



## Occupational Skin Disease among Painters

**Puja Pallavi\*, Shreya Singh\*, Sweta Kumari\*, Anupma Kumari\*\***

\*B.Sc. III (2007-2010), Department of Zoology, Patna Women's College, Patna University, Patna

\*\*Lecturer, Department of Zoology, Patna Women's College, Patna University, Patna

*The possible effects of chemicals that the painters are exposed to have been surveyed. 95 painters were interviewed with the standard predesigned questionnaire regarding occupational skin diseases in them. Out of 95 painters, 65 had skin related problems and 30 had respiratory problems. Out of 65 volunteer painters who had skin problems, 31 were monitored for Patch-Test, in which 84% had contact dermatitis and the remaining 16% were found to be suffering from skin irritation.*

**Key words :-** Painter, Chemicals, Patch Test, Contact Dermatitis, Skin irritation.

### Introduction :

An Occupational Skin disease is defined as “A disease that results from the contact of skin with irritants, which may be a physical, chemical or biological agent, to the extent that adversely affects the skin of the workers”.

Contact dermatitis is the most common skin disease characterized by clearly demarcated areas of rash at the sites of exposure(Adams, 1990). The occurrence of this disease depends on the duration of exposure to the chemicals that act as irritants. They affect workers of all age groups, irrespective of the type of their working place.

Painters are exposed to various chemicals present in paints like lead, chromium, cadmium, cinnabar, chloracetamide etc. In addition to these, they are also exposed to chemicals like turpentine, thinners, cobalt, polyesters, resins, formaldehyde, epoxy resin, adhesives etc (Kokelj et al,1992). These substances may be inhaled through nose, even inadvertently swallowed or absorbed through skin and eyes upon contact, thereby causing skin irritation. Hogberg et al(1980) studied skin disease among house painters. Fischer et al(1995) have reported that skin disease and contact sensitivity are most prevalent in those house painters who use water based paints, glue and putties. Skin disorders, including chemical burns, are most frequently reported. (Adams 1990). The objectives of

the present investigations were to find the incidence of 'occupational skin disease' among painters and to suggest ways and means to alleviate their sufferings.

### Materials and Methods :

This study has been conducted in Digha, Boring Road, Rajendra Nagar and Phulwari areas of Patna (Bihar). 95 painters were interviewed with standard pre-designed questionnaire regarding occupational skin disease. Out of 95 painters, 31 had volunteered to undergo Patch Test in order to diagnose any sort of allergy.

### Results :

Persons engaged in this profession for up to 20 years formed the majority, whereas very few remained doing so after 20 years (Table 1). This decrease may be due to their old age or even their physical disabilities (because of certain health problems).

**Table 1 :- Respiratory and skin problems among painters by the duration of years spent by them in this occupation.**

HEALTH RELATED PROBLEMS	Work duration (1-10 yrs). n=54	Work duration (11-20 yrs). n=33	Work duration (21-30 yrs). n=8
Respiratory Problem	9	15	6
Skin Problem	27	30	8

Out of 95 painters, 30 had Respiratory problems and 65 had skin related problems. Out of 65 painters having skin problem, only 31 volunteered to undergo patch-test in which 84% were encountered with contact dermatitis and 16% had chronic skin irritation. In our study it was also observed that the number of painters who spent more number of years in this occupation were found to be suffering from contact dermatitis and who spent less number of years mainly show irritation.

### Discussion :

The results of the present study show that the painters were prone to skin related problems due to the paints they handle and inhale constantly.

In our study it was observed that those painters who spent greater number of years in this occupation suffered from contact dermatitis and those that spent less number of years had irritation.

An analysis of 10 years (1974-1984) of statistics was carried out at the Dermatology section of Institute of Occupational Health, Helsinki, a total of 1,082 cases of occupational skin disease were diagnosed during this period. Allergic (50.1%) and toxic eczema(47.1%) comprised the majority of occupational cases of dermatoses. The most frequent causes of allergic occupational eczemas were rubber chemicals(19.9%) chromates(19.8%) and epoxy resins(13.1%) (Estlander et al, 2006).

Hogberg et al(1980) studied skin disease among house painters and found that occupational dermatoses was prevalent among them. Chloracetamide was found to be an important cause of occupational contact dermatitis. Isocyanates in some paints also caused skin irritation and allergic eczema (Lessage et al, 1992; Christopher and Donald, 1999 ). Skin diseases, including chemical burns, are the most frequently reported of all occupational illnesses(Adams 1990).

Kyle et al(1999) suggested modest occupational risks for lung bladder, liver and stomach cancers in painters. Jensen et al(1987) investigated occupational risk of bladder cancer among painters, drivers and certain other occupation. Minov et al(2008) described two patients who had developed asthma after working as automobile painters with isocyanate based aerosol paint for two years or more .The results of the present study are in general agreement with those of workers mentioned in preceding paragraphs.

### Conclusion :

The present study indicates that Occupational skin diseases among painters in Patna are quite prevalent. Of all the occupational dermatoses, contact dermatitis is the most common skin disease.

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### References :

1. Adams RM. (1990): *Occupational skin disease. 2<sup>nd</sup> ed Philadelphia; Saunders. 45:1321-1330.*
2. Estlander T, Kanerva L (2006): *Skin disease among house painters. Irritant Dermatitis.1:153-161.*
3. Fischer T, Bohlin S, Edling C, Rystedt I, Wieslander G (1995): *Skin disease and contact sensitivity in house painters using water based paints, glues and putties. Contact Dermatitis.32:39-45.*
4. Hogberg M, Wahlberg J(1980): *Health screening for Occupational dermatose in house painters, Contact Dermatitis.6:100-106.*
5. Jensen OM, Wahrendorf J, Knudsen J B, Sorensen B L (1987): *The Copenhagen case- referent study on bladder cancer: Risks among painters, drivers and certain other occupations. Scan J Work Environ Health.13:129-134.*
6. Kokelj F (1992): *Occupational acne. Clin Dermatol. 10:213-217.*
7. Kyle S, Sue P (1999): *Cohort Mortality study of 57000 painters and other union members; a 15 year updates.56:315-321.*
8. Lessage J, Goyer N, Desjardins F, Vincent J Y, Perrault G (1992): *Workers exposure to Isocyanates. Am Ind Hyg Assoc J.53:146-153.*
9. Minov J, Karadzinska- Bislsmonska J, Vasilenska K, Risteska-Kucs, Stoleskis (2008): *Work related asthma in automobile spray painters. Arch Hig Raga Toksikol. 59:117-125.*
10. TL and Donald KM (1999): *Occupational Asthma and Contact Dermatitis in a spray painter after introduction of an Aziridine cross-linker. Environ. Health Perspect.107:599-601.*