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Malnutrition is one of the major cause of morbidity and mortality among children of developing countries. It also lead to various permanent impairments of physical and mental growth of those who survive.

Infant mortality rate in India is very high and is presently estimated to be 110 per 1000 live births in one year. Most of these deaths are due to low birth weight, pre-term birth and infections like pneumonia and diarrhoea. Diarrhoea is particularly common around the weaning period due to combination of infection and low food intake in post weaning period. Thus nutritional deficit is a major indirect factor leading to high mortality rate. Mortality of children in the second year of life is also high due to combined effect of malnutrition and diarrhoeal disease (Ghai, 1988).

The clinical manifestations of malnutrition depend on the severity and duration of nutritional deprivation, the age of undernourished subject, relative lack of different proximate principles of food and presence or absence of associated infections (Park & Park, 11th edition).
Nutritional marasmus and kwashiorkor are two extreme forms of malnutrition. The patients showing features of both syndromes are referred to as having marasmic kwashiorkor (Ghai, 1988 edition).

Marasmus, one of the two extremes of malnutrition has been known since age. In contrast, kwashiorkor the other end of the spectrum has been recognized as a clinical entity only after World War Second as being due to relative lack of proteins in diet.

It is rather paradoxical that the most widespread grave and intensely studied form of malnutrition - PEM is still a highly controversial subject in almost every aspect today (McLaren et al, 1967).

Workers have repeatedly attempted to formulize the entire presentation and variations in different types of definitions and classifications. In 1962 FAO/WHO introduced the term Protein Calorie Malnutrition and further modified in 1971 to Protein Energy Malnutrition (PEM). The WHO in 1973 in an attempt to universalize the disease definition described PEM as "A range of pathological conditions arising from co-incidental lack in varying proportions of Protein and Calories, occurring most frequently in infants and young children and commonly associated with infections".
The developmental dynamics of childhood osteopathia caused by nutritional disorders is at times detected by clinico-radiologic examinations. The leading symptom is systemic osteoporosis. The bones of extremities are thin and delicate, with thinned out cortical layers are coarsely looped rarified stroma. In distinction from osteoporosis of rickets the growth zone in long bones of extremities in malnutrition osteoporosis is always clearly visible, while the epiphyseal centers of ossification are porous with coarse trabecular structure (Malchanov, Dambrovskaya - "Propedentics of children's Disease").

Due to prevalence of the syndrome in developing countries, especially in the lower socio-economic strata of Asian and African countries, most studies have been focussed on these parts of the world (Ghai et al, 1983; Mathur et al, 1979; Ghosh, 1966; Jones & Dean et al, 1956). However, regarding roentgenological evaluation of PEM, the pioneering work has come from the west (Dreizen et al, 1953; Snodgrass et al, 1955). But now the work has been shifted to Afro-Asian countries (Maniar et al, 1973; Mathur et al, 1979; Bhandari, 1984).

Bundelkhand is socio-economically backward area. Majority of the population lives in villages with poor hygiene and low socio-economic status. Due to this children remain neglected and poorly nourished. Therefore, this work is being taken up.
In the past, scientists have studied the effect of PEM on growth of children, using skeletal growth and maturation rate as criterion for assessment (Snodgrass et al, 1955; Dreizen et al, 1943; 56, 59, 61; Garu et al, 1950, 61, 64 67). Due to their encouraging results in diagnosing and early management of the disease, enabling the child to lead a healthy life, we are given an additional inspiration to study the disease and its effect on bony skeleton of the children suffering from PEM.