

Burnout Syndrome and alcohol consumption in prison employees

Síndrome de Burnout e consumo de álcool em agentes penitenciários

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ABSTRACT: *Objective:* The aims of this study were to estimate the association between an at-risk drinking pattern and sociodemographic variables, and to compare the mean scores of the factors associated with the Burnout Syndrome, according to the alcohol consumption pattern in staff members from two Brazilian prisons. *Methods:* A cross-sectional study was developed with 339 participants (response rate = 63.8%). The instruments used were a sociodemographic questionnaire, the Alcohol Use Disorders Identification Test (AUDIT), and the Maslach Burnout Inventory – General Survey (MBI-GS). *Results:* The participants' average age was 40.2 (SD = 8.8) years, and 81.0% were male. Among 78.5% of participants (95%CI 74.1 – 82.8) reported consuming alcoholic beverages. The prevalence of at-risk drinking behavior in the sample was 22.4% (95%CI 18.0 – 26.9), and of the Burnout Syndrome was 14.6% (95%CI 10.8 – 18.4). We observed a significant association between at-risk drinking behavior with gender, higher risk for men (OR = 7.32, $p < 0.001$), smoking, increased risk for smokers (OR = 2.77, $p < 0.001$), and religious practice, showing lower risks for religion practitioners (OR = 0.364, $p < 0.001$). We noticed significantly higher mean scores ($p < 0.001$) of emotional exhaustion and cynicism, and lower scores of professional achievement among individuals who reported consuming alcoholic beverages. *Conclusion:* Men who smoke were more likely to develop an at-risk drinking pattern, while religion is presented as a protective factor. Individuals who consume alcohol were more affected by the different factors of the Burnout Syndrome.

Keywords: Alcoholism. Burnout, Professional. Risk. Gender. Smoking. Religion.

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RESUMO: *Objetivo:* Estimar a associação entre o padrão de beber com risco e as variáveis sociodemográficas, e comparar os escores médios dos fatores relacionados com a Síndrome de *Burnout*, de acordo com o padrão do consumo de álcool em funcionários de duas prisões brasileiras. *Métodos:* Trata-se de um estudo transversal, desenvolvido com 339 participantes (taxa de resposta de 63,8%). Os instrumentos utilizados foram um questionário sociodemográfico, o Teste para Identificação de Problemas Relacionados ao Uso de Álcool (AUDIT) e o Inventário de *Burnout* de Maslach – Forma Geral (MBI-GS). *Resultados:* A média de idade dos participantes foi de 40,2 (DP = 8,8) anos, e 81,1% eram do sexo masculino. Um total de 78,5% dos participantes (IC95% 74,1 – 82,8) relatou consumir bebidas alcoólicas. A prevalência do comportamento de beber com risco na amostra foi de 22,4% (IC95% 18,0 – 26,9) e a da Síndrome de *Burnout* foi de 14,6% (IC95% 10,8 – 18,4). Observou-se associação significativa entre o comportamento de beber com risco com o gênero, o maior risco para os homens (OR = 7,32, $p < 0,001$), o tabagismo, risco aumentado para os fumantes (OR = 2,77, $p < 0,001$) e a prática religiosa, mostrando menor risco para os praticantes de religião (OR = 0,364, $p < 0,001$). Notaram-se escores médios ($p < 0,001$) mais altos de exaustão emocional e cinismo, e menor pontuação de eficácia profissional entre os indivíduos que relataram consumir bebidas alcoólicas. *Conclusão:* Homens fumantes foram os mais propensos a desenvolverem um padrão de beber com risco, enquanto a religião é apresentada como um fator protetor. Os indivíduos que consomem álcool foram os mais afetados pelos diferentes fatores da Síndrome de *Burnout*.

Palavras-chave: Alcoolismo. Esgotamento profissional. Risco. Gênero. Tabagismo. Religião.

INTRODUCTION

Most of the studies developed in prisons focused on prisoners' well-being and health issues, but those regarding the staff are scarce^{1,2}. Nevertheless, it has been shown that the prison environment, due to its specific conditions and associated risks, presents itself as particularly harmful for its workers, frequently leading to increased occupational stress and health hazards³⁻⁵.

Moreover, several authors have suggested that, in the attempt to deal with the resulting occupational stress, security and law enforcement professionals (such as police officers, prison guards and correctional officers) may present inadequate coping strategies and increased probability for substance abuse, such as alcohol consumption⁶⁻⁹. It has been further shown that these subjects show higher alcohol consumption rates than the general population⁸; however, the recent consumption rates seem to vary widely between different studies, which might be due to the use of diversified methodologies^{1,10,11}.

Various factors that seem to influence alcohol consumption have also been reported in the literature, varying from lifestyle variables, such as gender¹²⁻¹⁵, smoking^{12,16-19}, religious practice / spirituality^{17,20}, sports practice¹⁰, age^{6,15}, and income¹⁷, as well as working variables, like stress^{6,7,21} and level of job satisfaction⁶. Furthermore, it is important to highlight that a prolonged exposure to occupational stressors (intrinsic and extrinsic), together with low job satisfaction, may have a deleterious effect on the individual's physical health and lead to psychosocial disorders, such the Burnout Syndrome²².

Maslach and Jackson²³ characterize the Burnout Syndrome as a reaction to a longer exposure to occupational stress associated with a lack of adequate coping strategies. The authors describe it as having

three separate dimensions: emotional exhaustion, cynicism and low professional efficacy. Based on these characteristics, this syndrome may lead to a low perceived competence and interfere in the interactions with others²⁴. In addition, other authors have emphasized that it may result in inadequate coping strategies, such as increased alcohol or drug consumption, which, in turn, increase the individuals' ill-being, impacting their physical and psychological health, as well as their working and social capabilities²⁵⁻³⁰.

This study aimed at estimating the association between sociodemographic variables, like gender, practice of religion and smoking, with the pattern of risky drinking behavior, and comparing the mean scores of emotional exhaustion, cynicism and professional efficacy on present *versus* absent drinking behavior of the staff members from two São Paulo state prisons.

METHODOLOGY

STUDY DESIGN AND SAMPLING

An observational and cross-sectional study with a non-probabilistic sampling was developed during 2011 and 2012. The staff members from two prisons (Penitentiary 1 – PI, n = 241; and Penitentiary 2 – PII, n = 290) located in a municipality in the state of São Paulo, Brazil, were invited to participate.

STUDY VARIABLES

Sociodemographic and work-related information regarding age, gender, residence, children, economic level, work shift, working hours, prison unit, religion, sports practice, smoking habits, and medication intake due to occupational problems, was collected in order to enable sample characterization.

The participants' economic level was determined based on "*Critério Brasil*", recommended by the Brazilian Market Research Association (ABEP)³¹.

The Alcohol Use Disorders Identification Test (AUDIT) was applied to identify the drinking pattern. The Maslach Burnout Inventory – General Survey (MBI-GS) was used to assess the Burnout Syndrome. The instruments are further described.

INSTRUMENTS

The AUDIT – Portuguese version³² is composed of 10 objective questions that allow responses with predetermined weights, ranging from zero to four (frequency – items 1, 2 and 3; symptoms – 4, 5 and 6; consequences – 7, 8, 9 and 10). The sum of scores from every question indicated the classification of each individual based on the alcohol consumption habits³³.

The MBI-GS – Portuguese version³⁴ is comprised of 16 questions, divided into three factors: emotional exhaustion (items 1, 2, 3, 4 and 6); cynicism (items 8, 9, 13, 14 and 15) and professional efficacy (items 5, 7, 10, 11, 12 and 16). The answers are provided in a seven-point Likert-type scale (zero to never, six to always). The last author of this manuscript obtained the license of MBI.

PROCEDURES

The questionnaires were confidential and self-completed in an isolated room in the penitentiary, during the working hours and previously appointed with the institution's direction.

STATISTICAL ANALYSIS

Initially, the psychometric sensitivity of each item of the scales (MBI-GS and AUDIT) was assessed using measures of shape (skewness and kurtosis). A confirmatory factor analysis, using the maximum likelihood method, was conducted. The indices used to evaluate the goodness of fit were the ratio of χ^2 by degrees of freedom (χ^2/df), the comparative fit index (CFI), the goodness of fit index (GFI) and the root mean square error of approximation (RMSEA). Values of $\chi^2/df \leq 2.0$, CFI and GFI ≥ 0.90 and RMSEA ≤ 0.10 were indications of an adequate fit^{35,36}. All items with factor weights (λ) lower than 0.40 and those whose trajectories and/or correlations presented Lagrange multipliers > 11 ($p < 0.001$), were removed³⁵. The reliability was assessed through the standardized Cronbach's alpha coefficient (α)^{37,38}.

After analyzing the instruments' psychometric properties, the individuals were grouped according to the alcohol consumption pattern into abstinence, moderate drinking, and at-risk drinking. This last category comprised individuals with patterns of harmful drinking, hazardous risk, and possible dependence. The fusion of these categories was done to ensure the minimum sample size required for subsequent modeling analysis. To study associations between sociodemographic variables and drinking risk, the groups were dichotomized into "present" or "absent" at-risk drinking, and the χ^2 test with Yates correction was used. As a risk measure, we applied the Odds Ratio (OR) by point and 95% confidence interval (95%CI). For computation of the at-risk drinking pattern probability, as a role of several sociodemographic variables, these with $p < 0.10$ were included in the final multiple logistic regression model. To compare the mean scores of exhaustion, cynicism and professional efficacy according to the pattern of alcohol consumption, an analysis of variance (ANOVA) followed by Tukey's post-test was performed. Statistical significant effects were assumed for $p < 0.05$.

All statistical analyses were conducted either with SPSS AMOS (version 20, SPSS – IBM Company, Chicago, IL), or SPSS Statistics (version 20, SPSS – IBM Company, Chicago, IL).

ETHICAL ASPECTS

This project was approved by the Ethics Committee on Human Research of the School of Pharmaceutical Sciences at *Universidade Estadual Paulista "Júlio de Mesquita Filho"* (UNESP), under protocol 22/2011, as well as by the principal of penitentiaries. All the participants agreed and signed the informed consent form.

RESULTS

A total of 339 penitentiary staff members participated in the study (response rate – RR = 63.8%; PI – n = 119, RR = 49.4%; PII – n = 220, RR = 75.9%). The mean age of participants was 40.2 (SD = 8.8) years old.

The distribution of answers to the AUDIT is presented in Table 1.

A bias in the answers given to questions 4-10 was observed regarding the lower scores, corresponding to the dimensions “symptoms” and “consequences” of alcohol consumption. Question 4 was removed to improve the AUDIT data factor structure ($\lambda = 0.50 - 0.95$; $\chi^2/df = 3.981$; CFI = 0.939; GFI = 0.940; RMSEA = 0.094; $\alpha = 0.68 - 0.88$).

The distribution by point and 95%CI of the subjects according to the pattern of alcohol consumption is presented in Table 2.

The overall prevalence of participants with at-risk drinking behavior was 22.4%.

The study of the association between sociodemographic and occupational variables of interest and at-risk drinking behavior (absent, present) is presented in Table 3. It is important to highlight that not all individuals answered all sociodemographic questions.

We observed a significant association between at-risk drinking behavior and gender, religious practice, and smoking. Men and smokers are more likely to present at-risk drinking behaviors, and the religion practice was a significant protective factor against it. This relationship was maintained in the multiple model (Table 4).

With regard to the Burnout Syndrome, skewness and kurtosis of all items were below three (in absolute values) and, therefore, there was no severe violation of normality³⁶.

Distribution of the participants' responses to the MBI-GS is in Table 4. Three individuals did not complete this instrument.

The high prevalence of participants who reported feeling “used up” after facing a work day, with a frequency ranging from regularly to everyday (question 2), and feeling burned out by work (question 6), is noteworthy in 54.8 and 55.9% respectively.

Another worth noting fact is that many individuals (45.2%) reported losing enthusiasm towards work (question 9), and most participants (83.8%) wished to do their jobs undisturbedly (question 13).

In the confirmatory factor analysis, we observed a bad fit of the MBI-GS to the data ($\lambda = 0.31 - 0.91$; $\chi^2/df = 4.768$; CFI = 0.889; GFI = 0.855; RMSEA = 0.106; $\alpha = 0.81 - 0.94$). Item 13 presented a factor weight lower than 0.40 and the modification indices indicated a strong correlation between items 14 and 15 (LM = 151.242). Thus, we proceeded to the improvement of the model, thus question 13 was removed, and a correlation between 14 and 15 was inserted. An adequate fit of the three-factor model to the sample was obtained ($\lambda = 0.43 - 0.91$; $\chi^2/df = 2.721$; CFI = 0.956; GFI = 0.914; RMSEA = 0.071) as reported in a previous study (submitted for publication).

Prevalence of the Burnout Syndrome was found in 14.6% (95%CI 10.8 – 18.4). The mean score of emotional exhaustion among the participants was of 2.71 (SD = 1.76), 2.44 (SD = 1.33) for cynicism, and 4.20 (SD = 1.22) for professional efficacy.

Table 1. Distribution of the participants according to the answers to the alcohol use disorders identification test. São Paulo, Brazil, 2011 – 2012.

Questions	Answers					
	A	B	C	D	E	Total
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
*1 – How often do you have a drink containing alcohol?	85 (25.1)	62 (18.3)	116 (34.2)	51 (15.0)	25 (7.4)	339
**2 – How many drinks containing alcohol do you have on a typical day when you are drinking?	175 (51.9)	88 (26.1)	48 (14.2)	14 (4.2)	12 (3.6)	337
***3 – How often do you have six or more drinks on one occasion?	183 (54.0)	73 (21.5)	23 (6.8)	52 (15.3)	8 (2.4)	339
***4 – How often, during the last year, did you find that you were not able to stop drinking once you had started?	293 (86.4)	21 (6.2)	6 (1.8)	7 (2.1)	12 (3.5)	339
***5 – How often, during the last year, did you fail to do what was normally expected of you due to drinking?	325 (95.9)	10 (2.9)	2 (0.6)	1 (0.3)	1 (0.3)	339
***6 – How often, during the last year, did you need a first drink in the morning to get yourself going after a heavy drinking session?	333 (98.2)	3 (0.9)	1 (0.3)	2 (0.6)	–	339
***7 – How often, during the last year, did you have a feeling of guilt or remorse after drinking?	291 (85.8)	30 (8.8)	5 (1.5)	4 (1.2)	9 (2.7)	339
***8 – How often, during the last year, were you unable to remember what happened the night before because of your drinking?	296 (87.3)	29 (8.6)	8 (2.4)	1 (0.3)	5 (1.5)	339
****9 – Have you or someone else been injured because of your drinking?	298 (87.9)	–	35 (10.3)	–	6 (1.8)	339
****10 – Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	287 (84.7)	–	26 (7.7)	–	26 (7.7)	339

*A: never; B: once per month or less; C: two to four times per month; D: two to three times per week; E: four or more times per week. **A: one or two “doses”; B: three or four “doses”; C: five or six “doses”; D: seven to nine “doses”; E: ten or more “doses”. ***A: never; B: once per month or less; C: once per month; D: once per week; E: every day or almost every day. ****A: no; C: yes, but not in the last year; E: yes, during the last year.

Table 2. Distribution by point and 95% confidence interval of the participants according to the pattern of alcohol consumption. São Paulo, Brazil, 2011 – 2012.

Category	n	%	95%CI
Abstinence	73	21.5	17.2 – 25.9
Moderate drinking	190	56.1	50.8 – 61.3
*Harmful drinking	58	17.1	13.1 – 21.1
*Hazardous risk	9	2.7	0.9 – 4.4
*Possible dependence	9	2.7	0.9 – 4.4
Total	339	100.0	

*at-risk drinking behavior

Table 3. Distribution of the participants according to the at-risk drinking behavior (absent, present) and sociodemographic variables of interest. São Paulo, Brazil, 2011 – 2012.

Variable	At-risk drinking		Total	χ^2_{Yates}	p-value	OR (95%CI)	Multiple logistic regression		
	Present	Absent					a, β (s.e.) a = -2.78 (0.62)	p-value	OR (95%CI)
Gender									
Male	73	200	273	13.20	< 0.001	7.42 (2.26 – 24.39)*	$\beta = 1.88$ (0.62)	0.002	6.53 (1.95 – 21.87)
#Female	3	61	64						
Do you work in the city you work in?									
Yes	54	179	233	0.05	0.822	1.11 (0.63 – 1.95)	-	-	-
#No	22	81	103						
Children									
Yes	55	198	253	0.22	0.639	0.83 (0.47 – 1.48)	-	-	-
#No	21	63	84						
Economic level †									
A and B (BRL 2,654 to #9,263 or more)	62	222	284	0.31	0.580	0.78 (0.40 – 1.52)	-	-	-
C (BRL 1,147 to 1,685)	14	39	53						
Prison unit									
PI	23	96	119	0.83	0.363	0.75 (0.43 – 1.29)	-	-	-
#PII	53	165	218						
What is your work shift?									
Nocturnal	22	67	89	0.16	0.686	1.17 (0.66 – 2.07)	-	-	-
#Diurnal	54	193	247						
What is your workload?									
12-hour-work/36-hour-rest (on call)	58	169	227	3.36	0.067	1.81 (0.99 – 3.30)	-	-	-
#8 hours/day	17	90	107						
Do you practice any religion?									
Yes	24	148	172	13.10	< 0.001	0.36 (0.21 – 0.62)*	$\beta = -0.88$ (0.29)	0.002	0.41 (0.23 – 0.72)
#No	50	111	161						
Do you smoke?									
Yes	27	42	69	12.48	< 0.001	2.87 (1.62 – 5.10)*	$\beta = 1.02$ (0.31)	< 0.001	2.78 (1.52 – 5.08)
#No	49	219	268						
Do you practice physical activity?									
Yes	39	137	176	0.02	0.960	0.95 (0.57 – 1.59)	-	-	-
#No	37	124	161						
Do you take or did you take medication due to your work?									
Yes	23	103	126	1.75	0.185	0.67 (0.38 – 1.15)	-	-	-
#No	53	158	211						

†reference class; *statistical significant differences for $\alpha = 0.05$; †: BRL 2,654 = USD\$ 1,153.41; BRL 9,263 = USD\$ 4,025.64; BRL 1,147 = USD\$ 498.48; BRL 1,685 = USD\$ 732.29 – Conversion rate of the Central Bank of Brazil, August 5th, 2013, at 2 pm

Table 4. Distribution of the participants' answers to the Maslach Burnout Inventory – General Survey. São Paulo, Brazil, 2011 – 2012.

Items	Factors	Answers							Total
		0	1	2	3	4	5	6	
		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
1... feel emotionally drained...	EE	39 (11.6)	64 (19.0)	60 (17.9)	46 (13.7)	38 (11.3)	49 (14.6)	40 (11.9)	336
2... feel used up...	EE	38 (11.3)	57 (17.0)	56 (16.7)	37 (11.0)	36 (10.7)	62 (18.5)	49 (14.6)	335
3...feel tired...	EE	66 (19.6)	70 (20.8)	56 (16.7)	37 (11.0)	26 (7.7)	43 (12.8)	38 (11.3)	336
4...working is really a strain...	EE	79 (23.5)	75 (22.3)	65 (19.3)	50 (14.9)	30 (8.9)	18 (5.4)	18 (5.4)	335
5...can solve problems...	PE	8 (2.4)	14 (4.2)	22 (6.5)	48 (14.3)	83 (24.7)	96 (28.6)	65 (19.3)	336
6...feel burned out...	EE	47 (14.0)	52 (15.5)	49 (14.6)	34 (10.1)	30 (8.9)	65 (19.3)	59 (17.6)	336
7...making effective contribution...	PE	9 (2.7)	16 (4.8)	27 (8.0)	56 (16.7)	74 (22.0)	80 (23.8)	74 (22.0)	336
8...less interested...	CY	88 (26.2)	59 (17.6)	62 (18.5)	48 (14.3)	27 (8.0)	25 (7.4)	27 (8.0)	336
9... less enthusiastic...	CY	72 (21.4)	50 (14.9)	62 (18.5)	47 (14.0)	38 (11.3)	38 (11.3)	29 (8.6)	336
10...I am good at job...	PE	4 (1.2)	9 (2.7)	11 (3.3)	36 (10.7)	45 (13.4)	113 (33.6)	118 (35.1)	336
11... feel exhilarated...	PE	8 (2.4)	13 (3.9)	25 (7.4)	57 (17.0)	46 (13.7)	84 (25.0)	103 (30.7)	336
12... accomplished many worthwhile things...	PE	38 (11.3)	44 (13.1)	49 (14.6)	38 (11.3)	33 (9.8)	72 (21.4)	62 (18.5)	336
13... to do my job and not be bothered...	CY	24 (7.1)	12 (3.6)	18 (5.4)	28 (8.3)	22 (6.5)	64 (19.0)	168 (50.0)	336
14... work contributes anything	CY	139 (41.4)	69 (20.5)	47 (14.0)	35 (10.4)	15 (4.5)	15 (4.5)	16 (4.8)	336
15... doubt the significance of my work	CY	135 (40.2)	79 (23.5)	42 (12.5)	33 (9.8)	14 (4.2)	9 (2.7)	24 (7.1)	336
16... feel confident...	PE	9 (2.7)	8 (2.4)	10 (3.0)	60 (17.9)	47 (14.0)	82 (24.4)	120 (35.7)	336

EE: emotional exhaustion; CY: cynicism; PE: professional efficacy; 0: never; 1: almost never/few times per year; 2: sometimes/once per month; 3: regularly/few times per month; 4: many times/once per week; 5: almost always/a few times per week; 6: always/every day

Table 5 presents the mean scores of exhaustion, cynicism and professional efficacy of the participants classified according to the pattern of alcohol consumption (abstinence, moderate drinking, and at-risk drinking).

We observed significantly higher mean scores ($p < 0.001$) of emotional exhaustion and cynicism, besides lower scores of professional efficacy among individuals who reported consuming alcoholic beverages as compared to the abstinent ones.

DISCUSSION

In this study, a 22.4% prevalence of an at-risk drinking pattern among employees of both prisons was found, which was significantly associated with gender, smoking, and religion practice. Individuals who reported consuming alcohol had higher mean scores of emotional exhaustion and cynicism, and lower ones of professional efficacy, compared to abstinent individuals.

The comparison between the prevalence of individuals consuming alcohol and those in an at-risk drinking pattern seen in this sample with the literature was not easy given that different methodologies were used when researching alcohol use. Nevertheless, this study results are in line with the literature that reported using the same instrument (AUDIT). Our findings regarding the prevalence of at-risk drinking pattern are in accordance with the results observed both in professionals of the public security area⁶ and in the general population^{15,39}. It is important to highlight that for the mentioned populations, including the present study, this prevalence was high.

We can observe that the majority of participants completed items 4 to 10 pointing out to the lowest possible values (Table 1). Although the same pattern is noticed in the general population¹⁵, it is important to mention this can be due to the possible influence of the social desirability, as suggested in previous studies⁴⁰. This effect may be increased because data were collected in the employment context. Despite this bias, the instrument showed adequate fit to the sample after refinement (removal of item 4), and the item exclusion did not affect the final classification of individuals as to the drinking behavior shown in Table 2.

Table 5. Mean scores of exhaustion, cynicism and professional efficacy of the participants classified according to the pattern of alcohol consumption. São Paulo, Brazil, 2011 – 2012.

Drinking pattern	n	Maslach Burnout Inventory – General Survey					
		Emotional exhaustion	p-value*	Cynicism	p-value*	Professional efficacy	p-value*
		Mean ± SD		Mean ± SD		Mean ± SD	
Abstinence	72	1.73 ± 1.43 ^a		1.64 ± 1.11 ^a		4.77 ± 1.34 ^b	
Moderate drinking	189	3.00 ± 1.70 ^b		2.66 ± 1.25 ^b		4.09 ± 1.15 ^a	
At-risk drinking	75	2.92 ± 1.84 ^b	< 0.001	2.68 ± 1.42 ^b	< 0.001	3.94 ± 1.11 ^a	< 0.001

*ANOVA; Different letters indicate statistically significant differences – Tukey's test

A greater chance of developing an at-risk drinking behavior was observed in males (Table 3), which is consistent with what has been presented in the literature^{6,13-15,39} and can be justified by biological, social, economic, and cultural premises^{17,41}. The significant association found between at-risk drinking behavior and smoking had also been previously reported in the literature^{12,15,17-19,39}.

Religious practice as a protective factor in the consumption of alcoholic beverages (Table 3) had also been previously reported³⁹. Moreira-Almeida, Lotufo Neto and Koenig²⁰ found an inverse relationship between alcoholism and religiosity in 80% of the 120 studies included in the literature review they performed.

As to data related to the component factors of the Burnout Syndrome (Table 5), our results corroborate those presented in the study conducted by Cullen et al.⁴², who indicated that correctional institutions employees had high levels of job dissatisfaction and cynicism. Moreover, Lindsay⁶ observed increased rates of alcohol consumption in police officers who had higher levels of stress and job dissatisfaction. Furthermore, authors such as Ahola et al.⁴³, Chen and Cunradi⁴⁴ and Cunradi, Chen and Lipton²⁶ suggest that alcohol consumption may be a way of coping in face of the presence of Burnout Syndrome (emotional exhaustion, cynicism and professional efficacy). Gould et al.³⁰ showed a positive and significant correlation between the use of dysfunctional coping strategies and emotional exhaustion ($r = 0.57$, $p < 0.001$) and cynicism ($r = 0.40$, $p < 0.01$), besides a negative and significant correlation with efficacy ($r = -0.31$, $p < 0.01$) in correctional employees.

Despite being a cross-sectional study, this investigation contributes for understanding how burnout can be associated with alcohol consumption on prison workers.

The results presented in this study aim at highlighting the need of attention regarding the impact that demographic and professional exhaustion characteristics may have on at-risk drinking in correctional workers. We further suggest the development of prevention strategies to decrease the Burnout Syndrome and the consumption of alcoholic beverages in these workers. We hope this paper may further alert for the need for creating (educational/preventive/corrective) proposals for the work context with the objective of preserving this population's health. Hence, it is important the participation of managers and health professionals, namely psychologists, involved in this process.

CONCLUSION

There was a high prevalence of an at-risk drinking pattern among employees of prisons, with a significant association between gender, smoking and practice of religion. Men, who smoke and do not practice a religion, presented a greater chance of developing at-risk drinking behaviors. Individuals who reported consuming alcohol had significantly higher mean scores of emotional exhaustion and cynicism and lower professional efficacy.

REFERENCES

1. Fernandes RC, Silvano Neto AM, Sena GM, Leal AS, Carneiro CA, Costa FP. Trabalho e cárcere: um estudo com agentes penitenciários da região metropolitana de Salvador, Brasil. *Cad Saúde Pública* 2002; 18(3): 807-16.
2. Güilgüiruca M, Herrera-Bascur J. Occupational health in a Penitentiary Center in Chile: a view from Human Resources policies. *Rev Esp Sanid Penit* 2015; 17: 12-9.
3. Botha C, Pienaar J. South African correctional official occupational stress: the role of psychological strengths. *J Crim Justice* 2006; 34(1): 73-84.
4. Xanthakis A. Levels of work-stress and burnout among prison officers. an examination of the need for a staff counselling service in a forensic setting. *Counsell Psychol Rev* 2009; 24(3): 100-18.
5. Akbari J, Akbari R, Farasati F, Mahaki B. Job stress among Iranian prison employees. *Int J Occup Environ Med* 2014; 5: 208-15.
6. Lindsay V. Police officers and their alcohol consumption: should we be concerned? *Police Quarterly* 2008; 11(1): 74-87.
7. Ballenger JF, Best SR, Metzler TJ, Wasserman DA, Mohr DC, Liberman A, et al. Patterns and predictors of alcohol use in male and female urban police officers. *Am J Addiction* 2011; 20(1): 21-9.
8. Smith DR. Alcohol and tobacco consumption among Australian police officers: 1989 to 2005. *Int J Police Sci Management* 2007; 9(3): 274-86.
9. Willman EA. Alcohol use among law enforcement. *J Law Enforcement* 2012; 2(3). Available from: <http://www.jghcs.info/index.php/1/article/view/150/146> (Acessado em 17 de dezembro de 2015).
10. Reichert FF, Lopes M, Loch MR, Romanzini M. Atividade física e outros aspectos relacionados à saúde de agentes penitenciários de Londrina-PR. *Rev Bras Ativ Fis Saude* 2007; 12(3): 5-11.
11. Richmond RL, Wodak A, Kehoe L, Heather N. How healthy are the police? A survey of life-style factors. *Addiction* 1998; 93: 1729-37.
12. Primo NL, Stein AT. Prevalência do abuso e da dependência de álcool em Rio Grande (RS): um estudo transversal de base populacional. *Rev Psiquiatr* 2004; 26(3): 280-6.
13. Galduróz JC, Caetano R. Epidemiologia do uso de álcool no Brasil. *Rev Bras Psiquiatr* 2004; 26(Suppl I): 3-6.
14. Ahnquist J, Lindstrom M, Wamala SP. Institutional trust and alcohol consumption in Sweden: the Swedish National Public Health Survey 2006. *BMC Public Health* 2008; 8: 283.
15. Reisdorfer E, Büchele F, Pires RO, Boing AF. Prevalence and associated factors with alcohol use disorders among adults: a population-based study in southern Brazil. *Rev Bras Epidemiol* 2012; 15(3): 582-94.
16. Costa JS, Silveira MF, Gazalle FK, Oliveira SS, Hallal PC, Menezes AM, et al. Consumo abusivo de álcool e fatores associados: estudo de base populacional. *Rev Saúde Pública* 2004; 2(38): 284-91.
17. Barros MB, Botega NJ, Dalgalorrondo P, Marin-León L, Oliveira HB. Prevalence of alcohol abuse and associated factors in a population-base study. *Rev Saúde Pública* 2007; 41(4): 502-9.
18. Batel P, Pessione F, Maitre C, Rueff B. Relationship between alcohol and tobacco dependence among alcoholics who smoke. *Addiction* 1995; 90(7): 977-80.
19. Chaieb JA, Castellarin C. Associação tabagismo-alcoolismo: introdução às grandes dependências humanas. *Rev Saúde Pública* 1998; 32(3): 246-54.
20. Moreira-Almeida A, Lotufo Neto F, Koenig HG. Religiousness and mental health: a review. *Rev Bras Psiquiatr* 2006; 28(3): 242-50.
21. Hurst TE, Hurst MM. Gender differences in mediation of severe occupational stress among correctional officers. *Am J Crim Justice* 1997; 22(1): 121-37.
22. Maslach C, Leiter MP. Stress and burnout: the critical research. In: Cooper CL, editor. *Handbook of stress medicine and health*. 2. ed. Lancaster, UK: CRC Press; 2004. p. 155-72.
23. Maslach C, Jackson SE. The measurement of experienced burnout. *J Occup Behav* 1981; 2(2): 99-113.
24. Carlotto MS, Palazzo LS. Síndrome de Burnout e fatores associados: um estudo epidemiológico com professores. *Cad Saúde Pública* 2006; 22: 1017-26.
25. Ahola KL, Pulkki-Raback L, Kouvonen A, Rossi H, Aromaa A, Lonnqvist J. Burnout and behavior-related health risk factors: results from the population-based Finnish Health 2000 study. *J Occup Environ Med* 2012; 54(1): 17-22.
26. Cunradi CB, Chen MJ, Lipton R. Association of occupational and substance use factors with burnout among urban transit operators. *J Urban Health* 2009; 86(4): 562-70.
27. Cunradi CB, Greiner BA, Ragland DR, Fisher J. Alcohol, stress-related factors, and short-term absenteeism among urban transit operators. *J Urban Health* 2005; 82(1): 43-57.
28. Frone MR. Work stress and alcohol use. *Alcohol Res Health* 1999; 23(4): 284-91.

29. Rojas FJ, Chavarria EM, Valverde RP. Condiciones asociadas a los patrones de consumo de sustancias psicoactivas y el rol que juega la estructura organizacional penitenciaria en el personal de seguridad del sistema penitenciario nacional. Costa Rica: Instituto sobre Alcoholismo y Farmacodependencia; 2009.
30. Gould DD, Watson SL, Price SR, Valliant PM. The relationship between burnout and coping in adult and young offender center correctional officers: an exploratory investigation. *Psychol Serv* 2013; 10(1): 37-47.
31. Associação Brasileira de Empresas de Pesquisa. Critério de Classificação Econômica Brasil – 2013. 2013. Available from: <http://www.abep.org/novo/Content.aspx?ContentID=835> (Acessado em março de 2013).
32. Mendéz EB. Uma versão brasileira do AUDIT (Alcohol Use Disorders Identification Test). Pelotas: Faculdade de Medicina, Universidade Federal de Pelotas; 1999.
33. Babor TF, Higgins-Biddle JC, Saunders JB, Monteiro MG. AUDIT – The alcohol use disorders identification test. 2. ed. Geneva: World Health Organization; 2001.
34. Papp H. Adaptação para o português do Maslach Burnout Inventory – general survey. Itajaí, SC: Universidade do Vale do Itajaí; 2007. 40p.
35. Maroco J. Análise de equações estruturais. Lisboa: ReportNumber; 2010. 374p.
36. Kline RB. Principles and practice of structural equation modeling. New York: The Guilford Press; 1998. 354p.
37. Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. *J Marketing Res* 1981; 18(1): 39-50.
38. Maroco J, Garcia-Marques T. Qual a fiabilidade do alfa de Cronbach? Questões antigas e soluções modernas? *Laboratório Psicol* 2006; 4(1): 65-90.
39. Ferreira LN, Bispo-Júnior JP, Sales ZN, Casotti CA, Braga-Júnior AC. Prevalência e fatores associados ao consumo abusivo e à dependência de álcool. *Cienc Saude Colet* 2013; 18(11): 3409-18.
40. Davis CG, Thake J, Vilhena N. Social desirability biases in self-reported alcohol consumption and harms. *Addict Behav* 2010; 35(4): 302-11.
41. Almeida LM, Coutinho ES. Prevalência de consumo de bebidas alcoólicas e de alcoolismo em uma região metropolitana do Brasil. *Rev Saúde Pública* 1993; 27(1): 23-9.
42. Cullen FT, Link BG, Wolfe NT, Frank J. The social dimensions of correctional officer stress. *Justice Quarterly* 1985; 2(4): 505-33.
43. Ahola K, Honkonen T, Pirkola S, Isometsa E, Kalimo R, Nykyri E, et al. Alcohol dependence in relation to burnout among the Finnish working population. *Addiction* 2006; 101(10): 1438-43.
44. Chen MJ, Cunradi C. Job stress, burnout and substance use among urban transit operators: the potential mediating role of coping behavior. *Work Stress* 2008; 22(4): 327-40.

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