Risk factors for surveillance workers.



RISK FACTORS FOR SURVEILLANCE WORKERS **FATORES DE RISCO PARA VIGILANTES FACTORES DE RIESGO PARA VIGILANTES**

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ABSTRACT

Objective: to identify the risk factors for systemic arterial hypertension and diabetes mellitus in vigilantes. Method: quantitative, descriptive, cross - sectional study with 23 vigilantes, through a questionnaire analyzed by SPSS software and presented in tables. Results: predominantly those who practice physical activity; do not smoke; do not consume alcoholic beverage; consume vegetables, fruits, vegetables or grains; eat fried foods, salty foods or fatty meats; have a personal and family history of hypertension and diabetes, with a higher occurrence of hypertension. Most had optimal blood pressure and increased and greatly increased risk for abdominal obesity. Conclusion: although the activity was considered a predisposing factor for systemic arterial hypertension and diabetes mellitus, the subjects showed healthy habits and blood pressure levels within the normal range. Descritores: Public Health; Diabetes Mellitus; Hypertension; Shift Work; Risk Factors; Nursing.

RESUMO

Objetivo: identificar os fatores de risco para a hipertensão arterial sistêmica e diabetes mellitus em vigilantes. *Método*: estudo quantitativo, descritivo, transversal, realizado com 23 vigilantes, por meio de um questionário analisado pelo software SPSS e apresentado em tabelas. Resultados: predominou os que praticam atividade física; não fumam; não consomem bebida alcóolica; consomem vegetais, frutas, legumes ou grãos; consomem frituras, salgados ou carnes gordas; têm antecedentes pessoais e familiares de hipertensão e diabetes, com maior ocorrência de hipertensão. A maioria obteve pressão arterial ótima e risco aumentado e muito aumentado para obesidade abdominal. Conclusão: apesar da atividade exercida ser considerada fator predisponente para a hipertensão arterial sistêmica e diabetes mellitus, os pesquisados demonstraram hábitos de vida saudáveis e níveis pressóricos dentro do padrão de normalidade. Descritores: Saúde Pública; Diabetes Mellitus; Hipertensão; Trabalho em Turnos; Fatores de Risco; Enfermagem.

RESUMEN

Objetivo: identificar los factores de riesgo para la hipertensión arterial sistémica y la diabetes mellitus en vigilantes. Método: estudio cuantitativo, descriptivo, transversal, realizado con 23 vigilantes, por medio de un cuestionario analizados por el software SPSS y presentados en tablas. *Resultados:* predominó los que practican actividad física; no fuman; no consumen bebida alcohólica; consumen vegetales, frutas, legumbres o granos; consumen frituras, salados o carnes gordas; tiene antecedentes personales y familiares de hipertensión y diabetes, con mayor ocurrencia de hipertensión. La mayoría obtuvo una presión arterial óptima y un riesgo aumentado y muy aumentado para la obesidad abdominal. Conclusión: a pesar de la actividad ejercida como factor predisponente para la hipertensión arterial sistémica y diabetes mellitus, los encuestados demostraron hábitos de vida saludables y niveles de presión dentro del patrón de normalidad. Descritores: Salud Pública; Diabetes Mellitus; Hipertensión; Trabajo en Turnos; Factores de Riesgo; Enfermería.

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INTRODUCTION

Chronic Noncommunicable Diseases (CNCD) are the leading causes of death in Brazil and one of the greatest challenges to public health. Among the main causes of morbidity and mortality in the world are Systemic

Arterial Hypertension (SAH) and Diabetes Mellitus (DM). Data indicate that 21.4% of the individuals, 18 years of age or older, had a diagnosis of hypertension and 6.2% of DM.¹

In Brazil, there are 36 million adults and more than 60% of elderly people suffering from hypertension.² In relation to diabetes, a population of 11.9 million is estimated, reaching 19.2 million diabetics in 2035.³

In Teresina, Piauí State, there are about 110 thousand hypertensive patients and 51 thousand diabetics, of which 25 thousand have both pathologies. The prevalence of hypertension in the coming years will be even greater. This increase will be due to the satisfactory aging of the population and the lifestyle acquired since childhood.⁴

The Ministry of Health (MH), with the purpose of better monitoring these diseases and reducing their impact on society, established in the Primary Health Care (PHC) the Plan to Reorganize Care for these diseases, and then the Hypertensive and Diabetic Registration System - HIPERDIA.⁵

SAH is a chronic, multifactorial and asymptomatic disease, in most cases defined as elevated blood pressure levels established and measured from 140/90 mmHg in at least three measurements performed on two or more occasions with the subject at rest. Hypertension is the result of innumerable alterations in both the structure and function of target organs such as the heart, brain, kidneys, arterial vessels and aggravated by predisposing factors such as abdominal obesity, dysplipidemia, diabetes mellitus and glucose intolerance.²⁻⁵

DM is considered a group of metabolic alterations, characterized by high levels of glucose in the bloodstream and changes in the synthesis and degradation of carbohydrates, proteins and lipids.⁶

These diseases may arise from modifiable and non-modifiable factors and some professions may be more vulnerable to acquiring SAH and DM, as is the case with vigilantes. Today, the surveillance service is present in educational institutions, banks, hospitals, shopping malls, industries and events, and the professionals who work in this field seek to increase not only the family income but also to help in the education itself. However, they do intense workdays,

Risk factors for surveillance workers.

often leaving aside good health practices and this directly interferes with endocrine, cardiovascular, respiratory, neurological and sexual functions, causing damage not only to health but also to the social life of this public.⁷

It is recognized that this study is relevant due to the need to evaluate the risk factors for SAH and DM in vigilantes and to broaden and disseminate knowledge about the subject, highlighting disease prevention and health promotion of these professionals, since the work carried out by this category is of paramount importance for the security of institutions and society in general. The aim is to stimulate the interaction between research and practice, which will be of great benefit both to scientific knowledge and public health, as well as to educational institutions, which may institute interventions, necessary, and contribute even more to the socialization of the subject in question.

OBJECTIVE

• To identify the risk factors for systemic arterial hypertension and diabetes mellitus in vigilantes.

METHOD

A quantitative, descriptive, cross-sectional study carried out in a private higher education institution located in the city of Teresina, capital of Piauí. In this study, the population was constituted by men and women who act as watchmen totaling 26 participants.

All those who worked as caretakers in the institution were included, excluding those who were on vacation or away for health care. During the collection, two were on vacation and one was on leave for health treatment. Thus, three participants were excluded and the final sample, consisting of 23 surveilance workers.

Data were collected from August to September 2016 and a questionnaire with open and closed questions was used as a collection instrument. In the instrument, there were questions related sociodemographic characterization (age, sex, color, schooling, marital status and monthly behavior and health practices, personal and family history of hypertension or blood pressure and abdominal diabetes, circumference. The questionnaire delivered to the participants along with the Informed Consent Form (ICT). The objectives of the research were explained and that they had the autonomy to participate or not. The researchers remained in an easily accessible place for the participant to answer questions

or other questions, if necessary. The mean time to respond to the questionnaire was 30 minutes and, after it was completed, it was given to the researchers.

The collected data were doubled in a spreadsheet of the program Microsoft Excel and later exported to the software Statistical Package for the Social Sciences (SPSS), version 20.0, where the descriptive analyzes of the variables under study were carried out. The results were presented in the form of tables.

This study was evaluated by the Research Ethics Committee of the University Center UNINOVAFAPI and approved on August 12, 2016, under the Certificate of Presentation for Ethical Assessment (CAAE) no. 58232716.5.0000.5210, in compliance with the

Risk factors for surveillance workers.

fundamental ethical and scientific requirements of a research involving human beings, according to Resolution 466/12 of the National Health Council (NHC).8

RESULTS

Table 1 shows that there was a predominance of males (21 = 91.30%); age group of 34 to 41 years (eight = 34.78%) and 42 years or more (eight = 34.78%); 12 (52.17%) had completed high school; 17 (73.91%) were married; ten (43.48%) were brown and 14 (60.87%) reported receiving one to two minimum wages.

Table 1. Socio-demographic characteristics of the HEI watchmen.

Teresina (PI), Brazil, 2016.				
		n	%	
Sex	Male	21	91.30	
	Female	2	8.70	
Age group	18 to 25	7	30.44	
	34 to 41	8	34.78	
	42 or +	8	34.78	
Education	Complete Elem.	1	4.35	
	Incomplete	1	4.35	
	Elem.	12	52.17	
	Complete		13.04	
	Highschool	3 2	8.70	
	Incomplete	4	17.39	
	Highschool			
Marital status	Complete	17	73.91	
	Higher.	5	21.74	
	Incomplete	1	4.35	
	Higher.			
Color		4	17.39	
	Married	10	43.48	
	Single	6	26.09	
	Stable Union	3	13.04	
Monthly income	White	14	60.87	
	Brown	8	34.78	
	Black	1	4.35	
	Other			
	1 to 2			
	3 to 4			
	4 or +			
	. 5.			

Table 2 shows that 14 (60.87%) vigilantes practice some type of physical activity; 19 (82.61%) do not smoke; seven (30.43%) do not consume alcoholic beverage; ten (43.47%)

consume vegetables, fruits, vegetables or grains three to four times a week and eight (34.78%) consume fried foods, salted or fatty meats one to three times a week.

Table 2. Behaviors and health practices of HEI vigilantes. Teresina (PI), Brazil, 2016.

		n	%
Practices physical activity	Yes	14	60.87
	No	9	39.13
	No	19	82.61

Risk factors for surveillance workers.

Smoking habit	Smoked, but stopped	4	17.39
	No	7	30.43
Drinking habit	1 to 3 x a week	5	21.74
	1 to 3 x a month	6	26.09
	Less than 2x per month	5	21.74
Consume	No	1	4.35
vegetables,	1 to 2 x a week	6	26.09
fruits, legumes or grains	3 to 4x a week	10	43.47
	5 or more times	6	26.09
Consume fried	No	2	8.70
foods, salted or fatty meats	Rarely	5	21.74
	1 to 3 x a week	8	34.78
	4 to 6 x a week	3	13.04
	1 to 3 x a month	3	13.04
	Less than 2x a month	2	8.70

Table 3 shows that 13 (56.52%) had personal and family history of hypertension and diabetes mellitus, with a higher occurrence of hypertension in ten (76.92%)

participants, and eight (61.54%) answered that others family members have this background.

Table 3. Personal and family history of hypertension and diabetes of HEI vigilantes. Teresina (PI), Brazil, 2016.

		n	<u> </u>	
SAH or DM in the	Yes No	13 10	56.52 43.48	
family	Me	2	15.38	
Who in the family	Father	1	7.70	
	Mother	2	15.38	
	Others	8	61.54	
	SAH	10	76.92	
Type of pathology	DM	1	7.70	
	SAH and DM	2	15.38	

Table 4 shows that ten (43.48%) participants presented optimal blood pressure.

Table 4. Pressure levels of the HEI vigilantes according to the classification of the Ministry of Health. Teresina (PI), Brazil, 2016.

	PS	PD	n	%
Great	<120	<80	10	43.48
Normal	<130	<85	4	17.39
Limit	130-139	85-89	4	17.39
Step I	140-159	90-99	4	17.39
Step II	160-179	100-109	1	4.35

Risk factors for surveillance workers.

Table 5 shows that 14 (66.66%) men presented an increased and greatly increased

risk for abdominal obesity.

Tabela 5. Circunferência abdominal dos participantes segundo a classificação de risco. Teresina (PI), Brazil, 2016.

Sexo	Faixa ideal	Risco aumentado	Risco muito	n
Homem	7	7	aumentado 7	21
%	33,33	33,33	33,33	
Mulher	1	1	-	2
%	50	50	-	

DISCUSSION

There was a predominance of males in this study. It is known that, although more women are included in the labor market, in certain segments of the market, the female presence is still scarce.

Women are about 2.2 times more likely to have low competence for surveillance work than men. This can be explained by the fact that, although they are gaining more and more equal rights with men, they still continue to be responsible for caring for the family, thus generating negative effects on health and ability to work, which does not occur in males. ⁹

However, nowadays, the number of women occupying managerial positions and commands of security companies has grown. In the operational safety area, female labor is entering a somewhat slower pace. For the president of the National Confederation of Vigilantes and Service Providers, José Boaventura Santos, the women began to carry out other activities and assume more responsibilities in the security market. Jobs, which until then were composed 100% by men, now also employ many women. ¹⁰

Regarding the age group, the majority of participants presented age above 34 years, characterizing a sample of young adults. When analyzing schooling, it was found that 12 (52.17%) participants had completed high school.

According to the United **Nations** Development Program (UNDP), the adult education level is considered an indicator of access to knowledge, as well as the Municipal Human Development Index (HDI). In Teresina, capital of Piauí, 59.84% of the population, 18 years of age or older, had completed elementary education and 43.73% had completed secondary education, thus demonstrating a low level of education of the Teresian population. 11

The majority of participants in this study were married. This result is compatible with the data contained in the IBGE survey conducted in 2015, where 1,137,321 civil

marriages were registered, an increase of 2.8% over 2014. In the Northeast, 258,148 marriages were registered. The survey also shows that there was a decline in the number of divorces from 2.4% in 2014 to 2.33% in 2015. It is believed that better access to civil registry services and the greater search for formalization of unions, together with the greater offer of collective marriages, have contributed significantly to growth in relation to marriage. ¹²

Regarding color, there was predominance of brown. It is believed that this color is more present due to the high rate of miscegenation in Brazil. In the country, there are about 191 million inhabitants. Of these, an average of 82 million are brown and 15 million are black. Some authors believe that the color / race variable is related to social inequalities and is determinant in the state of health-illness. 13 According to the National Household Sample Survey (NHSS), the Brazilian population is composed of 45.2% of individuals white in color; 45.1%, browns and 8.9% declared themselves black. In the Northeast, the percentage of people with white color is 26.4% and 62% are brown. These data show that the color / race most prevalent in the Northeast is brown. 14

Most watchmen reported receiving one to two minimum wages per month. This amount is compatible with the amount paid for this category in the Northeast region.

According to data from the Brazilian Institute of Geography and Statistics (IBGE), the monthly nominal household income per capita of the resident population in Piauí was R\$ 659.00 in 2014, an amount considered below the national minimum wage that in 2015 went to R\$ 728,00.15 The United Nations Development Program (UNDP) released a human development atlas where the average per capita income of Teresina appears to have grown 118.72% in recent years, from R\$ 346.37, in 1991, to R\$ 757.57 in 2010, equivalent to an average annual growth rate of 4.20%. The number of people with household income per capita less than R\$ 140.00 went from 48.05% in 1991 to 14.60% in 2010.11

Predominated the practice of physical activity demonstrating that there is knowledge, on the part of these professionals, about the importance of being in constant movement for the maintenance of health.

The practice of physical activity is regularly considered a primary means of prevention for chronic non-communicable diseases, since this practice is manifested in all aspects of the body reducing the mortality rate by these diseases.¹⁶

Most participants reported being nonsmokers and not consuming alcoholic beverages. Of the public policies implemented in recent years, the fight against smoking has been considered an example of health promotion. The prohibition of indoor smoking and the increase in the price of cigarettes, along with advertisements associating smoking with CNCDs, contributed to a 35% decrease to 17% in the smoking rate. 17 In relation to alcohol consumption, some authors consider that this practice is lawful and is part of our culture, but when in exacerbated use, can cause damage to health leading to the triggering of diseases. 18

Regarding the consumption of vegetables, fruits, grains and vegetables, the majority of the studied sample reported that it consumes frequently demonstrating knowledge about the importance of these foods allied to the practice of physical activity. These foods, among others, are rich in vitamins and nutrients that minimize the colorectal. cardiovascular, and gastric cancers, and the consumption of fried foods and fatty meats often increases the risks for chronic diseases. 17

There was a predominance of personal and family history of hypertension and diabetes. A study in Finland has shown that when the father or mother has systolic pressure greater than the 97th percentile, the systolic pressure of the children increases by 2.7 mmHg at 45 years of age and when both the father and the mother present systolic pressure above normal, the increase is 8.5 mmHg for the children, thus showing that the family history contributes to the onset of hypertension and diabetes and that first-degree relatives are the most affected.¹⁹

Systemic arterial hypertension was the most prevalent disease in this study. It is a multifactorial disease, with modifiable and non-modifiable risk factors, responsible for 21.4% of the diagnoses of the disease and considered the leading cause of death due to CNCD in the world.¹

In this study, participants with blood pressure levels within the normal range were

Risk factors for surveillance workers.

predominant, being able to relate to the practice of physical activity and some ingested foods considered good for health maintenance. For blood pressure to be considered normal, the values should be lower than 130 mmHg for systolic pressure and 85 mmHg for diastolic. ²⁰

When analyzing the abdominal circumference of male participants, 14 presented an increased and greatly increased risk for abdominal obesity. It is observed that individuals after 40 years of age tend to have a more prominent abdomen than younger individuals. This can also be attributed to genetics and lifestyle habits.

Abdominal or android obesity is indicated as a predisposing factor for several other diseases such as hypertension, diabetes, dyslipidemias, among others. The relationship with age is due to the decline of growth hormone, reduction in physical activity practice and rate of basal metabolism. Throughout the age, there is a redistribution of fat in the body leading to a greater accumulation of visceral and intra-abdominal fat in the same proportion as the subcutaneous fat is reduced in the limbs.²¹

CONCLUSION

Although the activity performed by these professionals is considered a predisposing factor for the development of hypertension and diabetes, the results show that the majority of respondents have healthy life habits and blood pressure levels within the normal range. However, there were participants who presented other risk factors for these diseases, a fact related to family history, increased abdominal circumference and some habits of life, demonstrating the need for health education for this population.

This result leads to the need for better planning and implementation of actions to promote the health of this public in such a way as to seek early this disease and develop preventive actions in order to have greater longevity.

The study presented limitations on the size of the sample, which, when presented in reduced number, also due to the exclusion criteria, allows to consider the results found only for the population in question. Thus, it is concluded that research with larger populations is necessary and feasible since, as demonstrated, the profession of caretaker by itself is already a risk factor for the development of chronic non-communicable diseases.

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Borges MES, Melo JS, Soares LCS et al.

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