STUDY THE WORKING WOMEN HEALTH STATUS IN CHEMICAL INDUSTRIES.

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ABSTRACT

A huge number of chemicals are produced and used in the world and some of them can have negative effects on the health of women workers. To date, most chemicals and work environments have not been studied for their potential to have damaging effects on the women workers. Because of the lack of information, many workers may not be aware that such problems can be related to occupational exposures. Newly industrialized countries such as Republic of Korea have rapidly amassed chemicals and other toxicants that pose health hazards, especially to the women workers, little attention has focused on the more heavily exposed women working in the chemical industry. Through a review of the toxicology, industrial hygiene and epidemiology literatures in conjunction with qualitative research, this article explores occupational exposures in producing chemical products and health risks to workers, particularly women, who make up a large part of the workforce. The review demonstrates that workers are exposed to chemicals that have been identified as mammary carcinogens and endocrine disrupting chemicals and that the work environment is heavily contaminated with dust and fumes. Consequently, chemical workers have a body burden that far exceeds that found in the general public. The nature of these exposures in the chemical industry places women at disproportionate risk, underlining the importance of gender. Measures for eliminating these exposures and the need for regulatory action are discussed.

Keywords: Chemicals, Women, Health issues and Environment problem.

INTRODUCTION

Women's participation in the labour force shows the importance and contribution of women to economic productivity, hence, the need for occupational health status and safety policies covering women workers. In the light of many research studies conducted for women workers and their work and health conditions, there is a need for policy and advocacy work towards protection of their health as well as provision of good labour conditions. This is even more pressing with the feminization of the labour force in the country.

Edralin (2001) explained the feminization of workforce in industries in India specifically in garment manufacturing, microchip, computerized manufacturing and electronics

industry, operating inside export processing zones. They reported certain occupational risks and dis benefits to these women workers including low salaries and deficient enforcement of healthy status.

In India has a relatively young population and young workforce. In 2009, 25 to 30 year-old employed persons accounted for 45 percent of the total number of employed persons. This was followed by persons at ages 20-24 years. Employed male and female workers in early 2010 represented 21.6 and 15.0 million of the total workforce respectively. Both women and men workers experience occupational hazards but women are more vulnerable to occupational hazards (Lu, 2005). For instance, women workers in the electronics, chemical and garment industries are subjected to extended and intensified work manifesting in the phenomenon called work intensification and work extensification (Lu,2009). In the case of women migrant workers, they are subjected to sexual and physical abuses and maltreatment from their employers (Migrante, 2010). Additionally, women workers face double hazards from both their work and household responsibilities, thus, increasing their vulnerability to occupational illnesses.

Occupational health status is a major concern eternally despite consequent advancement in all forms of industries. Roughly 1 out of 300 females is suffering from some occupation-related disease. On the global commodity markets, chemical industry processing is a very highly labour intensive industry and has a long history of employing a large number of workers (Borah, 2015). In most of the chemical plantations and processing units, workers face several health problems such as irritation to fingertips, skin burns, dramatis, respiratory diseases, cancer and reproductive disorders due to risks from their nature of work. Today, Asian countries contribute more than 40 percent of global chemical production. The workers involved in each process were predominantly female from the poor economic and social backgrounds (Sivanesh,2013).

The chemical process involves various process stages, where the workers are exposed to various forms of health hazards. The chemicals where the heat and smell causes the outer shells to burst open and release the chemicals. The chemicals quickly catches fire, giving off fumes that can be injurious to the eyes and skin. However, in advanced methods Ergonomic hazards include repetitive movements used such as in shelling and peeling which causes joint pains, uncomfortable workplace sitting positions which cause back pains and poor body positioning in almost all the works involved with processing of chemicals.

As a result of the above process, health issues such as muscular-skeletal disorder, skin disease and respiratory problems have been reported by workers in previous consecutive researches. It is also noted that the preventive measures revised to reduce these hazards were poorly followed in the industry. Although Indian processors have traditionally been reliant on skilled labour resources for operations, many processors have gradually started the mechanization of operations, to remain competitive in the global markets. Hence, evaluating the worker's standard at present would be thoughtful to conclude on the benefits of recent changes made in chemical industries processing units. The current study attempted to throw lights on the real picture of chemical industries processing workers in Cuddalore. The main objective of this paper is to assess all the existing occupational health status among the workers in the chemical industries and the level of safety measures adopted to prevent these hazards.

Health Impact of Hazardous Chemicals

It is generally accepted that the chemical processing work environment is potentially contaminated by residual monomers, chemical and various additives, including plasticizers, stabilizers, colorants, flame retardants, activators, lubricants, chemical ratio and fillers, as well as solvents and finishing agents used in the decorating process. Some of these substances are mutagenic and known to cause cancer in humans, some are suspected of causing cancer and some have been identified as endocrine-disrupting chemicals that may promote cancer. Chemical workers have expressed concerns about their cancer risk. One woman from a chemical plant observed, we had quite a few women, one woman, actually right now is going through her treatment for breast cancer, started last week and we've had four within the last ten years I would say. So yeah, it's always in the background of your mind when they're purging the machines. We'll yell over at another co-worker and say I wonder what this smell is, if it can affect us.

In addition to the many carcinogenic or endocrine-disrupting chemicals used in thermal processing, there are several other cancer-causing and hormone disrupting substances common to most manufacturing jobs. For example, polycyclic aromatic hydrocarbons, emitted by machining, fuel combustion and other decomposition processes, have been identified as mammary carcinogens in animal testing. Benzo(a)pyrene, one of the PAHs produced when combustion is incomplete, has been classified by IARC as a human carcinogen. The widely used solvents benzene, methyl ethyl ketone and toluene have been found to cause mammary

tumours in animals. Researchers suggest that organic solvents may initiate or promote breast cancer and many are considered to be endocrine disruptors.

Background of the Study

Occupational health and safety is a major concern of all time despite consequent advancement in all forms of industries. As stated in multiple research papers from various parts of the nation, more than 60 percent of workers involved in chemical industries were females who are socially and economically backward. This paper aims to find the existing occupational health status of workers in the chemical industries and the level of safety measures adopted. In addition, the health outcome in relation to certain improvisations made in the process was also analysed.

Objectives of the Study

- To analysis the health status of working women in chemical industries at Cuddalore.
- To examine the working women health problem in the chemical industries.

Review of Literature

Vijayaragavan (2018) examine employee job satisfaction, a survey was conducted and 150 employees were selected from 500 workers for the purpose of stratifying random sampling technique. Each department is considered a class. The study found that most of the interviewees were female members. Most employees are satisfied with their salary and receive bonus. Most of the interviewees think that security measures are adequate. Through detailed analysis of employees in the chemical industry, the researchers made the following suggestions for improving employees in the chemical industry. Since most employees are at a younger level, each factory can properly arrange non-formal training after work. Depending on the number of employees, lounges and other facilities must be arranged. To avoid monotonous work, employers can offer recreational facilities. Wages can be increased to help workers improve their living standards. In terms of safety precautions, emergency doors, fire protection, warning sirens and in-service training must be installed to minimize fire damage. The chemical industry can also provide loans for emergencies and wedding events. Management may also request the opinions of employees to improve the chemical industry and request employees' opinions as they implement working conditions and welfare measures in the chemical industry.

ParijatBorgohain (2013) examine the occupational health hazards faced by the tea garden workers. Factors such as income, educational levels of the workers, availability of

medical facilities in the tea gardens, hygiene and sanitation, general awareness and perception about the different occupational health hazards have been taken into account while arriving at the findings of the study. The study has been conducted mainly with the help of primary data collected with the help of a questionnaire Altogether 72 workers, both male and female of Hajua Tea Estate and 140 workers of Marangi Tea Estate have been surveyed by Random Sampling Method. In addition, secondary information has been collected from sources such as books, journals and the Internet. It has been found from the study that the tea garden workers are educationally lagging behind, health facilities are not adequate and safety measures are lacking. This has resulted in a number of work-related accidents and the workers are found to suffer from a number of health problems.

Research Methodology

In this research paper, the basic data were collected, processed and used in the analysis. The required samples were chosen by adopting a stratified non-random sampling method. To meet the objectives of the present study, primary data was collected regarding Details of Health care measures etc. were collected from 100 chemical industries women workers from Cuddalore chemical factory. An organized schedule of questions that is relevant to all variables in the study is used to collect the required data. A pilot study was conducted to test the effectiveness of health plans, as well as measures of work, physical illness and mental health and this study aims to analyse the state of health. Based on the research, the following goals have been developed to analyse the health problems of female employees working in the chemical industry.

Table 1.1- Health status of sample in chemical industries workers

Sample Factory	Often Health Problem		Total(Percent)
	Yes (Percent)	No (Percent)	
Type A	50.4	49.6	100
Type B	70.3	29.7	100
Type C	70.5	29.5	100
Total	64	36	100

Source: Primary Data Computerized

From the above table number 1.1 represented that the out of 100 sample workers, they often have the health problems faced by the sample workers to measure workers' health. They have as many as 100 workers and only 36 percent of workers. They feel that they often have

no health problems. In these three types of sample factories, 64 percent of workers often feel health problems.

Table 1.2- Different types of skin diseases faced by chemical industries workers

Sample Factory	Types of skin disease				Total
	Itching	Skin cancer	Skin Boils	Skin lesions	
Type A	40.4	20.6	20	19	100
Type B	40	10.2	40	9.8	100
Type C	30	10	10	50	100
Total	40	16	24	20	100

Source : Primary Data Computerized

From the above table number 1.2 shows the result, it was originate that working in chemical factory was dirty by various chemical substances. Women workers will use these chemicals production. Respondents considered that the major skin disease was skin itching or allergy caused by the use of several substances in manufacture course. It affects 20 percent of the samples of female workers suffered skin burns. The proportion of skin lesions and peel growth found was 16 percent of table above, itching is the major skin illness pretentious by sample owing to use of several chemicals.

Suggestion and Recommendation

A good indicator of economic and social inclusion for women is the availability and access to employment. Paid employment gives a form of autonomy to women. However, certain conditions in the work environment make women workers vulnerable to certain risks. These conditions are poor working environments, unfair labour practices, low wages, and occupational hazard exposure. Paid work alleviates financial difficulties, but it can also create risks in the absence of policies and programs that safeguard the work rights of the women workers. Hence, it is recommended that policies and programs in the workplace be formulated and adopted for the promotion of the rights and welfare of women workers who are now seen as crucial partners in attaining national economic development.

Scope for Future Research

Future researchers can focus on the health of disorganized factory workers. In the future, you can also try studying the male health status of the chemical industries. The health status of child labourers involved in chemical production can be analysed in future research.

Conclusion

Health is a multi-dimensional, multi-causal variable. Health and development are closely linked. It has now been decided that poor health conditions will slow down economic development and insufficient economic development will cause poor health conditions to continue for a long time. Often, improving health conditions tends to increase worker productivity, all of which contribute to economic growth. Health issues have become commonplace in the industrial world. Regardless of precautionary measures, they cannot help employees protect themselves. The present study area of chemical factories has its own hazardous effect on the workers. In addition to environmental degradation, health has become an important topic in this area of research.

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