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Evaluation of nutritional status in a group of children with early childhood caries

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Introduction

Some data from the speciality literature show that S-ECC is associated with a low weight [1, 2, 3, 4, 5], or a low height [6] or with an overweight of the small child [3, 5] and other data show that (S) ECC does not lead to modifications of the body weight [6].

Objectives

Objective Comparative evaluation of the nutritional status of two preschool children groups with/without (severe) early childhood caries (S)-ECC.

Material and Methods

Material
Two groups of patients randomly selected: a) study group, with ECC (SG) selected from the Paedodontics clinic: 100 F and 100 M, medium age 45.2 months b) control group, without ECC (CG) selected from some kindergartens, 100 F and 100 M, 54.7 months
The inclusion criteria for the study subjects were: children until 71 months old, without general disabilities, whose parents gave their written consent for project involvement.

Methods
a. Data collection
Collected data were: identification data, age, sex, decay diagnose: with/without (S)-ECC, measured height and weight at the first visit of the patient, by the same person, in standard conditions.
b. General development assessment method
The nutritional status was evaluated with several indexes: ponderal index (PI), statural index (SI), nutritional index (NI). NI is the most accurate one because it appreciates the children's weight correlated with their height7. The growth assessment of each child with/without ECC was done comparing the measured values to the ideal mean values obtained from growth tables or graphics.
c. For the statistical analysis chi-square test and some of its derivates (e.g. Phi coefficient) were used (95% probability). The statistic data were analysed using the SPSS 15 software.

Results

1. Affected subjects younger than 3 years predominate (33%) (S-ECC) Fig. 1
2. Medium height (100.02 cm) and weight (14.96 kg) of SG were smaller than of CG: 107.4 cm for medium height and 17.8 kg for medium weight.
3. Weight modifications are presented in Fig. 2 for both groups - the proportion of the patients in the SG with normal weight is 39.8% at the patients aged between 5 and 6 years, compared to 57.4% in the patients aged between 4 and 5 years, 64.3% in the patients aged between 3 and 4 years and 54% in patients under 3 years of age Fig. 3.
4. Height modifications are presented for both groups in Fig. 4. - the proportion of the patients in the SG with normal height is 68.6% at the patients aged between 5 and 6 years, compared to 92.6% in the patients aged between 4 and 5 years, 91.5% in the patients aged between 3 and 4 years and 82.9% in patients under 3 years of age (Fig.5)
5. Nutrition modifications are presented for both groups in Fig. 6.

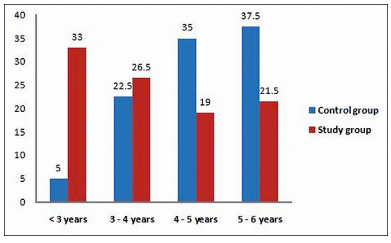

Fig. 1: The groups' distribution by age

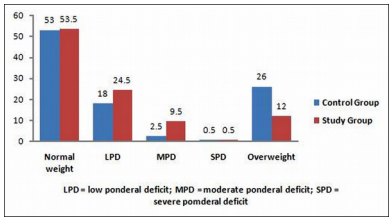

Fig. 2: The groups' distribution by the ponderal index

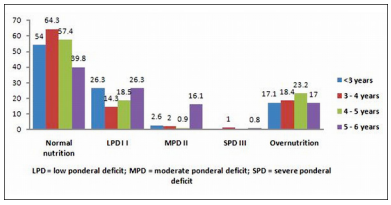

Fig. 3: The groups' distribution by the ponderal index and age

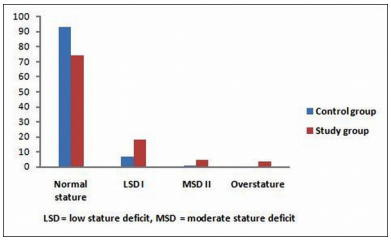

Fig. 4: The groups' distribution by the statural index

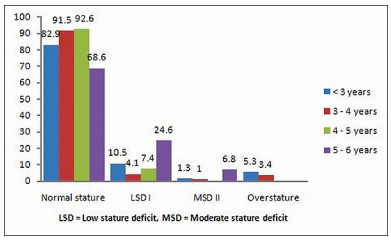

Fig. 5: The study group distribution by statural index and age

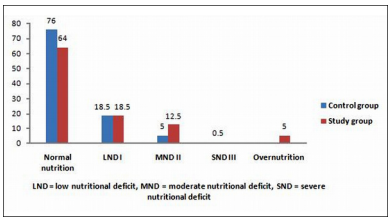

Fig. 6: The study samples distribution by the nutritional index

Conclusions

Our results suggest that the presence of ECC is related with reduced general growth (weight and height) at the preschool children:
- the probability of the patients with ECC to develop a ponderal deficit is over 1.5 time higher than in healthy patients and to develop a degree I statural deficit is almost three times higher than in healthy patients (p=0.01); the healthy patients are more likely to develop a ponderal excess (p=0.01)
- the probability of the patients with ECC to develop a degree II nutritional deficit is over two times higher than in healthy patients (p=0.01)
- the probability of the affected patients to present a normal weight and height decreases with the increase of the ECC's severity (p=0.02), especially in the group age of 5-6 years (p=0.01)

Literature

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This Poster was submitted by Prof. Dr. Anca Maria Raducanu.

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Poster Faksimile:

EVALUATION OF NUTRITIONAL STATUS IN A GROUP OF CHILDREN WITH EARLY CHILDHOOD CARIES

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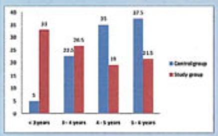

Figure 1. The groups' distribution by age

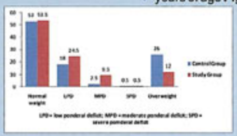

Figure 2. The groups' distribution by the ponderal index

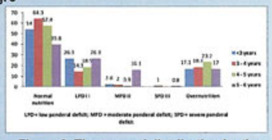

Figure 3. The groups' distribution by the ponderal index and age

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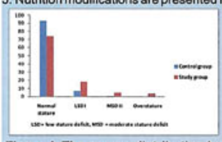

Figure 4. The groups distribution by the statural index

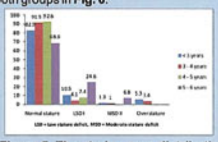

Figure 5. The study group distribution by statural index and age

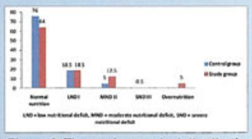

Figure 6. The study samples' distribution by the nutritional index

CONCLUSIONS

Our results suggest that the presence of ECC is related with reduced general growth (weight and height) at the preschool children:
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