

## CHANGES OF INCIDENCE OF OBESITY IN CHILDREN DURING THE LAST DECADE (Preliminary Study)

I. Dóber

United Health Service Institutes of Pécs, Department of Child's Health, Pécs, Hungary

*Abstract: The aim of the study was to determine the prevalence of obesity in the academic year 1993-94 and to relate the results to the incidence obtained 10 years earlier. An anthropometric survey was performed in a representative sample of 3559 school-children aged 6 to 18 years. Obesity was diagnosed when triceps skinfolds were above or equal to the 90th percentiles of the Pécs Growth Study. Comparison of the findings in 1983-84 to those in 1993-94 led to the conclusion that the prevalence of obesity among school-children in Pécs has increased during the last ten years.*

*Key words: Obesity; Pécs children.*

### Introduction

Obesity is a prevalent disorder among children and adolescents in Hungary that is accompanied by significant morbidity (Bihari and Bedő 1982, Czinner et al. 1983, Wilhelm and Csombók 1983, Dóber 1987). Obese children are at high risk for hypertension (Rames et al. 1978), psychosocial dysfunction (Monello and Mayer 1972), respiratory disease (Tracey and Harper 1971, Simpser et al. 1977), diabetes (Paulsen et al. 1968) and several orthopaedic conditions (Dietz et al. 1982). Obese adolescents tend to become obese adults, thus adolescent obesity certainly contributes to an undesirable high morbidity and mortality of adult population.

The aim of our study was to determine the prevalence of obesity in the academic year 1993-94 and compare the results to the incidence values obtained 10 years earlier (Dóber 1987).

### Subjects and Methods

An anthropometric survey was performed in a representative sample of 3559 school-children aged 6 to 18 years. The incidence values were compared to the data obtained in the cross-sectional Pécs Growth Study 10 years earlier considered as 100% (Dóber and Jeges 1987, Dóber and Királyfalvi 1993). Obesity was diagnosed when triceps skinfolds were above or equal to the 90th percentiles of the local charts from the Pécs Growth Study. Measurements of triceps skinfolds were made by the author (a paediatrician) and two technicians trained according to the International Biological Program (Tanner et al. 1969). The data were elaborated and analysed by the BMDP Statistical Software (Dixon et al. 1983).

## Results and Discussion

Estimates of obesity among Pécs school-children over time are demonstrated in the Table 1. The prevalence of obesity among children aged 6 to 18 years in the academic year 1993-94 was 16,8%, while in the years 1983-84 it was 13,2%. The greatest increase in the prevalence of obesity occurred among girls in the age group of 12 to years, 54%.

When comparing our data with those of American authors (Gortmaker et al. 1987) we found significant difference in the prevalence of childhood obesity between the two countries. Obesity proved to be less common in Hungary than in America. Namely while in the cited American study the prevalence of obesity in the age group of 6 to 11 year olds was 27,1%, in our study it was 17,4%. Similarly the obesity prevalence in United States in the subgroup of adolescents was 21,9%, and 16,5% in our study, respectively. At the same time, our findings are in accordance with those of Gortmaker, Dietz et al. (1987). Since the obesity prevalence data show an increasing trend in both countries.

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Table 1. Estimate of prevalence of obesity in 6-18 year old Pécs boys and girls in the 1980s and 1990s

| Age<br>(year)                            | Sample<br>1983-84 |       |      | Sample<br>1993-94 |       |      | Increase in<br>prevalence<br>(%) | Signifi-<br>cance<br>P |
|--|-------------------|-------|------|-------------------|-------|------|----------------------------------|------------------------|
|  | N                 | Obese | %    | N                 | Obese | %    |                                  |                        |
| 6-11                                     |                   |       |      |                   |       |      |                                  |                        |
| boys                                     | 650               | 94    | 14,9 | 733               | 130   | 17,8 | 21                               | NS                     |
| girls                                    | 710               | 81    | 11,5 | 653               | 101   | 15,4 | 35                               | .05                    |
| together                                 | 1360              | 175   | 13,2 | 1386              | 231   | 16,5 | 26                               | .05                    |
| 12-18                                    |                   |       |      |                   |       |      |                                  |                        |
| boys                                     | 850               | 101   | 11,6 | 1123              | 184   | 17,1 | 47                               | .01                    |
| girls                                    | 864               | 81    | 9,4  | 905               | 133   | 14,8 | 58                               | .001                   |
| together                                 | 1714              | 182   | 10,5 | 2028              | 317   | 16   | 51                               | .001                   |
| 6-18 years<br>boys and girls<br>together | 3074              | 357   | 11,8 | 3414              | 548   | 16,2 | 38                               | .001                   |

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*Mailing Address:* Ilona Dóber, MD. PhD  
 Donátus u. 4.  
 7635 Pécs,  
 Hungary

