



ABSTRACT

Environmental pollution is among one of the outcomes of intensive industrialization. Although foundries are the metal recycling units of the society but they are concerned with heavy pollution generation and posing threatening health effects upon foundry workers. In this study the annual emissions from iron foundries in the areas of Badamibagh, Daroghawala and Misrishah have been estimated. The annual emissions of SO_x, NO_x, CO, Cu, Cr and Pb were estimated. The highest emissions were found in the area of Daroghawala and the lowest emissions were in the area of Misrishah. These areas differ significantly for their annual pollution generation.

The Occupational health risk assessment has also been done. The case control study was conducted that describes the risk ratios of ill health status in foundry workers. The case control study revealed that the cases of Misrishah were at highest risk of health impairments, while the controls of Daroghawala showed highest health risk. The elemental blood profile of foundry workers was determined for copper, chromium and lead. The values of lead were found to be higher than the permissible **exposure limits**.

A strong correlation was found between the annual emissions of elements and their concentrations in the blood of foundry workers. Immediate attention from Government is required to combat the environmental issue of these areas. It is recommended that pollution prevention strategies should be applied in these foundries for sustainable development and to restore environmental quality. The standard occupational health and safety should be developed and adopted properly to decrease the health impairments of occupational work force among the foundries of these areas.