

# Major health issues of dyer's working in the textile dyeing industry

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■ **ABSTRACT** : Dyer's is the basic need for textile industry; during work they feel unhealthy due to effect of surrounding environment and activity of the process. In dyeing different kinds of dyeing products are used, which are hazardous in nature and every dye have different impact on dyer's health when exposed to the environment. The natural dye is basically originated from natural sources and a synthetic dye is manufactured by using different kinds of chemical reaction which is hazardous in nature and effect on dyer's health working in textile dyeing industry. So the need of the study was to know the effects of dyes on dyer's health when they have prolong exposes in dyeing process, it is also important to find out the effect of the same on generations health.

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■ **KEY WORDS**: Dyeing process, Dyer's health, Hazards, Industry

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Textile being the part of life for many purposes in the human society is now used in many colors and shades. Dyeing is an old age process of coloring the fabrics. In older days the process was performed at cottage level in a small scale. With the increase in population, demand and technology, the process of dyeing is now mechanized. The big industries were built upto colour the rayon or the fabric where different types of job are done and completed at one place and it involves different people to perform the job. Some of these workers work as simple to lift labourer satrial, cleaning of premises and machines and others do mixing and storing the material. Some workers operate different types of machines, drum etc. and few works in the laboratory. Where all colour mixtures are prepared

and examined? A small number of these workers do the job of finishers. The industry employs labourers / workers from the nearby areas or/from distant places as per the availability. In the present investigation the information was collected and complied on different parameters of the workers working in the dyeing industries of Delhi, Sahibabad and Faridabad. Some of the workers were interviewed about their age, education, family status, working years, their health and diseases in particular because working with dye is not safe for health if engaged for longer time.

## Aims and objectives:

The main objective of the study was to identify heath issues in the textile dyeing industry, measure work

environment issues such as noise, temperature and lighting humidity and detect unsafe working conditions in the textile dyeing industry.

**RESEARCH METHODS**

The present investigation entitled to study the major health issues of dyer’s working in the textile dyeing industry, was carried out during 2008-2013.

To study the effects of dye on the health of workers employed in the dyeing industries, industries selected for the present research work were from Faridabad, Delhi and Sahibabad.

- Karma Processors Pvt. Ltd., 14/6, Mathura Road, Faridabad (Haryana).
- Hindustan Dyeing and Printing works, D-31, Phase 1, Okhla, Delhi.
- Shiva Processors Pvt. Ltd., 18/6, Sahibabad, Site-4, Sahibabad (U.P.).

All the above three dyeing industries a total of 100 workers were chosen. Out of these 100 workers were engaged in synthetic dyeing. These workers worked in five types of job-some were labours, others were machine operators. The another were of drum operators, lab in charge and finishers. The distribution of workers in

different job and industries are given in Table A and B.

The labours in all the industries were 14, in number were engaged in synthetic dyeing. Machine operators were 61 in number. Drum operators were 12 and finishers were 7 in number. The lab in-charge were 6 in synthetic dyeing industries.

The number of workers were in different age groups (Table 2) separately in all the industries of Faridabad, Delhi and Sahibabad. Most of the workers were upto 48 years old. One fourth workers were among 48 to 70 years of age. Maximum workers were in the age groups of 1 to 37 except group VI between 43-47 years. The numbers of machine operators were 19, 23 and 16 in Delhi, Faridabad and Sahibabad, respectively in synthetic dyeing industries. Drum operators were 4, 2, and 6 in Delhi, Faridabad and Sahibabad, respectively.

To study the major health issues of dyer’s working in the textile dyeing industry, the following methods were adopted. The primary data was collected by direct interview of the workers based on a questionnaire and observations. The available data were based on the published reports, journals, projects and book. The questionnaire included the question related to their anthropometric measurements, medical history, social and

**Table A : Total number of workers in dyeing industries of Faridabad, Delhi and Sahibabad**

City	Labour	Drum operator	Machine operator	Lab in charge	Finishing	Total
Faridabad	5	4	18	2	1	30
Delhi	5	4	22	2	2	35
Sahibabad	4	4	21	3	3	35
Total	14	12	61	7	6	100

**Table B : Job wise distribution of workers in different synthetic dyeing industries according to their age groups**

Age group	Labour			Drum operator			Machine operator			Lab in charge			Finisher			Total		
	F	D	S	F	D	S	F	D	S	F	D	S	F	D	S	F	D	S
18-22	1	2	2	-	-	-	1	4	1	1	-	1	-	-	-	3	6	4
23-27	-	-	-	-	1	-	1	4	-	1	1	2	-	-	-	2	6	2
28-32	1	-	2	1	1	1	3	4	4	-	1	-	-	-	-	5	6	7
33-37	2	-	-	3	-	-	4	1	7	-	-	-	-	-	-	9	1	7
38-42	-	-	-	1	-	-	4	3	3	-	-	-	-	-	-	5	3	3
43-47	-	-	-	1	1	1	3	-	7	-	1	-	2	-	1	6	2	9
48-52	-	1	2	-	1	-	-	1	1	1	-	-	1	1	-	2	4	3
53-57	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	3	-
58-62	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-
63-67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
68-70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Total	4	4	6	6	4	2	16	19	23	3	3	3	3	2	2	32	32	36
G. Total	14			12			58			9			7			100		

family back ground. In this study a sample survey was conducted instead of census survey. The response of the workers was recorded for further use.

The information collected from the different age group workers is given in Table C.

Sr. No.	Groups	Age (Years)
1.	Group I	18-22
2.	Group II	23-27
3.	Group III	28-32
4.	Group IV	33-37
5.	Group V	38-42
6.	Group VI	43-47
7.	Group VII	48-52
8.	Group VIII	53-57
9.	Group IX	58-62
10.	Group X	63-67
11.	Group XI	68-70

The information was tabulated according to their job profile. Labourers, Drum operators, Machine operators, Lab in-charges and finishers in all the age groups. The main items on which the information of workers was collected is given in Table D.

1. Age	12. Housing status
2. Height	13. Job profiles
3. Weight	14. Job status
4. Education	15. Working hours status
5. Religions	16. Work experience
6. Civil status	17. Work efficiency
7. Belong	18. Monthly wages
8. Food habits	19. Years
9. Personal habits	20. Family diseases
10. Family relationship	21. Before diseases
11. Social relationship	22. Diseases (Present)

All the collected data was tabulated statistically and statistical analysis was done using computer programmes (mean, percentage and chi-square). Finally the data was tabulated and statistical analysis was performed.

## ■ RESEARCH FINDINGS AND DISCUSSION

The present study was conducted to find out the working conditions and its effect on health of the dye worker in the three textile industries of Delhi, Sahibabad

and Faridabad. One industry from these places was chosen who used synthetic dyes. The details of the industries as :

Karma processors Pvt. Ltd., Faridabad, Hindustan Dyeing and Printing works, Delhi and Shiva processors Pvt. Ltd., Sahibabad. One hundred workers were interviewed from synthetic dye. They were grouped according to their age starting from 18 years with an interval of 4 years upto 70 years. In all there were eleven groups.

The workers interviewed were labours (14), drum operator (12), machine operators (61), lab-in-charge (6) and finishers (7).The physical data of their weight and height were taken in order to judge the effects of dye and the environment in the working premises. Most of the workers had height between 5'7" to 5'9".Only 12 workers were above this height. At most all the workers weight was found between 56 to 70 kg except 40 workers who weight 71 to 75 kg.

The workers were not well educated. Twenty nine of them have passed 8<sup>th</sup> class, 30 workers 10<sup>th</sup> class and 21 workers 12<sup>th</sup>class. Only 4 of them were graduated. Most of them belonged to Hindu religion only 6 to 8 workers were Muslims, Sikhs and Christians. Fourteen workers belonged to other religions.

Among them 79 to 88 workers had their families with them only 33 were either unmarried or widower. The reason for keeping their families was that most of them belonged to the Bihar (79 and 87).Only 5 to 6 workers were native of Sahibabad and Faridabad. Ten workers were resident of eastern U.P. Being resident of Bihar they were mostly non-vegetarians only 15 workers were vegetarian. They also had the habits of smoking, drinking alcohol and tobacco chewing only a few were free of these addictions.

Living far away for long period they had poor to fair relations with their families. Similar trend was observed in their social relations. Moreover due to working for 12 to 18 hours in the dyeing industry they did not found time to have such relations. As far as housing status, most of them were living in rented accommodation only 12 workers were living in their own houses.

In the industries 61 workers were machine operators in natural and synthetic dyeing. Six to fourteen were labourers, drum operators or finishers. For working continuously upto 4 to 10 years they had become skilled

in their respective jobs except 5 to 6 workers who remained semi or unskilled. As mentioned earlier these workers worked for at least 12 hours per day (56). Forty six of them worked for 16 hours and 36 workers for 18 hours per day. This solution was followed since last 3 to 13 years. Some had an experience of 15 years. Still they did not show efficiency in their work. Most of them were poor some were fair and 17 workers were efficient for these work. This was because of their illness and different disorders in the body. Although when discussed about diseases and they themselves had no knowledge of disease before they joined the dyeing industry except a few. But working in this process for longer period they developed number of complications like eye, hair, stomach, kidney, teeth, lung and nail problems. Some had allergy, asthma, blood pressure, body pain, gas problem and even cancer. Each of them was affected by 3 to 5 disorders. The incidence if these diseases were in industries but the more workers was found sick in synthetic dyeing industry. The effect was equally observed in labours, machine and drum operators and others.

The reason for the diseases was the unhygienic environment, carelessness of the workers, poor protection facilities at the work place and exposure of workers to chemical and solvent fumes. Another reason was their poor wages in which they could hardly arrange the two end meal and the medical help properly. Third reason was their long working hour in the industry.

Hence, some improvement at the working place, attention of the good machinery and increase in the wages awareness about the health effect of dye on health and use of protective and preventive measures, social atmosphere, regular medical check- up, insurances and counselling can help to get rid of these diseases in the man power engaged in such processes like dyeing.

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