

ABSTRACT

Some trace metals play a very paramount role in all living system including our own body. These metals act as cofactors and help in metabolism and absorption. The normal concentration of these trace metals is very cardinal to keep human body active and healthy. If these essential elements are not taken in adequate amount, it can lead symptoms of nutritional deficit and many other problems. Normal intakes of these elements are easily taken by eating various foods. This research was based on three indispensable metals i.e. Zinc, Copper and Magnesium. In this research the importance of these trace elements in the human body was studied as well as their effect on human health and behaviour when their maintained concentrations in the blood are imbalanced.

For this purpose a group of 45 workers of three different factories were selected and their blood serum metal concentrations were determined by Atomic Absorption Spectroscopy. The concentration of Zinc, Copper and Magnesium in the blood serum samples of these workers were compared and related to their symptoms and behaviour as they provided information. As the world moves towards industrialization and modernization, the depreciation in the health of young people is expending harmfully. Workers of different factories were working in dangerous environment of these trace elements which were adversely affecting their health, behaviour, attitude, response and performance.

The most common medical problems and diseases which are facing these workers are: muscle weakness, hair loss, arrhythmia, blood pressure insomnia, muscle fatigue, joint pain, hyper activity and many more like these diseases. Furthermore, behavioral changes like anger, anxiety, frustration, and depression are also raised very commonly in these workers. This study is focused on evaluating the relationship between these three trace elements and how their increased and decreased concentration levels in human blood serum affects all these factors. It also incorporates a comprehensive statistical analysis of the data by using SPSS 15.0 software to determine the Mean, and standard deviation. A connection was observed between the concentrations of these metals in blood serum of these workers and diseases and behaviour changes.