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Original Research Paper

A Review on the Health Status of Textile Dyeing Workers

Medical Science

KEYWORDS : Textile workers, Health status, Occupational health hazards

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ABSTRACT

Textile industry has different segments such as spinning, dyeing, weaving, knitting and wet processing. Cotton yarn, silk yarn, blended yarn, organic cotton, acrylic yarn, zari etc are the main raw materials of this large sector. As all these segments require large number of workers daily, it generates one of the largest employments of the world. People mostly from rural areas are engaged in this sector. Due to lack of occupational health and safety provisions, different occupational health problems are very common in this industry. As textile dyeing industry uses large number of chemicals, acids, toxic colors and materials, workers of dyeing section are vulnerable to skin diseases, respiratory problems, headache etc. In addition musculoskeletal disorder is common among the workers. In this paper an attempt is made to highlight researches on textile workers over the globe for extending the research from different angles.

INTRODUCTION

Textile industry plays a significant role in the economical growth of the country. Health problems come mainly from three factors- dyes, solvent and cotton or synthetic dusts. Hence they are suffered from skin allergies, headache, sleep disturbances, cold, cough and different types of occupational diseases [1]. This sector is growing very fast in the urban areas employing mostly the lower socio-economic class poor people of villages. They enjoy low quality of life because of ill paid, practically no job security, lack of cultural climate, poor relationship with supervisor and co-workers and low skill of work [2,3].

Textile workers face different workplace hazards which creates hurdle to meet the Occupational Health and Safety (OHS) practice [4]. A OHS study in textile industries of Tamilnadu, India had reported that RPN (risk priority number) is found high for dust (1000) and electrical hazards (900) [5]. Like other industry workers, textile workers also suffer from musculoskeletal disorder [6]. Here we are summarized investigations on occupational health of textile workers.

WORKS ON TEXTILE WORKERS

The cause of respiratory problems among cotton workers was first detected from the presence of histamine in blood in 1932 [7]. Later it was confirmed by Macdonald & Maitland [8] and Prausnitz [9]. The same result was observed among the cotton industry workers at Manchester [10]. Paranasal sinuses were reported among the cotton plant worker [11]. But concern about the health of textile workers was get momentum at the end of 1970's. Researches on textile workers are highlighted in Table 1.

Table 1: Time line of occupational health researches on Textile workers

Years	Descriptions
1978	Mortality rates were found very high among the bleaching and dyeing workers of London [12].
1980	Bronchial problems and occupational asthma had been found among the workers exposed to ostazine dyes [13].
1986	Potential risks of contact dermatitis and asthma had been reported among the reactive dye users [14].
1989	Nasopharyngeal carcinoma (NPC) was observed among the textile dyeing workers in China [15].
1990	Increasing genetic toxicity was found among the workers working with benzidine based dyes though it has been used since 1850 [16].
1991	Increased serum IgE had been observed among the workers of dye and its surrounding factories [17].
1993	Respiratory and nasal disorders were common among dye house workers of Sweden [18].
1996	Higher risk of work-related dermatitis was seen among the textile workers in USA [19].
1997	A case study had shown that benzidine have hepatocarcinogenic effect on 53 years old dye worker at Japan [20].
2005	Presence of mutagenicity had been found in 11 out of 12 textile dyes in Jaipur, India [21]. In another study lack of proper attitude (80%), knowledge (62%) and safety measures (78%) was obtained among the printing workers in Hong Kong [22].
2006	Genotoxic risks were observed among the textile dyeing workers in Turkey [23].
2007	Body ache, join and back pain were observed high among the garment and textile workers having less than 5 years of experience [24].
2008	Higher rates of musculoskeletal disorders with tobacco and alcohol abuse were seen among the small-scale garment industry workers [25].
2010	Potential genotoxic risks were found among the textile printing and dyeing workers in Coimbatore, South India [26]. Only 34% dyeing and painting workers were found using personal protective equipments during their work in Tamil Nadu, India [27].
2011	Headache, tiredness, back and joint pains were seen among female textile workers in Coimbator, India [28].
2012	A direct positive impact on the productivity was associated with Quality of life as obtained from textile workers of Sipcot, Perundurai [29].
2013	Dissatisfaction in the job security, salary and compensation were found among the textile workers in Coimbatore district, Tamilnadu, India [30].
2013	Musculoskeletal disorders of women were found statistically low compared to men at Edrine, Turkey [31].

2013	Prevalence of lumbar spine and wrist pain were observed among textile workers of Brazil and the level of exposure to ergonomic risks is moderate [32].
2014	Co-worker relationships, accident prevention, and marital status were three factors responsible for the variance (23%) in the overall quality of life among the Thai textile dyeing workers [33].
2014	A cross sectional study in Iran showed significant increase in acute and chronic respiratory problems among textile dyeing workers [34].
2015	Higher risks of depression, allergies, headache and sleep disturbances and other work place hazards were seen among the dyeing workers [35,36].
2016	About 40% cloth dyeing workers of Jaipur, India suffer from occupational contact dermatitis [37].

CONCLUSIONS

Most of the textile dyeing units are unorganized and in the private hands. Due to poor working postures, prevalence of musculoskeletal disorders particularly back and joint pain are observed among the dyeing workers. The chromosomal changes and genotoxicity are found very high among these workers due to exposed in several toxic chemicals and dye agents [38,39]. Moreover water quality parameters are found beyond the permissible limits in the effluents of most dye factories [40]. Quality of life of textile workers are found directly related to their working environment [41,42]. Workplace accidents and injuries are very common because most of the garment workers have knowledge of PPEs but there is a gap between knowledge and use [43,44].

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