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A protein rich mixture based on dry skim milk, toasted wheat flour, fish flour and sunflower meal

3. AUTHOR(S)

Yanez,Enrique; Ballester,Digna; Chichester,C.O.; Monckeberg,Fernando

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A PROTEIN-RICH MIXTURE BASED ON DRY SKIM MILK, TOASTED WHEAT FLOUR, FISH FLOUR AND SUNFLOWER MEAL. Enrique Yanez, D. Ballester, C. O. Chichester and F. Monckeberg, University of Chile, Santiago, and University of Rhode Island, Kingston.

One of the most challenging problems faced by developing countries like Chile is that they are unable to produce the necessary food for their fast growing populations. This situation affects mainly the young child due to his high protein and calorie requirements and results in stunted physical and intellectual development.

As a means for alleviating the deficit of high quality protein in the diets of children, we have developed a protein-rich mixture called LECHE-ALIM intended to be used as a gruel at breakfast or tea-time. This mixture contains: toasted wheat flour, 40%; dried skim milk, 40%; fish flour, 10%; and sunflower presscake meal, 10%.

Chemical analysis showed that Leche-Alim contains: protein, 27%; fat, 6%; and carbohydrates, 58%. To measure the biological quality of the protein, different indexes were determined: PER 2.56, NPU 72, Chemical score 74 and NDpCal% 14.7, all of them indicating a good quality protein.

In order to test the acceptability in a long-term program, Leche-Alim was prepared in a local industry and packaged in plastic bags containing 1.5 kg. As subjects, 1100 children from 2 to 5 years of age, living in both urban and rural areas of one of our provinces, were selected. Children under 2 years of age continued receiving their powdered milk as usual. All subjects were weighed and measured once a month.

At 3 and 12 months, acceptability was found satisfactory but lower than that of powdered milk containing 12% fat, and similar to that of dried skim milk. After 12 months of the experiment, the weight increase was 2.19 kg for children receiving Leche-Alim and 2.17 kg for those receiving dried skim milk. The change in height was 8.78 cm and 6.04 cm for children given Leche-Alim and milk respectively (P 0.001).