http://dx.doi.org/10.1590/0104-070720180002640014

HEALTH RISK BEHAVIORS OF MEN FROM THE SOUTHERN BRAZIL

Guilherme Oliveira de Arruda[1], *Sonia Silva Marcon*[2]

[1] M.Sc. in Nursing. *Universidade Estadual de Maringá*. Maringá, Paraná, Brazil. E-mail: enfgoa@gmail.com
[2] Ph.D. in Nursing. *Universidade Estadual de Maringá*. Maringá, Paraná, Brazil. E-mail: soniasilva.marcon@gmail.com

ABSTRACT

Objective: to evaluate the prevalence of health risk behaviors and to associate them with sociodemographic characteristics.

Method: a cross-sectional study of the household survey type, developed using structured instruments, with 421 adult men selected from a systematic random sampling. Univariate analysis and multiple analysis were performed through Logistic Regression.

Results: being aged between 40 and 50 years old and belonging to the B and C economic classes were associated with alcohol consumption (30.4%); having income from 2.1 to 4.0 minimum wages, higher education and religion were associated to smoking (19.5%); working, being employed and having secondary/higher education were associated to insufficient physical activity (86.2%); not working, income higher than six minimum wages and not having a health insurance were associated to an inadequate diet (39.2%); absence of a partner, religion and being employed were associated to an inadequate vaccination status(24.9%); being aged between 50 and 59 years old, being retired/on a medical leave and having a health insurance were associated to not performing examinations (42.3%); having income higher than six minimum wages and belonging to the C economic class were associated to no leisure time (36.3%).

Conclusion: health risk behaviors are associated with different factors to be considered in the care of men.

DESCRIPTORS: Health Profile. Men's health. Adult. Socioeconomic Factors. Risk Factors.

COMPORTAMENTOS DE RISCOS À SAÚDE DE HOMENS DA REGIÃO SUL DO BRASIL

RESUMO

Objetivo: avaliar a prevalência de comportamentos de riscos à saúde e associá-los com características sociodemográficas.

Método: estudo transversal, do tipo inquérito domiciliar, desenvolvido mediante aplicação de instrumentos estruturados, com 421 homens adultos, selecionados a partir de amostragem aleatória sistemática. Foram realizadas a análise univariada e a análise múltipla, por meio de Regressão Logística.

Resultados: idade entre 40 e 50 anos e as classes econômicas B e C associaram-se ao consumo abusivo de álcool (30,4%); renda de 2,1 a 4,0 salários mínimos, escolaridade superior e ter religião ao tabagismo (19,5%); trabalhar, estar empregado e ter ensino médio/superior à atividade física insuficiente (86,2%); não trabalhar, renda maior que seis salários e não ter plano de saúde à dieta inadequada (39,2%); não ter companheira, religião e ser empregado à situação vacinal inadequada (24,9%); idade entre 50 e 59 anos, estar aposentado/licença médica e ter plano de saúde à não realização de exames (42,3%); renda maior que seis salários e classe econômica C à não realização de lazer (36,3%).

Conclusão: os comportamentos de risco à saúde estão associados a diferentes fatores a serem considerados na atenção aos homens.

DESCRITORES: Perfil de saúde. Saúde do homem. Adulto. Fatores socioeconômicos. Fatores de risco.

COMPORTAMIENTO DE LOS RIESGOS PARA LA SALUD DE LOS HOMBRES DEL SUR DE BRASIL

RESUMEN

Objetivo: evaluar la prevalencia de comportamientos de riesgo para la salud y asociarlos con características sociodemográficas.

Método: estudio transversal, a través de encuestas en hogares, llevado a cabo por instrumentos estructurados, con 421 hombres adultos, seleccionados a partir de un muestreo aleatorio sistemático. El análisis univariado y el análisis múltiple se realizaron a través de la regresión logística.

Resultados: la edad de entre 40 y 50 años y las clases económicas se asociaron con el consumo de alcohol (30,4%); los ingresos de 2,1 a 4 salarios mínimos y la educación superior se relacionaron con el tabaquismo (19,5%); trabajar, estar empleado y tener educación secundaria/superior se vinculó a la actividad física insuficiente (86,2%); no trabajar, tener ingresos superiores a seis salarios y no tener un plan de salud se vinculó a una dieta inadecuada (39,2%); no tener pareja, religión y ser empleado se vinculó con una situación de vacunación inadecuada (24.9%); la edad entre 50 y 59 años se relacionó con la licencia médica/jubilación y el seguro de salud para realizar exámenes (42.3%); los ingresos superiores a seis salarios y una clase económica C se asociaron al ocio (36,3%).

Conclusión: los comportamientos de riesgo para la salud se asocian con diferentes factores a considerar en el cuidado de los hombres.

DESCRIPTORES: Perfil de salud. La salud de los hombres. Adulto. Factores socioeconómicos. Factores de riesgo.

INTRODUCTION

Male's high mortality rates have its reasons attributed to biological differences and to some specific health behaviors, which are different from the female behaviors, mainly due to gender issues.[1] A comparative study of the causes of death between the genders shows that men are at higher risk of death from preventable causes due to effective prevention,[1]among them, most are related to cardiovascular diseases, external causes and, recently, to neoplasia, according to the age group.[2]

More than half of the Brazilian male population (56%) in 2010 were aged between 20 and 59 years old, however, there are still few studies that analyze the health behaviors of men from other socioeconomic and demographic variables, highlighting that the few studies already done are focused on populations living in Brazilian capitals.[2]

The National Policy for the Comprehensive Care of Man's Health (PNAISH - Política Nacional de Atenção Integral à Saúde do Homem), although considered avant-garde, focuses on the disease and medicalization, turning to male problems, such as the erectile dysfunction.[3] However, the male health behaviors, along with the difficulty of the health services in accommodating men, are the main factors that keep men away from the preventive perspective of care.[4]

The alcohol abuse, smoking, aversion to the introduction of physical activity practices, adequate diet,[5] and leisure, among other behaviors related to the performance of health professionals, for example, the search for preventive exams and the proper use of medicines[6], are aspects to be investigated and characterized as a way of directing the professional performance to men's health. Considering that many of these behaviors are possible to be modified, recommendations for disease prevention and health promotion should address the multiple associated factors. Therefore, any socially constructed habit that positively or negatively affects health, that is, as a form of promotion/prevention or as a risk factor for symptoms and diseases, is taken as a definition of health behavior.[7]

In this sense, this study aimed at evaluating the prevalence of risk behaviors to men's health and associating them with sociodemographic data.

METHOD

A cross-sectional (household survey type) population-based study, developed among men aged between 20 and 59 years old, living in the municipality of Maringá-PR. For the sample calculation, the 2010 population count of the Brazilian Institute of Geography and Statistics (IBGE - Instituto Brasileiro de Geografia e Estatística) was used for men in the same age group (103,819), and the Maringá division in 20 areas, denominated by IBGE as Consideration Areas. These are composed of census sectors, and the heads of families living in a specific census sector have similar socio-occupational characteristics.

For the selection of the subjects, the systematic random sampling technique was used. The minimum sample size was defined based on the formula: $n=Z^2PQ/d^2$, being n=minimum sample size; Z= reduced variable; P=probability of finding the studied phenomena. It was adopted 50% for the probability of occurrence of events of interest, associated to an error of 5% and 95% confidence of the sample. It was added 10% to the calculated minimum sample (383 individuals), considering the possibility of losses. Thus, the population studied was composed of 421 individuals, who were approached in their residences, according to the sub-samples that are proportional to the total number of adult men living in each Consideration Area.

Having that said and in possession of the number of individuals to be interviewed in each consideration area, the streets to be visited were randomly drawn. With a predefined interval, an individual was approached from the fourth residence to the right of the street. When the individual was not at home, they moved to the next residence, being allowed up to three substitutions. The interviews were carried out predominantly during weekdays, in the morning and afternoon periods, between January and July 2013.

The variable Economic Class was categorized into A, B, C and D, based on scores attributed to the head of the house's schooling and possession of household items, according to Brazil's Economic Classification Criteria. The variable Religion refers to the fact that people report whether or not they follow a religious belief. The Family Income was categorized in number of minimum wages, which at the time of the study corresponded to R$ 678.00 (U$ 288.51).

The variables of interest related to health risk behaviors were: alcohol abuse (consumption of five or more doses of any alcoholic beverage on the same occasion in the last 30 days) (dose=half a bottle or a can of beer, a glass of wine or any distilled drink), as adopted by the System of Risk Surveillance and Protection for Chronic Diseases

by Telephone Inquiry (VIGITEL)[8], smoking (yes/no for current smoking, regardless of the number of cigarettes, frequency and duration of smoking), insufficient physical activity (less than 30 minutes, five days a week),[9] inadequate diet (use of fruits and vegetables less than five times a week),[10] inadequate vaccination status, when it is not known, or the last dose of tetanus and/or yellow fever vaccine was over 10 years ago, routine exams performance (yes/no for at least one of the following exams: renal and hepatic function, lipid profile, blood glucose, ophthalmologic, dental and screening for prostate cancer), self-medication (yes/no for use of non-prescribed medicines) and leisure activities (yes/no for activities such as music, cinema, handicraft, Internet, tours, trips and others).

The data were collected through a structured instrument, prepared by the researchers, and for some variables of interest, such as alcohol abuse, smoking, physical activity, it was based on the questionnaire used in the study entitled "Surveillance of Risk Factors and Protection for non-Communicable Chronic Diseases by Telephone Interviews - VIGITEL."

After the completion, the instruments were checked for failures, prior to the database compilation, in Microsoft Office Excel software® 2010.

The data analysis was performed through descriptive and inferential statistics, with the aid of the IBM SPSS program® version 2.0, using the Pearson Chi-square test for univariate analysis, multiple logistic regression and association measure represented by the *Odds Ratio* (OR), with a respective confidence interval of 95%. In the multiple analysis, the *Forward* method was used, being included the variables with value of $p<0.20$ and considered associated with those with $p<0.05$. The Hosmer and Lemeshow (HL) test was used to verify the fit quality of the model, so that the closer to 1, the better the fit.

The study project was approved by the Permanent Ethics Committee in Research with Human Beings of the State University of Maringá (Opinion No. 162.077/2012). All the participants have signed the Free and Informed Consent Term in two copies.

RESULTS

The individuals studied were, in average, 40.9 years old. Most of them were connected to a religion (89.8%), inserted in the labor market (80.3%), had children (71.3%), and a partner (67.9%). More than half were white/Caucasian (58%), belonged to the B economic class (53%) and had no health insurance (52.7%). A considerable proportion were employers/self-employed workers (40.9%), who had completed high school (36.8%) and who had family income between 2.1 and 4 minimum wages (34%). Regarding the prevalence of health risk behaviors, it was found that 86.2% of them reported insufficient physical activity; 44.7% self-medication; 42.3% did not perform routine exams; 39.2% inadequate diet; 36.3% did not have any leisure activities; 30.4% alcohol abuse; 24.9% inadequate vaccination status, and 19.5% smoking.

In the univariate analysis, it was found that the variables age, family income, health insurance and economic class had a significant association with alcohol abuse. Regarding smoking, the variables significantly associated were religion, schooling, family income, health insurance, and economic class (Table 1).

Table 1 - Univariate analysis of the variables alcohol abuse and smoking in adult males according to sociodemographic characteristics, Maringá-PR, 2013

Sociodemographic characteristics	Alcohol abuse			Smoking		
	n	%	p	n	%	p
Age Group						
20 to 29	39	42.9	0.013	16	17.6	0.959
30 to 39	31	32.6		19	20.0	
40 to 49	31	26.3		23	19.5	
50 to 59	27	23.1		24	20.5	
Ethnicity						
White/Caucasian	79	32.4	0.301	45	18.4	0.529
Not white	49	27.7		37	20.9	

Sociodemographic characteristics	Alcohol abuse			Smoking		
	n	%	p	n	%	p
Marital status						
No partner	48	35.6	0.114	33	24.4	0.077
Has a partner	80	28.0		49	17.1	
Children						
Yes	87	29.0	0.324	64	21.3	0.130
No	41	33.9		18	14.9	
Religion						
Yes	112	29.6	0.306	67	17.7	0.007
No	16	37.2		15	34.9	
Schooling						
Up to 4th grade	12	24.0	0.060	15	30.0	0.005
Elementary	27	27.0		22	22.0	
High School	41	26.5		34	21.9	
Higher	45	39.8		10	8.8	
Working						
Yes	102	30.2	0.839	63	18.6	0.381
No	26	31.3		19	22.9	
Family Income						
Up to 2	18	25.4	0.016	25	35.2	0.001
2.1 to 4	35	24.5		18	12.6	
4.1 to 6	28	29.5		21	22.1	
More than 6	46	42.0		18	16.1	
Occupational Status						
Employer/Self-Employed	54	31.4	0.554	33	19.2	0.520
Employed	48	30.6		27	17.2	
Retired/on medical leave	10	21.3		12	25.5	
Unemployed	6	30.0		6	30.0	
Student/Trainee	10	40.0		4	16.0	
Health Insurance						
Yes	73	36.7	0.006	30	15.1	0.029
No	54	24.4		52	23.5	
Economic Class						
Class A	18	58.1	<0.001	6	19.4	0.003
Class B	77	34.5		37	16.6	
Class C	29	18.5		33	21.0	
Class D	4	44.4		6	66.7	

Regarding the practice of risk behaviors, it was identified that the variables age group, schooling, work, family income, health insurance and economic class were significantly associated, and the occupational status was associated only with insufficient physical activity, whereas no leisure time was associated with age group, ethnicity, family income, schooling, health insurance and economic class (Table 2).

Table 2 - Univariate analysis of the variables insufficient physical activity, inadequate diet and no leisure time of adult males, according to sociodemographic characteristics. Maringá-PR, 2013

Sociodemographic characteristics	Insufficient Physical Activity			Inadequate Diet			No leisure time		
	n	%	p	n	%	p	n	%	p
Age Group									
20 to 29	74	81.3		37	40.7		25	27.5	
30 to 39	87	91.6	0.243	41	43.2	0.751	36	37.9	
40 to 49	101	85.6		43	36.4		44	37.3	0.026
50 to 59	101	86.3		44	37.6		48	41.0	
Ethnicity									
White/Caucasian	209	85.7	0.692	90	36.9	0.255	77	31.6	0.017
Not white	154	87.0		75	42.4		76	42.9	
Marital status									
No partner	118	87.4	0.628	103	36.0	0.052	47	34.8	0.654
Has a partner	245	85.7		62	45.9		106	37.1	
Children									
Yes	260	86.7	0.678	50	41.3	0.570	116	38.7	0.118
No	103	85.1		115	38.3		37	30.6	
Religion									
Yes	323	85.4	0.173	146	38.6	0.479	133	35.2	0.143
No	40	93.0		19	44.2		20	46.5	
Schooling									
Up to 4th grade	49	98.0		26	52.0		24	48.0	
Elementary	90	90.0	0.003	44	44.0	0.056	50	50.0	<0.001
High School	134	86.5		56	36.1		55	35.5	
Higher	88	77.9		36	31.9		24	21.2	
Working									
Yes	303	89.6	<0.001	25	30.1	0.059	125	37.0	0.582
No	60	72.3		140	41.4		28	33.7	
Family Income									
Up to 2	64	90.1		33	46.5		34	47.9	
2.1 to 4	122	85.3	0.003	70	49.0	<0.001	65	45.5	<0.001
4.1 to 6	90	94.7		36	37.9		35	36.8	
More than 6	87	77.7		26	23.2		19	17.0	
Occupational Status									
Employer/Self-Employed	160	93.0		67	39.0		64	37.2	
Employed	133	84.7		67	42.7		57	36.3	
Retired/on medical leave	36	76.6	0.003	17	36.2	0.693	19	40.4	0.335
Unemployed	14	70.0		6	30.0		8	40.0	
Student/Trainee	20	80.0		8	32.0		5	20.0	

Sociodemographic characteristics	Insufficient Physical Activity			Inadequate Diet			No leisure time		
	n	%	p	n	%	p	n	%	p
Health Insurance									
Yes	200	81.4	0.007	61	30.7	<0.001	57	28.6	0.002
No	162	90.5		104	47.1		96	43.4	
Economic Class									
Class A	26	83.9	0.009	7	22.6	0.028	2	6.5	<0.001
Class B	182	81.6		80	35.9		66	29.6	
Class C	147	93.6		73	46.5		80	51.0	
Class D	8	88.9		5	55.6		4	44.4	

The inadequate vaccination status had an association with marital status, religion and family income; and to the non-performance of preventive exams was associated with age group, marital status, children, family income, occupational status and health insurance, while self-medication was not associated with any sociodemographic variables (Table 3).

Table 3 - Univariate analysis of inadequate vaccination status, non-performance of preventive exams and self-medication in adult males, according to sociodemographic characteristics. Maringá-PR, 2013

Sociodemographic characteristics	Inadequate Vaccination Status			Non-performance of exams			Self-medication		
	n	%	p	n	%	p	n	%	p
Age Group									
20 to 29	23	25.3	0.588	50	54.9	<0.001	41	45.1	0.969
30 to 39	19	20.0		57	60.0		43	45.3	
40 to 49	30	25.4		45	38.1		54	45.8	
50 to 59	33	28.2		26	22.2		50	42.7	
Ethnicity									
White/Caucasian	57	23.4	0.379	98	40.2	0.302	112	45.9	0.546
Not white	48	27.1		80	45.2		76	42.9	
Marital status									
No partner	45	33.3	0.006	72	53.3	0.002	61	45.2	0.881
Has a partner	60	21.0		106	37.1		127	44.4	
Children									
Yes	75	25.0	0.965	62	38.7	0.018	135	45.0	0.823
No	225	24.8			51.2		53	43.8	
Religion									
Yes	88	23.3	0.020	159	42.1	0.789	170	45.0	0.697
No	17	39.5		19	44.2		18	41.9	
Schooling									
Up to 4th grade	16	32.0	0.274	22	44.0	0.910	24	48.0	0.138
Elementary	28	28.0		45	45.0		35	35.0	
High School	31	20.0		64	41.3		69	44.5	
Higher	29	25.7		46	40.7		57	50.4	

Sociodemographic characteristics	Inadequate Vaccination Status			Non-performance of exams			Self-medication		
	n	%	p	n	%	p	n	%	p
Working									
Yes	78	23.1	0.075	150	44.4	0.079	154	45.6	0.450
No	27	32.5		28	33.7		34	41.0	
Family Income									
Up to 2	16	22.5	0.042	31	43.7	0.041	31	43.7	0.354
2.1 to 4	47	32.9		65	45.5		60	42.0	
4.1 to 6	22	23.2		47	49.5		39	41.1	
More than 6	20	17.9		35	31.2		58	51.8	
Occupational Status									
Employer/Self-Employed	47	27.3	0.171	83	48.3	0.001	78	45.3	0.779
Employed	30	19.1		65	41.4		70	44.6	
Retired/on medical leave	14	29.8		6	12.8		20	42.6	
Unemployed	8	40.0		9	45.0		7	35.0	
Student/Trainee	6	24.0		15	60.0		13	52.0	
Health Insurance									
Yes	47	23.6	0.606	69	34.7	0.002	94	47.2	0.333
No	57	25.8		109	49.3		94	42.5	
Economic Class									
Class A	3	9.7	0.116	8	25.8	0.149	19	61.3	0.242
Class B	57	25.6		92	41.3		99	44.4	
Class C	40	25.5		73	46.5		67	42.7	
Class D	5	55.6		5	55.6		3	33.3	

In the multiple analysis, it was found the association of age group and economic class with alcohol abuse, with men aged between 40 and 59 years old and belonging to the B and C economy classes being protected. Men with a family income of between 2.1 and 4 minimum wages, higher education and those with religious beliefs are more protected in relation to smoking. Men who work are more likely to report insufficient physical activity, while men with the occupational status employed and who have high school/higher education are protected, that is, they have fewer chances of reporting insufficient physical activity. Regarding the inadequate diet, men who do not work and do not have a health insurance are more likely to have such behavior, and, on the other hand, men with a higher family income are protected (Table 4).

For the inadequate vaccination status, it was observed that men who do not have partners and a religious belief had a higher chance for this occurrence, whereas men with the occupational status employed presented indicative chances of protection. Regarding the non-performance of periodic exams, men aged between 50-59 years old, with retired/on medical leave occupational status and with health insurance are more protected. Men with a family income greater than six minimum wages were protected in relation to no leisure time. On the other hand, men of the C economy class reported more frequently not having leisure time (Table 4).

Table 4 - Multiple analysis of health risk behaviors according to sociodemographic characteristics (independent variables), adult men. Maringá-PR, 2013

Independent variables		Health risk behaviors	
		OR (IC 95%)	*p*
Alcohol Abusea			
Age Group	40 to 49 years old	0.5 (0.3-0.9)	0.017
	50 to 59 years old	0.4 (0.2-0.8)	0.007
Economic Class	Class B	0.4 (0.2-0.8)	0.011
	Class C	0.2 (0.1-0.4)	<0.001
Smokingb			
Family Income	2.1 to 4.0	0.2 (0.1-0.5)	<0.001
Schooling	Higher	0.2 (0.1-0.6)	0.005
Religion	Yes	0.4 (0.2-0.7)	0.006
Insufficient Physical Activityc			
Working	Yes	6.9 (1.4-34.8)	0.020
Occupational Status	Employed	0.4 (0.2-0.9)	0.040
Schooling	High School	0.2 (0.1-0.7)	0.026
	Higher	0.2 (0.1-0.4)	0.007
Inadequate Dietd			
Working	No	1.7 (1.0-2.9)	0.047
Family Income	More than 6	0.4 (0.2-0.8)	0.014
Health Insurance	No	1.6 (1.0-2.5)	0.035
Inadequate Vaccination Statuse			
Marital status	No partner	1.9 (1.2-3.2)	0.010
Religion	No	2.0 (1.0-3.9)	0.043
Occupational Status	Employed	0.6 (0.3-0.9)	0.040
Non-performance of routine examsf			
Age Group	50 to 59 years old	0.3 (0.2-0.6)	0.002
Occupational Status	Retired/On medical leave	0.2 (0.1-0.6)	0.003
Health Insurance	Yes	0.5 (0.3-0.7)	0.001
No leisure timeg			
Family Income	More than 6	0.4 (0.2-0.8)	0.020
Economic Class	Class C	7.8 (1.7-36.5)	0.008

[a]HL= 0.995; [b]HL= 0.303; [c]HL=0.963; [d]HL=0.943; [e]HL= 0.978; [f]HL= 0.648; [g]HL= 0.976.

DISCUSSION

The alcohol abuse among men is a predisposing factor to diseases and non-communicable diseases (cardiovascular diseases and external causes, mainly). The prevalence found in this study was higher than what has been identified in the National Health Survey conducted in Brazil, which was 21.6%.[11] The finding that younger and better positioned economically men are more predisposed to alcohol abuse, besides corroborating the findings of a population study carried out with 5,792 men in Switzerland,[12] indicates the importance of directing healthcare to these individuals. Considering the difficulties faced by public health services in reaching younger men, it is important to emphasize the need for prevention and promotion actions to be implemented in association with the supplementary health sector.

Regarding smoking, there is a predominance among men of lower income. In a study carried out with 7,524 adults in Israel, it was found that lower family income and lower educational level were associated with the use of tobacco by men.[13] The populations with a lower economic power are still predisposed to smoking, which is mainly associated with the early onset of this habit, supposedly due to a greater vulnerability and exposure to drugs in general.[14]

Although the temporal trends indicate the reduction of this habit among men, it is necessary to continue the interventions in order to eliminate the smoking habit, including with a survey of the dependency treatment indicators as a way of assessing the control actions of this epidemic.[15] The survey of the social determinants and the interrelationships of smoking men may also culminate in the readjustment of the implemented actions, especially those that use groups, according to a study carried out in Goiás, which found a smoking dropout rate of 78% , after the application of Operating Groups.[16]

However, public policies aimed at combating smoking have reproduced traditional actions of a strictly scientific and prescriptive nature, however, a North American study carried out at national level with 6,203 adults, pointed out that the level of religiosity was inversely associated with the use of licit and illicit psychoactive substances, which includes tobacco derivatives.[17] The association found in this current study between religion and the lower proportion of smoking may be related to the belief in dogmas and the possible consequences of errors and sins, among them, addictions such as smoking. In general, religions demand healthy behaviors as ways of maintaining life.

The prevalence of insufficiently active individuals was very high among the men in the study; however, without considering occupational, locomotion or domestic work activities. The benefits of the regular physical activity for the health of adults are indisputably high, aiming mainly at the quality of life at more advanced ages.[18] In the association of physical activity with work, reasons such as lack of time, overwork, fatigue and indisposition restrict the practice of physical activity. In addition, the association with the occupational status employed was found, suggesting a greater availability for the practice of physical activity by men who are not autonomous, a condition that leads men to devote a large part of their time to work, since their income is generally proportional to the volume of work performed. Finally, the association of physical activity and men that are more educated is probably because they have more access to information about the benefits of regular physical activity and the implications that the absence of this practice can generate for health.

Together with the practice of physical activity, establishing an adequate diet converges for the prevention of many chronic conditions and serious cardiovascular events.[19] The behaviors related to diet that are considered inadequate are more seen in the South, Southeast and Midwest regions of Brazil, where the consumption of foods such as meat or chicken with excessive fat, whole milk, soda or artificial juice and sweet foods is higher, especially among young men.[20]

However, in this study it was observed that men with higher income were more protected in relation to an inadequate diet. This finding contrasts with the reality of Florianópolis-SC, which has establishments called "Direct from the Field", which commercialize fruits and vegetables at low prices, increasing the access of the population with economic restrictions. In a study carried out in 18 countries from all continents, it is pointed out that in regions with lower incomes, the foods mentioned are less consumed due to their low accessibility, suggesting that future studies should investigate the sociodemographic disparities that imply an inadequate diet.[21]

Regarding the finding that the non-working men referred having an inadequate diet, it is assumed that this fact may be related the difficulty of access to the recommended foods due to the financial limitation and to the fact that, among the men who did not work, there were students, who, at times, end up developing inadequate eating habits. In turn, the association of an inadequate diet with not having a health insurance may be related to a possible interaction with the family income variable, which may make an individual more or less willing to adhere to a health insurance.

Regarding the vaccination status, it was verified that almost 1/4 of the studied sample declared to be the vaccination calendar incomplete. It is important to highlight that although the adult vaccination was already incorporated into the routine of the health services with the double bacterial vaccine against tetanus and diphtheria, the official adult calendar was only legitimized in 2004, making it possible, for example, the immunization against yellow fever every 10 years.[22] In an ecological study, carried out with data referring to the municipality of Maringá, the veracity of the data on vaccination coverage in adults was questioned, emphasizing

that they estimate little care for promotion and protection of health, among them the vaccination,[23] in addition to the lack of studies on the vaccination status in population groups other than children.[24]

Thus, the need for strategies in the care practice and in research investigating the situation and vaccination coverage of the adult population, especially among men, is highlighted, which will allow, among other aspects, to identify social, economic and gender inequalities regarding the vaccination status. For this reason, the present study points to factors associated with the inadequate vaccination status of the adult male population, such as absence of partner and religion, and the unemployed occupational status. Therefore, having no partner and no religion may predispose the adoption of unhealthy practices or even neglect of one's own health. On the other hand, being employed, and not autonomous, for example, may indicate greater availability for the search for care, such as immunization. Thus, not having a fixed income, increases and/or encourages the need to work beyond regular hours. In addition, some companies require the updating of the vaccination card at the hiring moment and/or periodic examinations.

Men over 50 years old, retired or on medical leave, and those with health insurance were the ones who declared to perform routine preventive exams. Also, in the literature, the association of age and having a health insurance with the performance of preventive exams, especially the screening of prostate cancer, is verified.[25] Regarding the occupational status, it is important to observe that the motivation for the exam may be related to the specificities of the exam itself status, such as being retired, including due to illness, and the relative availability for medical care and leave, which may also influence male's habits in relation to the demand for preventive exams.

Having a partner and children did not remain associated with the performance of preventive exams, however, they are important factors and need to be further investigated and considered by health professionals in the actions developed with men. In a study carried out with elderly men, it was also found that those who had a partner performed more periodic exams,[25] which reiterates the strength of the example and the female orientation role in male's health behavior. In addition, it was found in the current study that men who had children reported significantly less the non-performance of preventive exams, which endorses the importance of knowing the supportive network and the interrelationships of these adult men. A study carried out with men in cancer treatment showed that the forms of support built and consolidated impacted positively throughout their lives, and that the family was important at the time of making decisions about the performance of exams.[26]

The prevalence of self-medication among men was 44.7%, lower than that found in Uganda[27] and in Belém, 59.3%.[28] In a study carried out in Guatemala, it was found that self-medication was higher among women.[29] On the other hand, in Aragón-Spain, a prevalence of 11.5% of self-medication among women and the elderly was identified,[30] which may suggest an inverse relationship between the search for health services and self-medication, considering that women and the elderly people seek these services more frequently. Even if no factors associated with self-medication have been found, it is necessary that there be commitment in educational and surveillance actions by health professionals, with the objective of stimulating the rational use of medications and combating adverse reactions, drug interactions and the low adherence to prescribed therapies among adult men.

Regarding the non-performance of any leisure activity, the prevalence found was relatively low (36.3%). In research conducted in different countries, such as Germany, Italy, Spain, the United States and the United Kingdom, shows that leisure activities, whether passive or active, were higher among men than among women, however, this tends to occur among elderly individuals.[31] Similar to what has been evidenced in other behaviors, the family income and economic class were inversely associated with the non-performance of leisure activities, becoming important variables when seeking to investigate health behaviors among men.

The participants of this study belonging to the C economic class had a greater prevalence and chance of not performing any leisure activity, which indicates the need for attention to this part of the population. It is believed that the association of no leisure time with the C economic class can be explained by the lower economic power, and consequent less access to leisure options; and cultural issues, as some types of leisure can be practiced without much or no financial demand.

The availability of free health care to the lower income classes and the government investment to expand actions directed at the male population should help ensure that economically disadvantaged men can also access preventive healthcare services. In addition, periodic examinations can

contribute to the improvement of male health indicators, especially in relation to the mortality from cardiovascular diseases and malignant neoplasia.

CONCLUSION

The results of this study point to the high prevalence of some health risk behaviors and, in addition, show that different sociodemographic factors are associated with these behaviors, in order to increase the chance of occurrence or protection. In general, factors associated with behavior are related to work and economic issues, which, although not modifiable by health professionals, should be considered in the implementation of actions for men's health. In addition, the search for or the availability of a support network for the adult man should be incorporated into the planning of actions.

Methodological limitations that should be observed in future research on male's health behavior are highlighted; as the cross-sectional study type, which does not allow establishing causal relations; the use of an untested research tool; and the data collection schedules, which made it difficult to reach the men who worked. In addition, it would be necessary to categorize the variable smoking according to the number of cigarettes consumed per day, and to replace the family income per income *per capita*.

REFERENCES

1. Moura EC, Gomes R, Falcão MTC, Schwarz E, Neves ACM, Santos W. Gender inequalities in external cause mortality in Brazil, 2010. Cienc Saúde Coletiva. 2015; 20(3):779-88.
2. Schwarz E, Gomes R, Couto MT, Moura EC, Carvalho AS, Silva SFC. Política de saúde do homem. Rev Saúde Pública. 2012; 46(Supl): 108-16.
3. Modesto AAD'A, Couto MT. Erectile Dysfunction in Brazilian Primary Health Care: Dealing with Medicalization. Am. J Men's Health. 2017; 1-10. [Epub ahead of print]
4. Medeiros PA, Streit IA, Sandreschi PF, Fortunato AR, Mazo GZ. Participação masculina em modalidades de atividades físicas de um programa para idosos: um estudo longitudinal. Cienc Saúde Coletiva. 2014; 19(8):3479-88.
5. Luizaga CTM, Gotlieb SLD. Male mortality in three Brazilian State Capitals, 1979-2007. Rev Bras Epidemiol. 2013; 16(1):87-99.
6. Prado MAMB, Franscisco PMSB, Bastos TF, Barros MBA. Use of prescription drugs and self-medication among men. Rev Bras Epidemiol. 2016; 19(3):596-608.
7. Barros MBA, Lima MG, Azevedo RCS, Medina LBP, Lopes CS, Menezes PR, et al. Depression and health behaviors in Brazilian adults – PNS 2013. Rev Saúde Pública. 2017; 51 (Suppl 1):8s
8. Malta DC, Berna RTI, Silva MMA, Claro RM, Júnior JBS, Reis AAC. Consumption of alcoholic beverages, driving vehicles, a balance of dry law, Brazil 2007-2013. Rev Saude Publica. 2014; 48(4):692-6.
9. Haskell WL, Lee IM, Pate RR, Powell KE, Blair SN, Franklin BA, et al. Physical activity and public health: updated recommendation for adults from the American College os Sports Medicine and the American Heart Associacion. Med Sci Sports Exerc., 2007; 39 (8):1423-34.
10. Muniz LC, Zanini RV, Schneider BC, Tassitano RM, Feitosa WMN, González-Chica DA. Prevalência e fatores associados ao consumo de frutas, legumes e verduras entre adolescentes de escolas públicas de Caruaru, PE. Cienc Saúde Coletiva. 2013; 18(2):393-404.
11. Garcia LP, Freitas LRS. Consumo abusivo de álcool no Brasil: resultados da Pesquisa Nacional de Saúde 2013. Epidemiol Serv Saúde. 2015; 24(2):227-37.
12. Charitonidi E, Studer J, Gaume J, Gmel G, Daeppen J-B, Bertholet N. Socieconomic status and substance use among swiss young men: a population-based cross-sectional study. BMC Public Health. 2016 Apr 14;16:333
13. Kalter-Leibovici O, Chetrit A, Avni S, Averbuch E, Novikov I, Daoud N. Social characteristics associated with disparities in smoking rates in Israel. Isr J Health Policy Res. 2016 Dec 1; 5:36.
14. Abreu-Villaça Y, Cavina CC, Ribeiro-Carvalho A, Correa-Santos M, Naiff VF, Filgueiras CC, et al. Combined exposure to tobacco smoke and etanol during adolescence leads to short- and long-term modulation of anxiety-like behavior. Drug Alcohol Depend. 2013 1; 133(1):52-60.
15. Meier DAP, Secco IAO, Vannuchi MTO. Análise de indicadores de programa de controle do tabagismo em município do norte do Paraná. Ciênc Cuid Saúde. 2012; 11(Supl):129-37.
16. Luchesse R, Vargas LS, Teodoro WR, Santana LKB, Santana FR. Operative group technology applied to tobacco control program. Texto Contexto Enferm [Internet]. 2013 [cited 2013 Sep 19]; 22(4):918-26. Available from: http://dx.doi.org/10.1590/S0104-07072013000400007
17. Moscati A, Mezuk B. Losing Faith and finding religion: religiosity over the life course and substance use and abuse. Drug Alcohol Depend. 2015; 136:127-34.
18. Lahti J, Holstila A, Lahelma E Rahkonen O. Leisure-time physical activity and all-cause mortality. Plos One [Internet]. 2014 Jul 2 [cited 2013 Sep 19]; 9(7):e101548. Available from**: https://doi.org/10.1371/journal.pone.0101548**
19. Ashton LM, Hutchesson MJ, Rollo ME, Morgan PJ, Collins CE. Motivators and barriers to engaging in healthy eating and physical activity. Am J Mens Health. 2017;11(2):330-43.

20. Claro RM, Santos MAS, Oliveira TP, Pereira CA, Szwarcwald CL, Malta DC. Unhealthy food consumption related to chronic noncommunicable diseases in Brazil: National Health Survey, 2013. Epidemiol Serv Saúde. 2015; 24(2):257-65.
21. Miller V, Yusuf S, Chow CK, Dehghan M, Corsi DJ, Lock K, et al. Availability, affordability, and consumption of fruits and vegetables in 18 countries across income levels: findings from the Prospective Urban Rural Epidemiology (PURE) study. Lancet Glob Health. 2016;4(10):e695-703.
22. Domingues CMA, Teixeira AMS. Coberturas vacinais e doenças imunopreveníveis no Brasil no período 1982-2012: avanços e desafios do Programa Nacional de Imunizações. Epidemiol Serv Saúde. 2013; 22(1):9-27.
23. Marques FRB, Furlan MCR, Okubo P, Marcon SS. Relação entre morbidade hospitalar e cobertura vacinal contra Influenza A. Acta Paul Enferm. 2012; 25(5): 686-93.
24. Yokokura AVCP, Silva AAM, Bernardes ACF, Lamy Filho FL, Alves MTSSB, Cabra NAL, et al. Cobertura vacinal e fatores associados ao esquema vacinal básico incompleto aos 12 meses de idade, São Luís, Maranhão, Brasil, 2006. Cad Saúde Pública. 2013; 29(3):522-34.
25. Luz LL, Silva JFS, Mattos IE. Prevalência e fatores associados à realização de exames de rastreamento para câncer de próstata em idosos de Juiz de Fora, MG. Cienc Saúde Colet [Internet] 2013 [cited 2013 Sep 19]; Available from: http://www.scielo.br/pdf/csc/v18n12/a10v18n12.pdf
26. Owens OL, Jackson DD, Thomas TL, Friedman DB, Hébert JR. Prostate Cancer Knowledge and Decision Making Among African-American Men and Women in the Southeastern United States. Int J Mens Health. 2015; 14(1):55-70.
27. Ocan M, Bwanga F, Bbosa GS, Bagenda D, Waako P, Ogwal-Okeng J, et al. Patterns and predictors of self-medication in northern Uganda. Plos One. 2014; 9(3):e92323.
28. Silva JAC, Gomes AL, Oliveira JPS, Sasaki YA, Maia BTB, Abreu BM. Prevalência de automedicação e os fatores associados entre os usuários de um Centro de Saúde Universitário. Rev Bras Clin Med. 2013; 11(1):27-30.
29. Ramay BM, Lambour P, Cerón A. Comparing antibiotic self-medication in two sócio-economic groups in Guatemala city: a descriptive cross-sectional study. BMC Pharmacol Toxicol. 2015;16:11.
30. Carrera-Lasfuentes P, Aguilar-Palacio I, Roldán EC, Fumanal SF, Hernandez MJR. Medicine consumption in the adult population: Influence of self-medication. Aten Primaria. 2013 Sep 12; S0212-6567(13)00165-0.
31. Adjei NK, Brand T, Zeeb Hajo. Gender inequality in self-reported health among the elderly in contemporary welfare countries: A cross-country analysis of time use activities, socioeconomic positions and family characteristics. Plos One. 2017; 12(9):e0184676.

Correspondence: Guilherme Oliveira de Arruda
Rua Dr. Saulo Porto Virmond, n. 768, ap. 104
87005-090 - Chácara Paulista, Maringá, PR, Brazil
E-mail: enfgoa@gmail.com

Received: February 2, 2015
Approved: May 12, 2015