

# Prevalence and factors associated with the consumption of psychoactive substances by health care workers

*Prevalência e fatores associados ao consumo de substâncias psicoativas por trabalhadores de saúde*  
*Prevalencia y factores asociados al consumo de sustancias psicoactivas por los trabajadores de la salud*

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## ABSTRACT

**Objective:** to estimate prevalence and factors associated with the consumption of psychoactive substances among health care workers in hospitals. **Method:** cross-sectional study, with a sample of 289 health care professionals in a large hospital in Teresina, Piauí, Brazil. **Results:** 243 (84.1%) reported consumption of psychoactive substances; 124 (86.7%) of professionals who classed their level of satisfaction as moderate had double the chance (OR = 1.98 CI95% 1.02-3.85) of consuming psychoactive substances; 40 (93%) of those with low level of satisfaction showed a four times higher chance (OR = 4.05 CI95% 1.15-14.26) of consumption; and 72 (75.8%) of those who reported a "good" state of health before work had a 54% lower chance of consumption (OR= 0.46 CI95% 0.234-0919). **Conclusion:** consumption of psychoactive substances was associated with factors related to level of job satisfaction and perceived health status before work

**Descriptors:** Substance-Related Disorders; Health Personnel; Psychotropic Drugs; Occupational Health; Nursing.

## RESUMO

**Objetivo:** estimar a prevalência e os fatores associados ao consumo de substâncias psicoativas entre trabalhadores de saúde do serviço hospitalar. **Métodos:** estudo transversal, com amostra de 289 profissionais da saúde em um hospital de grande porte de Teresina, Piauí, Brasil. **Resultados:** 243 (84,1%) referiram consumo de substância psicoativa; 124 (86,7%) dos profissionais classificados com grau de satisfação moderado apresentaram quase o dobro de chances (OR = 1,98 IC95% 1,02- 3,85) para o consumo de substâncias psicoativas; 40 (93%) dos quais manifestaram baixo grau de satisfação, demonstraram quatro vezes maiores chances (OR = 4,05 IC95% 1,15-14,26) para o consumo; e 72 (75,8%) daqueles que declararam como "bom" o estado de saúde antes do trabalho, revelaram 54% a menos de chances para o consumo (OR= 0,46 IC95%0,234-0919). **Conclusão:** o consumo de substâncias psicoativas foi associado a fatores relacionados ao grau de satisfação laboral e a percepção do estado de saúde antes do trabalho.

**Descritores:** Transtornos Relacionados ao uso de Substâncias; Pessoal de Saúde; Psicotrópicos; Saúde do Trabalhador; Enfermagem.

## RESUMEN

**Objetivo:** estimar la prevalencia y los factores asociados al consumo de sustancias psicoactivas entre el personal de salud del servicio hospitalario. **Métodos:** estudio transversal, con una muestra de 289 profesionales de la salud en un gran hospital de Teresina, Piauí, Brasil. **Resultados:** 243 (84,1%) informaron consumo de sustancia psicoactiva; 124 (86,7%) de los profesionales clasificados con grado moderado de satisfacción tuvieron casi el doble de probabilidades (OR = 1,98 IC 95% 1,02-3,85) de consumir sustancias psicoactivas; 40 (93%) de los cuales expresaron un bajo nivel de satisfacción, mostraron cuatro veces más probabilidades (OR = 4,05 IC 95% 1,15-14,26) de consumo; y 72 (75,8%) de los que declararon su estado de salud antes del trabajo como "bueno" revelaron 54% menos posibilidades de consumo (OR = 0,46 IC 95% 0,234-0919) **Conclusión:** el consumo de sustancias psicoactivas se asoció con factores relacionados con el grado de satisfacción laboral y la percepción del estado de salud antes del trabajo.

**Descriptores:** Trastornos Relacionados con Sustancias; Personal de Salud; Psicotrópicos; Salud Laboral; Enfermería.

## INTRODUCTION

Use of psychoactive substances (PASs) by health care workers, irrespective of whether it occurs in work environments - is an important social policy issue, in view of the damage they can cause to the health of these workers, as well as their impact on productivity<sup>(1)</sup>. From a managerial point of view, the problems caused by use of PASs include impairment in performing work-related tasks, accidents or injuries, poor attendance, high employee turnover and increased health care costs<sup>(1-2)</sup>.

In the United States (USA) 10% - 5% of health workers have used some kind of PAS at some point in their lives and the rates abuse of and addiction to non-prescription drugs are five times higher among doctors than in the population general, with particularly high rates of benzodiazepine and opioid abuse<sup>(3)</sup>. However, such use is not restricted to the medical profession alone; all health care professionals are affected by PAS abuse. An evaluation by the Texas Nursing Board in 2010 highlighted that approximately one third of all disciplinary actions taken against nurses were for problems directly related to the use of PASs<sup>(4)</sup>. Likewise, the costs of use and abuse of PASs are around 78.5 billion dollars per year, including 11 billion in health care costs for the treatment and its consequences related to the use of these substances<sup>(5)</sup>.

In the Brazilian context, large population surveys specifically on consumption of PASs by health care workers, the link with working conditions and implications for social and working life, remain incipient. A fact that denotes the lack of expressive statistics on the situation, as well as of effective programs and public policy attention toward this issue<sup>(1)</sup>. However, research in different regions of the country reveal that the use of PASs by health care professionals is closely related to aspects they experience in their work environments, and that various substances such as alcohol, tobacco, psychotropic drugs and even illicit compositions (marijuana, amphetamines and inhalants), are among the PASs they consume<sup>(6-9)</sup>.

Health care workers work long hours and often have little time to enjoy their leisure activities, which causes physical exhaustion and psychological suffering. The emotional exhaustion resulting from such situations contributes positively to the emergence of stress and mental disorders, such as depression, anxiety, panic, phobia, psychosomatic diseases and the use of PASs<sup>(6)</sup>. In some situations, not uncommonly, they are a coping strategy for relieving suffering and tension arising from exhaustive working conditions, health care workers resort to using PASs, finding an immediate feeling of relief and relaxation in the pharmacological action on the central nervous system (CNS)<sup>(2)</sup>.

Health care workers, in particular those who work directly on the front line of care, such as doctors and nurses, are well known to be a profession considered more exposed, at high risk of using and abusing PASs, due to greater chances of self-administration, access to the various substances available in the hospital environment, and because storage and control are part of their work routine. In addition to precarious conditions and quality of life at work (material resources and human subjectivity), many professionals also have comorbid health conditions<sup>(7)</sup>. This encourages the manifestation and development of certain occupational diseases, often combined with the technical-scientific knowledge of those who handle such substances, which contributes to self-medication in order to relieve certain symptoms<sup>(10)</sup>.

Likewise, recreational use of PASs has a range of consequences for the worker and the work environment, whether in the short, medium or long term, such as: difficulties with memory, learning, attention and decision making; high morbidity and mortality due to external causes; chronic non-communicable diseases (CNCD) and, above all, mental disorders. Moreover, it impairs the ability to work (which jeopardizes the quality of health care and safety of patients in their care), personal injury, work accidents, absenteeism and presenteeism, job loss and in the most extreme cases, the death of the worker themselves<sup>(2)</sup>.

In view of the above, this study is justified by its importance for the area of occupational health, since the problems may be underdiagnosed due to the lack of continuous assessment programs and institutional policy with management strategies that identify and address health care professionals affected by the use or abuse of PASs in the workplace. In addition to filling in knowledge gaps regarding the conditions and factors that condition these professionals to use PASs, as well as in the formulation of coping strategies to reduce this practice and promote quality of life and well-being in work relationships, in a conception that goes beyond work, and is also social<sup>(8)</sup>. Thus, the following research question was delimited: what are the prevalence and factors associated with consumption of PASs among health care workers in hospitals?

## OBJECTIVE

To estimate the prevalence and factors associated with the consumption of psychoactive substances among health care workers in hospitals.

## METHODS

### Ethical aspects

The project was approved by the Research Ethics Committee of the Federal University of Piauí (CEP/UFPI) and complied with Resolution 466/2012 of the National Health Council (CNS)<sup>(11)</sup>.

### Study design, location and time

Cross-sectional analytical-observational research conducted in a large public hospital, a state reference in high complexity care, located in the city of Teresina, Piauí, Brazil, between March/2017 and October/2018.

### Sample and inclusion/exclusion criteria

The study population consisted of health care workers, from 14 professions, and the sample was calculated using Barbetta's calculation for finite population<sup>(12)</sup> and applying the eligibility criteria. The size estimated to achieve representativeness was 289 participants (95% confidence and 2% accuracy). Those included were workers employed at the time, who had been there for one year or more, with a workload of 24 hours a week or more and who were present at the institution during the data collection period; and excluded professionals who were on leave from work due to vacation or any type of leave during the period of data collection.

## Study protocol

The questionnaire used to collect the data contained closed questions divided into: a) Sociodemographic information: sex, age, marital status, religion and profession; b) Information on working conditions: length of service at the institution and in the sector, sector, weekly workload, shift, working period, number of employment contracts, demandingness, workload, classification of the type of demand (physical, mental/intellectual and emotional), level of job satisfaction, physical/structural conditions at the institution, salary and relationship with bosses and co-workers; c) Information on self-reported health conditions: presence of disease, classification of health status (current and previous) in relation to work function, attribution of physical and mental health status to work, health problems and symptoms related to work; d) Information on PAS use: type and classification of substances, periods and times when they were used, motivational factors associated with this consumption, use of medications (with medical prescription and the misuse of psychoactive medications as a form of self-medication), administration route, knowledge on effects and damage caused to health by the abusive use and attribution of current state of health to consumption of PASs.

Before use, this questionnaire underwent evaluation by specialists in the areas of Mental Health and Occupational Health, to validate face and content, making it appropriate and reliable for achieving the proposed objectives. A pre-test was carried out with 10 professionals to evaluate the instrument in terms of its presentation, understanding, completion time and appropriateness for the suggested objectives. This analysis did not find any adjustments to be necessary. To collect the data, prior contact was made with management and Human Resources (HR) to obtain information on the professionals' schedules and shifts. Subsequently, the Emergency Room management were asked to set aside a space, to serve as support for the researcher, where an urn with the identification of the research was made provided to deposit the sealed envelopes containing the research instruments completed by the participants. Staff were approached at work during the three shifts (morning/afternoon/evening), at which time they were recruited and given information on the objectives and topics of the study and invited to take part.

**Table 1** – Description of participants recruited, refusals, losses and the sample, Teresina, Piauí, Brazil, 2018 (n=289)

Profession	Recruited	Refusals	Losses	Sample
1 Dental Surgeon	4	0	1	3
2 Nurse	95	31	23	41
3 Pharmacist	15	3	4	8
4 Physiotherapist	58	15	31	12
5 Speech therapist	1	1	0	1
6 Doctor	258	174	33	51
7 Nutritionist	8	0	3	5
8 Psychologist	6	2	2	2
9 Nursing technician	325	49	130	146
10 Orthopedic Immobilization technician	3	1	0	2
11 Pharmaceutical lab technician	2	-	1	1
12 Pathology technician	23	5	7	11
13 Radiology technician	15	4	6	5
14 Occupational therapist	1	0	0	1
Total				289

Data were collected until the estimated number of for representativeness was reached, due to the high number of refusals and losses (Table 1). It was considered a loss when participants did not return the instruments; instruments were returned with incomplete information; and professionals were absent from the workplace, after two consecutive attempts. Regarding refusals, it is noteworthy that the profession which most commonly refused to take part in the study was that of doctor.

## Analysis of results and statistics

The data collected were coded and tabulated in a spreadsheet using Microsoft Excel® 2010, using double data entry. The data were analyzed using the Statistical Package for the Social Sciences® (SPSS), version 22.0. The Kolmogorov-Smirnov test was performed to analyze and verify the normality of the sample. To assess the association between qualitative variables, Pearson's Chi-square ( $X^2$ ) test was used. The variables that reached significant values in the bivariate analysis tests were used in the binary logistic regression with the WALD test. All analyses were performed at a significance level of 5% ( $p < 0.05$ ).

## RESULTS

Of the total sample, there was a predominance of females 178 (61.6%), with a mean age of 35.4 years, married 127 (43.9%), Catholic 214 (74.0%), almost half were Nursing Technicians 144 (49.8%). Half of the sample considered the demands of the work routine to be high 165 (57.1%) and 145 (50.2%) classed the workload as elevated. As for self-reported health conditions, 155 (53.6%) attributed the current state of physical and mental health to work, with mental tiredness 119 (41.2%), physical tiredness 112 (38.8%) and stress 110 (38.1%), as the main work-related health problems.

Regarding PAS use, 243 (84.1%) reported consumption. Of these, 168 (55.8%) of workers reported the use of legal drugs, with alcohol 170 (41.4%) and tobacco 77 (18.7%) prevalent. To a lesser extent, the consumption of illicit drugs such as: marijuana 16 (3.9%), inhalants 13 (3.2%) and amphetamines 2 (0.5%) were reported. Also noted was the use hospital use and prescription medicines. The most consumed were: hypnotics/sedatives 50 (12.2%), antidepressants 47 (11.4%) and opioids 30 (7.3 %). Of these participants, 100 (34.6%) reported the use of these substances via self-medication, without medical indication, and 180 (68.2%) took them orally. The motivations were recreational use 123 (14.6%), relieving tension 108 (12.8%) and anxiety 85 (10.0%). The situations in which consumption most often occurred were after work 121 (15.4%), relax/rest 108 (13.8%) and to lower inhibitions 95 (12.1%).

In the bivariate analysis, variables such as sex ( $p = 0.028$ ), shift ( $p = 0.008$ ), shift pattern ( $p = 0.014$ ), level of job satisfaction ( $p = 0.023$ ), health status before work ( $p = 0.012$ ) and job satisfaction ( $p = 0.015$ ) were associated, with statistically significant values for the use of PASs (Table 2).

In the logistic regression analysis, the results showed that the professionals who classified their level of satisfaction as moderate had almost twice the chance (OR = 1.98 CI 95% 1.020-3.85) of consuming PASs, compared to those who classified their level of satisfaction as high. And those who classified their satisfaction as

low were at even greater risk (OR = 4.05 CI 95% 1.15-14.26), having four times more chances of consuming PASs, than those with a high level of satisfaction. Regarding perceived health status before work, it is noted that professionals who declared it to be "good", presented 54% less chance (OR = 0.46 CI95% 0.234-0.919) of using PASs, when compared to professionals who declared it to be very good (Table 3).

**Table 2** – Sociodemographic, occupational and self-reported health information and consumption of psychoactive substances by health care workers Teresina, Piauí, Brazil, 2018 (n=289)

Variables	PAS consumption [n(%)]		X <sup>2</sup> p value
	Yes 243 (84.1)	No 46 (15.9)	
Sex			
Male	100(90.1)	11(9.9)	X <sup>2</sup> =4.859
Female	143(80.3)	35(19.7)	p value =0.028*
Shift			
Day	89(76.1)	28(23.9)	X <sup>2</sup> =9.645
Night	50(87.7)	7(12.3)	p value =0.008*
Day/Night	104(90.4)	11(9.6)	
Shift pattern			
12x36	49(74.2)	17(25.8)	X <sup>2</sup> =12.427
12x24	81(93.1)	6(6.9)	p value =0.014*
24x36	16(94.1)	1(5.9)	
24x48	14(87.5)	2(12.5)	
Other	83(80.6)	20(19.4)	
Health status before work			
Very good	157(87.2)	23(12.8)	X <sup>2</sup> =8.869
Good	72(75.8)	23(24.2)	p value =0.012*
Regular	14(100.0)	0(0.0)	
Job satisfaction			
Yes	28(100.0)	0(0.0)	X <sup>2</sup> =5.869
No	215(82.4)	46(17.6)	p value =0.015*
Level of job satisfaction			
High	79(76.7)	24(23.3)	X <sup>2</sup> =7.503
Moderate	124(86.7)	19(13.3)	p value =0.023*
Low	40(93.0)	3(7.0)	

Note: Chi-square test (X<sup>2</sup>). \* p value <0.05. PAS - psychoactive substances.

**Table 3** – Logistic regression model of sociodemographic, occupational, self-reported health variables and consumption of psychoactive substances by health care workers Teresina, Piauí, Brazil, 2018 (n=289)

Variable	B	p value	Odds Ratio (95%CI)
Sex			
Male	-	-	-
Female	-0.561	0.172	0.57 (0.255-1.277)
Shift			
Day		0.198	
Night	0.636	0.200	1.88 (0.715-4.99)
Day/Night	0.710	0.107	2.034
Shift pattern			
12x36		0.352	
12x24	0.885	0.100	2.42 (0.844-6.952)
24x36	1.490	0.179	(0.505-39.02)
24x48	0.965	0.260	2.62 (0.489-14.101)
Other	0.424	0.288	1.52 (0.699-3.337)
Level of Satisfaction			
High	-	0.029	
Moderate	0.684	0.044	1.98 (1.020-3.85)
Low	1.399	0.029	4.05 (1.15-14.26)
Health status before		0.000	3.292
Very good		0.088	
Good	-0.768	0.028	0.46 (0.234-0.919)
Regular	19.206	0.999	21.93x10 <sup>8</sup>
Job satisfaction			
Yes			
No	-19.178	0.998	0.000
Constant	20.540	0.998	83.22x10 <sup>7</sup>

Note: B – Logistic regression coefficient; CI – 95% confidence interval. P value <0.05.

## DISCUSSION

This study evaluated the factors associated with consumption of PASs by health care workers in hospitals. Of the sociodemographic characteristics, more than half of the sample were women (61.6%), and almost half used some PAS (49.5%), with a statistically significant difference only in the bivariate analysis (p = 0.028). Studies show a greater predominance of females in health care work, especially in nursing teams<sup>(13)</sup>. Regarding the use of PASs, males generally have higher rates use of substances such as alcohol and tobacco, and females, the use of anxiolytics/diazepines and antidepressants<sup>(2,7,9,14)</sup>. As shown in a study carried out with nurses in the state of Indiana (USA), the results showed greater use of alcohol by men, while the use of opioids was prevalent among women<sup>(15)</sup>. This is also the situation in Brazilian. In a study carried out with 416 nursing professionals, it was observed that half of the women were abstinent and 68.9% of the men consumed alcohol at risk levels<sup>(6)</sup>.

Another important aspect observed in health care workers is binge drinking, consuming five or more doses on the same occasion. This pattern of use was observed in a quarter of health care professionals, specifically male professionals in Minas Gerais, Brazil. Moreover, 6.6% of participants were smokers and used marijuana. In contrast to the consumption behavior of women, who consumed alcoholic beverages at low risk of consumption, and also binge drinking, however rates of sedative abuse were higher compared to men<sup>(16-17)</sup>.

Epidemiological studies with specific populations or with the general population in different countries have shown that the rate of drug use is higher among men<sup>(18)</sup>. Likewise, the Ill National Survey on Drug Use by the Brazilian Population, showed that 24.0% of men had binged on alcohol in the last 30 days, compared to 9.5% among women; for tobacco use 16.2% were men and 11.2% women; regarding illicit substances, with a predominance (5%) among men, rather than women (1.5%). Use of medicated substances was higher among women (4.0% in the last 12 months and 1.5% in the last 30 days) than among men (2.0% in the last 12 months and 0.7% in the last 30 days), with the consumption of amphetamines, benzodiazepines, opiates and barbiturates prevailing<sup>(19)</sup>.

Although consumption of PASs is, historically, culturally related to the male sex, with consumption patterns linked to early contact (childhood / adolescence) with repercussions throughout life, however, without specific determinants for this consumption, estimates related to sex have found changes in epidemiological profiles every year, highlighting the increase and high rate of consumption by females, and a decrease in the proportion between men and women for drug use in general and the predominance of medication use, specifically benzodiazepines, stimulants and orexigenic, among the female population. Changes in the social paradigm for women, such as the approximations between the social roles of men and women, have been pointed out as one of the factors for the increase in drug consumption by females<sup>(18,20)</sup>. Research carried out with doctors and nurses, showed that female nurses had a higher prevalence of consumption, regarding legal drugs, such as alcohol, tobacco and energy drinks, presenting higher consumption by adult women, average 34 years of age

for alcohol abuse, age 25 for cigarette consumption, and age 24 to 49 for energy drinks. Finally, it highlighted that marijuana and opium were the most widely used illicit drugs among women<sup>(21)</sup>.

However, unlike men, who do not have a typical triggering factor, women begin to abuse substances due to the occurrence of significant events, such as domestic violence, psychological problems, feelings of social isolation, low confidence, professional pressures, family breakdown, and health problems. There are also biological determinants that can favor drug use, in particular abuse of prescription drugs, such as opioids<sup>(20,22)</sup>. Thus, in the USA, for example, in the last decade more women than men started using heroin, in the period 2002-2004 the rates were 0.08%, in 2011-2013 this number increased to 0.16%. In Portugal, women have shown higher rates of continued use of marijuana, ecstasy and hallucinogenic mushrooms, compared to men<sup>(20)</sup>.

The social and economic demands of women's inclusion in the labor market, added to the old demands on females, contribute to the feeling of inadequacy, which can be a trigger for the abuse of PASs. Thus, women have specific usage patterns, with a predominance of self-medication with opioids and tranquilizers, at levels compatible to or even higher than those of men, who have a pattern of consumption, with a tendency to use illicit drugs earlier, for a longer time, in quantities and frequencies much higher than women<sup>(18,20,22-23)</sup>.

As for labor issues, the work period ( $p = 0.008$ ) and shift pattern ( $p = 0.014$ ) were associated with use of PASs. In the hospital environment, different working hours are common, established according to each profession, organized in different patterns, shifts (day and night) and workloads related to the function and location, with a view to offering continuous services 24 hours a day. A study with health care professionals identified that 20% of the participants used hypnotics/sedatives frequently, in the last week prior to the research. Use of these substances was associated with working night shifts, workload, stress and fatigue<sup>(24)</sup>. Accordingly, the findings of the cross-sectional study with 4,419 nurses and midwives highlighted that workload was associated with high-risk alcohol consumption, with rates that increased proportionally to the workload, that is, the more hours worked, the more intensified the use of this substance. It was also observed that general practitioners and nurses dealt with stress caused by exhausting workloads and working hours in alcohol consumption<sup>(25)</sup>.

With this aim, the results of a survey of 106 health care professionals highlighted worrying prevalence rates, with the consumption of psychiatric drugs being more prevalent among workers with workload exceeding 60 hours per week (50%), those who worked at weekends (22.9%), those who did not perform any other professional activity (65.7%) and most of the sample (67.9%), although they reported not working night shifts, 25% used psychotropic medications<sup>(26)</sup>. Likewise, a study evaluated agreement levels of 35 (38.5%) workers who had used anxiolytics in the last 12 months, regarding the psychosocial risk factors that contributed to consumption, there was an association with occupational stress resulting from working double shifts, working nights and heavy workload<sup>(27)</sup>.

In American nurses, smoking was higher among those who worked nights and who reported work overload in addition to

considering it exhausting and stressful. They also emphasized that working nights can contribute to the development of other health problems such as obesity, alcohol abuse, mental illness, changes in sleep patterns and cardiovascular disease<sup>(2)</sup>. In Brazil, dysphoric disorders and depression were also observed<sup>(28)</sup>, which, in turn, corroborates the high levels of PAS consumption<sup>(14,16,29)</sup>.

The managerial requirements inherent to the function, added to an unfavorable working environment, have a direct impact on the health of these workers. Some factors related to the activities and categories of health care professionals, such as: lack of motivation due to working conditions; working a double shift; stress caused by the institution's excessive control; coping with patients' health-disease process; exhaustive and repetitive hours and workloads; shift patterns with sleep deprivation; inadequate remuneration; and complications in establishing relationships with patients, put these professionals in routines of low quality of life at work, with expressive risks to their mental balance, which equally influence consumption of PASs<sup>(1,25,30)</sup>.

In the multivariate analysis (Table 3), poor job satisfaction prevailed among professionals who used PASs. As previously described, there are several factors that can be associated with poor job satisfaction and directly affect quality of work life<sup>(1-2,7-8)</sup>. These data corroborate those reported by professionals on the nursing team<sup>(31)</sup>, that emotional and physical exhaustion was strongly associated with poor working conditions, which trigger suffering and job dissatisfaction in these individuals. For the time being, poor job satisfaction is related to the managerial requirements inherent in the tasks developed by workers, often meeting/fulfilling these requirements ends in self-repression. Such aspects culminate in consumption of PASs to relieve or minimize these confrontations<sup>(31)</sup>. On the other hand, the results of the study carried out with 142 nursing professionals working in the hospital, revealed that the majority considered themselves satisfied with their professional life, which reinforces the hypothesis that self-medication among these workers is not associated with the degree satisfaction or dissatisfaction and the presence of pathologies, as expected, but also the easy access health care professionals have to these substances and consumerism encouraged in our society<sup>(32)</sup>.

Aspects that mediate job dissatisfaction and involvement with the use of psychotropic drugs were evidenced in 15 nurses in the intensive care unit (ICU) of a university hospital, who reported consumption for coping with and relieving suffering from high stress and long hours, demands and dissatisfaction in the work environment<sup>(33)</sup>. Evidence shows that among nursing staff, 26.6% associated the consumption of alcoholic beverages with work activities and 18.8% reported dissatisfaction and stress resulting from work<sup>(34)</sup>. A similar association was identified in surveys<sup>(26,2)</sup> in which consumption of anxiolytics, alcohol, tobacco, sedatives and other drugs, by health care professionals was related to job dissatisfaction and conflicting interpersonal relationships with bosses and colleagues.

An interesting result refers to perceived health status before work, in which half of the professionals declared themselves as "good", presenting lower chances of using PASs, compared to professionals who declared their health to be "very good" (Table 3). Thus, these professionals, even when reporting that their health

status is good or very good, consider themselves to be stressed and with anxious-depressive symptoms. These workers can perceive situations that occur in the work environment as being common to the profession, that is, as factors inherent to the profession, but that lead them to create defense strategies to deal with the risks and to maintain their mental health. Even becoming part of the work, they are exposed to mental, physical and emotional illness due to the relationship between work and health<sup>(7,35)</sup>.

From this perspective, a study showed that of the 86 health workers, 17.4% of participants had signs suggestive of mild depression, 10.5% moderate and 12.8% severe, with 70.9% of these professionals not using any medication, while the other 20.1% mentioned consumption of psychoactive drugs as anxiolytics and antidepressants<sup>(29)</sup>. Characteristics about the health status of these professionals were also reported in studies investigating factors and reasons that led health care professionals to start consuming PASs, which revealed that workers pointed out several signs and symptoms in relation to their health such as depression, anxiety, stress, insomnia, mental exhaustion, physical fatigue and pain, turning to substances such as antidepressants, anxiolytics, opioids and alcohol to relieve such symptoms<sup>(6-7,26,29,35)</sup>.

Research seeking to evaluate certain aspects of quality of life in nursing professionals working in urgent and emergency services in the municipality of Cajazeiras - Paraíba, Brazil, observed that psychological symptoms were mentioned by some workers, such as: problems with memory, insomnia and recurrent thoughts, with 15.6% already having a phase II (exhaustion) level of stress according to the Lipp test and that of these, 21.9% were at risk using alcohol<sup>(36)</sup>. Other comorbidities were identified, 96% of workers, reported having some work-related health problem. Among these, in addition to those already mentioned in previous studies, they mentioned: musculoskeletal problems, psychoemotional disorders, hypertension, diabetes and other problems (hypothyroidism, metabolic problems, allergies, infections). It was found that 54% of nursing assistants and technicians and 66% of nurses used substances without a medical prescription frequently or sporadically<sup>(32)</sup>.

It is noticed that there are work factors which cause health care professionals to consume PASs. The traditional motivations that lead human beings to use/abuse psychoactive substances are due to a need to establish harmony, due to an adverse situation of imbalances in the various dimensions of life such as family, work, studies and leisure. Health care professionals, more specifically, nursing professionals, who consume some type of PAS, have a second shift, whether in another job or at home, do not enjoy leisure time and despite expressing positive feelings about work, considered it a stressful activity<sup>(27)</sup>.

Finally, other points that drew our attention were the reasons and the number of workers who refused to participate (285) and the losses (241), adding up to more than 60% of all professionals recruited for the study. Such findings are similar to those of other studies, respectively, 29.6% and 17.7%, of refusals and losses in their samples<sup>(26,37)</sup>. Many professionals justified not completing the questionnaire due to lack of time, given their weekly workload at the institution or elsewhere, while others claim not to use any substance, exempting themselves from participating in the study. Consumption/abuse of PASs, mainly illicit, is still strongly frowned on, and when used by health care professionals, it has a great impact on society. For this reason, many of these workers show rejection and do not admit to consuming these substances<sup>(26)</sup>.

### Study limitations

The cross-sectional design makes it impossible to establish more precisely the relationship between the facts evaluated, since the exposure and the outcome are measured at a single moment in time.

### Contributions to the area of Nursing, Occupational Health, Mental Health and Public Policies on alcohol and other drugs

This research makes valuable contributions, as it not only identifies the problem of consumption of PASs by health care workers, but also emphasizes the importance and need to implement actions and policies for prevention, detection, treatment targeting and rehabilitation of these professionals, avoiding or minimizing situations of involvement and harmful use of substances that seriously compromise their health, life and work.

### CONCLUSION

Consumption of PASs is part of the routine for health care workers. This practice includes consumption of licit substances (alcohol and tobacco), hospital use (opioids and hypnotics/sedatives), medical prescription (antidepressants) and illicit substances (marijuana, inhalants and amphetamines), both for recreational use, tension relief and anxiety; and in certain situations that occur after work, to relax/rest and lower inhibitions. Such consumption is associated with level of job satisfaction and classification of workers' health status. Professionals with a moderate and low level of satisfaction are at greater risk of consumption, while those who perceive their health status before working as "good", are less likely to consume any type of substance.

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