Incorporation of Chicken Egg Powder Into Infant Roasted Corn Flour: Enriched Flour Quality and Acceptability

Gott'liebe M. Goka
Ecole Supérieure des Techniques Biologiques et Alimentaires (ESTBA), Université de Lomé, Togo

Mamy Eklou
Ecole Supérieure des Techniques Biologiques et Alimentaires (ESTBA), Université de Lomé, Togo

Komlan Tekando
Centre d'Excellence Régional sur les Sciences Aviaires (CERSA), Université de Lomé, Togo

Elolo Osseyi
Ecole Supérieure des Techniques Biologiques et Alimentaires (ESTBA), Université de Lomé, Togo

Kokou Tona
Centre d'Excellence Régional sur les Sciences Aviaires (CERSA), Université de Lomé, Togo

Abstract:

The objective of our study is to contribute to the reduction of infant malnutrition by formulating a fortified infant flour based on maize flour (Obatampa variety) and egg powder. Different levels of egg powder (10%, 15%, 20%, 25% and 30%) were added to the roasted maize flour. The test flours obtained were analyzed and compared with commercial infant flours. Physicochemical characterization showed that the protein, lipid and energy content of all the flours increased proportionally with the level of incorporation of egg powder. However, as far as mineral elements are concerned, only the flour treated with 20% (FTO 20) egg powder had levels in line with the criteria recommended for infant flours intended for infants aged 6 to 2 years. There was a significant difference ($P<0.05$) between the commercial preparations and those based on egg powder. Only the magnesium and potassium contents of the carbohydrate-rich commercial preparations with high energy values met the recommended criteria. The experimental flours are hygienically suitable for human consumption. Finally, appropriate sensory tests were carried out to assess how mothers of infants liked the flours tested in the form of porridges. FTO20 appeared to be a highly nutritious flour, rich in energy and highly appreciated. It can be recommended as a complementary food for infants (6 months and over) and to correct nutritional deficiencies in children.

Keywords:

Chicken egg powder, corn, infant flour, nutrition.