

Monitoring calcium and iron deficiencies at low cost in rural girls

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ABSTRACT

Calcium and Iron are two most vital minerals required by our body. Any deficiency of these two may result into a number of disorders and diseases, such as, rickets, osteomalacia, poor body growth, poor digestion, delayed dentition, anaemia etc. People from middle and some from upper classes too suffer from these deficiencies, either because of poor knowledge or because of their food habits. Milk, pulses, nuts and animal foods are unaffordable for people from lower income group. Supplementary foods at low cost are found to be most effective in increasing the calcium and iron status of rural girls of Orissa.

Key words : Supplementation, Anaemia, Pallor, Anthropometric.

Requirement of calcium and iron increases in young girls with the onset of menarche. Height increases very fast during 10-12 years of age in girls and thus increment in requirement of calcium is quite obvious for proper growth of bones. Iron is very much essential at puberty and inadequate dietary intake of it makes the young girls highly susceptible to anaemia. More than 320 million people in India suffer from iron deficiency anemia of which 50% are adolescent girls. Supplementation of iron remains an important strategy for treatment of iron deficiency anaemia, producing substantial improvement in the functional performance of adolescent girls.

Girls from middle and some from upper classes too suffer from these deficiencies. Even some of the rural people having cattle, suffer from such deficiencies, as they sell out the milk. Government and many non governmental agencies are active in Orissa offering supplementary foods to poor. Mid - day meals have been introduced in schools in a number of states. For some it is an SOS as they get at least one full meal. For many, this forms the major part of their food in a day. However, these efforts lack in proper approach and menu combinations and the outcome are not satisfactory. Cereals and pulses form the major portion of diets of poor people. The paper here reports the studies of people affected with calcium and iron deficiencies and suggests ways to improve them with cost optimisation.

METHODOLOGY

Since the object was to emphasize and reveal the conditions of the lesser privileged child, study was concentrated on adolescent girls, who in the villages have to traditionally work more and are given inadequate

quantities of foods. Then to have a better control and mix of girls from all categories of people, such as, people having different financial standing, food traditions/ habits, food eating practices, vegetarians and non vegetarians etc., some of the schools were directly approached. The area/ locality selected for study were Patrapada and Aiginia blocks of Khurda district of Orissa. Two different age groups, 10-12 and 13- 15 were selected and a representative figure of 80 girls from each age group was randomly selected and interviewed.

Random sampling was done and details of their food habits and foods taken and food practices were surveyed. For a more effective and dependable analysis, information of foods consumed during three consecutive days in any week was taken. For various categories identified, the degree of deficiencies was determined in each case. Standard Deviation was found and best fit curves were drawn. The overall Nutritional Status of the categories was determined to relate their health conditions with the food intakes. However, there can be many reasons and parameters for existing deficiencies and related health conditions, the study was based on following categorized variables -

Economy:

Economy, which has been one of the governing factors for all nutritional status has been considered here too but in a more rationalized form of share of Income per member of the family (referred here as SIM). Simply forming income as the basis is meaningless as the food intake or nutrition of a family will depend more on the number of the members in that family within the same income group. Further, this criterion has been subdivided