

Nutritional Evaluation of a Fortified Maize Weaning Food.

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Abstract:

Nutritional evaluation was carried out on pregelatinized maize flour blended with undefatted soy bean flour at 20, 32, 40 and 50% levels. The samples were evaluated for proximate composition, pepsin digestibility and mineral analysis for phosphorus, calcium and iron contents. The data were compared with values for Ogi, Soy-Ogi and Cerelac. Rat feeding experiments were also carried out on pregelatinized maize flour fortified with soybean flour (at 30% Level), and cerelac.

Protein content and pepsin digestibility Values: for fortified gelatinized maize flour samples found to range from 12 to 19% and 82 to 86% respectively. The corresponding values for Ogi, Soy-Ogi and cerelac were 7.06, 11.70 and 16.09% and 70.52, 78.73 and 91.55% respectively. Phosphorus contents of the pregelatinized maize flour, 30% fortified maize flour, Ogi, Soy-ogi and cerelac were 280, 265, 200, 285 and 285mg/100g respectively.

The corresponding values for calcium were 0.5, 56.5, 4.2, 205.3 and 352.5mg/100g respectively, while the values were 1.8, 3.1, 1.5, 5.6 and 6.8mg/100g respectively for iron. From rat feeding experiments, Protein Efficiency Ratio (PER), Net Protein Utilization (NPU) and Biological Value (BV) were 1.14, 55.05% and 0.62 respectively for fortified maize flour while cerelac had corresponding values of 1.99, 71.09% and 0.83 respectively.

It was apparent from the results obtained that pregelatinized maize flour fortified at 30% level with undefatted soybean flour could be nutritionally adequate as a weaning food.

Keywords: Nutrition/ maize/ mineral analysis/ iron contents/ pregelatinized

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