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Amphetamine Use among Health Workers with Depression: A Systematic Review

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Abstract

Amphetamines, widely prescribed for disorders such as ADHD and narcolepsy, are also misused for their stimulating effects, including increased alertness, energy, and reduced fatigue. However, prolonged or non-medical use is strongly linked to mental health challenges, particularly depression. Health workers face unique risks because of their demanding schedules, high stress, and easy access to medications. Studies show that healthcare professionals often use stimulants, alcohol, sedatives, or marijuana as coping mechanisms. For instance, research on Brazilian nurses revealed that over half reported alcohol use, and more than a third showed symptoms of depression, with men tending toward alcohol and marijuana, while women leaned toward sedatives and experienced higher rates of depression. The dual burden of depression and substance use can reinforce each other, creating a vicious cycle. Depression may lead health workers to misuse amphetamines as self-medication, while stimulant dependence worsens psychiatric symptoms over time. Social stigma within the medical profession further discourages open discussion or help-seeking, deepening the problem. A methodical strategy is used. And Institutions ought to offer private mental health support networks to medical staff, teach supervisors and managers how to spot the early warning signs of depression and drug abuse. Encourage open communication about mental health in the workplace to lessen stigma. To lessen burnout, implement changes to the workload and shift scheduling. In conclusion, amphetamine use among health workers is not just a personal health risk but a workplace safety and public health concern. Addressing it requires both individual-level interventions and systemic reforms to safeguard the well-being of health professionals and, ultimately, the quality of patient care.

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Introduction

Amphetamine is a central nervous system (CNS) stimulant belonging to the phenethylamine class of compounds. It increases the activity of brain chemicals such as dopamine and norepinephrine, which enhances alertness, concentration, and energy [1]. Medically, amphetamines are prescribed for conditions like attention-deficit hyperactivity disorder (ADHD) and narcolepsy. However, they are also commonly misused for their stimulating and euphoric effects. Prolonged or non-medical use can lead to addiction, insomnia, anxiety, cardiovascular problems, and mental health issues such as depression and psychosis [2].

Methamphetamine use is a growing global public health concern. The UNODC estimated that in 2016, 34 million people worldwide used amphetamines [3]. The Global Burden of Disease 2016 estimated that there were 4.96 million people with dependent use of these drugs a systematic analysis for the Global Burden of Disease Study 2016. Most illicit use involves methamphetamine, and hereafter both amphetamine and methamphetamine are collectively referred to as amphetamines. Increasing interconnectedness of the global drug market is spreading both manufacture and use. The shift to smoking and injecting high purity crystalline methamphetamine has been associated with a rise in related harms [4].

Mental health harms are a likely consequence of the use of amphetamines. Intoxication with amphetamines can incite transient symptoms of hallucinations and paranoia and can also exacerbate psychosis in people with schizophrenia. It is less clear whether the use of amphetamines can increase the risk of de novo cases of schizophrenia, Chronic exposure to amphetamines has been associated with increased aggression (this is thought to be related to altered serotonin function and mood and impulse regulation) while acute intoxication can increase aggressive responding to threatening situations [4]. Epidemics of use have been associated with increases in violence, although it is difficult to disentangle drug effects from other risk factors (e.g., antisocial personality, polysubstance use, violence of the criminalised drug market). [4]. Amphetamines have been consistently associated with elevated rates of suicide, and evidence suggests a likely causal link [4]. Withdrawal from heavy use of amphetamines can lead to monoaminergic down-regulation, producing a depressive-like state. It is not known whether this can lead to ongoing depression, but depression is pervasive amongst heavy users of the drug. Acute intoxication can induce panic and agitation, and it is plausible that the sympathetic arousal produced by intoxication may exacerbate anxiety[4]. However, inconsistencies between individual study outcomes have prevented a clear understanding about the strength or nature of these associations.

We conducted a systematic review and meta-analysis of data on the association between the use of amphetamines and each of these mental health outcomes: psychosis, violence, suicidality, depression and anxiety. We included study designs best suited to estimating risk, namely cross-sectional surveys, case-control studies, cohort studies and randomised controlled trials. We included all patterns of use and undertook meta-analyses where there were sufficient data.

Prevalence of the use of psychoactive substances (except alcohol) is of 5.2% of the world population, which corresponds to 243 million people, being that 27 million had a problematic use of these substances (defined when there is not dependence, but the use causes physical, emotional or social consequences such as involvement with fights, traffic accidents, problems with justice, among others), beyond that, half of the world population over 15 years old had consumption of alcoholic beverages (52%) and about 3% of deaths are related to the harmful use of alcohol, especially in youth population [5,3]. Problematic consumption has not been differentiated among several groups of the population and, in special, on health professional's category. Related to nursing staff professionals, rates have varied between 6 and 8%, being higher when referred to the abusive use of sedatives (20%). Environmental factors and those related to work causes, easy access to psychotropic, psychosocial vulnerabilities, work overload and stressful environments have contributed significantly to high rates of problems related to alcohol consumption among nursing staff professionals [6]. Problematic use of psychoactive substances can be associated to several psychiatric illnesses, especially depression. The development of depressive symptoms and its different levels of gravity have been highlighted among the main causes of psychic sickening of nursing professionals [7,8]. Worldwide, prevalence

of depression is of 7% in adult population, equivalent to 350 million people. In 2010, in the world, mental disorders and the use of psychoactive substances were responsible for 4% of all lost years of life, adjusted by incapacity (Disability Adjusted Life Years - DALYs - indicator that measures the effect of mortality and of health problems that affect individual's quality of life), encompassing about 183,6 million people. Depressive disorders were responsible for 40.5% of DALYs by mental disorders and substance use, being that the use of drugs was responsible for 10.9% and the use of alcohol for 9.6% [8].

Because of these reasons, the relationship between drug use and mental disorders have been evaluated in studies developed with adults and professionals who work in the health area. In addition, the overlapping of these disorders, also known as double diagnosis or comorbity, have been identified in studies that evaluate mental health of professionals of the nursing staff, which demonstrates the pressing need to know the possible relationships between these two health issues to this population in a more systematized form [7]. Mental and behaviour disorders are responsible for an elevated number of licenses and work absence with the nursing staff, being depression the more frequent disorder [9]. In addition, this situation becomes even more aggravated when factors related to suicide among nursing professionals are evaluated.

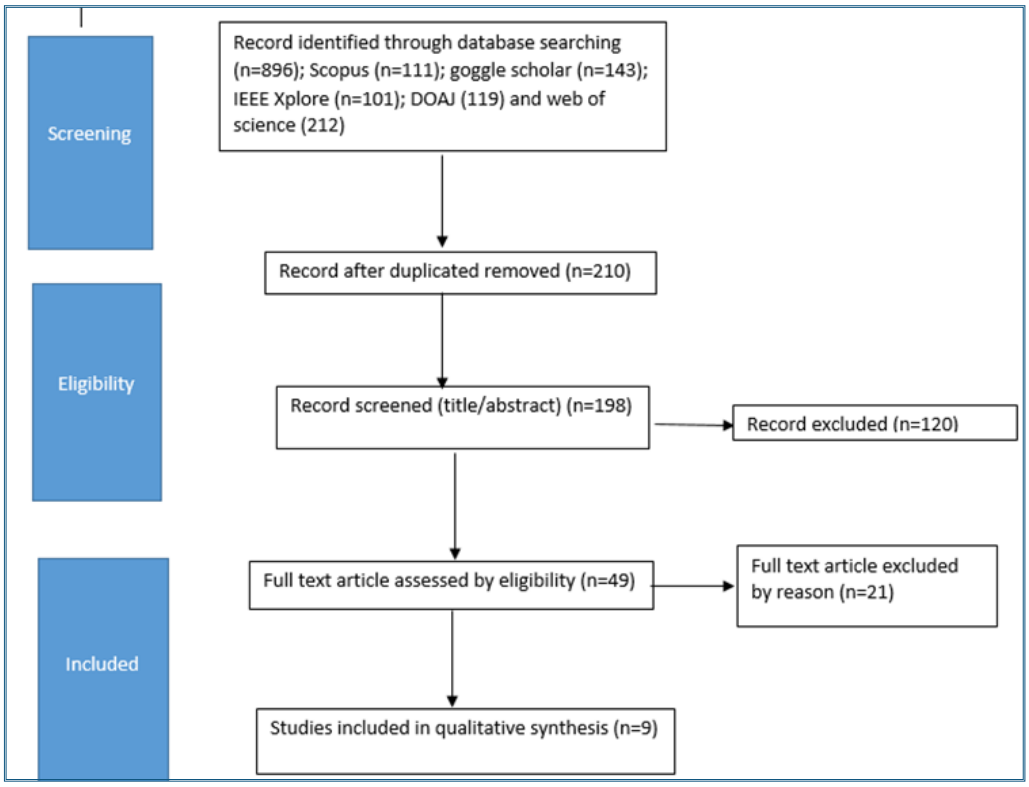
It is verified that depression and the abusive use of alcohol, tobacco and other drugs configurates the main causes of high rates of suicide among health workers [10]. It is known that prevalence of these comorbities has been differentiated in relation to gender [11,12]. Globally, women were responsible for more DALYs in all mental and neurological disorders, except for mental disorders in childhood, schizophrenia, substance use disorders, Parkinson's disease and epilepsy [13]. In spite of that, studies that consider specificities of gender in the nursing context are important, once that certain stressors that interfere in professional exercise practice are related to this variable. If, by one side, male professionals are able to advance on questioning traditional models in relation to gender, by the other, female professionals tend to feel more tired, tense and overloaded; it's highlighted, still, that professional women's mental health is more affected when compared to men [14]. Such grounds justifies the relevance of the present study, because when evaluating professional's mental health of a nursing staff individual peculiarities and gender should be considered, which rises as a very important personal determinant for triggering health issues. In addition, on the literature studies are still incipient, once few investigations have evaluated associations between depression and abusive drug use among professionals from the nursing staff, and either have considered the influence of gender [14]. Nursing professionals are present in practically all establishments of health services in Brazil and in the world, representing a great contingent of the work force, dealing with direct and indirect cares of individuals, families and communities; health promotion for the nursing worker interests socially because it impacts directly in the population's quality of care. In that sense, this study aimed to compare possible relationships among abusive drug use, depressive symptoms and gender in professionals from the nursing staff.

This study systematically reviews and critically examines the existing evidence on the prevalence, patterns, correlates, and mental-health outcomes (with emphasis on depression)
of amphetamine (including prescription stimulants and illicit amphetamines/methamphetamine) use among health-care workers and trainees.

Methodology

Research Framework

This research employs PRISMA (Preferred Reporting Items for Systematic Reviews) for the literature on amphetamine use among health workers with depression Publications for 2021 are included in the analysis. The PRISMA framework, as shown in Figure 1, was employed in the study's methodology.



Sources and Searching Strategy

This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines to ensure transparency and reproducibility. A comprehensive literature search was carried out to identify peer-reviewed studies that examined the relationship between amphetamine use and depression among health workers.

Electronic databases searched included; PubMed/MEDLINE, Scopus, Web of Science, and PsycINFO; and were systematically searched due to their broad coverage of biomedical, psychological, and social science research. These databases were selected to ensure the inclusion of studies that address the complex interplay between substance abuse and mental illness from clinical, and psychosocial perspectives [15].

The search strategy utilized a combination of keywords and Boolean operators such as “health workers”, “nurses”, “doctors”, “healthcare professionals”, “medical staff” Exposure terms such as “amphetamine”, “stimulants”, “methamphetamine”, “amphetamine-type stimulants” Outcome terms: “depression”, “depressive symptoms”, “mental health”, “psychological distress”. Keywords were refined and expanded through preliminary scoping searches and informed by existing systematic reviews in the field. Filters were applied to restrict results to empirical peer-reviewed articles published in English. No time restrictions were imposed on publication year to allow for the inclusion of both historical and contemporary research evidence.

Eligibility Criteria

A multi-stage filtering method was used to guarantee that the retrieved publications were appropriate for study. The following standards were used:

Criteria	Inclusion	Exclusion
Population	Health workers (e.g., doctors, nurses, allied health professionals)	General population, students, or non-healthcare workers
Exposure	Use of amphetamines, methamphetamines, or amphetamine-type stimulants	Use of substances other than amphetamines (e.g., alcohol, cannabis, opioids)
Outcome	Depression, depressive symptoms, or related mental health outcomes	Studies not assessing depression or mental health outcomes
Study Design	Quantitative (cohort, case-control, cross-sectional, clinical trials) and qualitative studies	Reviews, editorials, commentaries, case reports
Time Frame	Studies published between 2000 and 2025	Studies published before 2000
Language	English	Non-English studies

Study Selection

The process for study selection involved:

- Screening titles and abstracts for relevance.
- Assessing full texts against inclusion and exclusion criteria.
- Selecting studies for detailed analysis descriptions.

Quality Assessment

The papers were evaluated for quality and relevance based on their connection with the research subject, journal impact factor, and citation impact. A simplified technical assessment checklist (leakage controls, baselines, reproducibility, dataset provenance, threat model clarity, and validation technique) was employed for peer-reviewed empirical investigations. We used the AACODS (authority, accuracy, coverage, objectivity, date, importance) criteria for grey literature, giving official UK, EU, and US agencies priority [16].

Data Analysis

The data analysis focused on examining the relationship between amphetamine use and depression among health workers. Given the sensitive nature of the topic, a mixed-methods approach was adopted, combining quantitative and qualitative data to provide a comprehensive understanding. Quantitative analysis allowed for the measurement of prevalence, patterns, and statistical associations, while qualitative analysis explored lived experiences, motivations, and contextual factors surrounding amphetamine use and depressive symptoms [17].

Descriptive Statistics

Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize demographic characteristics such as age, gender, years of practice, professional category (nurse), and work environment. Prevalence rates of depression and amphetamine use were calculated to determine the extent of the problem among participants.

Correlation and Regression

Correlation and regression analyses were performed to assess the strength of the relationship between frequency of amphetamine use and depression severity scores. Regression models helped identify whether amphetamine use was a significant predictor of depressive symptoms when controlling for other factors such as workload, job stress, or shift work.

Recruitment and Retention

Recruitment and retention of participants were documented using CONSORT-style flow charts, illustrating the number of health workers approached, consented, excluded, or lost to follow-up. This ensured transparency in participant flow and allowed readers

to evaluate
Key themes included coping mechanisms for workplace stress, stigma surrounding mental health in healthcare settings, accessibility of amphetamines, and the dual impact of drug use on professional performance and personal well-being.

To ensure validity, themes from qualitative data were compared against quantitative findings. For example, health workers who reported using amphetamines to cope with night shifts often scored higher on depression severity scales.

Integration of Data

The integration of qualitative and quantitative findings followed the "following a thread" technique, where patterns identified in one dataset were traced across the other. The data analysis combined descriptive and inferential statistics with in-depth qualitative exploration to provide a holistic picture of amphetamine use among health workers with depression. The approach not only quantified the prevalence and associations but also illuminated the lived experiences, coping strategies, and systemic challenges faced by health professionals. This multi-layered analysis formed the foundation for interpreting results and drawing meaningful conclusions regarding the intersection of substance use and mental health within the healthcare workforce.

Data Extraction

Data were extracted from each paper using a structured template which covered study details, sample characteristics, the mental health outcome measure, exposure to amphetamines, the reported unadjusted and adjusted effects, variables adjusted for in adjusted analyses (i.e., demographics, other substance use, premorbid risk factors), the nature of the comparison group (where applicable) and raw data for the mental health outcome (e.g., counts, means, variance estimates) for both the amphetamines-exposed and the comparison group. Data extraction was checked by a second reviewer; discrepancies were resolved by discussion initially, and if necessary, by a third reviewer.

Data Synthesis

After identifying and screening eligible studies, key information was extracted into a data extraction matrix that included author(s), year, country, study design, sample characteristics, main findings, and quality assessment outcomes. A narrative synthesis approach was adopted to integrate and interpret the findings across studies, given the heterogeneity in study designs, contexts, and outcome measures. The included studies were grouped and compared according to their thematic focus and methodological similarities. Patterns, consistencies, and discrepancies among findings were identified and discussed. Where possible, quantitative results from comparable studies were summarized descriptively (e.g., prevalence rates, effect sizes), while qualitative findings were synthesized through thematic analysis. The synthesis aimed to provide an overarching understanding of the evidence base, highlight converging results, and identify gaps for future research.

In the moment of the data collection, the hospital nursing staff was composed by 1214 workers. A prevalence of 50% abusive alcohol use and other drugs was considered [1]. An acceptable error of 5% and a confidence of 95%, totalizing 402 professionals considering probable sampling at random; but all professionals were invited for the research and, at the end of it, 416 workers accepted to participate in the study. Eligibility criteria to participate in the research were: being 18 or over, be a worker (nursing assistant, nursing technician or nurse) hired by the hospital. Visits were developed in all sectors of the hospital and in different days and hours to publicize the study, offering necessary clarifications and inviting to participate in the research. Professionals were approached in rest breaks, when the instrument for data collection and two copies of the Free and Clarified Consent Form (FCCF) was delivered for those who accepted to participate in the study voluntarily.

Results

In a cross-sectional study conducted by UNODC (2014) with quantitative approach and professionals from the nursing staff of a big general hospital in the state of Minas Gerais, Brazil, sample was composed by 416 nursing professionals; being 115 (28.5%) nursing assistants, 199 (49.3%) nursing technicians and 90 (22.3%) nurses. Female predominance 350 (84.1%), adults with average of age 41.2 years old, varied of 20 and 67 years old, 282 (69.5%) married and adherents of the Catholic religion 177 (44.1%) was observed. In

the moment of the data collection, the hospital nursing staff was composed by 1214 workers. A prevalence of 50% abusive alcohol use and other drugs was considered [1]. An acceptable error of 5% and a confidence of 95%, totalizing 402 professionals considering probable sampling at random; but all professionals were invited for the research and, at the end of it, 416 workers accepted to participate in the study. Eligibility criteria to participate in the research were: being 18 or over, be a worker (nursing assistant, nursing technician or nurse) hired by the hospital. Visits were developed in all sectors of the hospital and in different days and hours to publicize the study, offering necessary clarifications and inviting to participate in the research. Professionals were approached in rest breaks, when the instrument for data collection and two copies of the Free and Clarified Consent Form (FCCF) was delivered for those who accepted to participate in the study voluntarily.

The drugs most consumed at medium/high risk level were alcohol in the binge standard (35.8%), alcohol (21.2%) and tobacco (6.6%), data available in Table 1. The presence of inhalant and injecting drug users was not observed, remembering that these possibilities were not considered as exclusion criteria. Male was characterized by a predominance of alcohol consumption in binge (52.5% male versus 32.9% female $\chi 2$ (1) = 8.688 p = 0.003) and marijuana use (7.3% male versus 1.4% female $\chi 2$ (1) = 6.630 p = 0.010). From the total, 21.3% presented suggestive symptoms for depression. Female professionals presented higher frequency as for having low interest or pleasure to do things (female, 6% versus 11.1% male $\chi 2$ (1) = 4.202 p = 0.040) and suggestive sings for depression (female 22.9% versus 11.7% male $\chi 2$ (1) = 3.434 p = 0.042), when compared with male as shown in Table 2. In the final logistic regression model (Table 3), it is possible to observe that female professionals from the nursing staff present low odds ratio of alcohol beverage binge consumption (56% or OR 0.44 [IC95% 0.26-0.77]; p = 0.003) and of using marijuana in medium/high risk level in comparison with male professionals (81% - OR 0.19 [IC95% 0.05-0.77]; p = 0.020). However, the women showed a double chance of showing feelings of disinterest and lack of pleasure in relation to men (OR 2.47 [IC95% 1.02-5.99]; p = 0.046). Table 4 presents the comparison between depression symptoms and risk level to drug use. It is possible to notice the predominance of sedative use among professionals with suggestive symptoms for depression (57.1% yes versus 42.9% no p = 0.035). The table also shows that professionals with suggestive symptoms for depression presented potentially increased risks for sedative use (OR 5.40 [IC95% 1.17-24.80]; p = 0.035). For the other drugs, there was no statistical significance.

Table 1. Distribution of nursing staff in a general hospital, according to the risk level of drug use and gender (N=416), Uberlândia-MG, Brazil, 2016.

Drugs Risk Level		Female		Male		Total		p* value
		n	%	n	%	n	%	
Alcohol (*binge*)	Abstemious/Low	235	67,1	29	47,5	264	64,2	0,003*
	Medium/High	115	32,9	32	52,5	147	35,8	
Alcohol	Abstemious/Low	276	78,9	48	78,7	324	78,8	0,976
	Medium/High	74	21,1	13	21,1	87	21,2	
Tabacco	Abstemious/Low	261	93,9	52	91,2	313	93,4	0,461
	Medium/High	17	6,1	5	8,8	22	6,6	
Marijuana	Abstemious/Low	273	98,6	51	92,7	324	97,6	0,010*
	Medium/High	4	1,4	4	7,3	8	2,4	
Sedative	Abstemious/Low	267	97,4	54	100	321	97,9	0,235
	Medium/High	7	2,6	-	-	7	2,1	
Cocaine, Crack	Abstemious/Low	275	99,3	55	100	330	2	0,527
	Medium/High	2	0,7	-	-	2	0,6	
Amphetamines	Abstemious/Low	275	99,6	56	100	331	99,7	0,204
	Medium/High	1	0,4	-	-	1	0,3	
Opioids	Abstemious/Low	272	2	53	100	327	99,1	0,745
	Medium/High	3	1,1	-	-	2	0,9	
Others	Abstemious/Low	267	98,9	52	100	322	99,1	0,747
	Medium/High	3	1,1	-	-	3	0,9	

* Chi-Square Test (χ^2). Value of $p < 0,05$.

Table 2. Distribution of nursing staff in a general hospital, according to suggestive symptoms for depression and gender (N=416), Uberlândia-MG, Brasil, 2016.

Suggestive Symptoms for Depression		Female		Male		Total		p* value
		n	%	n	%	n	%	
Low interest or pleasure to do things	No time or various days	240	76,4	48	88,9	288	78,3	0,040
	More than half or almost every day	74	23,6	6	11,1	80	21,7	
Feeling sad, depressed and without hope	No time or various days	257	81,3	47	90,4	304	82,6	0,110
	More than half or almost every day	59	18,7	5	9,6	64	17,4	
Suggestive signs for depression	No	233	77,1	46	88,5	285	78,7	0,042
	Yes	71	22,9	6	11,7	77	21,3	

* Chi-Square Test (χ^2). Value of $p < 0,05$.

Table 3. Logistic regression model for drug use and depression, considering gender as a predictive variable (N=416), Uberlândia-MG, Brasil, 2016.

	OR adjusted	CI95%	p* value
Drugs			
Alcohol (*binge*)	0,44	0,26-0,77	0,003
Alcohol	1,17	0,88-1,55	0,286
Tabacco	0,68	0,24-1,93	0,463
Marijuana	0,19	0,05-0,77	0,020
Suggestive Symptoms for Depression			
Have low interest or pleasure to do things	2,47	1,02-5,99	0,046
Feeling sad, depressed and without hope	2,16	0,82-5,66	0,118
Suggestive for Depression	2,28	0,93-5,55	0,070

* Chi-Square Test (χ^2). Value of $p < 0,05$.

Table 4. Comparison between drug use and depression symptoms and model of logistic regression for drug use, considering suggestive symptoms for depression as predictive variable among professionals from a nursing staff of a general hospital (N=416), Uberlândia-MG, Brazil, 2016.

Drug use (medium or high risk)	Suggestive Symptoms for Depression						p* value	Logistic regression model		
	Yes		No		Total					
	n	%	n	%	n	%		OR	CI95%	p** value
Alcohol (*binge*)	27	22,1	95	77,9	122	100	0,787	1,08	0,63-1,83	0,772
Alcohol	18	26,9	49	73,1	67	100	0,467	1,13	0,89-1,43	0,296
Tabacco	6	28,6	15	71,4	22	100	0,409	1,53	0,57-4,12	0,398
Marijuana	1	14,3	6	85,7	7	100	1,000	0,62	0,73-5,25	0,663
Sedative	4	57,1	3	42,9	7	100	0,035	5,40	1,17-24,80	0,030
Opioids	-	-	2	100	2	100	1,00	3,44	0,47-25,21	0,223
Cocaine, Crack	2	100	-	-	2	100	0,211	2,34	0,37-22,36	0,244
Others	-	-	03	100	3	100	1,00	2,44	0,46-12,73	0,289

* Exact Test of Fisher. ** Chi-Square Test (χ^2). Note: alcohol, tobacco, marijuana, sedatives, cocaine, crack, amphetamines, opioids, inhalants, hallucinogens and others were controlled by the variable suggestive symptoms for depression.

Discussion

Sociodemographical and professional profile of the participants of the above study was predominantly married, catholic women with previous training as nursing assistant or technician. These results corroborate with findings of another national study that found predominant distribution of women, nursing technicians and assistants [18]. The presence of female among professionals from the nursing staff have gradually decreasing throughout the years, however, it still represents the majority [18]. Such characteristic cannot be ignored because if by one side it's rooted in the historic bases of the profession, on the other, it influences the Nursing modus operandi nowadays, once the professional acting is constituted by people inserted in a determined socio-historical and cultural context; consequently, susceptibility to drug use and depression is forged in this context.

In that sense, it seems fundamental to know the mental health conditioners of professionals from the nursing staff, being the drug consumption and vulnerability to depression two important indicators, by epidemiological dimension of these issues have gaining from the point of view of global health. study showed that there are different risk factors for substance abuse among professionals from the nursing staff, among them are psychiatric factors, which include the presence of depression and demographical factors, specially the gender issue [13,19].

On the present sample, 8% consumed alcoholic beverages in a binge pattern and 21.2% had an abusive use of alcohol or have a probable dependency. It was also observed that 6.6% of participants were active. These indices show that the problematic use of psychoactive substances by health professionals does not differ from the general population. Evidence show high rates of substance abuse among nursing professionals [1]. This phenomenon catches the attention, once that the sample of the study is constituted by health professionals, category which, by educational investments that received throughout the process of training, detain qualified information about possible harmful consequences occurred by abusive use of alcohol and tobacco. Therefore, hypothetically, consumption was expected to be much lower in this group of professionals. This way, it is perceived the urgent need for educational investments and preventive efforts directed specifically to the professionals of the nursing team, in a perspective of integral care of these subjects, so that one can go beyond technical and scientific knowledge, incorporating the social dimensions, emotional, cultural and work organization. Beyond that, studies suggest that work environments in which nursing workers are frequently exposed, and present inadequate ergonomic conditions, long and stressful work and workloads, lack of psychosocial support to deal with the complexity of the health-disease-care process, and/or death, may contribute to the problematic use of alcohol or other drugs.

As for drug use, men presented predominance of binge alcohol consumption and marijuana use. These data were confirmed on multivariate analysis, showing that women presented a low risk of binge alcohol consumption and marijuana use. These results were also reported in studies of population base (World Health Organization (WHO), 2017). In this direction, other researches showed social and cultural characteristics related to the act of drinking and manhood. For example, one's higher tolerance, social and family acceptance in male individuals, end up reinforcing even more the alcohol consumption among men [20]. Binge alcohol use was observed, predominantly, among men, in study with 876 participants of the metropolitan region of São Paulo. In this group, 48.4% admitted that consumed alcohol, at least once in drunkenness pattern in the last year, being that, among women, these percentage was of 18.1% [21]. Still in relation to alcohol use, a study with professionals of Brazilian nursing staff identified a higher prevalence of consumption among men, even though differences in relation to women are decreasing [6]. In Canada, an inquiry developed online with 4064 nurses showed that 9.4% of men and 5.8% of women consumed alcoholic beverages in abusive levels [22].

Studies that evaluated the expectations related to alcohol use among men showed that they are diverse and that, many times, are associated to the search of anxiety control, disinhibit ion to address intimate aspects in interpersonal relationships, increase of genderuality and reduction of tension levels. Men also presented negative expectations, such as more disinhibited expression of aggressiveness and reduction of condoms use in general relationships. This way, it is perceived that social context is a determinant factor on the profile for alcohol consumption pattern [20]. In another study, 1.4% of women and 7.3% of men had medium/high risk for marijuana use and, in the logistic regression mode, women presented lower odds ratio of use compared to men. WHO estimates that about 181 million people use marijuana as a recreational form in the world, being that the prevelance changes according to geographical region [23]. In Brazil, the prevalence of dependence reaches 1% of the population, and men make three times more use than women [24]. Studies on marijuana use among health professionals are still scarce. A survey conducted in Brazil with 266 undergraduate nursing students showed that 8.6% of students reported using marijuana in the last year. Literature points out that general male roles and social norms are predictors for alcoholic intoxication and marijuana use, especially in adolescence [25].

A proposed hypothesis is that, biologically, women have a reduced risk for the use of these substances because of physical vulnerability to adverse effects from consumption. In addition, excessive use of alcohol and marijuana among men during adolescence tends to remain, or even increase, in adult life. A relationship between marijuana use and problem alcohol use was also identified [26]. Thus, in the professionals of the nursing team, the profile of psychoactive substance abuse seems to manifest differently between the male and female genders. Women tend to get sick, even physically, faster and more severely. They tend to seek help for symptoms associated with drug abuse, such as insomnia, stress, anxiety, and depression, with higher rates of comorbidities [19]. The underreporting of drug abuse cases is also more common among the professionals from the nursing staff of the female gender. Generally, women that abuse of drugs tend to start treatment due to consequences from physical, mental or family problems, while that men tend to be identified more precociously and sent to specialized services [19]. Thus, it is perceived that professionals from the nursing staff are not immune to drug abuse and present a risk pattern for binge drinking and marijuana use, similar to that found in the general population. Many times, this issue is overestimated by supervisors and employers of these professionals and even by their peers that end up making an early detection. Substance abuse can be associated to inadequate work conditions, directly impacting on the increase in work accidents, illness, absenteeism, withdrawal and disability [18]. Of professionals investigated in a study, 21.3% presented suggestive symptoms for depression. This rate is very superior than the one presented in the National Health Research (NHR) that found 7.6% of adults self-report symptoms of depression [12]. A Brazilian study developed with 266 nursing technicians and assistants identified that 15.5% of professionals presented suggestive symptoms for depression [27]. In different international studies, it is noticed a variability of prevalence of suggestive symptoms for depression among nurses, being 13% in Australia and 38% in China [28,29]. These results present a worrying scenario of susceptibility to symptoms of depression among nursing professionals, once that results are superior to the ones found in general adult population. Studies shows that depression in nursing professionals is associated with suicide risk, the main factors related to the work environment with high work load, lack of autonomy and interpersonal conflicts[8]. Still in relation to depression, another research evidenced that women act on nursing present a domain of suggestive symptoms for depression, with lack of interest or pleasure to do things, having double risk to present these feelings. A study with population comprehensiveness showed that 10.9% of women report medical diagnosis of depression, being that among men this rate was of 3.9% [12].

Research conducted with 94 nurses showed positive association between the predominance of depression and the female gender [30]. Some possible explanations for the development of depression in women are related to genetic issues and hormonal regulation, menstrual cycle and pregnancy-puerperal, family relationship patterns and change in its social and cultural role [29]. The lack of interest of pleasure to do things, found significantly on women, can hold a relationship, among other factors, with the fact that female professionals from the nursing staff, in their few time off, frequently have few or almost no time to care for themselves, or to dedicate to hobbies or activities of personal interest, being that leisure many times is limited to sleeping or praying [31]. Beyond that, these workers are predisposed to double journey of work, having to reconcile paid activities with homework, caring for children and eventual partner difficulties for spending many hours away from home [14]. A study of work-related dislocations due to Common Mental Disorders (CMD) showed a predominance of 76.3% of female nursing professionals, with Depressive Episodes being the most frequent cause, with 52.7% of the cases[9]. These data suggest that inequality on gender relations also have repercussion on the mental health condition, including the vulnerability to depression on nursing professionals. Suggestive symptoms for depression were predominant among professionals that used sedatives. It was also observed that the odds ratio of potentially raised abuse in this group. It is important to consider that sedatives, in this case, is referred to psych pharmaceuticals without medical prescription. In a study conducted in Brazil with 657 subjects from a public university, involving teachers, employees and students, associations were also found between depressive symptoms and use of benzodiazepines [32]. This is a very worrisome issue in the nursing context, considering the involvement, the easiness

of access of this medicines and alarming rates of use by professionals. Research showed that 6.1% of 49 nursing professionals of an Intensive Care Unit (ICU) used benzodiazepines and 4% used pain killers, being that only 24.4% of the use of medicine was prescribed [33].

In the United States of America (USA), of 2439 resident nurses evaluated anesthesiology programs, it was observed that benzodiazepines were the third highest drug abuse among professionals [34]. Again, the use of psychotropic substances, as well as depression, in the nursing work routine may be related to working conditions, difficulties in dealing with suffering and death, interpersonal and interprofessional relations and professional unpreparation. The consumption of these substances aims to reduce the physical and mental loads to which these professionals are continuously exposed [33]. The abusive use of sedatives should be seriously investigated in nursing, considering the particularity of the large contingent of female gender professionals and that it is the only class of psychoactive substances in which the rate of consumption among women is higher when compared to men. In addition, female gender professionals are at increased risk for the development of dependence of this drug [35]. study presents limitations in the sense that it has been performed with a sample of professionals from the nursing team of only one health institution and for convenience, which may restrict the generalization power of the results[33]. The study also did not analyse the differences between the age, position and sector of these professionals and their satisfaction with the work, variables that may influence the levels of substance use and depression symptoms of health workers.

Another point to consider is the low frequency of self-reports about abusive use of some drugs (marijuana, sedatives, cocaine, crack, opiodis and others) can introduce a bias on results, especially on confidence intervals (CI). Results found can contribute to clinical practice in a sense of put in relief the need to evaluate aspects related to the use of psychoactive substances and in the occurrence of suggestive symptoms for depression among nursing professionals and other health professionals. Findings show that this evaluation cannot be done in a homogeneous form, but considering also the issue of differences between genders, once there were diverge results between men and women. It is necessary to broaden the view beyond the technical-professional profile of the worker, also considering their personal demands, and to understand that, in addition to working conditions, the social and gender roles influence the mental health conditions of these professionals. Finally, it is highlighted the originality of the study, which evaluates the occurrence of these phenomena from a difference perspective between men and women, on seeking associating drug use and depression in professionals from the nursing staff among health male and female workers. Other studies are necessary in different scenarios of attention of geographical regions in order to comprehend the best influence of these contexts in associating suggestive symptoms for depression and the drug use, and differences between both male and female professionals.

Conclusion

The intersection of amphetamine uses and depression among health workers is a critical concern with wide-ranging personal, professional, and societal implications. Health workers operate in high-stress environments, often exposed to long working hours, emotional strain, and limited support systems. These conditions can predispose them to mental health challenges, particularly depression. For some, amphetamines may be sought as a means of coping, whether to maintain alertness during extended shifts, improve concentration, or temporarily elevate mood. While the short-term effects of amphetamines may appear beneficial, the long-term consequences are overwhelmingly harmful, both to the individual and the healthcare system [36].

Evidence consistently shows that amphetamine use in populations with depression exacerbates psychiatric symptoms rather than alleviating them. Amphetamines alter neurotransmitter systems, particularly dopamine and serotonin, which are already dysregulated in depression. Instead of providing relief, this interaction often deepens depressive symptoms, increases irritability, and raises the risk of severe outcomes such as anxiety disorders, psychosis, or suicidal ideation [4]. Among health workers who carry the dual burden of caring for others and maintaining their own well-being, the compounding effect of substance use and depression can compromise judgment, reduce the

quality of patient care, and lead to medical errors with serious consequences.

There were association among suggestive signs for depression and female nursing professionals, with odds ratio raised to feelings of lack of interest or pleasure in these women. It was also verified that male professionals presented higher odds ratio to risk of binge alcohol use and marijuana use [37]. The use of sedatives associated with feelings of hopelessness and sadness, as well as lack of interest and pleasure, being observed a higher risk for its use in individuals with suggestive signs for depression. Therefore, it is important to consider that characteristics such as gender of the nursing professional must be considered to elaborate administration strategies to promote worker's health, in special on what considers prevention to misuse of psychotropic and depression [37].

Another critical dimension is the stigma surrounding mental health within healthcare professions. Many health workers are reluctant to seek formal treatment for depression due to fear of professional repercussions, loss of licensure, or being perceived as weak [38]. This hidden suffering can drive individuals toward self-medication with substances like amphetamines. The clandestine nature of such use means that problems often go undetected until they become severe, creating both a personal crisis for the worker and a systemic risk for patients and institutions [39].

The occupational culture of healthcare, which often values endurance and self-sacrifice, may inadvertently encourage unhealthy coping mechanisms. The pressure to perform at peak capacity, combined with insufficient rest and inadequate organizational support, makes amphetamines appear as a quick fix [2]. However, reliance on stimulants erodes resilience over time, leading to cycles of dependency and worsening depression. For younger or less experienced health workers, peer influence and accessibility to medications within medical settings may further increase vulnerability.

Addressing this issue requires a multifaceted approach. At the individual level, awareness campaigns and confidential support systems must be strengthened to encourage health workers to seek appropriate help. Interventions such as counselling, cognitive-behavioural therapy, and safe pharmacological treatment for depression should be readily available without fear of stigma or professional penalty [40]. At the institutional level, healthcare organizations must prioritize mental health by promoting work-life balance, ensuring manageable workloads, and fostering supportive environments [41]. Policies should focus not only on monitoring substance misuse but also on addressing the root causes that push workers toward amphetamines in the first place.

Furthermore, regulatory bodies and policymakers have a role to play in safeguarding both health workers and the public. Initiatives that integrate routine mental health screenings, establish rehabilitation pathways for affected workers, and ensure confidentiality can help mitigate risks. Preventive strategies, including stress management training and peer-support programs, can also reduce the likelihood of self-medicating behaviours [42].

In summary, amphetamine use among health workers with depression highlights a pressing public health dilemma: the clash between professional duty and personal vulnerability. While health workers are entrusted with saving lives, their well-being must not be overlooked. Amphetamines provide no sustainable solution to the challenges of depression; rather, they amplify risks, perpetuate suffering, and threaten healthcare quality. A shift in culture, policy, and practice is urgently needed to break the cycle of silence, reduce reliance on harmful coping strategies, and ensure that those who care for others receive the care they deserve themselves. Protecting the mental health of health workers is not only a moral imperative but also a foundation for a safer, more effective healthcare system.

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