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RESEARCH ARTICLE

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RISK FACTORS FOR CARDIOVASCULAR DISEASES IN TEACHERS OF A STATE SCHOOL IN MUNICIPALITY OF BICO DO PAPAGAIO, STATE OF TOCANTINS

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ABSTRACT

The present study has the general objective of analyzing risk factors for cardiovascular diseases among teachers of a public school. This is an exploratory study with a quantitative-qualitative approach, carried out with teachers from a public school in a city in the physical activities. The hereditary character appears in 42% for hypertension and for Bico do papagaio region. The sample consisted of 19 professors, which corresponds to 100% of the population. Held from May 19 to 25, 2016. Of 19 individuals, 42% said they were hypertensive, 32% are diabetic. Of the total of teachers, 58% use alcoholic beverages. Regarding the use of cigarettes, 37% are smokers. Among the interviewees, only 38% reported practicing diabetes 32% of the subjects. By analyzing the results, it is emphasized that there is a high prevalence of modifiable CRFs, such as physical inactivity, smoking and alcohol consumption, in the small young population studied and, therefore, a great possibility for developing chronic degenerative diseases. These issues are directly related to quality of life. We conclude that this study, although carried out with a small population that is part of the institution's professionals, presents us with extremely significant data and denotes the importance of preventive measures to reduce the high cardiovascular risk factors among these professionals

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INTRODUCTION

In recent years, the occurrence of cardiovascular diseases has increased, reaching almost all people, and it has become increasingly precocious. According to data from the World Health Organization (WHO), cardiovascular diseases are considered the leading cause of death in Brazil and are responsible for 30% of all deaths. The forecast for 2015 is that 20 million people will die each year from cardiovascular disease. Around 8% of these deaths are occurring in low and middle income countries, and the main causes are smoking, physical inactivity and an inadequate diet (EYKEN, 2009). Cardiovascular risk factors are conditions that can cause diseases in the heart, arteries or veins and have become a public health concern, due to the large number of deaths and complications and the great expense that these pathologies bring to public coffers, being considered the main cause of expenditure on medical assistance by the Unified Health

System (SUS) (COLTRO *et al*, 2009). According to WHO projections, the increased incidence of cardiovascular disease tends to persist mainly in developing countries (SOCIEDADE BRASILEIRA DE CARDIOLOGIA, 2010). This increase is a consequence of the adoption of lifestyles with greater exposure to cardiovascular risk factors. Based on the data and the relevance of this disease, the present study has the problem of verifying whether the teachers of a public school have any risk of developing cardiovascular diseases? It is known that the profession demands a lot of physical, psychological effort and the extensive routine can lead you to develop cardiovascular diseases. Having as a guiding objective of this study Analyze risk factors for cardiovascular diseases among teachers of a public school, having as specific objectives, To outline the profile of the teachers participating in the study; describe the most common risk factors that lead to the development of cardiovascular diseases and Identify whether the interviewed subjects are within the risk group for cardiovascular diseases.

METHODOLOGY

Type of Research: It is an exploratory research with a quantitative-qualitative approach. According to Gil (2002), exploratory research aims to make the problem encountered public, in order to provide greater intimacy with the problem and contribute with hypotheses so that it can come to solve them, building new ideas and discovering new posts by sight. According to Minayo (2008), the quantitative-qualitative method brings information that can be observed, carrying out an in-depth study of the way in which human beings lead their lives, build their opinions and feel they contribute to the formation of their opinion, the how he perceives what is around him and what he believes.

Area of Achievement: As a research field, a state school was used that offers elementary education in a municipality in the Bico do Papagaio region, State of Tocantins, Brazil. The Bico do Papagaio micro-region is composed of 25 municipalities, an area of 15,852.60 km² and about 196,389 inhabitants according to the IBGE, limited to the states of Pará and Maranhão.

totaling 19 participants. Several visits were made to the school for data collection, many of the teachers work on different days at the school, making it difficult to collect the data, the teachers were helpful and everyone was interested in participating and contributing to the present study. Inclusion criteria were considered: all teachers who are developing teaching, being male and female, who work with students from 6 to 9 years of elementary school, who were willing to participate in the research and sign the Term of Free Consent and Clarified. Among the exclusion criteria was the teacher who was at school, without practicing teaching, that is, outside the classroom.

Instruments: The data were obtained through a questionnaire. According to Marconi and Lakatos (2006), the questionnaires were composed of a series of questions that were answered without the interference of those who are conducting the research. The researcher must make the researched public understand its importance in the study and the importance of obtaining answers to the researched problem. Previously structured by the author of the research, with closed and open

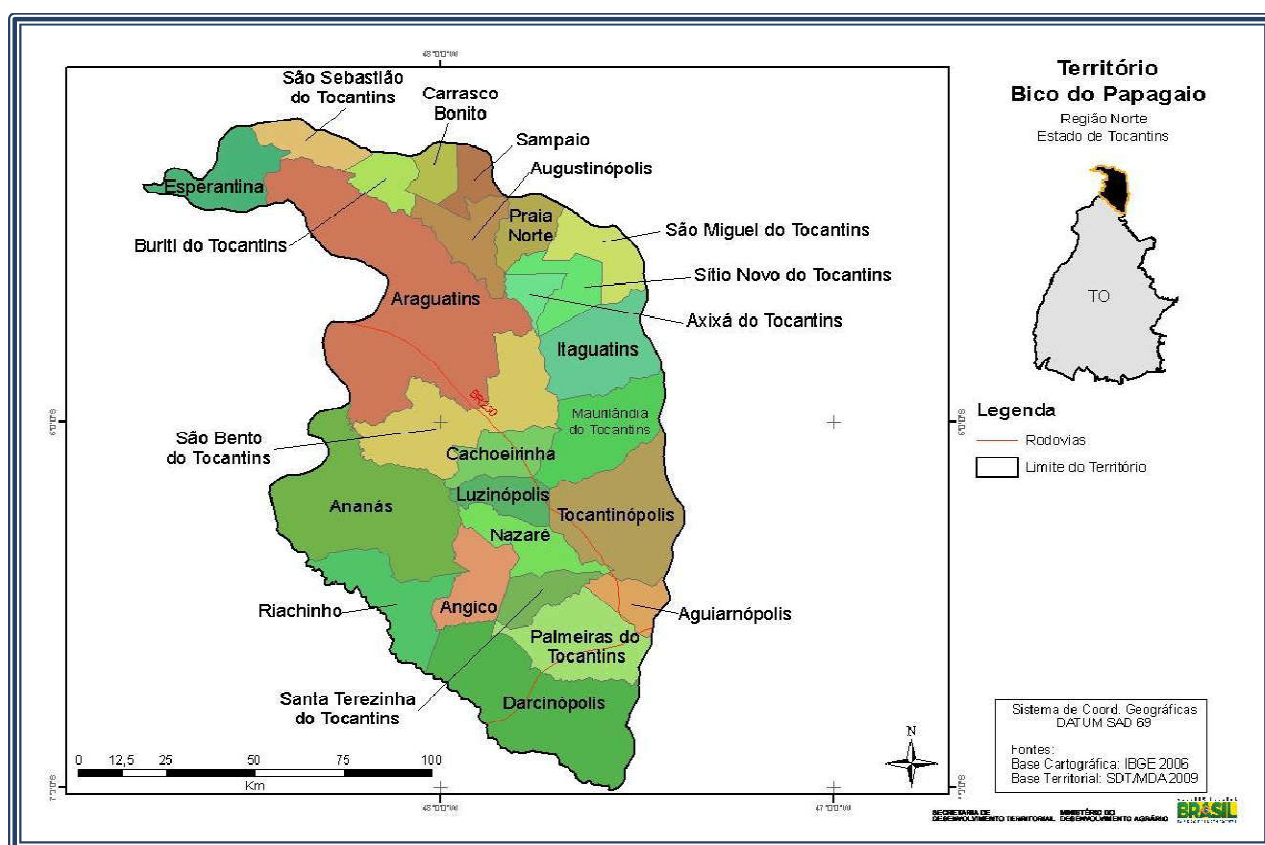


Figure 1. Micro region of the Beak of the Parrot

The municipality in which the present research was carried out is located at the north end of Bico do Papagaio, with an area of approximately 504,023 km², 680 km from the capital, Palmas, with an estimated population of 31,329.00 inhabitants (IBGE, 2013). The municipality has three state schools that offer elementary and high school, the researched school has a multiprofessional team, only the teachers who are in the classroom who participated in the research. Opening hours are from 7:30 am to 12:00 pm and from 1:00 pm to 6:00 pm.

Population and Sample: The subjects that were studied in this research were teachers who are in class in a public school in the region of the region of the Papagaio State of Tocantins,

questions, collected in the month of May 2016, where the subject of the study was informed of the objective of the study, emphasizing the confidentiality of identity, giving them full freedom to participate or not; including being able to give up at any time, if they so wish, the free and informed consent form was presented to the interviewees so that everyone would agree with the research and use of the data and being signed by the participants.

Data Collection: Data collection was organized in two stages: in the first stage, contact was made with the principal of the school where the study was carried out, to obtain permission through the Institutional Informed Consent Form (TECLE) to

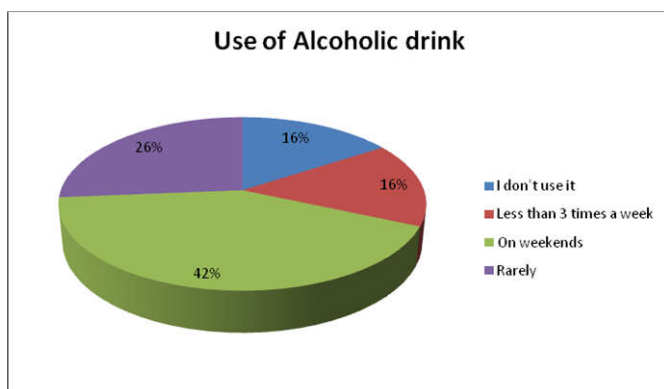
conduct the research. , the second stage took place through the interview with the teachers who were practicing teaching. After being collected, the data were presented in graphs and tables, to facilitate the understanding of the results. Consisting of a structured form with closed questions and multiple questions, answered individually by each professional. All interviews were transcribed to Microsoft Word 2010.

Data Analysis: The data were analyzed through the answers obtained by the subjects who participated in the research. In the present study, a transcript of all interviews was performed for Microsoft Word 2010 and after reading, seeking a better understanding of the content. For Michel (2009), the main objective of the interview is knowledge of the facts and feelings, expectations and opinions. It has the advantage of using segments of the population, and better exposure from the point of view of who will respond. After the data tabulation, a thematic analysis of the data will be carried out in order to compare the data obtained with some authors who discuss the topic in question.

RESULTS AND DISCUSSION

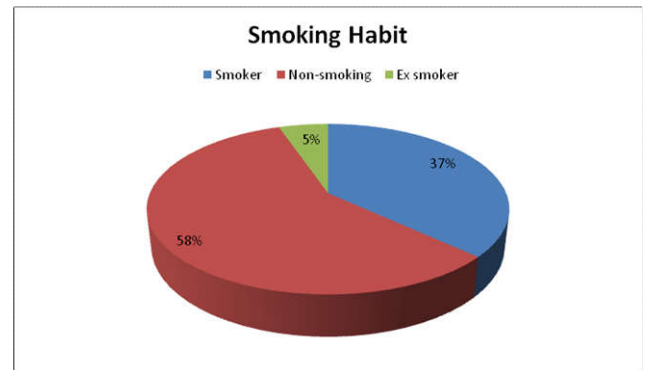
19 teachers took part in this study. After collecting the data through the interviews, the data were compiled in a Microsoft Word table for grouping, tabulation and graphical representation with frequency distribution of the information. The information obtained was analyzed in the light of the reviewed literature and the findings found will serve as a reflection for future research aimed at workers' health. In order to provide an understanding of the objectives of the study, it will initially be presented to the characterization of the subjects. And later, the categories in question that represent the axis around which the answers articulate will be discussed, then we will discuss the themes that are interconnected to the theoretical framework and the objective of this research.

Characterization of the subjects of the study: Proceeding to the characterization of the studied group, 84% are female, 16% male, age groups 42% (20-30), 11% (31-40), 26% (36-40) and 21% have more than 40 years. 68% said they were not black and 32% considered themselves black. Regarding marital status, 37% are single, 63% married, the other categories included in the questionnaire were not scored. With regard to gender, a descriptive study carried out in a public school with high school teachers, in the State of Minas Gerais, found data similar to that of this investigation, and in that research most patients (80%) were also of the gender female (OLIVEIRA, 2011).



Graph 1. Alcohol profile of teachers at a public school in the state of Tocantins

In Brazil, one third of deaths from cardiovascular disease occur early in adults aged 35 to 64 years. In this age group, the main causes of death from diseases of the circulatory system are ischemic heart diseases, cerebrovascular and hypertensive diseases. It should be noted that these causes are largely preventable (BRASIL, 2009).



Graph 2. Distribution of teachers regarding smoking in a public school in the state of Tocantins

With regard to the ethnicity of the patients, the results of this investigation showed a predominance of whites, studies show that people of African descent and mixed race exhibit a greater tendency to develop cardiovascular diseases (CVD), and that this fact may be associated with genetic factors. Hence the importance of medical records to contain all information about patients, since ethno-racial characteristics are essential to establish the correlation with CVD (RABELO, 2010). In Brazil declared in comparison with those who occupy other positions in the home unit. Being an aggregate or relative is a protection against morbidity. Among women, there is a significant relationship between occupation position at home and declared morbidity. The study concludes by pointing out the differences in the pattern of family arrangement partly responsible for the differences by sex in the chance of declaring themselves ill (PEREIRA, 2013), the vast majority (80.9%) of elderly men live with their spouse, at the whereas elderly women are distributed in several home arrangements. Occupying the position of head of household, among men, offers a disadvantage in morbidity. Proceeding to the characterization of the studied group, 84% are female, 16% male, age groups 42% (20-30), 11% (31-40), 26% (36-40) and 21% have more than 40 years. 68% said they were not black and 32% considered themselves black. Regarding marital status, 37% are single, 63% married, the other categories included in the questionnaire were not scored. With regard to gender, a descriptive study carried out in a public school with high school teachers, in the State of Minas Gerais, found data similar to that of this investigation, and in that research most patients (80%) were also of the gender female (OLIVEIRA, 2011).

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Occupying the position of head of household, among men, offers disadvantage in morbidity. When analyzing the professors' professional profile, it was possible to verify that 53% are graduates and 47% specialists and masters and doctorates were not scored in this research. In the time since graduation 16% of the teachers are less than 01 years old, 53% (01-05), 21% (06-10) and 10% over 10 years of graduation. As for working time in teaching, the data are as follows: 32% are working less than 01 years in teaching 47% (01-05), 5% (06-10) and 16% are working in teaching for more than 10 years. The respondent was asked if they worked elsewhere, 68% said yes and 32% said they were only allocated to the school surveyed. Studies suggest that socioeconomic variables such as income and education are negatively correlated with mortality from cardiovascular disease. Less educated people have less knowledge about the prevention of chronic diseases. This situation can make it difficult to understand the guidelines of the multiprofessional team related to self-care and treatment adherence (FERREIRA, 2009). Factors of the teacher's daily life that do not allow him to perform physical activity satisfactorily, such as: excessive workload, increased extra-class activity, double hours, low wages, the longer the working time, the more likely to develop cardiovascular diseases (MARQUEZE *et al.*, 2015). Another aspect investigated was related to the teacher's workday, resulting in the following percentages 16% work (06 hours daily), still 16% (08 hours) and 68% of the studied subjects have a workday (12 hours daily), a worrying factor that can lead the professional to develop cardiovascular diseases. According to the studies by Marqueze *et al.* (2015), the average weekly workload of teachers was high and to this should be added to extra-class activities such as: preparing classes, moving from one school to another, administrative activity and domestic activity they occupy in the case of women, 2 to 3 hours a day of their time. Extending the workload to other activities, makes the teacher lack breaks to rest or perform another activity that is pleasurable and thus generates discomfort, which may trigger in some cases the illness that can be physical and / or psychic (ARAUJO, 2009).

Cardiovascular Risk Factors: Based on the data found, it was noticed that 42% of the professors said they were hypertensive, 32% said they suffer from diabetes, it was noted that there is a relevant percentage of hypertensive and diabetic patients. Even when it was investigated about cases of hypertension in the family, 32% said that there are cases and 53% of the subjects stated that there are family members with a history of diabetes. Therefore, in the research, a relevant percentage of people are within the risk group. Hypertension has been recognized as the main risk factor for early morbidity and mortality caused by

cardiovascular diseases. Epidemiological studies indicate that high BP levels increase the risk of cerebral vascular disease, coronary heart disease, and chronic renal failure (CIOLAR, 2011). Another aspect related to pathophysiology and of practical interest is the observation that in approximately 30% of patients, arterial hypertension is associated with obesity, dyslipidemia and changes in glucose metabolism, that is, metabolic syndrome. The fact that both intermediate phenotypes (insulin resistance) and clinical diseases associated with metabolic syndrome (diabetes, hypertension and obesity) are more frequently and intensely added in twins and families suggests, in addition to environmental factors, a genetic component explaining the syndrome (RAMOS, 2013). Diabetes is the third leading cause of death, mainly because of the high rate of cardiovascular disease (myocardial infarction, stroke and peripheral vascular disease) among people with diabetes. Hospitalization rates for people with diabetes are 2.4 times higher among adults and 5.3 times higher among children than in the general population (SMELTZER & BARE, 2006). First-degree relatives of type 2 diabetics are two to six times more likely to develop diabetes than controls without a family history. Also in type 2 diabetes, the genetic component is strong, which is demonstrated by the five to ten times greater possibility of a patient with a family history of developing the disease in relation to the general population, with 90% agreement in univiteline twins (ORTIZ AND ZANETTI, 2010). It was found in this study that 38% of workers do physical activity and 62% of them do not do any physical activity. Sedentary lifestyle is an independent risk factor for cardiovascular diseases. The absence of physical activity is a relatively recent acquisition habit in the history of mankind, and physical activity programs provide a series of health benefits, such as better control of obesity, high blood pressure, diabetes mellitus and prevents various diseases besides to improve cognitive function and self-esteem (LOPES, 2012). Of the total participating teachers, 64% use alcoholic beverages, among them, 64% are female and 36% male, of those who use alcoholic beverages, 50% drink 4 times a month and 14% drink in average 8 times a month. There is an association between alcoholism and BP changes depending on the amount ingested. It was found that a greater amount of ethanol elevates BP and is related to greater cardiovascular morbidity and mortality. The evidence of correlation between a small intake of alcohol and the consequent reduction in blood pressure is still irrelevant and needs to be confirmed. In hypertensive individuals, alcohol intake, acute and dose-dependent, reduces BP, however, elevation occurs a few hours after consumption. In view of the controversy regarding the safety and cardiovascular benefit of low doses, we should advise those who are in the habit of drinking alcoholic beverages not to exceed 30g of ethanol a day, for men, preferably not usually, half of that amount the tolerated for women (SOCIEDADE BRASILEIRA DE CARDIOLOGIA, 2012).

Of the respondents 58% are smokers, 37% non-smokers and 5% ex-smokers on average, it is evident that the effects of smoking are harmful in the short or long term for health. The vasoconstriction factor is the most relevant, in addition to accelerating the process of arteriosclerosis. In addition, smoking increases the tendency of blood clotting, increasing the risk of peripheral arterial disease, coronary artery disease and stroke. Smoking accounts for about 20% of deaths from vascular diseases and 35% of deaths from cardiovascular diseases, among men aged 35 to 69 years (INCA, 2011). Cigarette use by women is currently a concern due to

investment in marketing for this class, according to the INCA (2013) about 9% of women in developing countries and about 22% of women in developed countries, who smoke cigarettes, our result is similar, as in the sample 100% of smokers were female.

Conclusion

Through the analysis of the results, this study allowed to conclude that the cardiovascular risk factors among the researched teachers are relevant, it is emphasized that there is a high prevalence of modifiable cardiovascular risk factors, such as physical inactivity, smoking and alcoholism, in the small studied population that already add risk factors. These problems are directly related to quality of life or even the need for survival acquired by most of these professionals. Thus, it is essential to implement educational measures in order to change this quality of life, as they are young adults with a great chance of developing chronic degenerative diseases. It is necessary to raise the awareness of all professionals involved in institutional policies, in order to elaborate or re-elaborate more harmonious policies in the environment, indirectly promoting a better quality of life for all who share the same work environment and consequently reducing cardiovascular risk factors. We conclude that this study, although carried out with a small population that is part of the institution's professionals, presents us with extremely significant data and denotes the importance of preventive measures to reduce the high cardiovascular risk factors among these professionals.

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