

# Evaluation of the nutritional behavior of small and large for gestational age children

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## Background

In recent years a special interest of researchers is focused on questions related to the early stages of the formation of food behavior (FB), considering their close connection with socially significant problems of the present - obesity, metabolic syndrome, cardiovascular pathology, etc.

## Aim

To assess the characteristics of the nutritional behavior of young children, taking into account the level of physical development at birth.

## Methods

A research of 122 parents of young children was conducted using the Child Eating Behavior Questionnaire (CEBQ) (Wardle, 2001). Analyzing the results of answers of 35 questions, the grouping was carried out on 8 scales: food responsiveness (FR), enjoyment of food (EF), satiety responsiveness (SR), slowness in eating (SE), food fussiness (FF), emotional over-eating (EOE), emotional under-eating (EUE), desire to drink (DD). The questionnaire was filled out by the mother and additionally contained information on the anthropometric indicators of the child and parents, duration of breastfeeding. The average age of the mothers at the time of questioning was 30.0 (28.0; 33.0) years. The study included healthy full-term babies aged 13 to 36 months of life. Among the children were 73 (59.8%) of boys and 49 (40.2%) of girls. Statistical processing of data was carried out in the program Statistica 10.0.

## Results

According to the weight at birth children were divided into 3 groups of observation: group 1 - children large for gestational age (n=52, BW 4315.3±263.7 g, length 55.6±1.4 cm), group 2 - small for gestational age (n=34, BW 2459.4±202.6 g, length 47.3±2.5 cm), group 3 - children with anthropometric parameters corresponding to the term of gestation (n=36, BW 3345.0±225.8 g, length 52.1±1.6 cm). The umbilical cord leptin was 11.1 [4.7; 32.7], 3.4 [1.2; 4.9], 5.0 [2.3; 9.01] ng/ml, respectively ( $p_{1-3} = 0.001$ ,  $p_{1-2} = 0.024$ ). In children group 1 BW was 13.8 (12.1; 15.0) kg, z-score BW 1.2 (0.8; 1.7), length 90.0 (86.0; 93.0) cm. Similar values in infants group 2 were 11.0 (10.1; 12.5) kg, -0.6 (-1.3; 0.6), 86.0 (82.0; 88.0) cm. In group 3 median BW was 12.4 (11.7; 14.0) kg, z-score BW 0.7 (0.0; 1.2), length 88.0 (86.0; 92.0) cm.

Comparative analysis of mean values according to the scales of the CEBQ showed statistically significant differences ( $p=0.008$ ) in the age of 1 to 3 years for DD for children group 2 (2.30(1.70;4.00)) with children group 3(1.85(1.70;2.30)). In infants group 2, a negative correlation between BW ( $r_s = -0.361$ ,  $p=0.036$ ) and z-score BW ( $r_s = -0.366$ ,  $p=0.033$ ) with EF was found. In group 1 mother's weight and body mass index had an effect on SE ( $r_s = -0.351$ ,  $p=0.011$ ;  $r_s = -0.346$ ,  $p=0.012$ ), positive correlation between the level of cord blood leptin and FR was revealed ( $r_s = 0.312$ ,  $p=0.04$ ). The correlation between FR and EOE was stronger among infants group 1 in comparison with other children ( $r_1=0.695$ ,  $r_2=0.612$ ,  $r_3=0.415$ ,  $p<0.05$ ). mass index had an effect on SE ( $r_s = -0.351$ ,  $p=0.011$ ;  $r_s = -0.346$ ,  $p=0.012$ ), positive correlation between the level of cord blood leptin and FR was revealed ( $r_s = 0.312$ ,  $p=0.04$ ). The correlation between FR and EOE was stronger among infants group 1 in comparison with other children ( $r_1=0.695$ ,  $r_2=0.612$ ,  $r_3=0.415$ ,  $p<0.05$ ).

## Conclusion

Specific features of FB formation among large and small for gestational age children have been established. Analysis and timely correction of eating behavior and the diet of children should be carried out from the infancy.

## Key Words

Children, early age, appetite, eating behavior, child eating behavior questionnaire, CEBQ

## References

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