99 - PREVALENCE OF CARDIOVASCULAR RISK FACTORS AMONG ADOLESCENTS UNIVERSITY STUDENTS

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INTRODUCTION

Cardiovascular diseases are a serious public health problem in Brazil and at the World, being the leading cause of death, accounting for approximately 15 million deaths each year. They represent the highest costs in medical care according to the World Health Organization (WHO) (GUS et al, 2002; SIMÃO et al, 2008).

Nowadays, adolescents are the target of studies around the world, because they have high rates of risky behavior, such as the decrease in the habit of regular physical activity, irregular eating habits and psychological disorders, in addition, have argued that physical activity habits in adolescence are determinant of levels of physical activity in adulthood (OEHLSCHLAEGER et al 2004).

The adolescent and young adult transit through peculiar biopsychosocial instabilities during this period, and on entering the university are offered new social relations and thus adoption of new behaviors, all these changes make individuals vulnerable to health risk behaviors (VIEIRA, ET AL 2002). Considering that adolescence is a period of extremely easy to incorporate new habits in lifestyle, the early detection of risk factors for health care becomes necessary, in order to implement an effective intervention strategy (VASCONCELOS et al, 2008). Hence the importance of this first step, which is the early identification of determinants of risk behaviors (NOBRE et al, 2006), because of this healthy habits can be the key for the control of these diseases and to change bad health habits, when they are already installed in adulthood are a difficult objective to achieve due the poor adhesion of target population (MENDES et al, 2006).

Based on these assumptions, the purpose of this study was to determine the prevalence of cardiovascular risk factors in young students.

METHODS

This is characterized as a cross-sectional study developed with 300 adolescents university students enrolled at the first year of graduation from courses of different areas offered in a public higher education institution in the city of Maringá - PR.

Data collection was conducted in February and March 2011, by applying appropriate instruments of questionnaires have been tested and validated in previous studies conducted in Brazil, containing open and closed questions directed research on socio-demographic and economic , physical activity, smoking, alcohol consumption, blood pressure and diabetes. Data were collected in the classroom, and this time the researchers measured the height, weight, abdominal circumference (AC) and blood pressure.

The BMI calculation occurred from the equation/; BMI = weight (Kg)/ heigh². The BMI cutoff points used were those recommended by the World Health Organization (WHO, 2000) and was considered obesity BMI> 30kg/m². The body mass (in kilograms) was determined in a portable digital anthropometric scale (maximum capacity of 150 kg and precision of 100 grams). To determine the height (in meters) was used anthropometric tape. Central obesity was determined by abdominal circumference greater than 102 cm to 88 cm for boys and girls. (SOCIEDADE BRASILEIRA DE CARDIOLOGIA, 2005). The measurement was realized in the middle point among back and iliac point using a tape.

Blood pressure was measured with the use of aneroid sphygmomanometer and following the recommendations of the VI Brazilian Guidelines for Hypertension and was considered high when systolic blood pressure (SBP) was equal to or greater than 140 mmHg and diastolic (DBP) less than 90mmHg (SOCIEDADE BRASILEIRA DE CARDIOLOGIA, 2010).

To assess the variable of physical activity were classified as sedentary individuals who referred perform physical activity at least three times a week and for at least 45 minutes.

Statistical analysis was performed in the statistical program Statistic 8.0. The descriptive analysis included measures of central tendency and dispersion (mean and standard deviation) than the absolute and relative frequency of variables. Were used the Chi-square and Fischer's Exact Test to assess the association of the variables among genders.

The development of the study was conducted in accordance with the ethical precepts and was respected the Resolution196/96 of the National Health Council, and the project has been approved by the Standing Committee on Ethics in Human Research (COPEP) of the Universidade Estadual de Maringá, notion 034/2011. The term of informed consent (IC) was signed in duplicate and under-age participants was asked to sign the responsible for it.

RESULTS AND DICUSSION

Were interviewed 300 students being 203 (67.6%) female. The group age very of 16 to 19 years, with mean age of 17.98 ± 0.80 years. The majority (76.33%) was white, 43.71% belong to B1 class according to economic classification of the Brazilian Association of Research Companies (2011). The students were enrolled at the following courses; Animal Science (15.66%), Pharmacy (10.66%), Nursing (10.33%), Architecture (6.33%), Chemicals (9.66%), Dentistry (11 %), Physical Education (13%), Biology(10%), Agriculture (5%) and Psychology (7%).

Regarding the anthropometric and blood pressure observed in Table 1 that boys had higher mean values girls, except for BMI. A result which may have been influenced by the measurement of height of the girls, that is lower than in boys, whereas the average weight of boys is bigger. These difference among genders were also identified in another study realized with adolescents of the city of São Mateus do Sul – PR. (VASCONCELOS et al, 2008)

Table 1. Anthropometric and blood pressure characteristics of the university students. Maringá, 2011.

Variables	Female (n=203)	Male (n=97)
Weight (kg)	61,54±13,17	66,45±15,23
Height (cm)	164,69±7,51	176,11±10,17
BMI (kg/m2)	23,18±7,31	22,34±9,24
AC (cm)	80,09±8,53	84,95±7,80
SBP (mmHg)	107,55±10,31	118,41±14,34
DBP (mmHg)	69,00± 8,63	73,07±13,29

The mean values for CA for boys and girls are within the accepted standards. However, if is considered the standard deviation funded on the girls group (79.98 ± 8.42) noted that a considerable proportion of them is classified as presenting central obesity. It was observed in another study that both men and women with BMI admissible, less than 30, may present a risk CA. This reinforces the need of investigate and use CA as an anthropometric indicator of obesity on the clinical routine and on investigative studies (REZENDE et al, 2006).

The findings of SBP and the DBP were also considered normal. In a research realized with university students with age until 24 years of health area, of the same institution that was realized the present study, shown similar results of male SBP (115.8108 ± 8.6415) and female(107.7218 ± 6.8250), but with significant difference among genders (POLIDORO, et al 2008).

On Table 2 are represented the prevalence of the studied risk factors, where observed that the higher prevalence were sedentary and the consumption of alcoholic beverages, which also presented significant diferences ($p<0.05$) among genders.

Table 2. Prevalence of risk factors among young university students. Maringá, 2011.

Variáveis	Total (n=300)		Female (n=203)		Male (n=97)		p
	n	%	n	%	n	%	
Sedentary	172	57,3	130	64,0	42	43,2	0,0007
Obesity	24	8,0	19	9,3	05	1,6	0,1515**
Smoking	13	4,3	07	3,4	06	6,1	0,2761
Consumption of alcoholic beverages*	178	59,3	111	54,6	67	69,0	0,0176

* Consumption on the last 30 days.

**Fisher's Exact Test.

Research conducted with adolescents residents in Pelotas – RS showed that 49% of girls and 67% of boys were sedentary, with data contrary of the present study (HALLAL, 2006) where the girls had a higher prevalence of physical inactivity. But the study of adolescents in southern Brazil showed similar results to this, where the prevalence of inactivity was higher among girls (Beck et al, 2011).

Physical inactivity is a concern because a sedentary lifestyle in adolescence can have very serious complications in your life. The effective practice of physical activity in adolescence, is necessary, because is known that if performed regularly brings benefits to the health and well-being of the individual (JUNIOR, 2008).

Considering the reasons for not performing physical activities cited by students classified as sedentary, the main reason given was lack of time (65.1%), a similar result (51.7%) was found in a study by Martins et al (2010) that described the level of physical activity of students from a Brazilian federal university.

However, the incorporation of regular physical exercise as a habit has been pointed out frequently as a positive factor for the regulation of dyslipidemia, hypertension, diabetes, obesity in addition to psychosocial aspects of the benefit (RIQUE et al, 2002).

As for the obesity factor, the results show below the prevalence found in other studies (Martins et al, 2010; Simon et al, 2008), as carried out in Londrina - PR with students from 10 to 16 years which showed the prevalence of overweight and obesity was 18.2% (21.9% for boys and 14.7% for girls) (CHRISTÓFARO et al, 2011).

The consumption of alcohol among college students in turn presented a higher prevalence (59.3%) similar to that presented in another study with elementary school students in São Paulo, which found a prevalence of 62.6%, indicating a high consumption (Noble et al, 2006), an early age, which is very worrying, given that high intake of alcohol is a major risk factor for not only cardiovascular disease but also to external causes. In research on attitudes and drug use and alcohol use among students in public universities in São Paulo, alcohol was the most commonly used substance in the last 12 months among respondents (84.7%), followed by tobacco (22.8%) (SILVA et al, 2006), showing higher prevalence than found in this study.

Alcohol consumption affects considerably the most vulnerable sectors of society, for example, young people, especially students, whose stage of life are at higher risk of initiating alcohol consumption and tobacco (MATUTE, PILLON, 2008) .

For the variable prevalence of smoking was found 4.3%, lower than the results of other studies conducted with university students in the country indicated that 14.7% (ANDRADE et al, 2006), 7.8% (MENDES et al, 2006) , 7.2% (RODRIGUES et al, 2008). This decrease tobacco use among college students may be responding to national and state public policy against smoking (WHO, 2003).

It should be noted that diabetes mellitus and blood pressure alone were self-reported by two (0.7%) students of each sex. In a study of 456 adolescent students from public and private schools of Niterói - RJ, hypertension found for both genders was 4.6% (ROSE et al, 2007), and 1642 survey of school from 14 to 19 year residents in a municipality of Rio Grande do Sul was 3.3% (BECK et al, 2011), both studies showed a higher prevalence than that observed in this study, and the prevalence of hyperglycemia was 0.9% (BECK et al, 2011).

CONCLUSION

The findings of this study evidences that to the development of behaviors influenced by healthy lifestyle is necessary the encouragement for practice of health education programs that helps youth to minimize sedentary habits, and the alcohol consumption. Efforts to prevent the risk factors should be instituted during the period of schooling, when the youth are especially prone to incorporate it in their daily aggressive behaviors to health. Based on these references further studies involving the population and further monitoring should be developed in order to investigate the possibility of risk reduction on this population.

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PREVALENCE OF CARDIOVASCULAR RISK FACTORS AMONG ADOLESCENTS UNIVERSITY STUDENTS

ABSTRACT

Nowadays, adolescents are the target of many studies in all world, due the preoccupation about the possibility of future health problems because of sedentary lifestyle and irregular eating habits. The aim of this study was to determine the prevalence of cardiovascular risk factors in adolescents university students. It is a cross-sectional study developed with 300 adolescents enrolled in the first year of graduation courses of different areas in public institutions of higher education in the city of Maringá - PR. The data were collected through semi-structured interview, anthropometric measurements (weight, height and abdominal circumference) and were realized blood pressure measurements. The descriptive analysis included measures of central tendency and dispersion (mean and standard deviation), besides the absolute and relative frequency of the variables was used Chi-square and Fischer's Exact Test to assess the association of the variables between the genders. The results showed that boys had all the means of anthropometric variables and blood pressure higher than girls, except a lower BMI, the risk factors most prevalent in young university students were sedentary (57.3%) and consumption of alcoholic beverages (59.3%). Our findings highlight the need of an encouragement to healthy behaviors and thereby minimize possible future health hazards.

KEYWORDS: Risk factors; Adolescent Health; Prevalence.

PREVALENCE DE FACTEUR DE RISQUES CARDIO-VASCULAIRES CHEZ LES ADOLESCENTS UNIVERSITAIRES

COMPTE-RENDU

Actuellement, les adolescents sont le centre d'études dans le monde entier dues aux préoccupations du futur étât de santé dérivant du sédentarisme et des habitudes alimentaires irrégulières. Le but de l'étude à été de déterminer la prévalence de facteur de risques cardio-vasculaires chez les adolescents universitaires. Il s'agit d'une étude descriptive transversale, menée auprès de 300 adolescents inscripts dans la première année d'un cours de graduation de diffèrents secteurs dans les institutions publiques de l'enseignement supérieur de la ville de Maringà-PR. Les données ont été recueillies par le biais d'entretiens semi-structurés, évaluations anthropométrique (poids,taille, ceinture abdominale) et prise de la pression artérielle. L'analise descriptive a impliqué des mesures de tendances centrales et dispersion (moyenne et détour du model) qui a part la fréquence absolue et relative des variables, on a utilisé le test de Qui-carré et le test Exact de Fischer pour vérifier les liens entre les différences des deux sexes. Les résûltats démontrèrent que les garçons présentaient toutes les moyennes des différentes antropométriques et de la pression artérielle plus élevée de celle des filles, à part l'IMC, qui résulte inférieur. Le principal facteur de risque chez les adolescents universitaires a été le sédentarisme (57,3%) et la consommation de boisson alcoolisée (59,3%) . Les résultâts de cette étude démontrent l'évidente nécéssité de comportements sains et de conséquent minimiser les risques pour la santé.

PREVALENCIA DE FACTORES DE RIESGO CARDIOVASCULAR EN ADOLESCENTES UNIVERSITARIOS

RESUMEN

Actualmente, adolescentes son objetivos de estudios en todo el mundo, debido a la preocupación con la posibilidad de problemas de salud en el futuro debido a la sedentarismo y hábitos alimentarios irregulares. El objetivo del estudio fue determinar la prevalencia de factores de riesgo cardiovascular en adolescentes universitarios. Se trata de un estudio descriptivo transversal, desarrollado junto a 300 adolescentes inscriptos en el 1o año de cursos de graduación de diferentes áreas en institución de enseñanza superior pública de la ciudad de Maringá - PR. Los dados fueron recogidos por medio de entrevista semiestructurada, evaluación antropométrica (peso, altura y circunferencia abdominal) y medición de la presión arterial. El análisis descriptivo envolvió medidas de tendencia central y dispersión (media y desviación estánder) además de la frecuencia absoluta y relativa de las variables, fue utilizado el test del chi cuadrado y Exacto de Fischer para verificar asociación de las variables entre los sexos. Los resultados mostraron que los niños presentaron todas las medias de las variables antropométricas y de presión arterial mayores que las niñas, excepto IMC que se presentó menor. Los factores de riesgo de mayor prevalencia en los adolescentes universitarios fueron: el sedentarismo (57,3%) y consumo de bebida alcohólica (59,3%). Los hallazgos de este estudio evidencian la necesidad de incentivar comportamientos saludables y con eso minimizar futuro agravios a la salude.

PREVALÊNCIA DE FATORES DE RISCO CARDIOVASCULAR ENTRE ADOLESCENTES UNIVERSITÁRIOS

RESUMO

Atualmente, adolescentes são alvo de estudos em todo o mundo, devido à preocupação com a possibilidade de problemas de saúde no futuro em decorrência do sedentarismo e hábitos alimentares irregulares. O objetivo do estudo foi determinar a prevalência de fatores de risco cardiovascular em adolescentes universitários. Trata-se de um estudo descritivo transversal, desenvolvido junto à 300 adolescentes matriculados no 1o ano de cursos de graduação de diferentes áreas em instituição de ensino superior pública da cidade de Maringá - PR. Os dados foram coletados por meio de entrevista semi-estruturada, avaliação antropométrica (peso, altura e circunferência abdominal) e aferição da pressão arterial. A análise descritiva envolveu medidas de tendência central e dispersão (média e desvio padrão), além da frequência absoluta e relativa das variáveis, foi utilizado o teste do Qui-quadrado e Exato de Fischer para verificar associação das variáveis entre os sexos. Os resultados mostraram que os meninos apresentaram todas as médias das variáveis antropométricas e de pressão arterial maiores do que as meninas, exceto IMC que se apresentou menor, os fatores de risco de maior prevalência nos adolescentes universitários foram o sedentarismo (57,3%) e consumo de bebida alcoólica (59,3%). Os achados deste estudo evidenciam a necessidade de incentivar comportamentos saudáveis e com isso minimizar futuros agravos à saúde.

DESCRITORES: Fatores de risco, Saúde do Adolescente, Prevalência.