DIETARY HABITS, PHYSICAL EXERCISE AND NUTRITIONAL STATUS OF CAREGIVERS OF OVERWEIGHT CHILDREN AND ADOLESCENTS*

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ABSTRACT: The objective of this study was to assess the nutritional status and dietary and physical exercise habits of caregivers of overweight children and adolescents in multidisciplinary care. An exploratory, descriptive, cross-sectional and quantitative study with a sample of 109 caregivers of children and adolescents assisted in the Center for Childhood Obesity, Campina Grande, Paraíba, Brazil. A structured questionnaire was applied from February to April 2011. The results showed that 74.3% of caregivers were overweight. The physical activity was considered mostly inappropriately and diet was classified as regular. The habit of eating fried foods, biscuits and pasta was considered bad. It was noted that the dietary and physical activity habits were inappropriate. The nutritional status and dietary and physical exercise practices may reflect in the nutritional status of children and adolescents in treatment, suggesting the inclusion of caregivers and family members in the nursing care.
DESCRIPTORS: Overweight; Obesity; Child; Adolescent; Nursing.

HÁBITOS ALIMENTARES, DE ATIVIDADE FÍSICA E ESTADO NUTRICIONAL DE CUIDADORES DE CRIANÇAS E ADOLESCENTES COM EXCESSO DE PESO

RESUMO: O objetivo deste estudo foi analisar o estado nutricional e hábitos alimentares e de atividade física de cuidadores de crianças e adolescentes com excesso de peso em acompanhamento multidisciplinar. Estudo exploratório, descritivo, transversal e abordagem quantitativa com amostra de 109 cuidadores de crianças e adolescentes em atendimento no Centro de Obesidade Infantil, Campina Grande, Paraíba, Brasil. Aplicou-se questionário estruturado entre fevereiro e abril de 2011. Os resultados evidenciaram 74,3% dos responsáveis com excesso de peso. A prática de atividade física foi considerada, em sua maioria, de forma imprópria e a alimentação classificada como regular. O hábito de comer frituras, biscoito e massas foi considerado ruim. Percebeu-se que os hábitos alimentares e de atividade física foram identificados como inadequados. O estado nutricional e as práticas alimentares e de atividade física podem refletir no estado nutricional das crianças e adolescentes em tratamento, por isso sugere-se que o atendimento de enfermagem envolva cuidadores e familiares.
DESCRITORES: Sobrepeso; Obesidade; Criança; Adolescente; Enfermagem.

HÁBITOS ALIMENTARES, DE ACTIVIDAD FÍSICA Y ESTADO NUTRICIONAL DE CUIDADORES DE NIÑOS Y ADOLESCENTES CON EXCESO DE PESO

RESUMEN: El objetivo de este estudio fue analizar el estado nutricional y hábitos alimentares y de actividad física de cuidadores de niños y adolescentes con exceso de peso en acompañamiento multidisciplinar. Estudio exploratorio, descriptivo, transversal y de abordaje cuantitativo con muestra de 109 cuidadores de niños e adolescentes en atendimiento en el Centro de Obesidad Infantil, Campina Grande, Paraíba, Brasil. Se aplicó cuestionario estructurado entre febrero y abril de 2011. Los resultados evidenciaron 74,3% de los responsables con exceso de peso. La práctica de actividad física fue considerada, en mayoría, de forma impropia y la alimentación clasificada como regular. El hábito de comer frituras, biscocho y pasta fue considerado malo. Se percibió que los hábitos alimentares y de actividad física fueron identificados como inadecuados. El estado nutricional y las prácticas alimentares y de actividad física puenden reflectar en el estado nutricional de los niños y adolescentes en tratamiento, por eso se sugiere que el atendimiento de enfermería involucre cuidadores y familiares.
DESCRIPTORES: Sobrepeso; Obesidad; Niño; Adolescente; Enfermería.

*Article extracted from the Master's thesis entitled "Cardiovascular risk factors and conditions associated with the follow-up of obese or overweight children and adolescents in a reference center". Universidade de Pernambuco/Universidade Estadual da Paraíba, 2011.

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Received: 01/02/2014
Finalized: 21/10/2014

INTRODUCTION

Overweight figures among the health issues affecting children and adolescents. Multifactorial in origin, it can be characterized by excessive accumulation of adipose tissue related to the imbalance between intake and energy expenditure[1] and may be associated with other problems, such as cardiovascular disease, hypertension, diabetes, some types of neoplasia and mental illnesses such as depression and anxiety[2].

The causes of obesity are preventable; however, obesity is the most increasing condition in the world. In Brazil, according to data from the National Survey of Scholar' Health, overweight is present in 16% of adolescents with age ranging from 13-15 years old and obesity in 7.2%[3]. In children, rates of 33.5% of overweight were identified. Data from the last 20 years indicate that the percentage of overweight boys has more than doubled and, in girls, the rate almost tripled[4].

In order to provide support for integral attention to overweight family, in 2002 the Ministry of Health launched the child growth and development manual, with the aim of improving and monitoring nutritional status, including: low weight and overweight[5]. Added to this, in 2007, the School Health Program was established with health interventions for children and adolescents, developed together with the public basic education network and comprising nutritional assessment among other activities[6].

Therefore, the concern and the investment of the Ministry of Health of Brazil is noted in the prevention and monitoring of children and adolescents with nutritional disorders. This increasing prevalence of overweight among young people is related mainly to sedentary leisure activities, inappropriate dietary practices and genetic factors[1].

At this point, it is worth highlighting the family's influence on the nutritional status of children and adolescents, since it has been more related to shared habits than genetic heritage. Individuals of the same family share ideological and cultural factors that influence the formation of dietary habits, perception of hunger, appetite and satiety[7].

A study pointed out the probable influence of the family component on the risk of child and adolescent obesity, since the children depend on the choices of their parents and family members regarding the purchase and method of preparation of food, dietary habits and incentives for physical activity practices[8].

Thus, it is relevant to identify the family influence on the nutritional status of young people, with a view to identifying determinants of overweight. This fact may facilitate the work of nurses, since this professional is part of the multidisciplinary team responsible for prevention and treatment of overweight in the youth population. It is noteworthy that assisting these clients means not only enumerating behaviors, but also understanding their social and family context[2].

This research is justified by addressing a current topic, which is inserted in the public policy priorities of the country, especially those related to the Health Promotion Policy. In this context, health promotion is the action that goes beyond the incentive to healthy practices and activities offered by health services, and promotes the inclusion of the whole society in the health/disease process. Accordingly, a co-responsibility of families and health professionals is expected to transform the environment these children are inserted in and their particular health needs[9].

Accordingly, this study aimed to provide information to improve nursing actions towards this clientele and health promotion. It also intended to incite reflections on the role of the nurse in the process of organizing and planning their care with a more comprehensive overview when considering the influence of the family component in the outcome of overweight children and adolescents.

Based on this assumption, we aimed to analyze the nutritional status and dietary and physical activity habits of caregivers of overweight children and adolescents in multidisciplinary treatment.

METHOD

This is an exploratory and descriptive study, with cross-sectional design and quantitative analysis, performed in a health care facility located in a city of the state of Paraíba, Brazil, the Center for Childhood Obesity (CCO), which is a reference in the treatment of overweight children and adolescents. This research is part of a study

carried out in Campina Grande/Paraíba, Brazil, in the period ranging from November to April 2011, which followed up, during one year, an interdisciplinary treatment of overweight children and adolescents registered in the CCO, including the investigation of the habits of their caregivers.

Caregivers were considered as those who were older than 18 years, who often took the child/adolescent to the CCO for care or who were responsible for the patient at home most of the time. These guardians answered the questionnaire proposed in the survey. As stated in the Statute of Children and Adolescents, children are considered as individuals under 11, and adolescents as individuals between 12 and 18 years old[10].

The sampling process followed an accidental method and the sample consisted of 109 caregivers of overweight children and adolescents aged between three and 19 years old. The caregivers were recruited upon registration at the CCO. A structured questionnaire was applied to the caregivers of the children and adolescents, addressing the nutritional status and habits of the adults. The instrument addressed behaviors and changes the family acquired after admission of the patient to the CCO.

The study variables were: Body Mass Index (BMI); hours a day of physical exercise; habit of eating breakfast; conception of the caregivers on the classification of the diet as excellent, good, regular or poor; availability to change physical activity and diet as support in the treatment of child/adolescent; changes in dietary habits at home after insertion in the treatment for overweight and dietary profile.

After answering the questionnaire, anthropometric data (weight and height) were collected, being measured separately by two examiners and considering the average of the two measurements. A platform type digital scale Welmy®, with a capacity of 150 kg and an accuracy of 0.1 kg was used for weight measurements. Height was measured using a stadiometer Tonelli®, with an accuracy of 0.1 cm. The measurement was performed with the subject wearing light clothing.

BMI was calculated for classification of nutritional status as recommended by the CDC (2000), which defines the following categories: severe obesity (BMI ≥ 97th percentile), obese (95th percentile ≥ BMI < 97) and overweight (85≥BMI<95)[11].

The physical activity was measured by the amount of hours of aerobic activity throughout the week (regular physical exercise, competitive, individual or collective). Sedentary habit was considered as not practicing a minimum of 150 minutes during the week[12].

The food consumption of the caregivers was classified as recommended, acceptable and bad. The protector foods and their consumption five or more days per week were considered as recommended; acceptable, four days a week and bad under four days. Regarding risk foods, its consumption from zero to once a week was considered as recommended; acceptable twice and bad three or more times per week[13].

Data were entered in duplicate in a spreadsheet. We used the SPSS software version 17.0 for descriptive analysis by absolute and relative frequency of the studied variables.

The study protocol was previously approved by the Ethics and Research Committee of the State University of Paraíba under protocol 0040.0.133.000-08, according to Resolution 196/96 of the National Health Council, in force at the time of the study. The caregivers signed an Informed Consent Form.

RESULTS

According to the survey data, 109 guardians, caregivers of outpatients, were predominantly mothers. Regarding economic conditions, most had a family income between one and two minimum wages. In the study population, 64.2% survived with two or fewer wages (Table 1).

Tables 2 and 3 reflect the habits and nutritional status of the caregivers of patients assisted in the outpatient clinic. Most presented BMI indices characteristic of overweight and obese/severe obesity. Concerning physical activity, the majority had no activity and, among those who performed some activity, the frequency of this practice was 1-2 times per week.

Regarding food consumption, the subjects classified themselves as good. Most of them claimed to have changed the dietary habits of the family together with the child or adolescent treated. However, ¼ of them said they still had

Tabla 1 - Sociodemographic characteristics of caregivers of children and adolescents registered at the Center for Childhood Obesity. Campina Grande/PB, 2010-2011 (n = 109)

Caregivers	n	%
Mother	89	81,6
Father	06	5,5
Other	11	10,1
Do not know	03	2,8
Family income (FI*)		
1/4 a 1/2	07	6,4
1/2 a 1	20	18,3
1 a 2	43	39,5
2 a 5	34	31,2
> 5	04	3,7
Unable to inform	01	0,9

*Minimum Wage in 2011. Value of R$ 545.00.

difficulty to change dietary and physical activity practices.

The reports about eating fried foods, biscuits and pasta were considered predominantly as bad and sodas were present in half of the population, being consumed in an acceptable manner. Moreover, a good consumption of fruits and vegetables was identified (Table 3).

Table 2 - Nutritional status and habits of caregivers of children and adolescents registered at the Center for Childhood Obesity. Campina Grande/PB, 2010-2011 (n = 109)

Body Mass Index	n	%
Severe obesity	19	17,5
Obese	28	25,7
Overweight	36	33
Eutrophic	26	23,8
Physical activity (hours/day)		
None	83	76,2
1-2	21	19,3
3-4	01	0,9
5-6	00	0
> 6	02	1,8
Do not know	02	1,8
Habit to have breakfast		
Never	02	1,8
Rarely	02	1,8
Occasionally	11	10,1
Always	92	84,5
Unable to inform	02	1,8
How do you rate your nutrition		
Excellent	08	7,3
Good	52	47,8
Fair	33	30,3
Bad	14	12,8
Not informed	02	1,8
Would change feeding to help the patient		
Yes, without difficulty	79	72,5
Yes, with difficulty	27	24,8
No	01	0,9
Unable to inform	02	1,8
Would change the habit of physical activity to help the patient		
Yes, without difficulty	74	67,9
Yes, with difficulty	31	28,5
No	02	1,8
Unable to inform	02	1,8
There were changes in the habits at home?		
No	17	15,5
Yes	66	60,6
Little	26	23,9

Table 3 – Dietary profile of caregivers of children and adolescents registered at the Center for Childhood Obesity. Campina Grande/PB, 2010-2011

Fruits	**n**	**%**
Recommended	57	52,3
Acceptable	04	3,7
Bad	48	44
Vegetables		
Recommended	69	63,3
Acceptable	05	4,6
Bad	35	32,1
Fried Food		
Recommended	23	21,1
Acceptable	40	36,7
Bad	46	42,2
Candies		
Recommended	50	45,9
Acceptable	30	27,5
Bad	29	26,6
Biscuit		
Recommended	39	35,8
Acceptable	21	19,2
Bad	49	45
Pasta		
Recommended	16	14,7
Acceptable	30	27,5
Bad	63	57,8
Soft drink		
Recommended	33	30,3
Acceptable	58	53,2
Bad	18	16,5

DISCUSSION

In the present study, most caregivers were classified as low income. The parents' low income may be related to the acquisition of high-calorie foods, which produce greater satiety at a low cost and influence overweight in the whole family. It is necessary to develop new studies to further investigate these data[14].

It is important in nursing to identify the family context, which influences the health/disease process. From this observation, it is possible to identify families with appropriate or inappropriate balance and functions, which can help to prevent or develop diseases. Family structure establishes and maintains rules for juvenile feeding practices[15].

To address the problem of overweight, it is necessary to move beyond nutrition issues. The results indicated that physical activity was lower than recommended by the Ministry of Health[12]. Most did not practice any physical activity. This is worrisome, because to avoid excesses, it is necessary to encourage physical activity of children/adolescents and their caregivers[16].

On the other hand, the caregivers said they had some habits that were considered as positive, for example, the majority had the habit of eating breakfast daily and more than half had changed the family dietary habits according to the guidelines of health professionals, to assist in the treatment of the children and adolescents.

In addition, positive results were observed regarding the consumption of fruits, vegetables, sweets and soft drinks. However, the habit of eating fried foods, biscuits and pasta was considered bad. Consequently, it has become evident that, when the children/adolescents live with a daily offering of high-calorie foods at home and at school, it is more difficult to maintain the weight loss goal. The inclusion of health professionals, especially nurses, in educational centers is important, where they are able to perform various actions, in a continuous and permanent manner, with children, adolescents, parents or caregivers and employees of the establishment, focused on the detection of the health problems, actions to promote health and prevention of diseases and complications[17].

Regarding the nutritional status of caregivers, it was found that more than half had overweight

problems, 33% were overweight and 25.7% obese. A systematic review stated that the causes and factors triggering childhood obesity are many, including heredity and family environment, which were named as potential context factors involved in child obesity(17). Another study concluded that the weight of the parents influences their children. For example, obese mothers exert greater control on consumption of their children, thereby linking the BMI of children to that of their parents[15].

Therefore, it is suggested that nurses, as health promoters and active agents in the treatment of overweight, interact with the caregivers in order to understand their knowledge about the consequences of this problem in children and adolescents, identifying the view on the nutritional status of the children through a qualified perspective. It should also be clarified that the treatment is a slow process and requires the involvement of the entire family[16].

Caregivers should be alert to the activities of everyday life, such as supermarket shopping, showing and encouraging the purchase of fruits and vegetables, offering a variety of food and monitoring weight and height of the child/adolescent periodically[7].

To the nurses, as part of the multidisciplinary team in serving this clientele, the following has been suggested: spend time to answer questions of patients or caregivers; listen to fears, anxieties and goals of both; provide guidance regarding the consumption of food that is healthy, less expensive and compatible with the economic conditions of the family; and encourage patient and family to practice physical exercise[18].

CONCLUSION

Most caregivers of overweight children and adolescents who were monitored at the referral service presented overweight nutritional status and said they often consume unhealthy foods and practice little physical exercise.

Therefore, a nutritional profile and habits were identified in the caregivers that could negatively influence the treatment of overweight children and adolescents. It is suggested that nurses should consider health actions involving the family, so that the incentive to healthy habits and monitoring of nutritional status includes not only the overweight child and adolescent.

One limitation has been the fact that the study was cross-sectional, which prevented the inference of causality. Therefore, the development of new studies with longer monitoring periods is suggested in order to clarify the multiple causes of obesity, such as analysis of genetic, behavioral, and socioeconomic influences.

REFERENCES

1. Hernandes F, Valentini MP. Obesidade: causas e consequências em crianças e adolescentes. Revista da Faculdade de Educação Física da UNICAMP. 2010;8(3). [acesso em: 23 ago 2014]. Disponível em: http://fefnet178.fef.unicamp.br/ojs/index.php/fef/article/view/576/379

2. Leal VS, Lira PIC, Oliveira JS, Menezes RCE, Sequeira LAS, Arruda Neto MA, et al. Excesso de peso em crianças e adolescentes no Estado de Pernambuco, Brasil: prevalência e determinantes. Cad. saude publica. [Internet] 2012; 28(6). [acesso em: 17 mai 2014] Disponível em: http://dx.doi.org/10.1590/S0102-311X2008000500006

3. Ministério da Saúde (BR). Pesquisa Nacional de Saúde do Escolar (PENSE). Rio de Janeiro: IBGE; 2009.

4. Ministério do Planejamento, Orçamento e Gestão (BR). Pesquisa de Orçamentos Familiares (POF) 2008-2009: despesas, rendimentos e condições de vida. Rio de Janeiro: IBGE; 2010.

5. Ministério da Saúde (BR). Secretaria de Políticas de Saúde. Saúde da criança: acompanhamento do crescimento e desenvolvimento infantil. Brasília: Ministério da Saúde; 2002.

6. Ministério da Saúde (BR). Política Nacional de Alimentação e Nutrição. Série B. Textos Básicos de Saúde. Brasília: Ministério da Saúde; 2008.

7. Camargo APPM, Barros FAA, Antonio MARGM, Giglio JS. A não percepção da obesidade pode ser um obstáculo no papel das mães de cuidar de seus filhos. Ciênc. saúde coletiva [Internet]. 2013;18(2). [acesso em: 06 jan 2014]. Disponível em: http://dx.doi.org/10.1590/S1413-81232013000200004

8. Silveira A, Jansen A, Norton R, Silva, G, Whyte P. Efeito do atendimento multidisciplinar na modificação dos hábitos alimentares e antropometria de crianças e adolescentes com excesso de peso. Rev Med Minas Gerais [Internet]. 2010;20 (3). [acesso em: 23 ago 2014]. Disponível em: http://www.medicina.ufmg.br/rmmg/index.php/rmmg/article/viewFile/265/248

9. Pilar ACA, Andrade M. Promoção da Saúde: uma reflexão sobre o papel do enfermeiro. Informe-se em promoção da saúde. 2011;7(1):5-8.

10. Brasil. Lei n. 8.069, de 13 de julho de 1990. Dispõe sobre o Estatuto da Criança e do Adolescente. Diário Oficial da República Federativa do Brasil, Brasília, 16 jul. 1990, p.13563.

11. Centers for Diseases Control and Prevention (CDC). Table for calculated body mass index values for selected heghts and weights for ages 2 to 20 years. Estados Unidos: National Center for Health Statistc and National Center for Chronic Disease Prevention and Health Promotion; c2000.

12. WHO - World Health Organization. Obesity and overweight: Global strategy on diet, physical activity and healthy [Internet]. Geneva; 2009. [acesso em: 16 nov 2013]. Disponível em: www.who.int/dietphysicalactivity/media/en/gsfs_obesity.pdf

13. Ministério da Saúde (BR). Vigilância de Fatores de Risco e Proteção para Doenças Crônicas por Inquérito Telefônico - VIGITEL [Internet]. Brasília; 2010 [acesso em: 02 set 2013]. Disponível: http://portal.saude.gov.br/portal/arquivos/pdf/vigitel_180411.pdf

14. Koehnlein EA, Salado GA, Yamada AN. Adesão à reeducação alimentar para perda de peso: determinantes, resultados e a percepção do paciente. Rev Bras Nutr Clin. 2008;23(1) [acesso em: 17 mai 2014]. Disponível: http://saudeemovimento.net.br/wp-content/uploads/bsk-pdf-manager/10_2014-07-05.PDF

15. Costa FS, Daisy LDP, Friedman R. Caregivers attitudes and practices: influence on childhood body weight. J. biosoc. sci. [Internet] 2011;43. [acesso em: 23 ago 2014]. Disponível em: http://diabetesendocrinologia.org.br/pdfs_abril_11/Costa+et+al+ JBS+2011.pdf

16. Souza MHN, Silveira GS, Pinto AFS, Sodré VRD, Ghelman LG. Avaliação do estado nutricional e da saúde de crianças e adolescentes na prática assistencial do enfermeiro. Cogitare enferm. [Internet]. 2013;18(1). [acesso em: 17 mai 2014] Disponível: http://ojs.c3sl.ufpr.br/ojs/index.php/cogitare/article/viewFile/28926/20010

17. Rocha RM, Soares RS, Silva JLL, Lima JL, Valente C, Soraia G. Prevalence of obesity in children introduced in the elementary school: systematic review. Rev enferm UFPE on line. 2013;7(3):849-56.

18. Sarti TD, Campos CEA, Zandonade E, Ruschi GEC, Maciel ELN. Avaliação das ações de planejamento em saúde empreendidas por equipes de saúde da família. Cad. saude publica. [Internet]. 2012;28(3). [acesso em: 10 mar 2014] Disponível em: http://dx.doi.org/10.1590/S0102-311X2012000300014