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USE OF ASYMMETRIC MODELS TO ADJUST THE VITAMIN INTAKE DISTRIBUTION DATA FOR OLDER PEOPLE

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One of the main interests in the nutrition field is to estimate the distribution of usual nutrient intake. Data from vitamin intake generally present high asymmetry mainly to the presence of outliers. This can occur due to the variability of the diet and, in this case, robust estimation to get the distribution of the data can be required. Then, the aim of paper is to propose an alternative approach for estimating usual intake through asymmetric distributions with random effects applied to data set 10 vitamins obtained from a dietetic survey for 368 older people from Botucatu city, São Paulo, Brazil. In general, these asymmetric distributions include parameters related to mean, median, dispersion measures and such parameters provide good estimates for the intake distribution. In order to make some comparisons, a model fitted by National Cancer Institute (NCI) method with only for amount of nutrient intake was established using Akaike Information Criteria (AIC). NCI method is based on a Box-Cox transformation coupled with normal distribution but in case of asymmetric data, this transformation can be not useful. It was observed that, in the presence of outliers, the asymmetric models provided a better fit than the NCI method in the major of the cases. Then, these models can be an alternative method to estimate the distribution of nutrient intake mainly because a transformation for the data is no necessary and all the information can be obtained directly from the parameters.

Biography

Jose Eduardo Corrente has undergraduate in mathematics and took his MSc and PhD in Biostatistics. He is an Associate Professor at Biostatistics Department University of Sao Paulo State - UNESP, and his field of research is epidemiology of third age. Main projects are in quality of life, lifestyle and nutritional aspects for older people with respect to eating patterns and adequate intake as well as publications in reputed journals.

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