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Topic: Capacity developmentfor public health nutrition

Title: MULTIVARIATE NUTRITIONAL ASSESSMENT THROUGHOUT SEXUAL MATURATION

Presentation Type: Workshop

Introduction

The effects of sexual maturation on assessment of nutrition status are often analyzed based over one outcome and multiple adjustment. New evidences suggest that controversy about those effects is partly due to this way of analysis. We hypothesize that a multivariate description of nutritional status could separate such effects into many dimensions and contribute to solve that controversy mostly.

Objective

To describe nutritional status according to multivariate patterns and estimate the effects of sexual maturation over them.

Methods

Data came from 680 adolescents surveyed in city of Piracicaba (SP, Brazil). Multivariate patterns of nutritional status were estimated using Principal Components Analysis using 5 anthropometric, 2 body composition, 2 sexual maturation and 4 biochemical markers variables. We set eigenvalues to 0.7 and loadings to 0.2. Sexual maturation was self-evaluated according to five Tanner stages.

Results

The 4 first components account for 63,5% of variability. The first component was characterized by anthropometric variables especially skinfolds (triceps and subscapular) and waist circumference. The second was characterized by sexual maturation (hair, breast and external genitalia), age and height variables. The third was characterized by cholesterol, triglyceride and glucose; the fourth showed mixed markers, positive loadings for triglyceride and glucose and negative loadings for hemoglobin and body composition.

Conclusion

Multivariate analyses of nutritional status reveals many possible profiles whose cannot be properly described using usually a single univariate indicator, such as body mass index. Height seems to be a sufficient variable to signalize biological time acceleration at sexual maturation in nutrition assessment.