

RESEARCH

Use of Medications for Anxiety and Depression and Associated Factors in Undergraduate Pharmacy Students

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Objective. To map the use of medications for anxiety and depression and associated factors among pharmacy students in Brazil.

Methods. A cross-sectional study was conducted from May to July 2019 with undergraduate pharmacy students. Data were collected using an online questionnaire on sociodemographic issues and the use of psychotropics. Exploratory descriptive analysis of data, the chi-square test, and multivariate binary logistic regression were performed to identify factors associated with the use of medications for anxiety and depression.

Results. A total of 198 responses were included, with most respondents being female with a mean age of 22.3 years. Among these, 17.7% of pharmacy students used medications to treat anxiety and 13.1% used medications for depression. The most consumed psychotropics were escitalopram and fluoxetine. There were two peaks, in the initial and last years of the pharmacy school, for beginning the use of these medications. Dissatisfaction with the pharmacy program and psychological support were significantly associated with the use of medications for anxiety. In contrast, monthly income between 3 to 15 times the minimum wage, religiosity/spirituality, and psychological support were associated with the use of medications for depression.

Conclusion. There was a high prevalence of the use of medications to treat anxiety and depression among undergraduate pharmacy students, and this utilization was associated with psychological support, monthly income, and religiosity/spirituality.

Keywords: antidepressants, anxiolytics, pharmacy students, prevalence, psychotropic

INTRODUCTION

Mental disorders, such as anxiety and depression, are highly prevalent and increasing globally. The World Health Organization (WHO) reported that the proportion of the global population with depression and anxiety disorders in 2015 was estimated at 4.4% and 3.6%, respectively.¹ In Brazil, this number is higher, with depression affecting 5.8% of the population and anxiety disorders affecting 9.3%.² The phenomenon of mental illness has been widely studied as it raises serious concerns for public health authorities and managers. These disorders are known to be incapacitating and have physical, economic, and social consequences for the individual and society.³

Anxiety disorders are characterized by persistent and excessive fear and an exacerbated state of anxiety, such as panic, social anxiety, and generalized anxiety disorders. On the other hand, depressive disorders are characterized by sad, empty, or irritable mood accompanied by somatic and cognitive changes that significantly affect an individual's ability to function. They can include, for example, disruptive mood disorder, major depressive disorder (including major depressive episode), and persistent depressive disorder (dysthymia).⁴ Symptoms of these disorders could range from mild to severe and frequently exist simultaneously.⁵

Currently, there is an urgent need to evaluate the mental health of students in the university environment. It is estimated that almost 20% of university students have some type of mental disorder during their academic training,⁶ and depression and anxiety are the most common self-declared mental disorders.⁷ Undergraduate students are reported to experience rates of depression and anxiety that are significantly greater than those found in the general population.^{6,8} Important depressive and anxious symptoms in university students may decrease academic performance as well as increase dropout, risk of alcohol and other substance abuse, academic dishonesty, and suicide.^{9,10}

During the transition phase from high school to the university environment, students face several challenges, such as relational (establishing new bonds), vocational (career identity and insecurity regarding entering the job market), and academic (high workload, pressure, adaptation to a new model of assessment/learning) among others (family expectation, financial burden, and sleep disruption).¹¹⁻¹³ Thus, the environment that contributes to the building of knowledge and involvement of professional training experiences can be the trigger for mental disorders when there is

an exacerbated difficulty in facing these challenges.¹⁴

It is worth noting that most studies focus on mental disorders among medical students, with few observational studies including students from other areas of health.^{9,15,16} A systematic review showed that the prevalence of anxiety varied between 29.3% and 50.3% and of depression between 4.9% and 51.1% among undergraduate pharmacy students.¹⁷ These findings confirm the high prevalence of these mental disorders in pharmacy students and reinforce the need to include mental health care in primary efforts to improve the well-being of this population.

Knowledge of factors that negatively influence the quality of life and performance of students during their training facilitates health promotion, graduation satisfaction, and guides adjustments in the curriculum.¹⁸ However, there remains a lack of studies that explore the profile of pharmacy students who use psychotropic medications for anxiety and depression, the most consumed medications, and possible associated factors, such as gender, age, and duration in college. Thus, the aim of the present study was to map the use of medications for anxiety and depression and their associated factors among undergraduate pharmacy students.

METHODS

The present study was conducted and reported based on the STROBE (STrengthening the Reporting of OBservational Studies in Epidemiology) statement.¹⁹ This is a list of 22 items that are recommended to be included in observational studies to ensure that the published report contains all relevant information, including specific instructions for the title, abstract, methods, results, discussion, and funding.

Design and setting

A cross-sectional study was conducted from May 2019 to July 2019, including undergraduate students from the Faculty of Pharmaceutical Sciences at the University of São Paulo (USP). This is the largest Brazilian public university, and its pharmacy school has nearly 900 enrolled undergraduate students, distributed in full-time (5 years) or part-time (6 years) programs. The period for completing the program can be extended by a maximum of two and a half years. The pharmacy curriculum is divided into two training stages: basic (1st and 2nd years) and pharmacy (the remaining years), with students completing a total of 5115 hours of training. Pharmacy students must develop an understanding of medications, clinical and toxicological analyses, the food industry, and the provision of health care. The study was approved by the Research and Ethics Committee with Human of the Faculty of Pharmaceutical Sciences.

Population

All undergraduate students enrolled in the pharmacy school were invited to participate in this study, and those who agreed completed an informed consent form with the online survey. The sample size was calculated using the population proportion test, with $\alpha=0.05$ being adopted, a maximum error of 5% (95% power), a proportion of 16% for the consumption of medications to treat anxiety or depression in health care students in Brazil,²⁰⁻²² and the known population size of 900 students. Thus, a sample size of 169 pharmacy students was estimated.

Data collection

The data were collected using an online anonymous questionnaire developed on the Google Forms platform, and students could respond to the survey only once. This questionnaire was distributed through an official email communication from the college and was posted on social networks (Facebook and WhatsApp) to expand the possible number of responses. The following variables were collected: demographics and social characteristics (gender, age, current student year, type of pharmacy program, race, with whom the student lives, monthly income, relationship status, physical activity, use of alcohol and illicit drugs, religiosity and spirituality, psychological support, and student satisfaction with the pharmacy program) and the profile of consumption of psychotropic medications (use in the last 30 days, therapeutic indication, duration of treatment, prescriber, influence of pharmacy program on the use of psychotropics, and use of alternative treatments).

Data analysis

All data collected were organized and categorized in a Microsoft Excel spreadsheet. First, an exploratory descriptive analysis of all variables explored in this study was performed, and the data were described as frequency (percentage) and mean (standard deviation). Next, a chi-square test was used to identify possible independent variables (demographics and social characteristics) associated with the use of psychotropic medications. Variables with a p -value $\leq .25$ in this analysis were included in the multivariable binary logistic regression. The results of the regression are presented as adjusted odds ratios (ORs) and their 95% confidence intervals (CIs), and variables with p -values $< .05$ were considered statistically significant. All analyses were performed using the Statistical Package for the Social Sciences (SPSS 23.0; IBM Corp., Armonk, USA).

RESULTS

Responses were obtained from 207 pharmacy students, of which nine responses were disqualified for incorrect

filling in of the date of birth, as the year informed was 2019. Thus, the sample comprised 198 valid responses, equivalent to 22.02% of students regularly enrolled in 2019 in the USP pharmacy school.

The characteristics of the students are shown in Table 1. Among the students, 17.7% (35) reported using medications for anxiety and 13.1% (26) for depression, with 22 (11.1%) students treated for both mental disorders. The mean age of all students was 22.3 (3.3) years, whereas it was 22.5 (3.0) and 22.6 (3.9) years in students using medications for anxiety and depression, respectively. Most students were female (76.8%), attending the full-time program (53.0%), white people (73.7%), living with their parents (73.7%), and having a single partner (49.5%) and a monthly income between 5 to 15 times the minimum wage (38.4%). The minority of pharmacy students practiced regular physical activity (40.4%), used alcohol regularly (23.2%), and used illicit drugs (19.2%). Approximately two-thirds of the students were religious or spiritualized. In addition, 27.8% (55) of the students had psychological support through a psychologist or a psychoanalyst; there are students who did not do this monitoring but used medications for anxiety or depression, and students who had support and did not need treatment with psychotropics. Most participants (71.2%) were satisfied or neutral regarding the pharmacy school.

Table 2 displays the profile of psychotropic medications use among pharmacy students. In our sample, 39 (19.7%) students used psychotropics, among whom 35 (89.7%) were being treated for anxiety and 26 (66.7%) for depression. Most students (64.1%) used only one psychotropic medication, and the mean of psychotropic medications per student was 1.5 (0.8). The most used psychotropics were escitalopram and fluoxetine, with more than half the pharmacy students (51.3%) using one of the two medications. Approximately half of the students (51.3%) started this treatment less than a year ago. Most students (79.5%) believed that the use of psychotropics was influenced by their experience in the pharmacy program. In addition, 84.6% of psychotropic medications were prescribed by a psychiatrist. On comparing data on the current student year in the pharmacy program and duration of treatment, two peaks for the beginning of the use of psychotropic medications were noted - the initial and last years of the pharmacy program (Figure 1).

The chi-square analysis identified the variables race, monthly income, with whom the student lives, use of alcohol, religiosity, psychological support, use of alternative treatment, and student satisfaction with the pharmacy program as promising for inclusion ($p \leq .25$) in the multivariate logistic regression model (Table 3). The regression analysis showed a significant association between psychological support [OR=20.23 (CI 7.56–54.13); $p=.000$] and dissatisfaction with the pharmacy program [OR=3.21 (CI 1.07–9.61); $p=.037$] with the consumption of medications for anxiety. In contrast, monthly income between 3 to 15 times the minimum wage [OR=6.35 (CI 1.12–35.81); $p=.036$], religiosity/spirituality [OR=0.19 (CI 0.06–0.56); $p=.002$], and psychological support [OR=15.60 (CI 5.34–45.55); $p=.000$] were associated with the use of medications for depression (Table 4).

DISCUSSION

To our knowledge, this is the first study in Brazil to focus on the use of medications for anxiety and depression and their associated factors among undergraduate pharmacy students. In our sample, 17.7% of pharmacy students used psychotropics to treat anxiety and 13.1% used them for depression. Previous studies conducted in France,²³ Brazil,²⁴ and United States²⁵ showed that the use of psychotropics – for all mental disorders – among pharmacy students was 9.4%, 21%, and 25%, respectively. These findings are similar to those of the present study, and show a higher prevalence among pharmacy students than in students overall; a survey by the American College Health Association reported a 6.9% and 6.2% prevalence of using psychotropic medications for anxiety and depression, respectively, among national undergraduate students.²⁶

The psychotropic medications most used for anxiety and depression were escitalopram, fluoxetine, and sertraline that belong to the pharmacological class of selective serotonin reuptake inhibitors and have a therapeutic indication for treatment of both mental disorders. Oliveira et al.²⁴ reported fluoxetine and sertraline as the most consumed psychotropics among students in Brazil. On the other hand, studies with university students have shown a higher consumption of tranquilizers for mental disorders.^{7,23} The greater utilization of psychotropics among students and young adults should be discussed, as mental disorders are mostly determined by personal experiences, and is not a condition that they are born with.²⁷ Considering the current trend to withdraw psychotropics once they can cause more harm than provide benefits,^{28,29} it is essential that individuals reassess the meaning of mental health in early adulthood. Among students treated with psychotropics, 79.5% partially or totally associated use with pharmacy graduation. Thus, it is essential to understand the moments at which these disorders develop to propose preventive measures to improve students' mental health care. Two peaks in the use of psychotropics - the initial and final years of graduation - were shown in this study. With the recent entry into higher education, students need to adapt to a new educational context and undergo changes in their lives; therefore, moments of crisis are expected depending on the person's particular conditions.^{12,21} In contrast, at the end of graduation new pressures arise related to the beginning of a new career, entering the job market, and professional future.^{24,30} Acknowledging the educational environment as a potential trigger for mental disorders,¹⁴ even if the pharmacy student has the perception that the treatment is not linked to graduation, attention is needed so that the clinical condition does not worsen.

Medication consumption for anxiety and depression was more common among females than males; however,

this difference was not significant. Unlike the present study, Mayer et al.⁹ and Farrer et al.³¹ have shown that the female gender is a common predictor of the consumption of psychotropics. This can be explained by the fact that males may feel shame regarding their mental health problems, thereby raising barriers to seeking help and hindering interactions with mental health services.^{32,33} However, Tabalipa et al.³⁴ and Saeed et al.³⁵ have shown that male students are more likely to experience anxiety and depression; therefore, discussing the treatment of mental disorders among young men and the various reasons affecting their mental health is essential.

In the present study, students with a monthly income between 3 to 15 times the minimum wage were most likely to use psychotropics to treat depression. Oliveira et al.²⁴ observed that a higher income was associated with a greater chance of using psychotropics among university students. However, many studies associate the prevalence of depression with lower family income.³⁶⁻³⁸ In addition, depression can affect individuals of all ages and in all walks of life, but the risk is increased by financial difficulties, such as low socioeconomic status, unemployment, and financial strain.³⁹ Thus, although individuals with higher incomes are not those with the highest prevalence of depression, they have better financial status to seek medical attention and obtain treatment.

Students who declared being religious or spiritualized had a lower chance of undergoing treatment with psychotropic medications for depression than those declaring no religion. Religiosity and spirituality help individuals cope with their illnesses by increasing hope and comfort and improving emotional and cognitive quality; consequently, it is an important protective factor, particularly for individuals under psychosocial stress.^{40,41} It has also been shown that religiosity and spirituality are associated with lower levels of depressive symptoms, post-traumatic symptoms, perceived stress, personality disorder, and a positive effect on treatment adherence.⁴² Current evidence indicates an association between religiosity and spirituality and health-related physiological processes, including cardiovascular, neuroendocrine, and immune function.⁴³ Thus, it can be presumed that these practices lead to an emotional balance, affecting quality of life in pharmacy students.

Compared to students who were satisfied or neutral, dissatisfaction with the pharmacy program increased students' chances of using medications for anxiety by three times. This is notable given that dissatisfaction with graduation can cause a crisis owing to questioning of career identification and influencing the development of knowledge and skills, which are the basis of proactive choices and confidence in building one's future career.⁴⁴ Mental disorders were also a significant predictor of academic dissatisfaction and drop out intentions, whereas positive mental health was a significant predictor of satisfaction and persistence.⁴⁵ However, a decision to leave, actioned by dissatisfaction experienced, may be averted if the institution is able to exert control over the factors contributing to this dissatisfaction.⁴⁶

Psychological support and the consumption of psychotropic medications were strongly linked among undergraduate pharmacy students. Psychotherapy or psychological intervention are recommended as the first-line therapy for anxiety treatment; in contrast, the treatment for mild to moderate depression disorder is either psychotherapy and pharmacotherapy in combination or monotherapy with no particular preference, but as a shared decision made between physician and patient.⁴⁷⁻⁵⁰ In this study, both mental disorders were evaluated, and psychological support may have presented as a confounding factor; however, in general, it indicates that the majority of students' treatment was in accordance with guidelines, starting with psychotherapy or combined treatments.

This study has some limitations. First, this study was conducted at a single pharmacy school, making the generalization of findings to other pharmacy students worldwide difficult. In addition, we did not directly ask the students when they started using psychotropic medications. Instead, we compared the student year with the duration of treatment. Therefore, identification of the exact moment (month and year) of psychotropic use (Figure 1) was not possible as this research was conducted in the middle of the school year of the USP pharmacy program and the questioning on duration of treatment was done at intervals of one year. Moreover, the type of depressive or anxiety disorder that pharmacy students were diagnosed with was not specified, and these disorders are known to be quite different from each other and are not treated in an identical manner. The use of psychotropics and their therapeutic indication was self-reported, and we relied on each student for an accurate mental health diagnosis. However, for all medications cited here, including those of a different pharmacologic category than antidepressants or anxiolytics, there are reports of use for depression or anxiety treatment. Although the questionnaire was anonymous, the mental illness stigma may have prevented university students from being fully truthful with their survey responses. We also did not measure the influence of medication adherence on the estimate of satisfaction with the pharmacy program. Finally, it would be important to list other potential associated factors with the use of psychotropic medications among university students, such as personal history, comorbidities, and the exercise of paid activity together with graduation in pharmacy.

CONCLUSION

This study showed a high prevalence of psychotropic medications use for anxiety and depression among undergraduate pharmacy students. Most medications were prescribed by a psychiatrist, and selective serotonin reuptake inhibitor class antidepressants were the most used medications. Most students linked their treatment with an undergraduate study, and two moments during graduation, the initial and final years, require special attention in relation to pharmacy students' mental health. Psychological support and dissatisfaction with the pharmacy program were

significantly associated with the use of medications for anxiety. In contrast, psychological support, monthly income between 3 to 15 times the minimum wage, and religiosity/spirituality were associated with the use of medications for depression. The present study allows a glimpse into mental health issues for USP pharmacy students in Brazil, and the results may assist other pharmacy schools worldwide in the identification of mental health issues in their students.

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Table 1. Characteristics of Pharmacy Students Using Medications for Anxiety and Depression

Characteristics	Total	Medications for Anxiety		Medications for Depression	
	n = 198	Yes	No	Yes	No
Age, mean (SD)	22.3 (3.3)	22.5 (3.0)	22.2 (3.4)	22.6 (3.9)	22.2 (3.3)
Female, n (%)	152 (76.8)	28 (14.1)	124 (62.6)	20 (10.1)	132 (66.7)
Male, n (%)	46 (23.2)	7 (15.2)	39 (84.8)	6 (13.0)	40 (87.0)
Student year, n (%)					
1st	37 (18.7)	3 (1.5)	34 (17.2)	5 (2.5)	32 (16.2)
2nd	16 (8.1)	5 (2.5)	11 (5.6)	4 (2.0)	12 (6.1)
3rd	24 (12.1)	5 (2.5)	19 (9.6)	4 (2.0)	20 (10.1)
4th	23 (11.6)	3 (1.5)	20 (10.1)	3 (1.5)	20 (10.1)
5th	28 (14.1)	4 (2.0)	24 (12.1)	1 (0.5)	27 (13.6)
6th	39 (19.7)	9 (4.5)	30 (15.2)	4 (2.0)	35 (17.7)
7th or more	31 (15.7)	6 (3.0)	25 (12.6)	5 (2.5)	26 (13.1)
Full-time student, n (%)	105 (53.0)	19 (9.6)	86 (43.4)	15 (7.6)	90 (45.5)
Race, n (%)					
White	146 (73.7)	27 (13.6)	119 (60.1)	21 (10.6)	125 (63.1)
Yellow	17 (8.6)	1 (0.5)	16 (8.1)	1 (0.5)	16 (8.1)
Brown	24 (12.1)	6 (3.0)	18 (9.1)	4 (2.0)	20 (10.1)
Black	10 (5.1)	1 (0.5)	9 (4.6)	0 (0.0)	10 (5.1)
Red	1 (0.5)	0 (0.0)	1 (0.5)	0 (0.0)	1 (0.5)
Monthly income, n (%) ^a					
> 15 minimum wage	26 (13.1)	5 (2.5)	21 (10.6)	2 (1.0)	24 (12.1)
5–15 minimum wage	76 (38.4)	16 (8.1)	60 (30.3)	12 (6.1)	64 (32.3)
3–5 minimum wage	52 (26.3)	9 (4.5)	43 (21.7)	9 (4.5)	43 (21.7)
1–3 minimum wage	41 (20.7)	5 (2.5)	36 (18.2)	3 (1.5)	38 (19.2)
Less than 1 minimum wage	3 (1.5)	0 (0.0)	3 (1.5)	0 (0.0)	3 (1.5)
Lives with, n (%)					
Parents	146 (73.7)	24 (12.1)	122 (61.6)	20 (10.1)	126 (63.6)
Alone	22 (11.1)	6 (3.0)	16 (8.1)	4 (2.0)	18 (9.1)
Others	30 (15.2)	5 (2.5)	25 (12.6)	2 (1.0)	28 (14.1)
Relationship status, n (%)					
Single partner	98 (49.5)	15 (7.6)	83 (41.9)	9 (4.5)	89 (44.9)
Multiple partners	5 (2.5)	1 (0.5)	4 (2.0)	2 (1.0)	3 (1.5)
None	95 (48.0)	19 (9.6)	76 (38.4)	15 (7.6)	80 (40.4)
Regular physical activity, n (%) ^b	80 (40.4)	13 (6.6)	67 (33.8)	9 (4.5)	71 (35.9)
Use of alcohol, n (%) ^c	46 (23.2)	5 (2.5)	41 (20.7)	6 (3.0)	40 (20.2)
Use of illicit drugs, n (%)	38 (19.2)	8 (4.0)	30 (15.2)	6 (3.0)	32 (16.2)
Religion, n (%)					
Non-organizational religion ^d	43 (21.7)	5 (2.5)	38 (19.2)	1 (0.5)	42 (21.2)
Organizational religion ^d	33 (16.7)	5 (2.5)	28 (14.1)	4 (2.0)	29 (14.6)
Spirituality ^e	75 (37.9)	14 (7.1)	61 (30.8)	9 (4.5)	66 (33.3)
None	47 (23.7)	11 (5.6)	36 (18.2)	12 (6.1)	35 (17.7)
Psychological support, n (%)	55 (27.8)	27 (13.6)	28 (14.1)	19 (9.6)	36 (18.2)
Student satisfaction, n (%)					
Completely satisfied	16 (8.1)	2 (1.0)	14 (7.1)	1 (0.5)	15 (7.6)
Satisfied	83 (41.9)	14 (7.1)	69 (34.8)	10 (5.1)	73 (36.9)
Neutral	58 (29.3)	7 (3.5)	51 (25.8)	7 (3.5)	51 (25.8)
Unsatisfied	34 (17.2)	11 (5.6)	23 (11.6)	7 (3.5)	27 (13.6)
Completely unsatisfied	7 (3.5)	1 (0.5)	6 (3.0)	1 (0.5)	6 (3.0)
Alternative treatments, n (%)					
Homeopathy	7 (3.5)	2 (1.0)	5 (2.5)	1 (0.5)	6 (3.0)
Phytotherapy	16 (8.1)	0 (0.0)	16 (8.1)	0 (0.0)	16 (8.1)
Florals	14 (7.1)	2 (1.0)	12 (6.1)	0 (0.0)	14 (7.1)
Other	15 (7.6)	5 (2.5)	10 (5.1)	2 (1.0)	13 (6.6)

^aone minimum wage is equal to US\$ 257 (conversion in July 2019).

^b150 min of light- or moderate-intensity physical activity per week or at least 75 min of vigorous-intensity physical activity per week.

^cingestion of five or more doses of alcoholic beverages for men and four or more doses for women, on a single occasion, in the last 30 days.

^dorganized system of beliefs and practices observed by the community, supported by rituals that recognize, idolize, and communicate with the Sacred. It can be organizational (participation in the church or religious temple) or non-organizational (praying, watching religious programs on television, reading books).

^ecomplex and multidimensional part of the human experience, it has to do with reflection, the relationship with the Sacred or the transcendent, the search for the meaning of life.

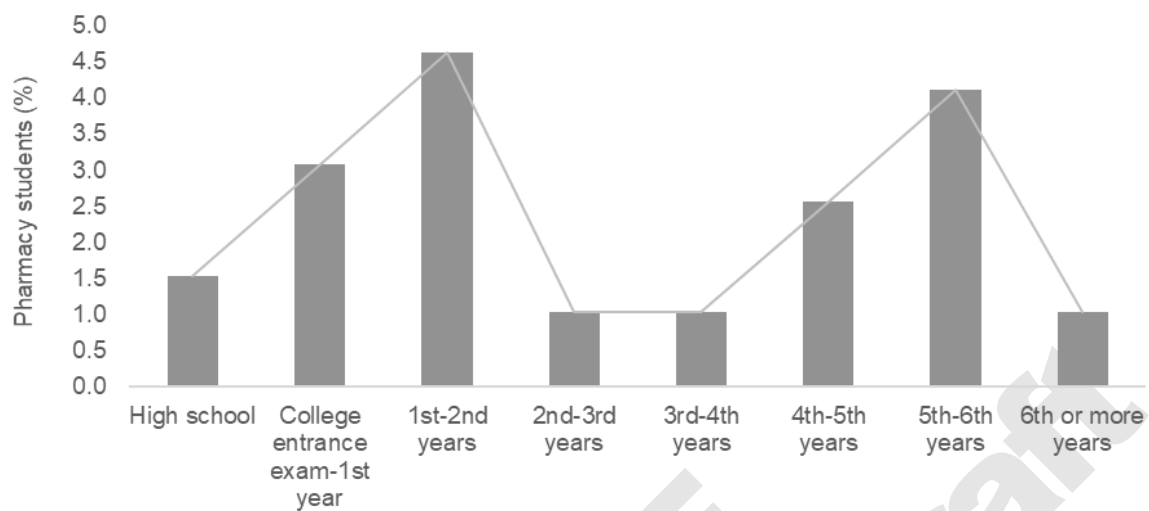
Table 2. Use of Medications for Anxiety and Depression Among Pharmacy Students

Variables	39 Students using Psychotropic Medications
Therapeutic indication, n (%)	
Anxiety disorders	35 (89.7)
Depressive disorders	26 (66.7)
Psychotropic medication, mean (SD)	1.5 (0.8)
Escitalopram, n (%)	10 (25.6)
Fluoxetine, n (%)	10 (25.6)
Sertraline, n (%)	5 (12.8)
Desvenlafaxine, n (%)	4 (10.3)
Clonazepam, n (%)	3 (7.7)
Alprazolam, n (%)	2 (5.1)
Lithium, n (%)	2 (5.1)
Fluvoxamine, n (%)	2 (5.1)
Quetiapine, n (%)	2 (5.1)
Topiramate, n (%)	2 (5.1)
Trazodone, n (%)	2 (5.1)
Venlafaxin, n (%)	2 (5.1)
Zolpidem, n (%)	2 (5.1)
Other, n (%) ^a	10 (25.6)
Duration of treatment, n (%)	
0 to 1 year	20 (51.3)
1 to 2 years	10 (25.6)
2 to 3 years	1 (2.6)
3 to 4 years	1 (2.6)
4 to 5 years	2 (5.1)
More than 5 years	5 (12.8)
Influence of pharmacy program on the use of psychotropics, n (%)	
Yes, totally	7 (18.0)
Yes, partially	24 (61.5)
No	8 (20.5)
Prescriber, n (%)	
Psychiatrist	33 (84.6)
Neurologist	3 (7.7)
Other ^b	3 (7.7)

^aAmitriptiline + chlordiazepoxide, bupropion, clozapine, diazepam, duloxetine, lisdexamfetamine, lorazepam, nortriptiline, paroxetine, vortioxetine.

^bGeneral practitioner, Gynecologist, Adolescent health specialist.

Figure 1. Moment of Beginning of the Use of Psychotropic Medications among Undergraduate Pharmacy Students



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Table 3. Factors Associated with the Use of Psychotropic Medications to Treatment of Anxiety and Depression Among Pharmacy Students

Variables	Medications for Anxiety			Medications for Depression		
	Yes n = 35	No n = 154	<i>p</i> value	Yes n = 26	No n = 163	<i>p</i> value
Gender			.781			1.000
Male	7	39		6	40	
Female	28	124		20	132	
Type of pharmacy program			1.000			.764
Full-time	19	86		15	90	
Part-time	16	77		11	82	
Race			.214			.258
White	27	119		21	125	
Brown	6	18		4	20	
Other	2	26		1	27	
Monthly income			.461			.181
> 15 minimum wage	5	21		2	24	
3–15 minimum wage	25	103		21	107	
< 3 minimum wage	5	39		3	41	
Lives with			.236			.501
Alone	6	16		4	18	
Other	29	147		22	154	
Relationship status			.524			.394
None	19	76		15	80	
Other (single/multiple)	16	87		11	92	
Regular physical activities	13	67	.808	9	71	.666
Use of alcohol	5	41	.246	6	40	1.000
Use of illicit drugs	8	30	.711	6	32	.596
Religion/Spirituality			.337			.008
None	11	36		12	35	
Religion/spirituality	24	127		14	137	
Psychological support	27	28	.000	19	36	.000
Alternative treatments	7	41	.669	3	45	.169
Student satisfaction			.092			.365
Unsatisfied/completely unsatisfied	12	29		8	33	
Neutral	3	18		3	18	
Satisfied/completely satisfied	20	116		15	121	
Student year			.929			.400
1st and 2nd	8	45		9	44	
3rd and 4th	8	39		7	40	
5th and 6th	13	54		5	62	
7th or more	6	25		5	26	

Table 4. Multivariate Logistic Regression of Factors Associated with the Use of Psychotropics for Anxiety and Depression Among Pharmacy Students

Variables	Medications for Anxiety		Medications for Depression	
	Adjusted odds ratio [95% CI]	<i>p</i> value	Adjusted odds ratio [95% CI]	<i>p</i> value
Race				
White	3.06 [0.55–17.05]	.202	-	-
Brown	7.37 [0.90–60.16]	.062	-	-
Other	-	-	-	-
Monthly income				
<3 minimum wage	-	-	2.53 [0.32–20.15]	.380
3 to 5 minimum wage	-	-	6.35 [1.12–35.82]	.036
>15 minimum wage	-	-	-	-
Use of alcohol	0.34 [0.96–1.22]	.099	-	-
Religion/spirituality	-	-	0.19 [0.06–0.56]	.002
Lives alone	2.64 [0.72–9.75]	.144	-	-
Psychological support	20.23 [7.56–54.13]	.000	15.60 [5.34–45.55]	.000
Alternative treatments	-	-	0.35 [0.08–1.42]	.141
Student satisfaction				
Unsatisfied	3.21 [1.07–9.61]	.037	-	-
Neutral	0.82 [0.17–3.84]	.795	-	-
Satisfied	-	-	-	-

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