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RESEARCH ARTICLE

An Epidemiological Cross-sectional study of morbidity profiles in workers engaged in leather footwear manufacturing unit.

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Abstract

Introduction:-

Occupation is a vital determinant influencing health and quality of life of an individual and family throughout life. Any occupation is associated with heath risk of variable intensity. The present study is a cross sectional study to assess the spectrum of the morbidity observed amongst those working in leather foot wear industries in urban slum of Kurla, Mumbai city. These workers live in units which are clustered as colony and each house hold is involved in manufacturing leather foot wear from raw leather material. The work involves leather cutting , stitching, pasting /sticking and packaging of finished footwear.

A large no. of persons with this occupation report with a wide spectrum of symptoms ranging from respiratory system, digestive system, musculo-skeletal, dermatological, cardio-vascular illnesses. In addition, tobacco, alcoholism and other addiction are widely prevalent. In this context, it was felt that there is a need to assess the extent of morbidity correlated directly with this occupation. This measurement of morbidity among leather footwear manufacturing workers will provide practical insight for developing strategies for prevention of associated morbidities. In addition, issues of ergonomics and occupational protocol can also be discussed in a view of the study findings.

Aim:-

To study the morbidity profile of workers engaged in leather footwear manufacturing units.

Objectives:-

1) To assess the socio economic demographic and occupational profile of the workers involved in study unit.
2) To identify morbidities amongst the study subjects.
3) To assess the factors influencing the morbidities of the study subjects.
4) To suggest recommendation based on the assessment findings of the workers in the leather footwear manufacturing unit.

Material and methodology:-

The present study is a cross sectional study to assess the spectrum of the morbidities observed amongst those working in leather foot wear industries in urban slum of Kurla, Mumbai city. A small pilot study of 20 study subjects was done to assess morbidity patterns. Based on these finding the occupation profile of the worker community was demarcated and number of houses (units) engaged in leather foot wear work were identified. Thereafter a questionnaire was prepared and then unit to unit visit were done to conduct the survey. The data was collected through personal interview which was conducted in regional language.The data thus obtained was then tabulated and statistically analyzed by using Microsoft-Excel 2007 Software & SPSS Software version 16.0.

Results and discussions:-

1. Productive age group is mostly utilized in the occupation (26-35 years-51.25%) Males (53%) and Females (47%)are almost equally involved in this occupation. However the study subjects of both the genders were representatives of same family in leather foot wear unit. Maximum (72.50%) were illiterate which attributed to ancestral linkages with this occupation. **(Table No.1)**
2. All type of popular addictions were widely predominant in the community indicating sizable income is being spent on this addiction. This explains reflection of standard of living in spite of having good income status. **(Table No.2)**
3. 10% of workers were found to be under weight, mostly attributed to inadequate nutritional intake or presence of disease like T.B. 33% were overweight indicating sedentary nature of the occupation coupled with unhealthy life style constant sitting position while working predisposing them to obesity, Hypertension, Diabetes. Amongst the 49 study subjects with low backache, 32 had BMI more than 25 indicating direct correlation between low backache and increase BMI. **(Table No.3)**
4. The experience of the general practitioners in the area shows that large number of cases of allergic dermatitis is being reported. But it is conventionally known that those with skin infections are prevented from working in the unit by the family. Thus at the time of survey the actual cases of dermatitis may have been missed. The presence of dermatitis was more among those involved with pasting and sticking operation of footwear.
   Backache was reflected as the most common morbidity of musculoskeletal system indicating scope for Ergonomic interventions for these workers. This was found to be more prominent amongst those involved in stitching work.
   17.5% study subjects were hypertensive. However, most of the study subjects were indulged in alcohol, tobacco chewing and smoking addiction and relatively sedentary lifestyle. **(Table No.4)**
5. The Commonest morbidity in order of priorities were observed to be low backache followed by body aches/joint pain (musculoskeletal system). The other morbidity being sore throat/URTI/Headache/giddiness/Acidity in both male & female. In Female, menstrual irregularity was observed in 16.2 % of female. **(Table No.5)**

Table No. 1: Profile of workers:-

	Groups	**No. of workers**	**% of workers**
Age	13-25	21	26.25%
	26-35	41	51.25%
	36-45	05	06.25%
	46-55	01	01.25%
Sex	Male	43	53.75%
	Female	37	47.25%
Literacy	literate	22	27.50%
	illiterate	58	72.50%
Total		80	100%

Table No. 2: Personal addictions among workers:-

Habit	**No. of workers**	**% of workers**
Smoking	37	46.25 %
Tobacco chewing	56	70.00 %
alcohol	39	48.75 %
Combined Addictions	70	87.50 %

Table No. 3: Body Mass index and Low backache:-

BMI	No. of workers	% of workers	Low Backache	
			Present	Absent
Underweight (< 18.50)	08	10	17	31
Normal (18.50-24.90)	40	50		
Overweight (25-29)	27	33.75	32	00
Obesity (>30)	05	06.25		
Total	80	100	49	31

Table No. 4: Morbidity Profile of workers:-

Morbidity of profile		Number of workers	% of workers
1. Dermatitis	Having dermatitis	4	5%
	No skin lesion	76	95%
2. Evidence of pallor	Pallor present	14	17.50%
	No pallor	66	82.50%
3. Backache	No backache	7	8.75%
	Low backache	73	91.25%
4. Hypertension	present	14	17.50%
	absent	66	82.50%
Total		80	100%

Table No. 5: Comprehensive Morbidity Profile of Workers:-

N = Male = 43, N = Female = 37

Morbidity	Male		Female		Total
	No.	%	No.	%	
Low backache	28	65.1 %	32	86.4 %	60
Body ache and Joint pains	26	60.4 %	21	56.70 %	47
Sore Throat	24	55.8 %	22	59.50 %	46
Headache & giddiness	26	60.4 %	14	37.80 %	40
URTI	22	51.1 %	12	32.40 %	34
Acidity & indigestion	16	37.20 %	08	21.60 %	24
Others	07	16.20 %	04	10.80 %	11
Menstrual irregularity	00	00.00 %	06	16.20 %	10
Dermatitis	04	09.30 %	00	00	04

Summary & conclusions:-

The profile of worker varied from 13yrs to 55yrs. Both male and female from same family work together in leather footwear manufacturing unit based at their home. The addictions to tobacco, alcohol, smoking is widely prevalent among the workers, in which tobacco chewing was more predominant.

The prevalence of overweight and obesity is to the extent of 40% amongst the workers attributed to constant sitting position during the occupation for almost 16 hours a day.

The morbidity profile depicted a common pattern of set of signs and symptoms attributable to the nature of occupation. The common morbidities observed were musculoskeletal disorders(male-65.1%, female-86.4%), respiratory illnesses(male-51.1%, female-32.4%), anemia, dermatitis(male-9.3%, female-0%), indigestion and acidity(male-37.2%, female-21.6%), headache and giddiness(male-60.4%, female-37.8%) and menstrual irregularity are observed in 16% of female workers.

The morbidity pattern indicated emergence of the epidemiological determinants i.e. nature of occupation as a significant factor leading to multiple morbidities amongst workers in the leather footwear manufacturing unit. The presence of morbidity and the occupational activities are directly correlated.

Recommendations:-

1. Compulsory health screening must be carried out as per the guidelines under the factory act 1948 and the directives issued by the ministry of labour, Govt. of India.

2. Although turnover of the unorganized leather footwear unit is high, it is not yet registered under factory act 1948. Hence alternative means for the regulatory control of occupational safety and welfare of workers should be explored.
3. Health education programme for lifestyle modification and risk reduction should be implemented regularly. Similarly adult literacy programme may also be implemented.
4. Workload norms and workers safety measures should be promoted amongst the owners of the leather footwear unit.
5. Special precautions like use of gloves, frequent washing, nail trimming and availability of antidote for acute exposure of chemicals should be advocated.
6. First aid box should be available in all units.
7. Minimum one day rest must be made mandatory in a week.
8. All workers should be provided with health cards for their self assessment.
9. Social support programme such as medical insurance, life insurance and provident fund should be promoted.

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