



HEALTH PROBLEMS OF MANGANESE MINE WORKERS OF NAGPUR REGION AND HEALTH FACILITIES MADE AVAILABLE TO THEM BY COMPANY

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ABSTRACT

The present study addresses health problems faced by manganese mineworkers as well as health and medical facilities available to them. In the present study researcher selected a total of 500 labors from six manganese mines in Nagpur Division and the primary information needed for study was collected by using interviewed them. Study showed that all medical and health facilities including first aid facility, health inspection facility, hospitalization facility, good treatment facility on diseases, all type of medicine and free of cost medical facility was provided by mining company in Nagpur division. Study also evident that diseases and disorders such as partial deafness, asthma, allergy and cough were experienced by most of the mining workers in manganese ore mines of Nagpur division. They are satisfied with the health facilities made available to them by company as well as treatment received by them for medical problems.

KEYWORDS : Manganese Mine, Mine Workers, Health, Medical Facility, Disease, Disorder

INTRODUCTION

Mining is an ancient occupation, long recognized as being difficult and responsible to injury and disease. The lifecycle of mining consists of exploration, mine development, mine operation, decommissioning and land rehabilitation. Mining is a multi-disciplinary industry, drawing on several professions and trades. Mining is traditionally classified as metalliferous or coal, and as surface or underground. Metalliferous mining can also be classified according to the commodity being mined (Donoghue, 2004). Traumatic injury remains a significant problem and ranges from the trivial to the fatal (NIOSH, 2000). Common causes of fatal injury include rock fall, fires, explosions, mobile equipment accidents, falls from height, entrapment and electrocution. Noise is almost ubiquitous in mining. It is generated by drilling, blasting, cutting, materials handling, ventilation, crushing, conveying and ore processing. Controlling noise has proven difficult in mining and noise-induced hearing loss remains common (Frank et al., 2003). Whole body vibration is commonly experienced whilst operating mobile equipment, such as load-haul-dump units, trucks, scrapers and diggers. This can cause or exacerbate pre-existing spinal disorders. Poorly maintained roads and vehicles contribute to the problem. Dust has also been a serious hazard in mining, causing workers' pneumoconiosis or 'black lung' and chronic obstructive pulmonary disease (Kuempel, 1995).

Arsenic is sometimes a contaminant of metal ores and has been commercially extracted during copper smelting with an accompanying risk of lung cancer (Enterline et al., 1995). Exposures to nickel compounds in some nickel refineries have been reported to increase the risk of lung cancer and nasal sinus cancer (Andersen et al., 1996). Several other metal ores, including those of lead, cadmium, manganese, platinum and cobalt, present health hazards (Linna et al., 2003). The risks are usually greatest during metallurgical processing, when air concentrations exceed those experienced during mining of the ore. Appropriate control measures are required. Mining safety has always drawn the attention of researchers working in the field of health and safety. The metal and mining industry of India has recorded a strong expansion in the recent past, with the expectation that India is to become the second-largest steel producer from 2015. Production volumes have also grown steadily during the period 2007-2015 (GOI, 2015).

There are total six manganese mines in Nagpur Region namely Chikhla, Dongari-Buzurg, Beldongari, Kandri and Mansar. These mines are administered by MOIL (Manganese

Ore India Limited). There is close relation among physical environment of work place and problems of worker. Hence, it is obvious that workers working in manganese mines have certain problems, which may be subdivided in social, economic, traditional, health etc. In present study, we addressed health problems faced by manganese mineworkers as well as health and medical facilities available to them.

Objective

- To know health problems of manganese mine workers
- To find out health facilities made available to them by company

Review of Literature

Perchard and Gildart (2015) examined British coal owners' use of medical and scientific knowledge of occupational lung diseases in the mining industry to resist regulatory changes between 1918 and 1946. The article contributed to the mounting public health disaster wrought by coal dust on Britain's mining communities. Ahmad (2015) assessed socio-economic and health status of the miners in Sorya Village of Karauli district of Rajasthan, India. Health problem reported by most of the miners were TB, silicosis, chest pain, back pain, Cough and Musculoskeletal disorder. Some of miners reported about low vision and hearing loss too. Ranjita et al., (2016) evaluated the role of yoga on health status, depression, and anxiety in coal miners with chronic obstructive pulmonary disease (COPD). They found that yoga seems to be a safe, feasible, and effective treatment for patients with COPD. Nag et al., (2016) determine occupational health scenario in the Indian informal sector and stated that absence of protective guards aggravate their health condition.

Deshmukh et al., (2017) ascertain the job specific noise exposure among the Similar Exposure Groups (SEGs) and evident that machinery operators were highly exposed to workplace noise, with 46% samples exceeding warning limit and 18% exceeding danger limit prescribed by Directorate General of Mines Safety (DGMS), Government of India. Sharma et al., (2018), Cheberichko et al., (2018) and Prasad et al., (2019) stated that the maximum risk of occupational diseases development is connected with the dust and the static loading factors and prevalence of lung function impairment of underground coal miners.. Tambekar (2020) find out socioeconomic problems of unorganised sector workers in manganese mines and found that labors working in manganese mines in Bhandara District are addicted to bad

habits such as tobacco/gutkha/pan/alcoholism etc.

Research Methodology

While studying health problems of workers working in manganese mines, researcher follows survey methodology as descriptive research design in the present study. In the present study, purposive sampling method in probable sampling technique under this random sample selection was used to select respondents. By making use of these techniques researcher selected a total of 500 informal sector labors from six manganese mines in Nagpur Division; namely Chikhla, Dongari-Buzurg, Beldongari, Kandri and Mansar. These mines are administered by MOIL (Manganese Ore India Limited). The primary information needed for study was collected by using interview schedule as well as observation technique.

Data Analysis and Interpretation

Table 1: Health and medical related facilities available at manganese mines

	Yes		No		Total
	No.	%	No.	%	
Availability of first aid facility at work place	500	100	-	-	500
Availability of Health Inspection Facility	500	100	-	-	500
Availability of Hospitalization facility	500	100	-	-	500
Availability of good treatment facility on diseases	500	100	-	-	500
Proper Treatment by Medical Officers	500	100	-	-	500
Availability of all type of medicine	500	100	-	-	500
Availability of Ambulance on Site	494	98.8	6	1.2	500
Availability of medical facility for dependents of worker	495	99	5	1.0	500
Availability of free of cost medical facility	500	100	-	-	500

The table 1 illustrates responses of workers regarding health and medical facilities made available by their mining company. It is evident from the responses that first aid facility, health inspection facility, hospitalization facility, good treatment facility on diseases, all type of medicine and free of cost medical facility was provided to 100% workers by their mining company. In addition to this, 100% workers reported that they received proper treatment by medical officer appointed by their mining company. Furthermore, medical facility for dependents of worker and ambulance facility was provided to 99.0% and 98.8% workers respectively by their mining company.

Table 2: Type of diseases and disorders occurred due to mining

Type of diseases and disorders	Number	Percent
Cough	321	64.2
Asthma	411	82.2
Cancer	12	2.4
Allergy	361	72.2
Partial deafness	457	91.4

The table 2 illustrates responses of workers working in manganese ore mines regarding type of disease or disorders occurred due to mining. It is apparent from the responses of workers that 91.4% workers reported problem partial deafness among workers, whereas 82.2% workers reported problem of Asthma among workers. In addition to this problem of allergy, cough and cancer among workers was reported by 72.2%, 64.2% and 2.4% workers respectively.

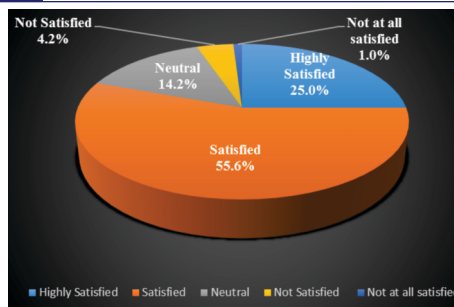


Fig. 1: Level of satisfaction of workers with the treatment received for medical problems

Above fig. 1 illustrates information pertaining to the satisfaction level of workers working in manganese mines with the treatment received for medical problems. It observed that 55.6% workers were satisfied whereas 25.0% workers were highly satisfied with the treatment received by them for medical problems. In addition to this, 14.2% workers were neutral regarding satisfaction with the treatment received for medical problems. However; 4.2% workers were not satisfied and 1.0% workers were not at all satisfied with the treatment received for medical problems.

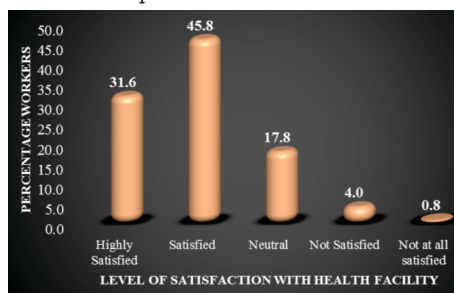


Fig. 2: Level of satisfaction of workers regarding health facilities made available to them by company

Above Fig. 2 shows information about satisfaction of workers regarding health facilities made available to them by company. It evident from the information that 45.8% workers were satisfied whereas 31.6% workers were highly satisfied with the health facilities made available to them by company. Furthermore, 17.8% workers were neutral pertaining to satisfaction with health facilities made available to them by company. However; 4.0% workers were not satisfied and 0.4% workers were not at all satisfied with health facilities made available to them by company.

CONCLUSION:

Present study is carried out with the objective to find out health problems and health as well as medical facilities provided to them by mining company. Study showed that all medical and health facilities including first aid facility, health inspection facility, hospitalization facility, good treatment facility on diseases, all type of medicine and free of cost medical facility was provided by mining company in Nagpur division. Study also evident that diseases and disorders such as partial deafness, asthma, allergy and cough was experienced by most of the mining workers in manganese ore mines of Nagpur division. It is also apparent that most of the workers are satisfied with the health facilities made available to them by company as well as treatment received by them for medical problems. It was suggested that proper preventive measures should be taken by manganese ore mining companies to reduce the chances of being suffered by commonly reported disease or disorders by workers. Equipment such as mask and ear covering should be provided to workers. In addition, proper medication and health guidance should be provided to workers working in manganese ore mines in Nagpur division

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