A STUDY OF CLINICAL FEATURES IN THE METAL SHEET FACTORY WORKERS, WHO SUSTAINED TRAUMA DUE TO ACCIDENTS

Community Medicine

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ABSTRACT

Work related injuries occurring in the metal sheet factory in Hyderabad are studied. Both minor and major trauma occurred in almost equal proportion. Significantly higher proportion of major injuries occurred in sites other than limbs. The first accident of a worker was highly likely to be a major one. Higher proportion of major injuries occurred in sites other than limbs. Smoking habit is associated with more major injuries. Alcohol habit also is seen like wise. Corrected visual acuity and deafness prevented major injuries. Musculo skeletal system had shown predominantly more major injuries.

KEYWORDS

INTRODUCTION

Occupational injuries are inevitable. Persons working in metal sheet factories are at a very high risk of sustaining injuries at work. The clinical features and related issues are important in a few ways like workmen's compensation etc. In the metal sheet factory in Hyderabad annually about 100 workers are injured, about half of them with major injuries. Their clinical areas of affliction are studied. The clinical severity of injuries are compounded by their habits like smoking and drinking. Hence a modest attempt is made to study the injured workers in clinical and personal habit areas in relation to major injuries.

AIMS AND OBJECTIVES

1. To measure the incidence of Major and minor injuries for a period of 1 year in the Hyderabad metal sheet factory.
2. To determine statistical association between various clinical and personal factors and occurred major and minor injuries.

MATERIAL AND METHODS

- All the injuries occurred in Hyderabad metal sheet factory in one calendar year are studied. The sample size was restricted to all the injuries occurred in 1 year.
- The physical examination of the site of injury was ascertained.
- Past history of trauma at work was elicited.
- Any chronic disease present was noted.
- Special senses were examined for eye and ear function.
- Personal history of the use of cigarettes and alcohol was noted.
- The data collected was entered in a spread sheet and relevant master table is constructed.
- The significance of difference between proportions were calculated using epi info software on the chi square tests. The resultant probability value was interpreted and compared with already published studies.

Summary

Work related injuries are multi factorial. Major occupational injuries are a loss both to the factory and to the workers. Clinically the musculo skeletal system bears the highest number of major injuries. Smoking and alcohol habits if not controlled will lead to many occupational injuries. Vision and hearing are taken good care by the workers and hence they were not able to contribute to many major injuries. Several studies emphasized the need for total rehabilitation of the injured workers.

Over all Table for examination and results

Item	Major No.	Major %	Minor No.	Minor %	Total No.	Total %	P Value
	N= 54	49.1	N= 56	50.9	N= 110		
Limbs	42	44.7	52	55.3	94	100.00	<0.05
Other parts	12	75.0	4	25.0	16	100.00	
Past Hist +	15	31.3	33	68.7	48	100.00	<0.01
Nil	39	62.9	23	37.1	62	100.00	
Chr. Dis +	35	44.9	43	55.1	78	100.00	NS
Absent	19	59.4	13	40.6	32	100.00	

Non Smokers	12	20.3	47	79.7	59	100.00	<0.01
Smokers	42	82.4	9	17.6	51	100.00	
Non Alco	33	40.2	49	59.8	82	100.00	<0.05
Alcohol+	21	75.0	7	25.0	28	100.00	
Normal VA eye	25	48.1	27	51.9	52	100.00	NS
Corrected	31	53.5	27	46.5	58	100.00	
Normal Hearing	53	50.5	52	49.5	105	100.00	NS
Hear Loss	3	60.0	2	40.0	5	100.00	
Predominant Musculoskeletal	11	61.1	7	38.9	18	100.00	NA. Multiple responses
Other organs	31	26.3	87	73.7	118	100.00	Multiple responses

RESULTS AND DISCUSSION

A total of 110 workers reported occupational injuries in a metal sheet factory in Hyderabad. Out of them, 54 had major injuries and the rest 56 had minor injuries. The most common morbidities suffered were "small cuts and abrasions" in about 53% of the workers as reported by Joseph and Linj. (1)

Limbs were the sites of 44.7% of major injuries and other parts showed major injuries in 75% of the injuries. Significantly higher proportion of major injuries occurred in sites other than limbs.

The first accident was a major injury in 62.9% and in workers with past history of occupational trauma showed only 31.3% of major injuries. The first accident being major is seen in significantly higher proportion.

In workers with chronic disease, major injuries occurred in 44.9% and in workers who had no chronic disease, the proportion of major injuries was 59.4%. This difference is not statistically significant.

In workers with smoking habit, 82.4% sustained major injuries and in workers who are non smokers, only 23.3% had major injuries. This difference is statistically significant.

In workers with alcohol habit, 75% sustained major injuries and in workers who are non alcoholics, only 40.2% had major injuries. This difference is statistically significant.

The proportion of major injuries in workers with normal visual acuity was 48.1%. The major injuries are in a similar proportion of 53.5% in workers whose visual acuity is corrected with glasses.

Panikkar B et al (2) reported that chemical injuries are potentially devastating ocular accidents that can lead to permanent damage to the ocular surface and visual loss. In the workers with deafness, 60%

sustained major injuries and in workers with normal hearing, 50.5% had major injuries. This difference is not statistically significant.

Musculo skeletal major injuries were predominant. The workers with musculo skeletal major injuries were 61.1% and the workers with major injuries to other organs were 26.3%. This difference is significant.

In a study by Siran et al, (3) they have reported that preventing musculoskeletal injuries, particularly to workers' upper extremities and trunks, is paramount. Some injuries, such as serious back injuries, intracranial injuries, and finger crushing or amputations, had the potential to lead to disability.

A pre shift stretching program was implemented by Aje oo et al, (4) and they found it is preventing musculoskeletal injuries.

In a study by Villanueva G, et al there is an immense need to develop and deliver effective post- injury recovery, rehabilitation and return-to-work programs for injured workers in resource poor countries.

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