INTRODUCTION

Trace metals are metals essential to human biologic function whose total quantity in the entire organism is less than 4 gm.Of these elements, most are found in the transition series of the periodic table, indicating substantial chemical reactivity. Thus, many trace metals are cofactors in the enzymatic catalysis of many reactions involving over half of the body's enzymes (Fitzgerald and Tierney 1984). Metals that are known to be essential components of nutrition are iron, copper, zinc, manganese, cobalt, molybdenum, selenium and chromium (Savory and Wills 1992)

Criteria used to establish essentiality are growth retardation, impaired reproduction or decreased life expectancy in the absence of the element; establishment that the element has a specific biochemical function; observation of pathological changes resulting from deficiency, alleviation of symptoms after supplementation or renewal of such symptoms when supplementation is stopped; and demonstration of effects in at least three different species (Savory and Wills 1992).

On the other side of the scale, there are metals with no known biological function but have serious toxic effects. Lead is particularly dangerous in children because it is ubiquitous and it affects both physical and mental development of children (Committee on environmental hazards 1987, Gerson 1990)

AIM OF THE WORK

The aim of the work is to assess the status of the essential trace elements, namely zinc, copper, manganese, chromium, magnesium and cobalt; and the status of the toxic trace elements lead, nickel and cadmium in children suffering from protein energy malnutrition. This is done by analysing the serum of the patients and control subjects using atomic absorption spectrometry.