56 - ANTHROPOMETRIC PROFILE OF GROUP OF CHILDREN AND YOUTH WITH HEARING DISABILITIES ASSISTED IN AN INSTITUTION OF REFERENCE MACAÉ, RIO DE JANEIRO

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INTRODUCTION

The magnitude of the hearing loss is growing every year and has drawn the attention of authorities worldwide. International research published between 1984 and 2007, with study period between the years 60 and 90, showed a high prevalence of hearing loss higher than 40 decibels (dB) in children. Population-based studies in Europe and the United States identified prevalence of approximately 0.1% of children with hearing loss in the same dB (CDC, 2009).

The World Health Organization (WHO) estimated that about 10% of the world population has hearing loss, so there are approximately 120 million people worldwide with hearing loss , Of which 8.7 million with the age between 0 and 19 years. They found that six out of every thousand children represent hearing loss at birth, and that one in a thousand becomes deaf before reaching adulthood (Help for Hearing Loss, 2004; Silva et al, 2007).

In 2005, WHO reported that about 278 million people worldwide had hearing loss, with prevalence in developing countries between 2.1% and 8.8% of hearing disability (WHO, 2008).

In Brazil, according to census data from the Brazilian Institute of Geography and Statistics (IBGE), in 2000, there were approximately six million hearing impaired, with an incidence of 3 patients per 1000 individuals. In children from 0 up to nine years the incidence was approximately 205,366 cases, detecting a predominance of the white race, followed by brown and black races (IBGE, 2000).

Hearing loss is the deficiency of difficult socialization, leading to greater difficulty in inclusion of the individual since it is the essential meaning for the acquisition and use of language (Pagliuca et al, 2007; França, 2004; Marazita et al, 1993), this could compromise other aspects of human growth and development if not detected early (Gondim et al, 2012).

In the process of human growth and development, the nutritional status is determined by adequate intake of energy and nutrients and the role of family is of paramount importance for the establishment of skill acquisition, among them the choices, consumption and food preferences that may interfere both positively and negatively on the nutritional status and health. Among the population groups found in modern society, the dietary deficiencies in children, particularly in developing countries, are malnutrition and obesity.

Worldwide, malnutrition is responsible for 11% of the global burden of disease, taking long-term to compromised nutritional status; 178 million children are underweight and 20 million suffer from most deadly form of severe acute malnutrition each year (EBI, 2010). By contrast, there has been in recent decades, worldwide, a significant increase in childhood obesity. In 2010, according to estimates from the World Health Organization, had on the planet 43 million children under 5 years overweight.

The estimates of obesity rates in developed countries doubled when compared to those observed in developing countries. As for the absolute numbers, the prevalence is much higher in developed countries. In developing countries there are about 35 million children overweight/obesity, in developed countries are 8 million (WHO, 2010).

In Brazil, there has also been a noticeable change in the nutritional profile of infant juvenile population over the last decades. The Family Budget Survey (POF) in 2008-2009 revealed in 2009, that one in three children aged 5 to 9 years were overweight. In 2008, excess weight reached 33.5% of children aged five to nine years, whereas 16.6% of the total boys were also obese; among girls, obesity appeared in 11.8%. In urban areas, excess weight was higher when compared to rural: 37.5% and 23.9% for boys and 33.9% and 24.6% for girls, respectively. The Southeast region showed the highest percentage of overweight in this age group, 40.3% of the boys and 38% of the girls (IBGE, 2010).

These data are for the national population there was, however, a breakdown by specific population groups, as for example those with special needs, among them the hearing impaired. Isolated studies in nutritional epidemiology on this topic are scarce and little publicized, with no specific studies that let identify nutritional risks among children in juvenile with hearing deficiency, limiting thus the professional decisions for this group.

In this perspective, the present study aimed to evaluate the anthropometric profile of children and adolescents with hearing deficiency in a reference institution in Macaé, Rio de Janeiro.

SUBJECTS AND METHODS

This is a cross-sectional study fulfilled with 23 children and hearing impaired adolescents observed at the Macaense Association of Deaf (AMADA) during the period August 2011 to August 2012. This association is located in the city of Macaé, belonging to the North Fluminense, having a total area of 1219.8 km², corresponding to 12.5% of the area of the North Fluminense. The population is approximately 200,000 inhabitants (169,513 Fixed and 50,000 floating and population density of 103.11 inhabitants per Km2 (City of Macaé, 2011).

Study participants were children and adolescents between 07 and 19 years 11 months 29 days of age that accepted and consented in writing through their legal guardian, after reading the Informed Consent and containing clarified explanations about the objectives of the study and procedures to be performed. It is respected all the rules and guidelines for studies involving being humans contained in Resolution 196/96, National Health Council/Ministry of Health.

The variables studied were: gender (male and female); age (years), height (meters), weight (kg), H/E; BMI by age.

In anthropometric evaluation it was measured weight and height by previously trained interviewers. The weight was obtained by electronic balance and portable Tanita with capacity up to 150kg and variation of 50g. The height will be obtained through anthropometer Alturaexata varying 0.1 cm. Students were weighed and measured with minimal clothing and no shoes. Measurements of height and weight were measured twice, taking the average. Considering the high precision of the electronic scale, the weight was measured only 1 time. With measurements of weight and height it was calculated Body Mass Index. The

methodology for anthropometric assessment was performed following the technique proposed by Gordon et al (1988).

The data were consolidated and analyzed by means of absolute and relative frequencies, measures of central tendency (average and standard deviation) and the minimum values are the maximum of selected variables, using Microsoft Excel 2010.

The project was submitted and approved by Ethics Committee of Research at the Faculty of Medicine Fields, under No. 065/11. All children received the results regarding their nutritional assessment and were advised to seek professional guidance if they presented any risk of health problem.

RESULTS AND DISCUSSION

The study evaluated 23 individuals, 73.9% adolescents and 26.1% children. Of the 17 adolescents assessed, 58.8% were male and 41.2% female. Of the 6 children evaluated, 50% were boys and 50% girls.

The average values, standard deviation, minimum and maximum selected variables of hearing impaired children and adolescents are presented in table 1. It was observed that the middle age (±SD) of children and adolescents were 7.52 ± 0.83 and 13.81±2.57 years, respectively. The middle (±SD) weight of children and adolescents were 30.23±12.52kg and 46.5±14.65kg, respectively. The middle (±SD) height of children and adolescents were 1.25±0.07 m and 1.56±0.15m, respectively. In the anthropometric evaluation, the average values (±SD) BMI by age of children and adolescents were 18.85±5.36 and 18.76 ±3.4kg.m2 respectively.

Table 1. Average, Standard Deviation, minimun and maximum values of selects variables of schoolchildren and teenagers hearing imparment assisted at the Macaense Association of Deaf (AMADA) during the period August 2011-2012.

Phases of the life cycle/ Variables	Avegare	SD	Minimum	Maximum
Schoolchildren (n=6)				
Age (years)	7.52	0.83	7.0	9.01
Weight (kg)	30.23	12.52	20.40	40.0
Height (m)	1.25	0.07	1.19	1.32
BMI by age	18.85	5.36	14.47	22.99
Teenagers (n=17)				
Age (years)	13.81	2.57	10.0	17.05
Weight (kg)	46.5	14.65	26.3	73.8
Height (m)	1.56	0.15	1.33	1.77
BMI by age	18.76	3.4	14.18	25.27

Figure 1 shows the percentage distribution the Body Mass Index of children by age and hearing impaired adolescents. The study revealed that 66.7% of students are normal weight and 33.3% obese. Of the adolescents, 94.1% are normal weight and 5.9% underweight.

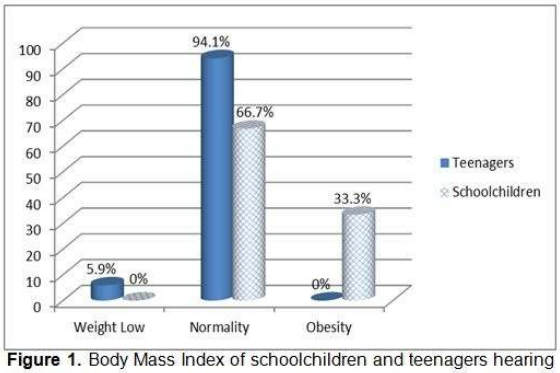

Figure 1. Body Mass Index of schoolchildren and teenagers hearing imparment assisted at the Macaense Association of Deaf (AMADA) during the period August 2011-2012.

Figure 2 shows the percentage distribution of height indicator by age of hearing impaired children and adolescents. The study revealed that 83.3% of the students were with height within the normal range and 16.7% with short stature. Among the adolescents, 94.1% were within normal height and 5.9% had short stature for his age.

The nutritional profile of children and teenagers in countries around the world is a subject of great interest for contributing to higher global burden of disease, represents a group of great biological vulnerability and reflects the percentage of chronic non communicable population in adulthood.

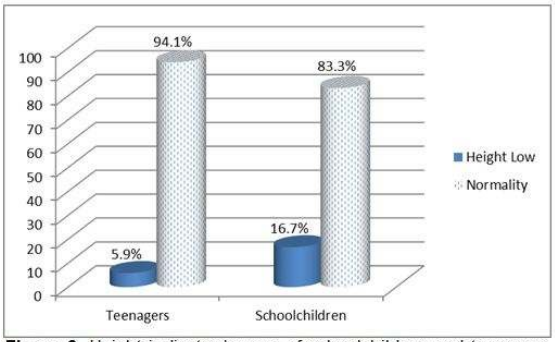

Figure 2. Height indicator by age of schoolchildren and teenagers hearing imparment assisted at the Macaense Association of Deaf (AMADA) during the period August 2011-2012.

Data from the Brazilian Institute of Geography and Statistics (IBGE, 2004) showed the prevalence of underweight in adolescents 7.3% in Brazil. As for the deficit of BMI by age, the prevalence was 3.7%, and to the southern region, the results were lower, 3.9% of underweight and 2.1%. The prevalence of overweight and obesity among adolescents were 12.3% overweight, 16.7% excess weight and 2.3% obesity. In the southern region, it was detected 13.6% of overweight, 22.6% of excess weight and 3.1% of obesity. The results of IBGE revealed that there was an obese boy for each 10 boys with overweight and an obese girl for each 5 girls with overweight (IBGE, 2004).

By comparing the data obtained in the study with those of the national population in 2008-2009, it was observed similar results for children as well as for teenagers. Data from the Family Budget Survey (POF) in 2008-2009 revealed that overweight and obesity in boys, between five and nine years, reached 34.8% and 16.6%, respectively. In girls, excess weight and obesity appeared in 32% and 11.8%, respectively. Among adolescents, the POF showed that overweight and obesity in boys were 21.7% and 5.9%, respectively, and among girls, 19.4% and 4%, respectively (IBGE, 2010).

According to POF 2008-2009, excess weight in children (5-9 years) has risen rapidly compared with the other age groups as well during the last 35 years, evidenced in population-based surveys: ENDEF, 1974-75; PNSN, 1989, and POF, 2002-2003. Malnutrition has already decreased in all age groups, however, still persisting in minor degrees – compared with the prevalence observed in previous research - among children in the North or in families with lower incomes (IBGE, 2010).

Regarding the indicator E/I, the POF 2008-2009 showed that 6.8% of children between five and nine years showed height deficit, being slightly higher in boys (7.2%) than girls (6.3%), tends to decrease with increasing age (IBGE, 2010).

CONCLUSION

It was concluded that 1/3 of children were obese. It is necessary to draw up intervention measures and develop new studies, to understand the nutritional profile of the group, studied for later, consider appropriate strategies, wide-ranging and that meet their real needs.

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REFERENCES

Centers for Disease Control and Prevent ion. 2006. EHDI hearing screening reports. Retrieved February 2, 2009. Disponível em: www.cdc.gov/ncbddd/ ehdi/data.htm. Acessado em 16/Ago/2012.

EBI. Infant and young child nutrition. 126th Session. EB126.R5. Agenda item 4.6 21. World Health Organization, 2010.

França, ISX. Formas de sociabilidade e instauração da auteridade: vivência dos portadores de deficiência [tese]. Fortaleza: Departamento de Enfermagem, Universidade Federal do Ceará; 2004.

Gordon, CC; Chumlea, WC; Roche, AF. Stature recumbent length and weight. In: Lohman, TG; Roche, AF; Martorell, R. Anthropometric standardization reference manual. Champain Illinois: Human Kinetics Books; 1998.p. 3-8.

Gondim, LMA et al. Estudo da prevalência e fatores determinantes da deficiência auditiva no município de Itajaí, SC. Braz. J. Otorhinolaryngol. [online]. 2012, vol.78, n.2, pp. 27-34.

Help for Hearing Loss (HHL). Medical aspects of hearing loss. http://www.hearinglossweb.com/Medical.Htm#deaf (acessado em 09/Ago/2004).

Instituto Brasileiro de Geografia e Estatística – IBGE, 2010. Antropometria e estado nutricional e crianças e adolescentes no Brasil. Pesquisa de Orçamento familiar – 2008-2009. Disponível em www.ibge.gov.br. Acessado em 15/08/2012.

Instituto Brasileiro de Geografia e Estatística – IBGE. Instituto Brasileiro de Geografia e Estatística. Censo de 2000 http://www.ibge.gov.br/home/presidencia/noticias/27062003censo.shtm#sub_indicadores. Acessado em 20/07/2011.

Instituto Brasileiro de Geografia e Estatística – IBGE, 2004. Pesquisa de orçamentos familiares 2002-2003: primeiros resultados: Brasil e grandes regiões/IBGE, Coordenação de Índices de Preços. Rio de Janeiro: IBGE, 2004. 276 p.

Marazita, MI; Ploughmam, LM; Rawlings, B; Remington, E; Arnos, KS; Nance, WE et al. Genetic epidemiological studies of early-onset deafness in the U.S. school-age population. Am J Med Genet 1993; 46:486-91.

Pagliuca, LMF; Fiúza, NLG; Rebouças, CBA. Aspectos da comunicação da enfermeira com o deficiente auditivo Rev. Esc Enferm USP, 2007; 41(3):411-8.

Prefeitura Municipal de Macaé. Dados. Disponível em: http://www.macae.rj.gov.br/conteudo.php?idCategoria=27 &idSub=27&idConteudo=37 Acessado em 14/01/11.

Silva, EJC; Llerena, Jr; JC; Cardoso, MHCA. Estudo seccional descritivo de crianças com deficiência auditiva atendidas no Instituto Nacional de Educação de Surdos, Rio de Janeiro, Brasil. Cad. Saúde Pública vol.23 N°3. Rio de Janeiro Mar. 2007.

World Health Organization (WHO). Population-based prevention strategies for childhood obesity: report of a WHO forum and technical meeting, Geneva, 15–17. December 2009. World Health Nutrition, 2010.

World Health Organization (WHO). Prevention of deafness and hearing impairment. Disponível em: http://www.who.int/pbd/deafness/ en/survey_countries.gif. Acesso em 12 de outubro de 2008.

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ANTHROPOMETRIC PROFILE OF GROUP OF CHILDREN AND YOUTH WITH HEARING DISABILITIES ASSISTED IN AN INSTITUTION OF REFERENCE MACAÉ, RIO DE JANEIRO

ABSTRACT

In young people, nutritional problems, especially in developing countries, such as malnutrition and obesity, stems, among others, changes in eating habits. This picture has been reflecting on the increased prevalence of chronic non-communicable diseases, particularly in adulthood. Currently, there are few published studies that identify nutritional risks in the population of children and adolescents with hearing impairment.The present study aimed to evaluate the anthropometric profile

of children and adolescents with hearing deficiency in a reference institution in Macaé, Rio de Janeiro. This is a cross-sectional study fulfilled with 23 children and hearing impaired adolescents, between 07 and 19 years 11 months 29 days of age, observed at the Macaense Association of Deaf (AMADA) during the period August 2011 to August 2012, that accepted and consented in writing through their legal guardian, after reading the Informed Consent and containing clarified explanations about the objectives of the study and procedures to be performed. Interviewers collected anthropometric measurements of weight and height, beyond age and gender. The anthropometric indicators used were H/A; BMI by age. The study evaluated 23 individuals, 73.9% adolescents and 26.1% children. In the anthropometric evaluation, the average values (± SD) BMI by age of children and adolescents were 18.85±5.36 and 18.76±3.4kg.m2 respectively. The study revealed that 83.3% of the students were with height within the normal range and 16.7% with short stature. Among the adolescents, 94.1% were within normal height and 5.9% had short stature for his age. It was concluded that 1/3 of children were obese. It is necessary to draw up intervention measures and develop new studies.

KEYWORDS: Deaf, Hearing Loss, Hearing impaired persons.

PROFIL ANTHROPOMÉTRIQUE DES ENFANTS ET LES ADOLESCENTS DEFICIENTS AUDITIFS AVEC ASSISTANCE DANS UN ÉTABLISSEMENT DE RÉFÉRENCE DANS MACAÉ, RIO DE JANEIRO

RÉSUMÉ

Chez les jeunes, les problèmes nutritionnels, en particulier dans les pays en développement, tels que la malnutrition et de l'obésité, les tiges, entre autres, les changements dans les habitudes alimentaires. Cette image a été la réflexion sur la prévalence accrue des maladies chroniques non transmissibles chroniques, en particulier à l'âge adulte. Actuellement, il existe peu d'études publiées qui permettent d'identifier les risques nutritionnels dans la population des enfants et adolescents déficients auditifs impairment.The présente étude visait à évaluer le profil anthropométrique des enfants et des adolescents atteints de déficience auditive dans une institution de référence dans Macaé, Rio de Janeiro. Il s'agit d'une étude transversale rempli avec 23 enfants et adolescents déficients auditifs, entre 07 et 19 ans 11 mois 29 jours d'âge, observés à l'Association des Sourds du Macaense (AMADA) au cours de la période Août 2011 to Août 2012, qui a accepté et consenti par écrit par leur tuteur légal, après avoir lu le consentement éclairé et contenant des explications précisé sur les objectifs de l'étude et les procédures à effectuer. Les intervieweurs ont recueilli des mesures anthropométriques de poids et de taille, au-delà de l'âge et du sexe. Les indicateurs anthropométriques utilisées étaient T/A; IMC selon l'âge. L'étude a évalué 23 personnes, 73,9% des adolescents et 26,1% des enfants. Dans l'évaluation anthropométrique, les valeurs moyennes (± écart-type) IMC selon l'âge des enfants et des adolescents ont été 18,85 ± 5,36 et 18,76 ± 3.4kg.m2 respectivement. L'étude a révélé que 83,3% des élèves étaient en hauteur dans la gamme normale et de 16,7% avec une petite taille. Parmi les adolescents, 94,1% étaient dans une taille normale et 5,9% avaient une petite taille pour son âge. Il a été conclu que 1/3 des enfants étaient obèses. Il est nécessaire d'élaborer des mesures d'intervention et de développer de nouvelles études.

MOTS-CLÉS: Surdité, La Perte Auditive, Les Personnes Malentendantes.

PERFIL ANTROPOMÉTRICO DE NIÑOS Y ADOLESCENTES CON DEFICIÊNCIA AUDITIVA EN UNA INSTITUCIÓN DE REFERENCIA DEL NORTE FLUMINENSE, RIO DE JANEIRO

RESUMEN

En los jóvenes, los problemas nutricionales, especialmente en los países en vías de desarrollo, como la desnutrición y la obesidad, los tallos, entre otros, cambios en los hábitos alimenticios. Este cuadro ha estado reflexionando sobre el aumento de la prevalencia de enfermedades crónicas no transmisibles, en particular en la edad adulta. En la actualidad, son pocos los estudios publicados que identifiquen los riesgos nutricionales en la población de niños y adolescentes con sordera impairment. The estudio tuvo como objetivo evaluar el perfil antropométrico de los niños y adolescentes con deficiencia auditiva en una institución de referencia en Macaé, Rio de Janeiro. Se trata de un estudio transversal cumplido con 23 niños y adolescentes con deficiencias auditivas, entre 07 y 19 años 11 meses 29 días de edad, observados en el Macaense Asociación de Sordos (AMADA) durante el período de agosto 2011 a agosto 2012, que aceptó y dado su consentimiento por escrito a través de su representante legal, después de leer el consentimiento informado y que contiene explicaciones aclararon sobre los objetivos del estudio y los procedimientos que se realizan. Los entrevistadores recogieron las mediciones antropométricas de peso y talla, más allá de la edad y el género. Los indicadores antropométricos utilizados fueron T/E, Índice de Masa Corporal por Edad (IMC). El estudio evaluó a 23 personas, adolescentes 73,9% y 26,1% niños. En la evaluación antropométrica, los valores medios (±DE) de IMC por edad de los niños y adolescentes fueron 18,85 ± 5,36 y 18,76 ± 3.4kg.m2, respectivamente. El estudio reveló que el 83,3% de los estudiantes eran de talla dentro del rango normal y el 16,7% con baja talla. Entre los adolescentes, el 94,1% estaban dentro de altura normal y el 5,9% tenían baja talla para su edad. Se concluyó que 1/3 de los niños eran obesos. Es necesario establecer medidas de intervención y desarrollar nuevos estudios.

PALABRAS CLAVE: Sordera, Pérdida auditiva, Personas con deficiencia auditiva.

PERFIL ANTROPOMÉTRICO DE UM GRUPO INFANTO JUVENIL COM DEFICIÊNCIA AUDITIVA ASSISTIDO EM UMA INSTITUIÇÃO DE REFERÊNCIA EM MACAÉ, RÍO DE JANEIRO

RESUMO

Na população infanto juvenil, problemas nutricionais, especialmente nos países em desenvolvimento, como a desnutrição e a obesidade, advém, entre outros, de mudanças nos hábitos alimentares. Esse quadro vem refletindo na prevalência aumentada de doenças crônico não transmissíveis, principalmente na fase adulta. Atualmente, há poucos estudos publicados que identifiquem riscos nutricionais na população de crianças e adolescentes com deficiência auditiva. O presente estudo objetivou identificar o perfil antropométrico de um grupo infanto juvenil com deficiência auditiva de uma Instituição de Referência em Macaé, Rio de Janeiro. Realizou-se um estudo seccional, descritivo e base primária, com crianças e adolescentes, entre 7 e 19,9 anos, assistidos na Associação Macaense do Deficiente Auditivo (AMADA), localizada na cidade de Macaé, Rio de Janeiro. Estudantes de graduação, previamente treinados, coletaram as medidas antropométricas de estatura e peso além das variáveis idade e gênero. Os indicadores antropométricos calculados foram: Estatura/Idade (E/I) e Índice de Massa Corporal (IMC) por idade. Os dados foram digitados e analisados utilizando-se o software Microsoft Excel 2010. Dos 23 participantes do estudo, 73,9% eram adolescentes e 26,1% escolares. Na avaliação antropométrica, os valores de IMC segundo idade médio(±DP) dos escolares e dos adolescentes foram 18,85±5,36 e 18,76±3,4 Kg.m2, respectivamente. O estudo revelou que 33,3% dos escolares apresentaram obesidade e 5,9% dos adolescentes baixo peso. Conclui-se que 1/3 dos escolares está com obesidade, sendo necessário criar medidas de intervenção para esse grupo específico.

PALAVRAS-CHAVE: Surdez, Perda auditiva, Pessoas com insuficiência auditiva.