

Occupational Stress among Textile Industry Worker

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ABSTRACT:

Occupational stress on employees in textile industry is one of the major areas of concern, because the organizational life is quite stressful. The emergence of new technologies, global competition, and competitive pressures multiplied the sufferings of employees. Stressed employees are also more likely to be poorly motivated, unhealthy, less productive and less safe at work. Stress is the adverse reaction what people feel because of excessive pressure and different types of demand placed on them. This paper focuses on the phenomenon of Occupational stress and health hazards on employees among textile industry, to suggest appropriate stress management strategies for saving employees from variety of health problems and it also helps to improve their efficiency and productivity.

KEY WORDS: Occupational Stress, Occupational health hazards, Textile industry worker.

ABBREVIATION

MSD: Musculoskeletal Disorder

NIOS: National Institute of occupational safety and health

OHS: Occupational health and safety

OSHA: Occupational safe and health organization

PPE: Personal protective kit

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I. INTRODUCTION

India is the second largest producer of textiles garments, third largest producer of cotton and second largest cotton consumer. Indian textile industry has very diversified and complex nature as country itself. Textile industry strength flows from its strong production base of wide range of natural fibers such as silk, cotton, jute and wool to man-made or synthetic fibres such as polyester, viscose, nylon, acrylic and so on. Textile industry is growing constantly from past decade primarily due to liberalization of trade and economic policies started by the Government in 1990s. LPG reforms helps to set up clothing companies with more ease, which led to an unparalleled diversity of garment exporters in the third world. (Devaraja, 2011). Also the Indian textile industry continues to be the second largest employment generating sector in the country.

Stress can be described as a psychological and physical state of human that results when the resources of the individual do not meet the demands and pressures of the working situation. Acute response areas of the stress are like feelings (anxiety, depression, fatigue, irritability), thinking (difficulties of concentration and problem solving), physical symptoms (such as palpitations, headaches, nausea) and behaviour (unmotivated, being withdrawn, aggressive, tearful). Stress is a way human may react both physically and mentally to any kind of changes, events, and situations in their lives. (Michi, 2002). The stress can be Eustress which is Positive , pleasant or curative stress and Distress which is Dysfunctional or negative stress.

Occupation health

Health is a state of complete physical, mental and social well being and occupational health is involved with the health safety issue at work. Any kind of hazards exposure can adversely affect the human health. Occupational health and safety are related with the general health which is a part of social economic development. Occupation health is important to everyone's business and peoples are affected by it directly or indirectly. It has a key role and responsibility with regards to occupational health.

Any industrial employee may expose to the following types of hazards which can vary on their occupation:

- **Physical hazards:** Heat, cold, temperature, RH, lighting, noise, visible UV radiation and ionizing.
- **Chemical and mineral hazards:** Dust, gases, solvent, vapors, fumes and metal compounds.
- **Biological hazards:** Blood borne disease, bacteria and moulds.
- **Mechanical hazards:** Fall, tripping hazards and injuries, steps and fault of moving equipments.
- **Ergonomic hazards:** Posture, force, pressure, repetition, vibration, poorly designed work environment.
- **Psycho-social hazards:** Work load, pace of work, little or less control over work, low social support, harassment or violence, discrimination and no flexibility for time off.

IMPACT OF STRESS ON HUMAN BODY:

Physiological effects: In human’s hormone releases triggers fight or flight response that helps them to fight harder which leads to increase heart rate, blood pressure, and sweating. Prolonged stress increases the tension that is put on the arteries which also affects the immune system and causes heart disease that is why cold and flu illness usually show up during exams.

Behavioral effects: It can cause people to be excitable, jumpy or even irritable and some people also used to drink or smoke heavily and they neglect exercise or proper nutrition, or overuse phones, television or computer.

Psychological effects: This kind of stress response may lower the ability to work or interact effectively with other people, and decrease the ability to make good decisions.

OCCUPATIONAL HEALTH IN TEXTILES INDUSTRY

From ancient period India has a rich tradition of producing variety textile in different region. Textile industry is the second largest industry after agriculture in terms of providing employed and contributed in the domestic economy. This sector provides employment to approximately 38 million people which is almost 25 per cent of the country’s labour force. In India more than 2500 textile units are working.

Textile industry associated with numerous health and safety issues and occupational lung disease is top on the list followed by occupational cancer, cardio and vision diseases, disorder in reproduction and neurotoxicity, hearing loss, dermatological condition and psychological orders.

Researcher reported that textile industry is mainly labour oriented and following reasons of accidents can take place frequently in this industry:

- Improper handling of material
- Improper knowledge about machines
- Lack of proper training
- Improper mental and physical condition of the workers
- Unsafe conditions of working

HEALTH HAZARDS IN VARIOUS UNITS:

S.No	Units	Activities in unit	Health hazards	Impact
1.	Production unit	Harvesting, Ginning, separation of lint-seed, cleaning and packaging	Injuries in Hand, fingers, spine, eye, arm, shoulder, leg, trunk and head etc.	Total economic costs for injuries and health disorders include direct costs like medical and other compensation and indirect costs such as time lost from work, downtime, loss in earning power, compensation, loss of productivity and etc.
2.	Yarn manufacturing unit	Carding, combing, blending, opening, roving, drawing, spinning, winding and spooling etc.	Heat stress, Accidents because of machinery, Byssinosis (inhalation of cotton dust), Noise generated hazards etc.	Headache, moist skin, dizziness and inability of the body to cool itself down and severe conditions lead to nausea and vomiting. Fatigue, anxiety, absenteeism, annoyance, reduced efficiency, pulse rate and blood pressure changes. Respiratory disorders such as coughing, chest tightening, wheezing and shortness of breath. Damage in eardrum and causes hearing loss.
3.	Synthetic fibre production unit	These fibres are made up of polymers which have been synthetically produced using various chemicals.	In this process large amounts of toxic and flammable materials are used. Large amounts of solvent vapours are released due to spinning and	High incidence of colorectal cancer due to chemicals such as Azo dyes causes bladder cancer and Carbon disulphide used in the preparation of synthetic fibre lead to increased mortality from ischemic heart disease.

			causes toxic hazards.	
4.	Weaving unit	Weaving done in handloom or automatic machines	Falls and Injury from machinery and material handling	Repetitive-motion trauma due to high-speed manufacturing equipment. MSD's like carpal tunnel syndrome, tendinitis, pain in lower back, neck, shoulder and osteoarthritis are some occupational diseases occur due to heavy weight lifting and moving heavy cloth rolls, warp beams.
			Hazards due to noise emission	Most weaving machines produces noise that generally exceed 90 dBA and in some shuttle and shuttleless machines it may even exceed 100 dBA which leads to hearing loss.
			Fires, ignition and fibre dust	Irritation in eyes, nose and skin, Dermatitis, lung disease like asthma, bronchitis, some chronic effect like cough, dyspnoea, lung diseases like follicular bronchiolitis, asbestosis, lung cancer and byssinosis have long been linked with dusts associated with the processing of raw fibres.
5.	Dyeing	It is a chemical combination or a powerful physical affinity between the dye and the fibre of the fabric.	Fire and explosion Chemical hazards Accidents	Many dyestuffs and hypochlorite solution may cause a skin and eye irritation and a dangerous pulmonary tissue irritant causing delayed lung oedema. Corrosive alkalis and acids with boiling liquor expose the workers to the risk of burns and scalds. Organic solvents used in the processes and for the cleaning of machines may themselves cause dermatitis or render the skin vulnerable to the irritant action. Allergy may occur from sizing and even by the enzymes used and those allergic responses to reactive dyes involves eczema and asthma.
6.	Printing	Dye or pigment is used to color the fabric.	Flammability Air emissions Sludge	Formaldehyde may produce reactions which lead to simple eye irritation to welts on the skin and severe difficulty with breathing.
7.	Mechanical finishing	Change of texture and appearance by Sanforizing, Sanding, Calendering, Heat-setting, Brushing, Embossing & Sueding.	noise, heat stress, etc.	MSD's
8.	Chemical finishing	Use of chemicals to change texture and appearance	Irritation in skin and eye	Resins release formaldehyde causes nasal and lung cancer as well as to brain cancer and leukemia. Contact of the chemicals lead to Hepatic toxicity, respiratory difficulty and eczema.

IMPACT OF STRESS ON JOB PERFORMANCE:

Good performance of employees is an indicator of the success of an organization which leads to good productivity. Organization's success or failure is majorly dependent on the performance of their employees (Ahmed, 2013). Any kind of stress has remarkable impact on company and employees performance and it terribly affects their health (Shah, 2012).

Role conflict and role ambiguity have a positive relation with stressors fighting against the common notion whereas stressors and job performance relationship is found to be negative (Munir, 2011). Primary reasons of causing stress in employees are workload, role conflict, and inadequate monetary reward which leads to reduced employee efficiency (Usman Ali et al. 2014). Researcher suggested that employee job performance is affected by stress which includes Productivity, Morale, Absenteeism, Job Satisfaction, Reliability, Decision Making Abilities, Creativity, Alertness, Accuracy, Organizational Skills, Initiative, Perseverance and Tardiness etc.

Textile industry carry numerous hazards to employees due to exposure to chemicals such as dyes, optical brighteners, finishing agents, solvents and various natural and synthetic fiber dusts and airborne particulate which affects their health. Moreover, workers involved in manual working with machinery are at a risk of various health conditions and one of disease which is associated with the cotton dust is byssinosis which leads to chest tightness, asthma, and irritation in the Respiratory track (Singh, 2015).

Stress and strains on an employee increases with the progressive development of the industries. In India, because of LPG reforms a rapid change is undergoing due to many contemporary trends in the form of liberalization, modernization, industrialization and automation etc. And due to these changes the health of the employees affected adversely. All occupations are causing some amount of stress and any employee may expose to tension, frustration and anxiety due to the duties assigned to them. Sometime stress is misunderstood or misinterpreted and resulting into avoidable problems. Stress is the response to any forces that when implemented in human bodies, causes deformation. Occupational stress has become a challenge for the organizations as it results in low productivity, increased absenteeism and collection of other employee problems like alcoholism, drug abuse, hypertension and host of cardiovascular problems (Meneze, 2005).

SOURCES OF OCCUPATIONAL STRESS

Occupational stress is defined as the process through which employees appraise, perceive and respond to adverse or challenging job demands (Frese, 1988). Occupational stress directly affects the performance of the worker and it comes from the job that they are doing. Many people not aware of occupational stress that occur in the organization and they did not care about it. They assume that the occupational stress will only affect their performance of work but it also affects their health like heart attack, migraine that can even lead to death. Sources of occupational stress were categorised by (Cooper and Marshall, 1976) as follows:

- Intrinsic to the job will include physical aspects of the working environment (noise, lighting) and psychosocial aspects (workload) and will vary.
- Organization roles such as role ambiguity and role conflict.
- Poor relationships with colleagues/manager/boss, harassment and bullying in the workplace.
- Career development such as lack of job security and under/over promotion.
- Organizational structure as well as little involvement in decision making and office politics.

EFFECTS OF OCCUPATIONAL STRESS

In many organizations, workers are expected to have long working hours and assigned a range of projects and assignments in order to prove their worth to the organization. Furthermore, job and career reviews (appraisals) are intended to provide guidance to employees from senior management, to review current progress and to agree objectives, which are measurable and achievable, for future performance. Many occupations and career reviews however, are badly conducted and can bring stressful situation for employees. Frequently the stress can arise from a lack of understanding by their immediate manager and coworkers, feeling of unfairness, work harassment and bitterness. (Stranks, 2005) Stress can affect employees in following ways:

- Increased accidents
- Increased complaints from clients
- Workers losing commitment to the organization success
- Increased levels of absenteeism
- Increased staff turnover
- Reduced employee performance
- Increased medical expenses
- low motivation
- reduced productivity
- faulty decision-making
- poor industrial relations and reduced efficiency

Preventive measure should used in textile mill

According to OSHA, 1995:

- Training programme should be conducted for employees at least annually to create awareness about hazards occurred and also how to avoid it.
- Employers must provide free annual medical check-up and if workers show any kind of physical change than treatment should provide to them instantly.
- The seats and tables of the workers should be well aligned in height and comfort so that there is no MSD.
- Employees must provide respirators and other PPE kit, mandatory to be wearing it and also instruct to use, clean and maintain it.
- Proper lighting should be presented at the work place so that eye strain can be avoided.
- Machinery should be well maintained in order to reduce the noise and if certain parts of machines are not working properly then it can be replaced or repaired. In case the noise level cannot be controlled, earplugs should be provided to lower its impact.
- Proper ventilation facility should be available at the work place.
- Workers can be rotated within jobs to lower the continuous exposure to any hazard for a long period of time.
- Workers should be equipped with masks to reduce the exposure of dust and other chemicals.
- Workplace should be well equipped with safety equipments such as fire extinguishers and fire alarms, trained medical personnel and first aid facilities.
- In case of heavy exposure to dangerous chemicals, employee must equipped with safety gloves and respiratory/ dust mask, PPE.
- Proper dust control equipment should set up to lower its impact on worker.
- Smoking should be prohibited at workplace and open lights, flames and sparks also eliminated where flammable solvents are used.
- Certified Electrical equipment and flameproof construction should be used and machines should be earthed to prevent the build-up of static electricity that might lead to catastrophic sparks.
- Toxic and chemical exposures should be maintained beneath the relevant maximum allowable concentrations by adequate LEV.
- Safe storage facilities for flammable solvents and certain flammable dyestuffs should be presented which are used in the processes.
- Sanitary facilities for washing, bathing and changing should available at workplace and workers should be encouraged to use them.

COPING STRATEGIES TO STRESS MANAGEMENT

Stress management programs create awareness about stress and making employees to learn stress management techniques. Some of them are as follows:

- **Relaxation Training** - Relaxation techniques include meditation, deep muscle relaxation techniques, or a brief period of mental and physical relaxation while sitting comfortably in a chair at work or at home. It helps to recover quickly from accumulated psychological and physical fatigue. With time anyone can develop a capacity not only to cope with, but also to resist the stress.
- **Employee Assistance Programs** - This technique counsels the person with work-related problems, relationship difficulties, illness worries, redundancy or retirement concerns, substance abuse, or financial worries etc.
- **Meditation** - Meditation is a mental training technique by which individual can get the mind into a deeper state of relaxation or awareness. It is used to improve not only mental health and capacities but also the physical health because it has physiological effects on the brain which combat the “flight or fight” stress response.
- **Skills Training** – It includes stress management activity is in the provision of training. After training workers are need to put their new skills into practice by using them to deal with potentially stressful situations.
- **Assertiveness Training** – When the person is assertive, then he is able to say “No” to unreasonable demands without becoming aggressive or non-assertive. This training also teaches us to be able to speak up and be taken seriously without damaging the rights of other people.
- **Time Management** – This stress management technique used mainly for managers or administrative staff but also very important for the workers. It mainly concerned with developing a personal sense of time, future planning and goal settings; analyzing where, how and why you are spending your time. It helps in finding a proper balance between working life and leisure time; and also achieving life goals by gaining control of time. Most important goal of time management is, “Work smarter not harder”.

- **Career development programs** - It includes the use of self assessment tools and psychological testing, providing assistance and training in skills such as producing a curriculum vitae and interviewing.
- **Reduction of Workloads** - It is important in managing overload of an individual. Delegation and work sharing helps in reducing chronic overload. Skills in working more efficiently and effectively can be developed through training, procedure manuals and coaching.

II. CONCLUSION

In today's times, Organizational life is probably quite stressful. The new technologies and inventions, global competition and pressures have multiplied the sufferings and workload of Employees in this Industry. Stressed workers are likely to be unhealthy, less motivated, less productive and less safe at work. Safety measures play a key role in any industry to work efficiently. Workers should be aware of different kind of occupational hazards in the workplace. At the same time, it is important that the management take the necessary steps to protect workers from potential hazardous situations. Positive attitude and meditation can help to cope up the stress.

The organization should also identify the cause of stress and attitude among their employees towards it. After this, organization should work on the proper coping techniques to get their employees away from the occupational stress. It will reduce the stress among the employees and help to improve the skill of the worker so as to improve the organization productivity and efficiency.

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