

## ICCN Poster Presentations

### Food and the child

#### **Soy proteins - an ideal functional food for growth promotion**

U Chandrasekhar

*Former Dean, Professor & Head, Department of Food Science and Nutrition, Avinashilingam University, Coimbatore-641043, India.*

**Introduction:** Soy though a native food of South East Asia, it is a new under exploited food in the India context. Growth promoting effects of soy in health particularly among women and children is much-sought information under the current nutritional scenario in India, hence the objective of this research.

**Methodology:** Defatted soy flour to replace the legume protein in the school lunch diet of preschool children (1200) was studied over a period of one year. Anthropometrics parameters, blood hemoglobin levels, clinical picture, physical and mental abilities of children formed the criteria for evaluation. In another attempt grade II malnutrition children (400) of 1-2 years of age were supplemented with the developed soy protein isolate (SPI) based food mix at a level (62g) to fill the calorie gap in their home diet and their growth parameters monitored over a period of one year.

**Results:** Significant ( $P < 0.01$ ) improvement in the heights, weights and the hemoglobin levels of children given soy flour substituted lunch was observed. A decrease in the manifestation of clinical symptoms, significant improvements in the physical ability attributes and in the mental ability scores were evident. A proportionate increase with increases in the levels of substitution was also observed. Among the grade II malnutrition children given SPI based food mix, a significant improvement in their height (supplemented vs. control: 4.5 cm vs. 0.92 cm), weight (5.05 kg Vs 0.84 kg), arm, chest and head circumferences (0.29 cm vs. 0.07 cm; 1.30 cm vs. 1.09 cm and 1.24cm vs. 0.19 cm) respectively were recorded. 90.5 % of children in the supplemented group shifted to normal grade and the remaining 9.5 to grade I status. Their morbidity pattern and cognition improved remarkably.

**Conclusion:** Considering the cost effectiveness of soy, this result on child growth undoubtedly signifies soy as the ideal functional food of the era for the promotion of good health of future generation.

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#### **The use of a putative lactagogue plant on breast milk production in Simalungun, North Sumatra, Indonesia**

R Damanik\*<sup>1,2</sup>, M L Wahlqvist<sup>1</sup> and N Wattanapenpaiboon<sup>1</sup>

<sup>1</sup>*Asia Pacific Health & Nutrition Centre, Monash Asia Institute, Monash University, Melbourne, Australia*

<sup>2</sup>*Department of Community Nutrition, Bogor Agricultural Institute, Bogor, Indonesia*

Food beliefs about pregnancy and lactation are widespread amongst traditional women. These include the use of various plant foods to stimulate lactation. We have previously reported, on the basis of focus group studies, that lactating women in Simalungun, North Sumatra Indonesia have a tradition to consume the 'Torbangun' plant, as a soup for one month after parturition. They believe that Torbangun stimulates breast milk production. More than this, Torbangun soup is considered to return the mother to a healthy state after delivery. Torbangun is thought to serve several purposes, not only to enhance breast milk production, but to decrease the risk of placental retention ('act as a uterine cleansing agent'), and restore energy and strength lost during parturition. The tradition has been practiced for hundreds of years, and adherence is still strong. An intervention study was conducted in Simalungun North Sumatra Indonesia on 75 lactating women. Subjects were randomly assigned into three groups: Moloco (reference group), Fenugreek or Torbangun. The subjects were provided with either Moloco+B12<sup>TM</sup> sugar coated tablets, Fenugreek capsules or Torbangun soup. Moloco+B12<sup>TM</sup> tablets and Fenugreek capsules are supplements used by lactating women in Indonesia and in European countries, respectively, in the belief that they stimulate breast milk production. All subjects took the assigned supplement from day 2 after birth for one month. It was observed that Torbangun improved the quantity by 10% and retained the quality (in regard to macro- and micronutrient composition) of breast milk. The use of Torbangun might be suitable for lactating women in general.