

PREFACE

The Laboratory of Physiology, Department of Zoology, Shivaji University, Kolhapur (Maharashtra) India has been engaged in extensive work in toxicology, occupational physiology and some applied problems in textile and foundry industry. In many occupations, the workers were exposed to various types of health hazards and environmental stress factors. The foundry industry is one of the largest sector, employing large number of labours at MIDC Kolhapur.

Over the last decade Kolhapur City has emerged as a leading industrial center. It is considered as the city of foundries. Foundries differ from one another in many ways. They range in size from small operations to the large production type that turns to thousands of tons of castings each day. The majority of foundries fall in the small to medium size range. They differ in the size of castings produced, ranging from a few pounds to multi tonnes. The hazards in foundry industry may occur due to heat, high concentration of dust, inadequate illumination, high level of noise, chemicals, fumes, flying particles, odours and physical injury to workers etc. so if adequate care is taken regarding provision of satisfactory working conditions, then workers do their work accurately, effectively, safely and with minimum fatigue.

Foundry industry is one among the various occupations where high level of noise, high concentration of dust, inadequate illumination and heat stress directly concern with the health and safety of foundry

workers, so it is essential to know the phenomenon of noise generation, heat, formation of dust, intensity of light etc. their various effects on body and various measures for their control of these occupational hazards.

Using standard techniques of Ergonomics and occupational physiology the level of noise, concentration of dust, heat, intensity of light and some hematological parameters have been studied. For studying ill effects of environmental conditions on health status of workers, physiological responses and lung function tests were carried out in some selected workers. Physical fitness of workers have been studied by modified Harward step test and Grip Dynamometer. Ill effects of silica dust on lungs have been studied in selected workers by spirometry.

This dissertation contain collective information about work place environment and health status of workers, which is helpful to society, educators, researchers and other workers working in adverse environmental conditions.

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