The protein quality value of two homemade cereals legume mixtures compare to a commercial baby food sample

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Abstract

Background: Mixed cereals and legumes products enhance protein quality. This study has been conducted to compare the protein value of two homemade foods (a mixture of beans and rice and a mixture of vetch and rice) with a commercial baby food (wheat-based Cereal) in rats.

Methods: An experimental study has been conducted on 80 male rats, which divided into 8 subgroups. Five different diets including 3 test diets (Cereal and two of the homemade foods), 1 standard diet (casein) and 1 basic diet (protein free) were admitted to determine the TPD (True protein Digestibility), AD (Apparent Digestibility). Furthermore, 3 test diets, 1 standard diet and 1 basic diet used to determine the NPR (Net protein ratio), PER (Protein Efficiency Ratio) and FER (Food Efficiency Ratio). Difference between values of TPD, NPR and PER among the groups was analyzed using ANOVA and SPSS software.

Results: Our findings indicated that the TPD for Cereal, bean+rice and vetch+rice (87.7, 80.2 and 81.9; respectively) were statistically different. The NPR for Cereal, bean+rice and vetch+rice were 4.6, 4 and 4.5; respectively. There was significant difference for PER between three groups (2.5, 2.9 and 2.8; respectively).

Conclusion: The findings showed that the protein value of homemade foods is acceptable in comparison to commercial products such as Cereal.

Key words: protein quality, cereal, bean, vetch, rice, baby meals

References


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