

ICCN Poster Presentations

Evidence based nutrition

Anthropometric measurements of preschool children as effected by socio-economic factors

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During preschool age period, children have special nutritional needs because of their extensive growth and development. The growth pattern of a child is a useful criterion for judging his nutritional status. Anthropometry can be used in health programmes to monitor health and nutritional status of individual children. During preschool age the growth rate is relatively more. Keeping this in mind a study was conducted to determine the anthropometric measurements of preschool children (4-5yrs) of Gurgaon district of Haryana (India). Data was collected from 300 preschool children randomly selected from six villages namely Vazirabad, Jharsa, Chakarpur, Badshahpur, Teekli and Palra. The mean height and weight of boys were 87.49cm and 13.65 kg and of girls were 84.67cm and 12.81 kg, which are significantly lower than reference value. Among boys and girls, weight was found significantly higher in boys than girls whereas height, was almost similar. On the basis of mid arm circumference, 76% were healthy, 18.3% were on the borderline and 5.7% were suffering from malnutrition. Sub-optimum nutritional status of the preschool children might be due to lower intake of energy, protein and iron rich foods. While studying the effect of socio economic factors on anthropometric measurements of children it was observed that height and weight of children was affected by caste, income, type of house, size of family, land holding, mother's education and father's education. Therefore it is suggested that preschool children and their mothers may be encouraged to take balanced diet for proper growth and development.

The correction of neutrophilic link of immune activity in rats by lipid nutrients

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It is well known that considerable changes of immunological axes could be generated by diet. For instance the diet rich in omega 3 and omega 6 polyunsaturated fatty acids has immunomodulating effects. In this study the influence of lipid nutrients (Super EPA and Phosphatidyl Choline, Thorne Research Inc., USA) on neutrophilic link of immunity of rats with model of immunodeficiency status (MIDS) was investigated. Super EPA contains omega-3 fatty acids (eicosa-pentaenic and docosaheksaenic) with total value 56.2%. Phosphatidyl Choline contains 35% of phosphatidylcholine with omega 3 and omega 6 fatty acids. The research has been done on 28 healthy female rats that were divided into 4 groups. 1st – intact group, 2nd group with MIDS, 3rd group with MIDS and receiving Super EPA, 4th group with MIDS and receiving Phosphatidyl Choline. The intact group of rats was provided with usual diet. Other 3 groups were provided with hyper-calorie diet to induce MIDS. Immunological analysis has been done on neutrophils of blood. Phagocytic activity of neutrophils in relation to latex particles has been estimated by phagocytic index value; level of oxidative metabolism of neutrophils using HCT test. Received data have been statistically evaluated. The experimental results show that rats with MIDS have decreased value of immunological rates (decline of total phagocytosis and oxygen metabolism level) in comparison with intact group. In groups receiving Super EPA and Phosphatidyl Choline reliable increase of immunological rates was registered. As we know, insertion of polyunsaturated fatty acids omega 3 and omega 6 in phospholipids of cell membranes, in our case phosphatidylcholine, provides functional plasticity of membranes and normal physiological and biochemical processing in membranes. Probably Super EPA is more effective than Phosphatidyl Choline in its impact on oxidizing process in cell membranes apparently because of enrichment by omega 3 fatty acids. The results argue in favour of both lipid nutrients efficiency in correction of immunodeficiency states associated with impairments of neutrophil functional activity.