

Occupational Contact Dermatitis among workers of Small Shoe Making Factories

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ABSTRACT

Aim: To recognize the scale of occupational contact dermatitis among workers of small shoe making factories in Lahore Pakistan.

Study Design: Descriptive Cross Sectional.

Place and duration of study: Lahore & from 7th November 2010 to 25th February 2011.

Methods: Study population was comprised of 150 manually shoes making workers selected by two staged sampling technique, by proportional allocation by using table of random numbers. Data was collected by a questionnaire adapted from Nordic Occupational Skin Questionnaire for hand eczema (NOSQ-2002). SPSS-10 was used to analyze the data & described in term of mean, standard deviation with percentages and cross tabulation.

Results: With study populace (n=150) manually shoes making workforce selected by two staged sampling technique, by comparative distribution through using table of random statistics. This study found that the frequency of Occupational Contact Dermatitis (OCD) 15.3% (23 cases) within manual shoe makers, that was diagnosed by same consultant dermatologist of Mian Munshi Hospital Lahore.

Conclusion: Most commonly affected site was hand. OCD increases with increased exposure of shoe makers to glues.

Key words: Dermatitis, Shoemaking, Workers.

INTRODUCTION

Shoe making has become a cottage manufacturing in Pakistan meeting 98% foot wear products demand. According to the Secretary Labor sector, Punjab Government, in Lahore alone 45 to 50 thousand workers are part of foot-wear industry¹. Procedures in shoe making takes place five most important steps: making of the uppers, making of bottom stock, assembling of uppers and bottom stock shaping and leveling finishing of shoes². Craftsmen are exposed to a mixture of solvents in adhesives for binding and for cleaning purposes. In shoe making, adhesives are particularly harmful if they are applied by uncovered hands and removed by rubbing hands jointly as it is finished by shoe makers in Lahore. This augments absorption of the solvent like toluene along with other prospective irritants and allergens in the adhesives³. Contact Dermatitis is of two forms as Allergic contact dermatites & Irritant contact dermatites⁴.

Contact dermatitis is one of the mainly frequent chemically induced causes of occupational illnesses, accounting for 10% to 15% of all occupational medical conditions⁵. In United States only occupational contact dermatitis attain expected annual cost of one billion dollars (NIOSH). Mancuso et.al, has calculated occupational dermatitis in 246 shoe makers in Italy from 1992-1994. ICD was diagnosed in 20 shoemakers (8.1%), although ACD in 16 shoe makers (6.1%). In United Kingdom half of all cases of disease attracting manufacturing impairment reimbursement from social security are cases of contact dermatitis⁶. In Denmark in a random sample of human resources half of skin harms were work related⁷. In Germany the numbers of contact dermatitis is 0.5 to 1.9 cases/thousand, full time workforce per year⁸.

MATERIALS AND METHODS

This descriptive cross sectional study universe comprised of shoemakers working in small shoe making factories, Mohni Road, Badami Bagh, Shahdra, Bund Road, Old and New Anarkali and Mint Road Lahore. Study was carried out from 7th November 2010 to 25th February 2011. Two staged sampling technique was used in selection of workers of manual shoe makers, in the second stage, workers were selected from the chosen thirty shoe factories by proportional allocation by using table of random

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numbers. The sample size was 150 manual shoe makers from manual shoe factories. Both male and female workers of age >18 years with duration of work >3 months were included.

Exclusion Criteria for sample selection: Workers with Hand Eczema suffering from other generalized skin conditions on other parts of body.

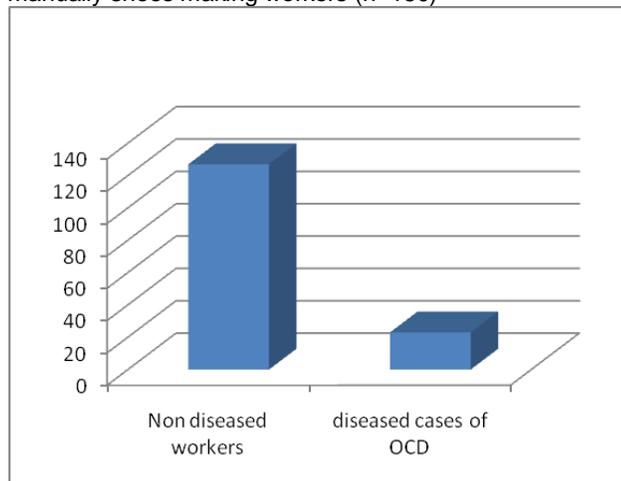
Data collection: It was collected through interview and with filling of a pre formed and pre tested questionnaire. The questionnaire was developed on the model of Nordic Occupational Skin questionnaire NOSQ-2002, which was adjusted to meet the local requirements and objective of the study, after going through the data collected by the questionnaire, the cases were provisionally diagnosed as OCD if they met the diagnostic criteria. Cases with florid signs of eczema were examined in the out door department of Mian Munshi hospital Lahore, by the same dermatologist. The diagnosis of positive cases which were not in remission and showing florid signs of eczema, were confirmed by the dermatologist.

Data Analysis: It was entered & analyzed in SPSS, version 10. Data was expressed as mean and standard deviation for quantitative variables. Percentages and cross tabulation were used for qualitative data.

RESULTS

Among study population (n=150) manually shoes making workforce selected with two staged sampling technique, by comparative distribution through using table of random statistics. This study found that the frequency of Occupational Contact Dermatitis (OCD) was 15.3% (23 cases) within manual shoe makers (Figure-1), which was diagnosed by same consultant dermatologist of Mian Munshi Hospital Lahore.

Fig.1: Distribution of diagnosed cases of OCD among manually shoes making workers (n=150)



DISCUSSION

The incidence of OCD in this study was 15.3% (23) out of (n=150). The commonest location of eczema (OCD) was found on the hands. The most common symptom experienced by the workers was redness of skin, dryness of skin and itching of skin with more serious symptoms like cracks in skin weeping, crusts formation, vesicles, papules and tenderness. The dominance of OCD in a study done on shoe makers in India⁹ was found to be 20% which is considerably higher than the prevalence of 15.3% of this study. In another study done on shoe makers of Bangladesh the prevalence of dermatitis was found 18%¹⁰.

CONCLUSIONS

It was concluded that OCD increases with increased exposure of shoe makers to glues.

RECOMMENDATIONS

1. Good housekeeping.
2. Hand washing,
3. Use of protective creams.
4. Precondition of personal protecting measures like gloves, aprons and shoes.

REFERENCES

1. List of registered shoe factories in City District Lahore, from Director Labor Welfare,
2. Government of Punjab, Dairy No: 207, dated 06-06-2005.
3. Geier, J. Handbook of Occupational Dermatology, Lasse Kanerva Chapter: Leather and Shoes. p874.
4. Hansbrough, Hand Book of Occupational Hygiene 1985; 46: 2.1.8-04.
5. Pasircha JS. In: Contact Dermatitis in India, 2nd ed. New Delhi, The department of Science and Technology, 1988.
6. N.I.O.S.H Worker notification program. Scandinavian Journal of Work, Environment & Health 2000.
7. Schubert H, Health and Safety executive, Surveillance of People Exposed to Health Risk at Work, Encyclopedia of Occupational Health & Safety, Vol I, 4th Ed, 1998, p16.
8. Flyvholm MA, Borg L. Skin Problems among employees included in the Danish work environment cohort study 2000. *Exog Dermatol* 2003;2: 70-72.
9. Diepegen TL. Causes and Prevention of Occupational Contact Dermatitis. 4th I.C.D. 2003.
10. Tiwari RR. Child labor in foot-wear industry: Possible occupational health hazards. *Indian Journal of occupational and environmental medicine* 2005.
11. Jolanki R, Makinen I, Suuroren K, Alanko K. Causes of Occupational Contact Dermatitis. *Finish Statistics. Symposium 4, 4th I.C.D. 2003.*

