E2-34: Zinc content in human hair: a Sri Lankan study

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Zinc is now recognised to be essential to all forms of life. Human sexual maturation, growth and development, depend on adequate availability of zinc. Human hair grows at an average rate of 0.3 mm day^{-1} and thus the Zn content on hair indicates the previous Zn status over a significant period of

time. In the developed western countries, studies on the Zn content of hair had been undertaken and values between 103-120 $\mu g\ g^{-1}$ hair were considered normal. Children with zinc levels below 70 $\mu g\ g^{-1}$ hair in general were found to have health problems. However no such reports are available for developing countries such as Sri Lanka.

This presentation reports the results of a study undertaken to monitor the local average levels of zinc in hair, in order to ascertain whether zinc deficiency is a serious nutritional problem here. About 200 samples of hair were collected at random, and analysed for their zinc content using atomic absorption spectrophotometry.

The average Zn content of the samples was 128 $\mu g\ g^{-1}$, slightly higher than the values quoted for western countries. The average for males was 144 $\mu g\ g^{-1}$ and for females 102 $\mu g\ g^{-1}$. The average values estimated for different ranges of the Body Mass Index of hair donors appear to suggest that even those who may be considered to be under-nourished do not suffer from a zinc deficiency.