

Physical activity and health conditions of military police in attendance or health treatment

Actividad física y estado de salud de policías militares bajo tratamiento u hospitalizados

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ABSTRACT

Introduction: different studies have demonstrated that public security agents, despite their professional demands, are also affected by sedentary lifestyle. Several causes have been identified for physical inactivity in Public Security agents, mainly in Military Police officers, such as the high rates of distress, long working days, the growth of violence and economic problems related to the permanence of institutions, the lack of police officers and low salaries.

Objective: to analyze the association between usual physical activity, stress, health conditions and socio demographic and occupational characteristics of the military police which is attended to or those under hospital treatment.

Methods: the application of instruments Short Form Health Survey and the international questionnaire on physical activity (long version) in 526 individuals.

Results: The statistical associations showed lower metabolic equivalent values in domestic physical activities and lower occurrence of depression as a symptom of stress whereas general health indexes tended to rise.

Conclusions: it can be concluded that the military police officers surveyed were considered active people regarding the level of physical activity at home, in leisure and occupational activities, and in mild, moderate and severe activities. The physical and mental scores were found to be below the average estimated for the health conditions.

Keywords: motor activity, health, military police.

RESUMEN

Introducción: diferentes estudios han demostrado que los policías, a pesar de sus demandas profesionales, también se ven afectados por el sedentarismo. Varias causas han sido identificadas para la inactividad física en esta población (principalmente en los oficiales), como altas tasas de estrés, largas jornadas de trabajo, aumento de la violencia y los problemas económicos relacionados con el mantenimiento de las instituciones, falta de efectivos y bajos salarios.

Objetivo: analizar la asociación entre la actividad física habitual, los síntomas de estrés, las condiciones de salud y las características sociodemográficas y ocupacionales de los policías atendidos y en tratamiento hospitalario.

Métodos: se aplicó el cuestionario de calidad de vida y salud, y el cuestionario Internacional de actividad física (versión larga) a 526 sujetos.

Resultados: las asociaciones indican que los policías presentaron un valor bajo con relación al equivalente metabólico en actividades físicas domésticas y baja ocurrencia de depresión como síntoma de estrés; existió una tendencia a valores más altos de salud en general.

Conclusiones: los policías militares investigados se consideran activos en el nivel de actividad física en tareas domésticas, en actividades de tiempo libre y ocupacional, y en actividades leves, moderadas e intensas. Las puntuaciones de los dominios físicos y mentales se encuentran por debajo de la media calculada para las condiciones de salud.

Palabras clave: actividad motora, salud, policía militar.

INTRODUCTION

Nowadays typical of urbanization and industrialization lifestyle have caused several commitments to human health. One of the most deleterious aspects of this contemporary lifestyle is the sedentary lifestyle, which considerably reduces the levels of physical fitness and consequently the health and life quality.¹ Besides, various social factors, mental and physical stressors affect the conditions of health and quality of life of several professional segments, affecting more intensely those who act in the Public Safety area.²

Currently, more than two million deaths are attributed to physical inactivity each year in the world and that approximately 60 % of the world population and 60 % of the Brazilian population do not practice physical activity sufficient for health promotion.^{2,3} Studies have demonstrated that public security agents, despite their professional demands, are also affected by sedentary lifestyle, both in Brazil.⁴⁻⁹

Various causes have been identified for physical inactivity in Public Security agents, mainly in Military Police officers, such as the high rates of distress, long working days, the growth of violence and economic problems related to the maintenance of corporations, such as the lack of effective and low salaries, among others, in addition to the consequences of the hierarchy and discipline and institutional pressures typical of mental activity in the fight against crime, which have relation with the increase of diseases and occupational accidents and with the reduction of the time for leisure, for the family and for the practice of physical activities and sports.^{1,10}

Considering the presented context, this study aimed to analyze the associations between usual physical activities, symptoms of stress, health conditions and socio-demographic and occupational characteristics of military police in attendance or hospital treatment.

METHODS

This study is about a cross-sectional survey of descriptive correlational type that was approved by the Ethics Committee for Research involving Human Beings of the State University of Santa Catarina, under protocol no. 130/2011.

Sample

The population was delineated from the population of military police of effective Military Police of Santa Catarina, eligible to care or treatment of health at the Hospital of the Military Police (HPM), of 11,663 active and 4,839 reserve (N= 16,5). The sample was estimated for the type simple random with replacement, establishing quantitative from the minimum probability of low quality of life related to health conditions of 50 %, with a margin of error of less than 5 %, a level of confidence of 95 % and an increase of 40 % for sample loss, cases inconsistent or missing data, since it is application of quantitative questionnaires, totaling a sample of 526 subjects (n). The sample size calculation was performed according to the following equation: $n = N(Z^2)(p)(1-p)/Z^2(p)(1-p) + E^2(N-1)$, in which: n= sample size, N= population size, Z= standardized normal variable associated with the level of confidence, p= minimum probability of pathologies occurrence and E = sampling error tolerable.

The research was carried out on the HPM, located in Florianopolis city/SC, which has overall responsibility for the effective care of the Military Police of Santa Catarina, both those who are active in, as for those who are in reserve. The HPM incorporates including the Medical Committee of the Corporation, which is responsible for deviations from health, exams for career promotion and attendance in various medical specialties and health areas.

Instruments

There were adopted basically two instruments for data collection: Short Form Health Survey (SF-36); Questionnaire on Physical Activity, long version (IPAQ). It is emphasized that these instruments were selected for four reasons:

- Present sufficient psychometric consistency.
- Are internationally accepted and widely used.
- Are reliable and validated for the Brazilian reality.
- Allow quantitative evaluation of the studied variables.

The SF-36 was specifically selected to be used in this study by measuring the quality of life related to health conditions. This instrument is composed of 36 items grouped into eight domains: functional capacity, physical aspects, pain, general state of health, vitality, social aspects, emotional aspects, mental health.^{11,12} The SF-36 is

calculated from the issues evaluated by means of answers of type unique alternative and Lickert scale type and also allows the calculation of the *raw scale* in the investigated areas, in accordance with the formula proposed by *Ware and Gandek*¹¹ and validated in Brazil by *Ciconelli, Ferraz, Santos, Meinão and Quaresma*.¹²

The IPAQ was selected for use in this study, by allow to estimate the metabolic equivalent (MET) and the classification of the physical activity level. This instrument consists of 25 questions that assess the physical activities in four areas: work, domestic tasks, transportation, leisure /sports/recreation. The IPAQ still has questions about sedentary behavior in relation to the amount of hours used to remain sitting watching television, both during the week and on weekends, and for working seated.¹³The results of this instrument are calculated in accordance with pre-set values for each type of physical activity, according to the guidelines of the *Karolinsky Institute*.¹⁴

A spreadsheet was used to collect data on demographic information (gender, age, marital status, origin place, possession of household goods and schooling), anthropometric measurements (weight and height), occupational (training area of study, official graduation, career time, number of daily hours of work, number of worked days per week, type of activity and size of effective that belong), on health (coronary risk, removed from the Coronary Risk Score of the *American College of Cardiology* and *American Heart Association*)¹⁵ and also about signs and physical and psychological symptoms of stress withdrawn from the *Rotterdam Symptom Check List* adapted.¹⁶

Procedures

Initially, were requested permissions to the institutional responsible and subsequently proceeded to the submission of Committee on Ethics in Research involving Human Beings of the State University of Santa Catarina. After its approval, the research was carried out at the premises of the HPM, however, the subjects who had been treated and were no longer available at the time of empirical collection, were located at a later date, with the proper application of the research instruments. The subjects were asked to sign the informed consent, ensuring the anonymity of respondents.

The application of the instruments occurred in two basic ways:

- With filled out by researchers from the information reported directly by the research subjects.
- With filled out by own research subject and with posterior fold by researchers.

Statistical Analysis

The data were analyzed with the *Statistical Package programs Social Science (SPSS)* version 17.0 and *Statistical Data Analysis (STATA)* version 11.0. The calculations of reliability of the data were performed by means of *Cronbach's coefficient*, with adoption of alpha value greater than or equal to 0,700. The descriptive analyzes were performed by means of calculations of mean and confidence interval of 95 % (CI: 95 %). The data normality was evaluated by means of the Kolmogorov-Smirnov test.

The differences between genders for the variables age, nutritional status, level of education, career time, number of hours of daily work, quantity of days worked per week, type of actuation, size of effective that belongs, health conditions and physical activity were tested by means of the analysis of 95 % confidence interval (CI: 95 %).

The relationship between the values of the general health condition and the predictive variables were analyzed by means of linear regression, in which the dependent variable was considered as the condition of general health value obtained with SF-36, with the demographic variables, anthropometric, occupational and physical activity that were considered as independent.

Each one of the independent variables were analyzed as the dependent, second simple linear regression model, with a cutoff point for entry into multiple model and the value of *p* less than or equal to 0.20. Already in multiple model, the variables were analyzed according to the *forward model*. It is considered significant, the variables of the multiple model, those that showed *p*<.05 and/or to modify in more than 10 % the value of the angular coefficient (*β*) of any model variable.

RESULTS

The distribution by gender shows that the majority of military police is male (*f*= 375). The mean values, standard deviation and confidence interval of age characteristics demonstrate that the average age of the sample studied was 30.5 years (*SD*= 7.7). The average values indicate that the military police work in 4.7 (*SD*= 1) days per week and per 697.9 (*SD*= 302.8) minutes per day.

The distributions of socio demographic characteristics show that the majority of military police officers, both men and women, has academic levels; however, the values of the confidence intervals indicate significant differences between men and women for the strata of the medium complete/superior incomplete degree of instruction and superior complete/post-graduate students *latosensu* (table 1).

As the distributions of age groups, the majority of military police officers, including men and women, it is at the age of 25 to 34 years. The values of the confidence intervals indicate significant differences between men and women in all age ranges. The distributions regarding the type of activity indicate that the majority of military police officers, both men and women, is in soldiers formation (table 1).

Table 1. Distribution of sociodemographic and anthropometric data

Sociodemographic and anthropometric data	Total		Male		Female	
	%	n	% (n)	CI	% (n)	CI
18-24 years	15.8	88	15 (73)	(12.2; 18.3)	20.8 (15)	(17.5; 24.4)
25-34 years	57.3	320	55.6 (270)	(51.3; 59.7)	69.4 (50)	(65.3; 73.2)
35-44 years	18.5	103	20.2 (98)	(16.9; 23.8)	6.9 (5)	(5.0; 9.4)
45-54 years	8.4	47	9.3 (45)	(7.1; 12.0)	2.8 (2)	(1.6; 4.6)
Literacy						
Illiterate/Incomp. primary	0.7	4	0.6 (3)	(0.1; 1.5)	1.4 (1)	(0.6; 2.8)
Comp. primary/ Incomp. basic	0.9	5	1 (5)	(0.4; 2.3)	0	
Comp basic./Incomp. high school	5.4	30	6.2 (30)	(4.3; 8.4)	0	
Comp. high school/Incomp. university	24.4	135	26.3 (127)	(22.7; 30.2)	11.1 (8)	(8.5; 13.9)
Comp. university/Posgraduate	66.8	370	64.1 (309)	(59.9; 68.1)	84.7 (61)	(81.4; 87.6)
Posgraduate <i>stricto sensu</i>	1.8	10	1.7 (8)	(0.7; 3.0)	2.8 (2)	(1.6; 4.6)
Nutritional status						
Underweight	0.9	5	0.4 (2)	(0.04; 1.3)	4.2 (3)	(2.7; 6.4)
Normalweight	50.2	269	45.3 (210)	(41.0; 49.7)	81.9 (59)	(78.4; 85.1)
Obesity I	40.9	219	45.5 (211)	(41.2; 49.8)	11.1 (8)	(8.4; 13.9)
Obesity II	6.9	37	7.8 (36)	(5.7; 10.4)	1.4 (1)	(0.6; 2.9)
Obesity III	1.1	6	1.1 (5)	(0.4; 2.4)	1.4 (1)	(0.6; 2.9)

n: frequency; CI: confidence interval; Incomp.: incomplete; Comp.:complete.

The distributions of nutritional characteristics indicate that the majority of military police men is with normal weight and obesity I. On the other hand the military police women are within the considered normal weight.

Even considering the socio demographic characteristics distributions, it was found that, among the military policemen who have university degree, the sequential frequency values of university trainings show the highest prevalence in Administration areas (19.4 %), Physical Education (15.8 %), Law (14.4 %) and Public Safety (11 %), among others.

The distributions of occupational characteristics indicate that the majority of military police officers, both men and women, have five or less career years. The values of the confidence intervals indicate significant differences between men and women for the strata of time of career ≤ 5 years, 21-25 years, and > 25 years.

In relation to distributions regarding the effective quantity, it is observed that the majority of military police officers, both men and women, have 11 to 50 police officers in the unit in which it operates.

The distributions of sedentary lifestyle classification on what concerns the physical activity area indicate that the majority of military police, including men and women, is considered active during domestic activities. Regarding the leisure activities, the majority of military police men and women are active. The confidence intervals values indicate significant differences between men and women on leisure activities ([table 2](#)).

Table 2. Rating distribution of sedentary lifestyle of physical activity domains

Physical activity domains	Total		Male		Female	
	%	n	% (n)	IC	% (n)	IC
Domestic activities						
Sedentary	27.6	154	27.8 (135)	(24.1; 31.7)	26.4 (19)	(22.7; 30.2)
Active	72.4	404	72.2 (351)	(68.3; 75.9)	73.6 (53)	(69.8; 77.3)
Leisure activities						
Sedentary	18.6	104	17.7 (86)	(14.7; 21.2)	25 (18)	(21.5; 28.9)
Active	81.2	453	82.3 (399)	(78.8; 85.3)	75 (54)	(71.3; 78.6)
Occupational activities						
Sedentary	9.3	52	10.1 (49)	(7.7; 12.8)	4.2 (3)	(2.6; 6.1)
Active	90.7	506	89.9 (437)	(87.2; 92.3)	95.8 (69)	(93.9; 97.4)
Light activities						
Sedentary	9.7	54	10.5 (51)	(8.1; 13.4)	4.2 (3)	(2.6; 6.1)
Active	90.3	504	89.5 (435)	(86.6; 91.8)	95.8 (69)	(93.9; 97.4)
Moderate activities						
Sedentary	7.7	43	8.2 (40)	(6.1; 10.8)	4.2 (3)	(2.6; 6.1)
Active	92.3	515	91.8 (446)	(89.2; 93.9)	95.8 (69)	(93.9; 97.4)
Intense activities						
Sedentary	5.2	29	5.3 (26)	(3.6; 7.6)	4.2 (3)	(2.6; 6.1)
Active	94.8	529	94.7 (460)	(92.4; 96.3)	95.8 (69)	(93.9; 97.4)
Transport activities						
Sedentary	41.8	233	40.9 (199)	(36.7; 45.1)	47.2 (34)	(42.9; 51.4)
Active	58.2	325	59.1 (287)	(54.9; 63.2)	52.8 (38)	(48.6; 57.1)

n: frequency; CI: confidence interval.

In relation to the occupational activities, the study indicated that the majority of military police men and women are active. The confidence intervals values shows significant differences between men and women for the occupational activities ([table 2](#)).

The domain of moderate activities points out as active the majority of military police officers, both men and women. The confidence intervals values do not indicate significant differences between men and women for the moderate activities.

In intensive activity field the majority of military police men and women, appears as active. The confidence intervals values do not indicate significant differences between men and women for the intensive activity.

The field of transport activities indicates that the majority of military police officers, both men and women, are considered active. The confidence intervals do not indicate significant differences between men and women for the transportation activities.

The distributions of risk behaviors to health strata, concerning smoking, indicate that the majority of military police officers, both men and women, never smoked ([table 3](#)). The confidence intervals values indicate significant differences between men and women for the smoking stratum 10 and 20 cigarettes per day ([table 3](#)).

The distributions as for the systolic blood pressure (SBP) indicate that the majority of military policemen has PAS of 120 to 130 mmHg. Already the military police women have SBP of 110 to 119 mmHg. The confidence intervals values indicate significant differences between men and women for the systolic blood pressure strata of 110 to 119 mmHg, 120 to 130 mmHg and 131 to 140 mmHg.

The distributions regarding the type of physical activity they point out that a great part of the military police, men and women, has moderate professional activity. The confidence intervals values do not indicate significant differences between men and women for physical activity type.

Already the distributions regarding family history indicate that the majority of military police, including men and women, has no cardiovascular diseases background. The confidence intervals values do not indicate significant differences between men and women for family history category.

The glycemia distributions indicate that the majority of military police officers, men and women, has fasting blood glucose below 80 mg/dl. The confidence intervals values do not indicate significant differences between men and women for glucose category.

In addition, the distributions concerning cholesterol indicate that the majority of military police officers, both men and women, has cholesterol below 180 mg/dl. The confidence intervals values do not indicate significant differences between men and women for category cholesterol.

The values distribution in health condition fields indicate that the majority of military police officers, both men and women, presents scores of physical and mental domains below the expected average calculated, finding himself at the first standard deviation negative scale (- 1DP: 40 to 50) of health conditions, although there are no average gross below 50 points ([table 4](#)).

However, confidence intervals values indicate significant difference between men and women only in vitality related to health condition ([table 4](#)).

Table 3. Distribution of the strata of the health risks

Health risks	Total		Male		Female	
	%	n	% (n)	IC	% (n)	IC
Cigarette smoking						
Neversmoked	79.7	401	78.9 (345)	(75.1; 82.4)	84.8 (56)	(81.4; 87.9)
Ex-smoker	12.1	61	12.8 (56)	(9.9; 15.9)	0	
Less than 10 cigarettes/day	4.8	24	4.6 (20)	(2.9; 6.8)	7.6 (5)	(5.4; 10.2)
Between 10 and 20 cigarettes/day	1.8	9	2.1 (9)	(1.1; 3.9)	6.1 (4)	(4.2; 8.6)
Between 21 and 30 cigarettes/day	1.2	6	1.1 (5)	(0.5; 2.6)	1.5 (1)	(0.7; 3.1)
Between 31 and 40 cigarettes/day	0.4	2	0.5 (2)	(0.01; 1.7)	0	
Blood Pressure						
110-119 mmHg	34.7	124	30.4 (93)	(25.8; 35.6)	60.8 (31)	(55.5; 65.9)
120-130 mmHg	52.1	186	54.9(168)	(49.6; 60.1)	35.3 (18)	(30.3; 40.5)
131-140 mmHg	9	32	10.1 (31)	(7.2; 13.7)	2 (1)	(0.8; 4)
141-160 mmHg	3.1	11	3.3 (10)	(1.7; 5.8)	2 (1)	(0.8; 4)
161-180 mmHg	0.8	3	1 (3)	(0.3; 2.8)	0	
>180 mmHg	0.3	1	0.3 (1)	(0.07; 1.5)	0	
Physical activity						
Intense professional	17.3	86	17.6 (76)	(14.4; 21.3)	15.4 (10)	(12.4; 18.9)
Moderate professional	40.2	200	40.2 (174)	(35.8; 44.6)	40 (26)	(35.6; 44.4)
Light professional	18.7	93	18.2 (79)	(14.9; 21.9)	21.5 (14)	(17.9; 25.3)
Sedentary professional/moderate esportiva	9.2	46	9.7 (42)	(7.2; 12.6)	6.2 (4)	(4.3; 8.7)
Sedentary professional/light esportiva	7.4	37	7.4 (32)	(5.3; 10.1)	7.7 (5)	(5.5; 10.3)
Physical inactivity	7.2	36	6.9 (30)	(4.8; 9.4)	9.2 (6)	(6.8; 12.1)
Family background						
None known history of CVD	73.0	346	73.1 (302)	(68.7; 76.9)	72.1 (44)	(67.9; 76.1)
Parents with > 60 years with CVD	9.5	45	9.4 (39)	(7.0; 12.5)	9.8 (6)	(7.2; 12.7)
Parents with >60 years with CVD	2.3	11	2.4 (10)	(1.2; 4.1)	1.6 (1)	(0.7; 3.3)
Parents with < 60 years with CVD	11.6	55	11.1 (46)	(8.5; 14.4)	14.8 (9)	(11.7; 18.3)
Parents with < 60 years with CVD	1.9	9	2.2 (9)	(1.0; 3.8)	0	
Parents and brother/sister with CVD	1.7	8	1.7 (7)	(0.7; 3.3)	1.6 (1)	(0.7; 3.3)
Glycemia						
Fasting below 80 mg/dL	60.1	191	60.5 (164)	(54.8; 65.8)	57.4 (27)	(51.9; 63.0)
Diabetics in the family	31.4	100	30.3 (82)	(25.2; 35.5)	38.3 (18)	(33; 43.9)
Fasting with 100 and within 1 hour with 160 mg/dL	5	16	5.2 (14)	(3.1; 8.4)	4.3 (2)	(2.4; 7.3)
Fasting with 120 and within 1 hour with 160 mg/dL	1.9	6	2.2 (6)	(0.8; 4.5)	0	
Treated diabetic	0.9	3	1.1 (3)	(0.2; 2.7)	0	
Uncontrolled diabetic	0.6	2	0.7 (2)	(0.08; 2.2)	0	
Cholesterol						
< 180 mg/dL	62.2	183	62.2 (183)	(56.4; 67.8)	66 (33)	(60.2; 71.4)
181-200 mg/dL	20.7	61	20.7 (61)	(16.3; 25.8)	26 (13)	(20.9; 31.3)
201-220 mg/dL	9.9	29	9.9 (29)	(6.7; 13.8)	6 (3)	(3.7; 9.5)
221-249 mg/dL	3.1	9	3.1 (9)	(1.4; 5.7)	0	
250-280 mg/dL	3.1	9	3.1 (9)	(1.4; 5.7)	2 (1)	(0.7; 4.4)
> 280 mg/dL	1	3	1 (3)	(0.2; 2.9)	0	

n: frequency; CI: confidence interval.

Table 4. Distribution of domains of health status

Health status	Total		Male		Female	
	Md	IC	Md	IC	Md	IC
Functional capacity	79,4	(76,7; 82,1)	78,7	(75,7; 81,6)	84,6	(78,1; 91,0)
Physical aspect	54,9	(51,5; 58,3)	54,5	(50,9; 58,1)	57,5	(47,7 ; 67,3)
Pain	57,2	(54,8; 59,6)	57,3	(54,7; 59,9)	56,8	(50,3; 63,2)
Overall health	65,3	(62,7; 67,9)	65,1	(62,3; 67,8)	66,9	(59,5 ; 74,4)
Vitality	54,4	(52,2; 56,6)	54,8	(52,5; 57,2)	51,4	(45,4; 52,4)
Social aspect	62,1	(59,4; 64,8)	61,2	(58,3; 64,1)	68,4	(60,6; 76,2)
Emotional aspect	56,7	(53,3; 60,1)	56,5	(52,8 ; 60,1)	58,6	(48,9; 68,3)
Mental health	62,2	(59,8; 64,6)	62,2	(59,6; 64,8)	62,6	(55,9; 69,3)

Md: median; CI: confidence interval.

The distributions of stress signs values indicate that the majority of military police, including men and women, shows lack of appetite, irritability, fatigue, worry and pain and had no signs of depression (table 5). However, the confidence intervals values do not indicate significant differences between men and women for all signs of stress surveyed (table 5).

Table 5. Distribution of stress signals by gender

Stress Signals	Total		Male		Female	
	%	n	% (n)	IC	% (n)	IC
Lack of appetite						
No	49,3	240	49,5 (209)	(44,9; 54,0)	47,7 (31)	(43,1; 52,2)
Yes	50,7	247	50,5 (213)	(45,9; 55,9)	52,3 (34)	(47,8; 56,9)
Irritability						
No	20,3	100	21,1 (90)	(17,6; 25,0)	15,4 (10)	(12,3; 18,9)
Yes	79,7	392	78,9 (337)	(74,9; 82,4)	84,6 (55)	(81,0; 87,6)
Tiredness						
No	5,4	27	5,3 (23)	(3,4; 7,6)	6,2 (4)	(4,3; 8,8)
Yes	94,6	471	94,7 (410)	(92,4; 96,6)	93,8 (61)	(91,3; 95,7)
Preoccupation						
No	4,2	21	4 (17)	(0,5; 1,4)	6,2 (4)	(4,3; 8,8)
Yes	95,8	474	96 (413)	(93,8; 97,5)	93,8 (61)	(91,2; 95,7)
Pains						
No	14,5	72	14,4 (62)	(11,5; 17,9)	15,4 (10)	(12,4; 18,9)
Yes	85,5	425	85,6 (370)	(82,1; 88,5)	84,6 (55)	(81,0; 87,6)
Depression						
No	61,2	303	53,5 (260)	(49,0; 58)	66,2 (43)	(61,9; 70,4)
Yes	38,8	192	35 (170)	(30,7; 39,3)	33,8 (22)	(29,6; 38,1)

Md: median; CI: confidence interval.

The parameters of the multiple regression values of the general state of health accordingly socio demographic variables, anthropometric, occupational, physical activity and clinical stress signs/symptoms. After the simple regression finalization of each of the independent variables in relation to the dependent variable, were selected for entry into multiple model specific training, type of activity, physical domestic activities, moderate physical activity, and symptom of stress (depression), all with $p < .20$.

The variables domestic physical activities ($\beta = -.311$; $p = .013$) and the stress-depression symptom ($\beta = -.262$; $p = .034$), remained on the multiple linear regression model, both with statistical significance ($p < .05$). Like this, the military police with smaller metabolic equivalent (METs) value in physical domestic activities and lower depression occurrence as a stress symptom tend to have general health higher values, regardless of each of the independent final variables.

DISCUSSION

The prevalent age ranges between 25 and 34 years converges with the data found in the literature with small age variations as in *Protásio*¹⁷ study with Brazil Radiopatrulha (26 to 32 years) military police, of *Ferreira, Bonfim* and *Augusto*⁴ with military police of Recife/PE city (36 to 45 years) and *Costa, Accioly Junior, Oliveira* and *Maia*¹⁸ with military police of Natal/RN city (< 40).

The superior University /Post-graduate *latosensu* degree subjects of this study also partially converges with the selected literature^{4,18} and ratifies the legal requirements existing in Santa Catarina State. In the quoted studies above of *Ferreira, Bonfim* and *Augusto*⁴ the majority of the subjects had completed high school (64.9 %) or university degree (8.6 %) and *Costa, Accioly Junior, Oliveira* and *Maia*¹⁸ the majority of the subjects had completed high school (77.3 %). However, in Brazil most of the agents, especially the squares, still has no university degree, because until 2009 it was not necessary to take this degree to assume the position or compete to some promotion.

It should be highlighted that the studied population was located between the treated agents or treated in HPM including the agents who passed by the Medical Committee to join the Military Police of Santa Catarina, and therefore, already framed in Complementary Law no. 454/2009 that requires university degree in any area for the squares (soldier, corporal, sergeant and Sub-Lieutenant) and university degree in Law for officers (lieutenant, captain, major, lieutenant colonel and colonel). On what concerns other subjects from the HPM, you must pay attention to the Military State of Santa Catarina Status, according to Law no. 6.218/1983, Article 11 which provides that officers must possess a university degree education for entering the Military Police.

In spite of the majority present normal weight, the high percentage of subjects with excess body weight and obesity grade I (40.9 %) are not in line with the results presented in the questionnaires, in which 94.8 % of the agents are active. In this sense, one can hypothesize that there is a controversy in the results with the reality, there are recoveries, both by the Corporation and the society itself for a posture and a life style of these professionals that is compatible with their occupational requirements.

The Family Budget Survey, of the Brazilian Geography and Statistics Intitute¹⁹ pointed out that the excess weight in adult men, who was of 18.5 % in 1974/1975 period, turned to 50.1 % in 2008-2009 period and, in women, which was 28.7 % in period

1974/1975 period, turned to 48 % in 2008/2009 period. It should be highlighted that the IBGE survey¹⁹ also showed that the Southern region has the highest percentage of obesity, because it increased from 15.9 % among men and 19.6 % among women to 56.8 % among men and 51.6 % among women, respectively, of the 1974/75 period and 2008/2009 period, mainly in men with higher yield (61.8 %).

The relatively short time of service of the majority of subjects converges with *Costa, Accioly Junior, Oliveira* and *Maia*¹⁸ study, because the service time ranged between 2 and 9 years, reflecting this way, the expansion number policy in military police of Rio Grande do Norte State. However, it must be considered that the relatively short time of service can be analyzed from the sample occupational characteristics, since the subjects in this study were in treatment or care at HPM and, therefore, included those that passed by the Medical Committee for expulsion in service, promotion or Corporation ingress.

By analyzing the service time in relation to the type of activity, it was found that the majority of police investigated is under preparation in soldiers training program. In spite of this analysis, it should be highlighted that the specialized literature points out that the Public Safety professionals with less than 10 years of service already have health problems as a result of various consequences related to police action, mainly between the agents that act on operational and organizational institution service of societies that have high crime rates and local violence.^{1,10}

The prevalence of soldiers in this study can be analyzed from the sample characteristics, the legal documents relating to Santa Catarina Military Police because effectively Santa Catarina Military Police is composed of 10 619 squares and 674 officers, being that between the squares, the largest number is of soldiers, which reaches 6 778 individuals¹⁹ and also of the specialized literature that converges as the obtained data.^{10,1}

According to the specialized literature, the soldiers are directly exposed to the crime and, therefore, are more prone to traumatic events, mainly related to the confrontation, as the injuries themselves of firearms or sprains and typical fractures of persecution in different terrain and conditions.^{10,1}

Despite the predominance of police officers in training, it was found that more than a quarter of the sample operates in operational function, which involves services performed directly in the community, which requires police officers good physical preparation to in cases intervene. It is, therefore, admissible understand that operational actuation causes physical damage, insomniacs nights and exposes the military police to risks, including death, because it is more vulnerable to the suspect confrontation than the police who works in the administrative sector.^{20,21}

On the other hand, it should be pointed out also that the administrative actuation sector of the Military Police has tightened the occupational health related mainly to making bureaucratic overtures, organizational pressures and the psychological pressure. Because, as *Spode* and *Merlo*²² discuss, military police officers on a command function in Police Corporations have several responsibilities, among them the achievement of crime rates reliable statistics, the studies of sites with larger propensities to occurrences and the planning of jobs performances, work scales, of licenses concessions and day-off management and vacation.

The differences indicate that the military police women are more sedentary in leisure physical activities and the associations of the general health condition, with depression signs and with domestic physical activities, converge with the study of *Costa, Accioly Junior, Oliveira* and *Maia*¹⁸ who points out that police officers with more

than 30 years of age, without any leisure activity and competition, have high rates of stress, and can generate several clinical complications. Already the differences indicates that male military police are more sedentary in occupational physical activities, converge partially with *Jesus* and *Jesus*²³ study who points out that the military police women are more active in occupational activities than military police men.

It may be considered, in accordance with the specialized literature, that the area of Public Safety action is an important health risk factor, not only by direct physical threats, but also by the consequences of disturbances caused by situations that affect the self-esteem and dignity insults received, of unjust treatments of civil society and of the non-completion frustrations of professional objectives inherent to professional career. These conditions are aggravated in women police cases, because, in addition, are still exposed to the demands of several domestic tasks, such as to care of family, home, financial administration and children education. So, the policewoman have less time to maintain activities that increase their vitality, to perform physical activities, to enjoy leisure moments and even taking care of their own health and well-being.

With respect to the predisposing health risks factors, you can check that the prevalence of non-smokers, especially in military policemen, partially converges with the selected studies, both those related to the Santa Catarina Military Police²⁴ as of Corporations in other Federation States.^{18,25} In a study carried out by *Boldori* and *Silveira*²⁴ at Battalion of Military Police Special Operations of Florianopolis Center, it was identified that the majority does not smoked. In *Minayo, Souza* and *Constantine*²⁵ study, carried out with Military Police of Rio de Janeiro/RJ agents, it was observed a significant percentage of non-smokers military police.

On what concerns the results on the systolic blood pressure adequate to health care, especially in military policemen, there is a convergence with the study developed by *Minayo, Assisi* and *Oliveira*⁵ with Rio de Janeiro military police who identified only 17.4 % of those surveyed had arterial hypertension. According to the World Health Organization²⁵ individuals without hypertension adequate control of this condition may have a reduction in life expectancy of up to 16 years. Almost 15 % of deaths every year in the world are attributed to uncontrolled hypertension, being that 80 % of these deaths occur in countries of low and middle economic development and more than half in individuals between 45 and 69 years.

In Brazil, there is around a third of encephalic vascular accidents and myocardial infarctions presents direct cause with systemic arterial hypertension. According to the World Health Organization²⁶ in Brazil, 39.4 % of men with more than 25 years and 26.6 % of women in this age group are suffering from hypertension.

The low scores of the vitality domain assessed by the SF-36, mainly in military policemen, were not analyzed comparatively, because studies were not identified on this population theme. In this respect, this data was analyzed with studies that addressed police, requiring relativization, because the activity in the Public Safety area can be considered a relevant health risk factor, affecting vitality, because besides the physical factors, psychological, organizational, and social, the police still suffer from the typical conventionalism of an institution that presents predominance of strong evidence of typical male attitudes.^{27,28}

The occurrence of clinical signs and stress symptoms and the general health condition associations with depression signs converge partially with the selected studies.^{29,18} In *Dantas, Brito Rodrigues* and *Maciente*²⁹ study, with Minas Gerais military police, was identified that 76 % of those surveyed had stress, being that 24 % had this condition physical symptoms. *Costa, Accioly Junior, Oliveira* and *Maia*¹⁸ cited above, it was

found that 47.4 % of investigated people presented stress symptoms, being that 39.8 % were in resistance stage, 3.8 % in almost exhaustion, 3.4 % in alert and 0.4 % in exhaustion.

*Costa, Accioly Junior, Oliveira and Maia*¹⁸ also found that 76 % of police presented psychological stress symptoms, 24 % physical stress symptoms and identified association between stress and gender, especially with the female gender, diverging, in this way from the results found that indicate that the investigated military police in Santa Catarina HPM are the most affected.

It can be concluded that the military police searched, from service or treatments in Santa Catarina HPM, are getting sick in full productive age group, especially regarding the stress sign symptoms, which can be considered as a determining factor in health public expenses, both individual and collective. Despite the military police prevalence with middle and superior level within the recommended range of weight for health and with relatively short time in police career, it was found the occurrence of various deleterious factors, such as lack of appetite, irritability, fatigue, worry, pain, depression and excess weight. As beneficial aspects you can point the non-smoking, the physical activities (domestic, leisure and occupational; light, moderate and severe) and the clinical profiles (of arterial tension, blood glucose and cholesterol) within the normal levels. Stand out the associations that indicate that military police officers with metabolic lower level equivalent (MET's) in physical domestic activities and lower stress symptom depression occurrence tend to have general health higher values.

Two of these factors may be posted, being one negative and the other positive health conditions. In this case, you can point respectively, the excess weight in almost half of the sample, in particular military police and the predominance of physical activity classifications in all types of investigated physical activity. This way, it can be concluded that, despite the gross high scores of functional sub domains capacity, physical aspect, of pain, general health, vitality, social aspect, emotional and mental health, it was found that the physical and mental scores domains were found to be below the expected average calculated .

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Recibido: 17 de febrero de 2014.

Aprobado: 17 de abril de 2014.

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Patrocinado por: Fundação de Amparo à Pesquisa e Inovação do Estado de Santa Catarina-FAPESC/13.680/2011-8.