DESCRIPTIVE STUDY OF ANTHROPOMETRICAL INDICATORS FOR A 942 LOT OF PERSONS FROM RURAL AND URBAN ENVIRONMENT IN BACAU COUNTY

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Abstract: The purpose of the study was to compare anthropometrical indicators measured in a populational group of 942 persons from Bacau county with standards on Moldova. The study analyze high and weigh parameters for children under 18 years old and Body Mass Index for adults. The average BMI in groups on ages shows a normal weigh for the group of age 18-30 and a tendecy of overweigh for all other groups of ages. In an analysis on sex groups we can notice the same normal average of BMI at the age group of 18-30 and a overweigh in the rest of the groups on ages, especially in women groups. The diferences for the parameters high and weigh in the groups under 18 compared with the standards fits into -1σ for weigh and -1σ for high (group of girls 11 years old from rural and group of boys 17 years old from urban) and +1σ for the group of boys 17 years old from rural. Either for group of girls 11 years old from rural or for the group of boys 17 years old from urban, both the weigh and the high are in the same class of standard deviation, meaning an harmonic decrease of these too parameters.

Rezumat: Scopul studiului a fost de acela de a compara indicatorii antropometrici măsuraţi într-un lot populaţional de 942 persoane din judeţul Bacău cu standardele pe zona Moldovei. Pentru copii sub 18 ani s-au analizat parametrii înălţime si greutate faţă de valorile tabelare standard , iar pentru adulţii peste 18 ani s-a analizat Indicele de Masă Corporală. Media IMC pe grupe de varstă indică o greutate normală a grupei de varstă 18-30 ani si o tendinţă de supragreutate la toate celelalte grupe de varstă din lotul studiat. La analiza pe sexe, se observă aceeaşi medie normală a IMC la grupa 18-30 ani si o supragreutate în celelalte grupe de varstă cu tendinţa mai accentuată la loturile de sex feminin. Diferenţele pentru parametrii înălţime şi greutate la loturile sub 18 ani faţă de standarde se incadreaza in -1σ pentru greutate şi -1σ pentru inălţime (lotul fetelor de 11 ani din rural, lotul băietilor din urban 17 ani); +1σ pentru inălţime (lotul băieţilor din rural 17 ani). Atât in lotul fetelor de 11 ani din rural cât şi în lotul băieţilor din urban 17 ani, şi înălţimea si greutatea sunt în aceeaşi clasă de deviaţie standard, deci este o scădere armonică a celor doi parametri.

INTRODUCTION

The complexity of the epidemiological process and of clinical manifestation of different type of nutrition disorders, are obstacles in an efficient implementation of national heath programmes aimed to combat nutrition disorders and associated pathology. Thus, clinical-epidemiological researches in order to determine heath status correlated with nutritional status, life style and associated morbidity, bring valuable information in designing and implementing national prevention programs. Epidemiological researches allow also to assess the present heath status and guide in developing health politics in order to decrease the weaknesses points and reduce the threatenings prioritised in a Swot analyze.

PURPOSE OF THE STUDY

The present study has been carried out in bacau county and it has no ambition to extrapolate the results at the county level, but the results obtained compared with the standards on moldova, will add information for the epidemiological picture of the nutritional status, allowing the prevention actions in order to decrease the consequences on heath status.

MATERIAL AND METHOD

In order to achieve the objectives it was conducted a descriptive study on a population lot of 942 persons selected from one urban locality and one rural. The selection of these localities it was done in an aleatory mode, by choosing them from a list of urban and rural localities from Bacau county. People participating in the study were selected from the family practitioners lists, who were chose using some criteria:
1. The heterogenity of persons (different socio-economics levels, different levels of training)
2. To assure an equilibrated repartition on age groups and sex
3. The compliance of persons involved in the study
4. Disponibility of the medical practitioners to help in the study process.

From the ethnical point of view, the most great of the participants in the study were Romanians but there were also other ethnics, without taking into consideration this criteria in interpretation of the results. It was also a great concern in eliminating as much as possible the interpersonal differences in measuring weight and height. The data collected were prelucrated using the statistical soft EPI INFO/SPSS.

In interpreting the results, were analyzed different parameters for different groups of ages: for children under 18 years old was compared the weight and height with standards and for adults The Body Mass Index, being a more valid indicator of nutritional status and of the health status.
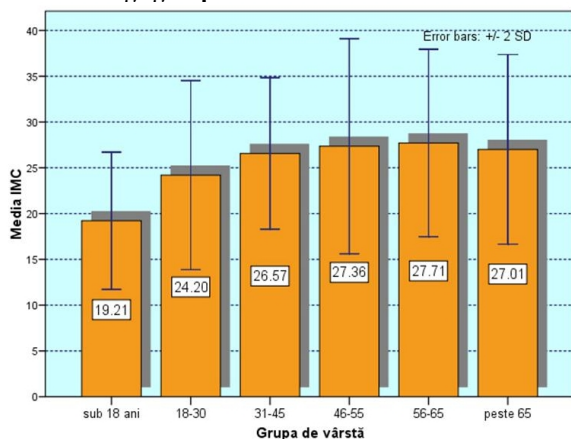
RESULTS AND DISCUSSIONS

BMI ANALYSYS

The average bmi on groups of ages shows a normal weight for the 18-30 years old age group and a tendency of overweight for all other ages groups.

Figure nr. 1.The ICM analysis: The Media+/- standard deviation on age groups


Analyzing on groups of ages and sex, we noticed the same normal value of BMI indicator for the 18-30 years old either for women and for men groups, with bigger values for the feminine lot.

In a box plot graphic showing the linear distribution of the values, we notice big values beyond the upper limit, especially for the extreme groups of ages, indicating that at these groups of ages the parameter BMI is not such a valid parameter of study, being biased by other factors such as the growing process for the ages under 18 or by the ageing process for the age group after 65 years old.

Analyzing the distribution of BMI values on residences environments groups, we can see bigger values in the urban lot compared with the rural.

Figura nr. 2. Graficul "box plot" pentru analiza IMC pe mediu de rezistenţă
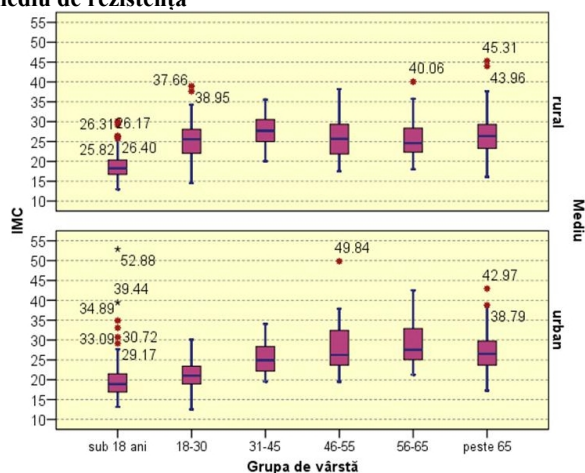
HEIGHT AND WEIGHT INDICATORS ANALYSIS

Weight analyze for youth under 18 years old, shows lower values then standards for the following groups: feminine 11 years old , rural group and 17 years old , masculine urban group. The differences are statistic significant but still small and fit in a -1σ standard deviation. A possible explanation of low weight compared with standards may be aleatory election of participants or it can reflect imparities in the socio economical conditions.

Height analyze indicates lower values compared with the standards for the group of girls 11 years old rural, girls 17

years old from rural, boys 11 years old from rural and boys 17 years old from urban (p<0.05, difference statistical significant that fits in a -1σ standard deviation).

The average value for high in the masculine, rural 17 years old group is bigger then standards.

1. BMI analyze on age groups, sex and residential environment in adult lot indicates a normal weight for the 18-30 years old group and a tendency of overweight for all other age groups, with bigger values for feminine groups in the urban area.

2. For youth under 18 years old there are not great differences compared with standards for the parameters height and weight. The differences fit into -1σ standard deviation either for weight or for height, being in the same class of standard deviation and indicating an harmonic decrease of these two parameters.

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