Scienific work

Malnutrition in India has been rampant; in women and children this affects growth, development and skilled work, thus studied 1. Development of diagnostic tools to assess degree of malnutrition, using anthropometric indices on the nationwide data of affluent children < 5 yr and 5 to 18 yr of age (physical growth & sexual development). In addition, methods were developed on blood and saliva. The fall in salivary ferritin was sensitive in diagnosing early protein energy malnutrition (PEM). The fall of leucocyte Faan and increase of glutamic acid in erythrocytes were also sensitive tests in PEM.

2. Studies were undertaken in rural areas to determine sequel due to malnutrition-physical, neurological or cognitive lesions, possible pathology in intrauterine and early life malnutrition.

3. Developed treatment for acute protein energy malnutrition by dietary supplementation. Studies showed that Indian Dahi (fermented milk- with- lactobacillus bulgaricus and streptococcus thermophilus) has immunonutrient properties i.e.Interleukin levels during treatment were much higher on WHO-Dahi as compared to WHO- milk diet after 15 d and 6 wk.The absolute lymphocyte counts, CD3, CD4, CD8, CD19 and CD56 increased in children receiving Dahi in WHO diet for 6 wk. On WHO dahi diet improved in wt, Hb and CD2/CD4 cell ratio, high serum ferritin decreased and CRP got activated. Thus dahi may replace milk in the WHO diet for treatment of malnutrition. Secondly, on feeding *Berseem (Trifolium Alexandrium)* leaves to PEM II & III children also showed Immunonutrient properties, thus may be added in commercial cereals and legumes *to eradicate malnutrition.*