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DIFFICULTY IN BREATHING OF THE OBESE CHILDREN AGED 4 TO 15 YEARS

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ABSTRACT

A group of children aged from 4 to 15 years old are taken as subject of this study. 50 children (as a control group) belonging to the same age and who do not display any obesity signs were also selected. Questionnaires with parents, assessment and evaluation by a pediatrician were methods used to examine the children. Based on the examination, it was noted that the percentage of the tonsillar hypertrophy and adenoid is almost the same in both groups, having a higher predominance in the obese children group. This shows that the difficulty in breathing of the obese children is directly due to their obesity and not to the presence of the adenotonsillar hypertrophy.

INTRODUCTION

Obesity is a metabolic shock of triglycerides, which results to an increased excess of the fat tissue in the body, being beyond the amount that is necessary for its normal functioning [1, 2]. The overweight misbalances the metabolism in general, the physiological function of organs by providing a shock of the general nature, including even the nervous system which is reflected in agony, depression, lack of interest, self-disparagement and up to aggression towards others and themselves [3, 4]. Recent studies show that there exists a gene that is directly related to obesity and this gene determines the production of the protein called leptin which is naturally higher in obese children and adults [5]. In obese children it is 4 times higher than in normal children [6]. Leptin through the encephalic centers gives the message of hunger or satiety according to the level of its production [7]. According to the researchers, this hormone is directly

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responsible for the rapid recovery of the lost kilograms after the loss of the weight [8]. The effect of this hormone in the normalization of weight has a time frame on both cases: that of the overweight or loss of the weight [9]. In the first case the effect is faster and this is a sound reason for the researchers to directly raise their attention on finding out the factors that determine the production of this hormone as many authors cite the successes in this direction are closely related to the effective fight against obesity [10].

METHOD

In the questionnaire, the parents and educators were asked mainly about the children condition/habit at different times like if they sleep with an open mouth, snore during the night, if child is sleepy or tired during the day etc. The children were also examined for tonsil hypertrophy and hypertrophy of adenoids. A pediatrician examined the children for any pulmonary obstruction. The ORL physician, pediatrician and biologist decided that the children who had

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difficulty in breathing were. OSAS(obstructive

RESULT AND DISCUSSION

It resulted that about 11% of the children belonging to the obese children group had difficulty on breathing during the night. There was also a difference regarding to their group age; the difficulties on breathing were seen more often to children of the age group of 5 - 9 years than those of 10 - 15 years old. The OSAS in the group of obese children is around 4%. It seen that about 6% of the children belonging to the control group have difficulties on breathing and 2% of them have OSAS. Objectively comparing the two groups of children that have difficulties, it was noted that the OSAS group had a remarkable adenotonsillar hypertrophy. On the groups that do not have OSAS and have difficulty on breathing, it was noted an adenotonsillar hypertrophy, but on the group of obese children there were 6 children who did not have adenotonsillar hypertrophy and meantime displayed

sleep apnea syndrome) was also searched in both groups. remarkable difficulties on breathing, indicating that obesity is an important factor in the development of the difficulty on breathing [11-22].

CONCLUSION

It was found that obesity is an important factor which directly affects the difficulty on breathing of children aged 4- 15 years. It was observed that the number of obese children with breathing difficulties is higher than in the control group. The ORL examination showed that out of the obese children with breathing difficulties about 2% of them does not have adenotonsillar hypertrophy. This shows that obesity is the direct cause of the difficulties on breathing and is due to the fat mass that obstructs the upper and lower respiratory system specially during the sleeping of these children.

REFERENCES

1. Bardsen A. (1999). Risk periods associated with the development of dental fluorosis in maxillary permanent central incisors, a meta-analysis. *Acta Odontol Scand*, 57, 247 - 56.
2. Head and neck surgery. BALLANGER, 2001.
3. Brennan D, Puzio A, Spencer A. (1993). Fluorosis and fluoride exposure in South Australian Children. Consensus Conference, Appropriate fluoride exposure for infants and children. Perth, Western Australia,
4. L. Brunetti R, Tesse L. (2010). Sleep Disordered Breathing in Obese Children, the Southern Italy. *Chest*.
5. Bardsen A, Bjorvatn K. (1998). Risk periods in the development of dental fluorosis. *Clin Oral Investig*, 2, 155 - 60.
6. Stephen KW. (1993). Dentifrices, recent clinical findings and implications for use. *Int Dent J*, 43, 549 - 53.
7. Danger of snoring in kids. Main Category, Obesity / Weight Loss / Fitness. 2003.
8. Gilmour WH, Macpherson LM, Merrett MC, Stephen KW, Stuart RA. (1999). A blind caries and fluorosis prevalence study of school-children in naturally fluoridated and non fluoridated townships of Moray shire, Scotland. *Community Dent Oral Epidemiol*, 30, 70 - 9.
9. Puzio A. (2000). Dental fluorosis, assessment of risk factors associated with fluoride exposure. MPH thesis. The University of Adelaide,
10. Holt RD, Williams BF, Winter GB. (1989). Clinical trial of low-fluoride toothpaste for young children. *Int Dent J*, 3, 227 - 35.
11. Kuczmarski RJ, Ogden CL, Grummer-Strawn LM, Flegal KM, Guo SS, Wei R, Mei Z, Curtin LR, Roche AF, Johnson CL. (2000). CDC growth charts: National Center for Health Statistics, Hyattsville, MD. *U S Adv Data from Vital and Health Stat*, 314, 1-27.
12. Story MT, Neumark-Stzainer DR, Sherwood NE, et al. (2002). Management of child and adolescent obesity: attitudes, barriers, skills, and training needs among health care professionals. *Pediatrics*, 110(1 Pt 2), 210-214.
13. Resnicow K, Davis R, Rollnick S. (2006). Motivational interviewing for pediatric obesity: Conceptual issues and evidence review. *J Am Diet Assoc.*, 106(12), 2024-2033.
14. Perrin EM, Flower KB, Garrett J, et al. (2005). Preventing and treating obesity: pediatricians' self-efficacy, barriers, resources, and advocacy. *Ambulatory Pediatrics*, 5(3), 150-156.
15. Gupta RS, Shuman S, Taveras EM, Kulldorff M, Finkelstein JA. (2005). Opportunities for health promotion education in child care. *Pediatrics*, 116(4), e499-505.
16. Taveras EM, LaPelle N, Gupta RS, Finkelstein JA. (2006). Planning for health promotion in low-income preschool child care settings: focus groups of parents and child care providers. *Ambul Pediatr*, 6(6), 342-346.
17. Davis H, Day C, Bidmead C. Working in partnership with parents: the parent advisor model: Harcourt assessment; 2002.
18. Schwartz RP, Hamre R, Dietz WH, et al. (2007). Office-based motivational interviewing to prevent childhood obesity: a feasibility study. *Arch Pediatr Adolesc Med.*, 161(5), 495-501.
19. Polacek M, Orr J, Letourneau L, et al. (2009). Impact of a primary care intervention on physician practice and patient and family behavior: keep ME Healthy-the Maine Youth Overweight Collaborative. *Pediatrics*, 123 Suppl 5, S258-266.



20. Chamberlin LA, Sherman SN, Jain A, et al. (2002). The challenge of preventing and treating obesity in low-income, preschool children: perceptions of WIC health care professionals. *Archives of Pediatrics & Adolescent Medicine*, 156(7), 662-668.
21. Murtagh J, Dixey R, Rudolf M.(2002). A qualitative investigation into the levers and barriers to weight loss in children: opinions of obese children. *Archives of Disease in Childhood*, 91(11), 920-923.
22. Fewtrell MS, Doherty C, Cole TJ, Stafford M, Hales CN, Lucas A. (2000). Effects of size at birth, gestational age and early growth in preterm infants on glucose and insulin concentrations at 9-12 years. *Diabetologia*, 43(6), 714-717

