely to suffer ENT disorders and 1.8 times more likely to experience musculoskeletal discomfort than skilled and semi-skilled TMWs. Those who started their first job at more than 18 years of age are 1.8 times more likely to face ocular disorders, which are strongly associated with eye-related complaints (p<0.05). Besides, 47% of TMWs have higher chances of psychological problems (p<0.01). TMWs' monthly income is also significantly associated with ENT disorders (p<0.001). Those with incomes between Rs. 10000 - Rs. 15000 and more than Rs. 15000, respectively, have 86% and 74% higher chances of having ENT-related complaints.

Table 3: Adjusted odds ratio of occupational morbidities among male textile migrant workers (TMWs) in Surat district, India, 2017.

Occupational variables	ENT disorders	Ocular disorders	Respiratory problems	Skin disorders	Musculoskeletal discomfort	Psychological complaints
Age in completed years (<20 years®)						
20-40 years	0.792	0.508	2.069	2.52	0.529	1.125
> 40 years	0.452**	.529*	1.551	2.239*	0.702	0.732
Textile units (yarn®)						
Weaving	1.511	0.901**	1.487	1.076	0.998	1.800*
Processing	1.629	1.512	0.733**	0.585	1.595	2.536***
Number of working days per week (6 days®)						
7 days	0.942	1.269**	1.941**	0.852	0.995	1.188**
Daily work hours (8 Hours®)						
12 Hours	0.192	1.231	0.856	0.581	0.496	0.488
Performing extra shifts/ Overtime (No®)						
Yes	0.803	0.794	0.955	1.043	1.135	0.925
Nature of work (skilled®)						
Semi skilled	1.1	1.054	0.891	0.955	1.085	1.017
Unskilled	3.306**	1.876	1.392	1.316	1.846**	1.103
Age at first job in textile industry (<18 years®)						
>18 years	1.308	1.798**	0.898	0.851	0.912	1.302
Total years of work experience (≤5 years®)						
6-10 years	0.763	0.902	1.045	0.797	0.88	.533*
>10 years	0.601	0.66	0.783	0.794	0.606	0.901
Monthly income in Rupees (less than 10000®)						
10000-15000	0.136***	0.453	0.646	1.754	1.216	1.386
>15000	0.260***	0.816	0.773	1.786	1.301	1.172

®Reference category; ***p<0.001, **p<0.05, *p<0.01.

DISCUSSION

Workers in the textile industries engage in more hazardous work and are more vulnerable to occupational morbidities. Ocular and ENT disorders are more prevalent in the weaving industry, where more complaints about hearing impairment are related to the high decibel volume of noise in weaving machinery. The occupational permissible exposure limit for an eight-hour time-weighted average in India is 90 dBA.[21] The major industries responsible for excessive noise and exposing workers to hazardous noise levels are textile, printing, sawmills, mining, etc. Workers in the industrial sectors face increased vulnerability to risks, particularly in terms of noise exposure. Throughout their working life, these workers are exposed to high levels of noise.[9,22] Unfortunately, only a limited number of industries take proactive measures to mitigate the risk of noise-induced hearing loss (NIHL).[22]

Various textile dyes and solvents, many of which are carcinogenic, are being used worldwide in the textile industry. Therefore, textile industry workers are continuously exposed to dyes, solvents, dust particles, and toxic chemicals.[23] Respiratory and skin-related problems are more prevalent in yarn and processing units. Those workers engage in printing and dyeing textile work and have more than ten years of work experience; they have more reports about breathing disorders and skin-related morbidities. Airborne pollutants such as chemical fumes, cotton, and synthetic dust also affect workers' nasal and bronchial tracts. They face more respiratory morbidity symptoms, such as chest pain, chest tightness, shortness of breath, etc., caused by long-term exposure to working in hazardous environments. Besides, the lack of mask use is another reason for respiratory morbidities. Many industries pay less attention to PPE, and workers cover their noses and face with clothes for protection from airborne pollutants, chemical fumes and cotton dust.

These makeshift masks are inadequate and do not provide enough protection against these pollutants. In addition, the lack of proper ventilation in these workplaces further exacerbates the issue, which leads to an increased risk of respiratory morbidities among these workers. Occupational skin disorders are common in workplaces where workers are exposed to hazardous chemicals, dust, and other pollutants.

These skin disorders can range from minor irritations to serious conditions, such as occupational asthma, allergic contact dermatitis, and skin allergies. In 95% of cases, occupational skin disorders are caused by contact dermatitis.[12,24] The TMWs also engage in making colours and dyes using various chemicals, chemical solvents, and artificial colours to apply to the textile materials with poor safety precautions; these chemical dyes and colours are in contact with the skin as well. These chemicals and solvents harm the skin and can cause contact dermatitis and other skin allergies, itching, inflammations, and infections. The findings were also evident from 1300 workers (1000 in cottage industries and 300 in textile industries) in western Rajasthan for skin diseases, where the most common skin disorders detected were itching (100%), followed by skin discolouration (40%), pain (38%), burning (30%), and nasal and conjunctival irritation (10%).[25] Furthermore, safety precautions should be addressed. Most workers work without earplugs, masks, or hand gloves.

Musculoskeletal disorders are more frequent in weaving and processing units and more likely to affect unskilled workers. Those working seven days a week and 12 hours a day have more complaints about musculoskeletal discomfort. Lower back, knee, and calf muscle pain are the most vulnerable body parts for work-related musculoskeletal disorders. Most TMWs work continuously in poor ergonomic postures for extended periods, resulting in muscular tension syndrome. This is particularly true for occupations that require the use of specific muscle groups that are not always localized. Because of the nature of the textile industry's employment, work-related musculoskeletal problems may affect more than one portion of the body.[8]

Half of the TMWs' complaints about related psychological problems were reported higher by those with more experience in textile industries. These individuals worked 12-hour shifts seven days a week. High work pressure and occupational stress are more prominent issues contributing to psychological problems among skilled workers. This finding was confirmed by prior research that encountered occupational factors such as industry, position, working hours, working conditions, and employer that had a significant impact on the health of migrant workers, such as jobs requiring heavy manual labour and long working hours being detrimental to the physical and mental health of the workers.[26-29]

There are few limitations. The prevalence of underlying morbidity may have been underestimated due to using a cross-sectional survey to obtain information. The results of self-reported morbidities may be skewed due to subjectivity in responses because the severity of the morbidities was not measured. There is a possibility that recall bias also influenced the estimated prevalence of morbidities.

CONCLUSION

Most TMWs have a poor literacy level and are unaware of workplace safety precautions to protect themselves from occupational risks and secure their health and jobs. The majority of the workforce is unprepared to handle manufacturing and industrial hazards. Their health issues are worsening. Different types of occupational morbidities, such as ENT and ophthalmic disorders, respiratory and skin disorders, musculoskeletal difficulties, and psychological symptoms among textile workers, are raising the alarm. Overall morbidity in the textile industry has also been interconnected with the workplace environment, work patterns, workplace irritants such as cotton dust, chemical fumes, humidity, poor ventilation system, poor sanitation and personal hygiene, a lack of knowledge about personal protective equipment, and workers' nature of work, education, and income. Occupational morbidities are significantly more prevalent in the textile industry, where workers are more likely to suffer from one or more occupational morbidities. Workers are more susceptible to occupational health consequences due to a lack of safety and precaution. In order to solve job-related problems and create a better working environment, acting with urgency is the right course of action. They are more exposed to health risks due to a lack of understanding about occupational health hazards, the use of PPE, and the long hours they work in this industry, and workers must be protected from health threats.

An awareness program on health hazards and PPE usage is also required to reduce work-related morbidities. Training sessions should be conducted to ensure workers are adequately equipped to handle and manage the risks associated with their work. Furthermore, safety workshops should be held to educate employees on the importance of adhering to safety protocols. Audio-visual training sessions designed by experts for different units of the textile industry may be implemented to get the most effective results in making workers aware of workplace health concerns. Furthermore, all workers who perform hazardous tasks must be protected with personal protective equipment (PPE). PPE protects workers from workplace hazards and reduces the risk of injuries and occupational morbidity. Minimizing occupational morbidities are possible by providing rest periods between long work hours. Rest periods give workers a chance to recharge, improve productivity as well as quality of work life.

A campaign can significantly improve workers' health by providing effective and adequate counselling and health education. In the workplace, health campaigns can give workers the information they need to stay safe and healthy. This is done by hiring safety and health personnel and scheduling periodic health check-ups with a physician. Workers must undergo medical examinations every three months. Medical examinations can identify health issues arising from hazardous tasks and provide preventative measures.

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