

Antidepressants: Knowledge and Use Among Nursing Students

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This study examined the knowledge of nursing students in regard to using antidepressant medication and proposes actions such that nurses contribute to a safe and effective antidepressant therapy. This cross-sectional and descriptive study was conducted in a public nursing school in the state of São Paulo, Brazil, between March and November 2008. Fifty-two (19%) out of the 273 participants were using or had used antidepressants. Instruction concerning the use of antidepressants was provided by physicians. Even after receiving instruction concerning the antidepressant treatment before its administration, the majority of users ($\chi^2_1=0.07$, $p> 0.05$) still had doubts about its use. Fluoxetine was the most prevalent antidepressant. Actions to improve knowledge concerning the use of antidepressant medications, their side and therapeutic effects, seem to be necessary and relevant.

Descriptors: Antidepressive Agents; Psychotropic Drugs; Psychiatric Nursing; Students, Nursing.

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Antidepressivos: uso e conhecimento entre estudantes de enfermagem

Este estudo teve como objetivos analisar o nível de conhecimento de estudantes universitários de enfermagem que usam antidepressivos e propor ações para que os enfermeiros contribuam para a farmacoterapia antidepressiva segura e efetiva. Trata-se de estudo transversal e descritivo, realizado em uma Escola de Enfermagem pública do Estado de São Paulo, entre março e novembro de 2008. Dos 273 estudantes entrevistados, 52 (19%) participantes utilizam ou já utilizaram antidepressivos. A orientação do uso dessa classe medicamentosa foi realizada majoritariamente pelo médico. Mesmo com a orientação pré-administração do antidepressivo, a maioria dos usuários ($\chi^2_1=0,07$; $p>0,05$) tem dúvida a respeito do uso de antidepressivos. A fluoxetina foi o medicamento antidepressivo mais utilizado. Ações para produzir maior conhecimento quanto ao uso, efeitos colaterais e terapêuticos dos antidepressivos, por parte dos enfermeiros, parecem ser necessárias e oportunas.

Descritores: Antidepressivos; Psicotrópicos; Enfermagem Psiquiátrica; Estudantes de Enfermagem.

Antidepressivos: uso y conocimiento entre estudiantes de enfermería

Este estudio tuvo como objetivo examinar los conocimientos de los estudiantes que utilizan los antidepresivos y proponer acciones que contribuyan para que los enfermeros realicen una terapia segura y eficaz. Este es un estudio descriptivo transversal realizado en una Escuela de Enfermería pública en el estado de Sao Paulo entre marzo y noviembre de 2008. De los 273 participantes del estudio, 52 (19%) participantes utilizan o han utilizado antidepresivos. La orientación se realizó principalmente por el médico. Incluso, con la orientación previa a la administración de antidepresivos, la mayoría de los estudiantes ($\chi^2_1 = 0,07$, $p > 0,05$) tiene dudas sobre el uso de antidepresivos. La fluoxetina es el fármaco más utilizado. Acciones para generar mayor conocimiento sobre el uso y efectos terapéuticos de los antidepresivos por parte de las enfermeras, parecen necesarias y apropiadas.

Descriptor: Agentes Antidepresivos; Psicotrópicos; Enfermería Psiquiátrica; Estudiantes de Enfermería.

Introduction

Depression is a chronic and recurrent disorder characterized by one or more depressive events with at least two weeks of depressive mood or loss of interest in most activities, accompanied by at least four additional depressive symptoms⁽¹⁾. These symptoms include: persistent pessimism, guilt, difficulty in concentrating, hopelessness, decreased sexual desire, increased irritability, insomnia, and appetite loss⁽¹⁻²⁾. It is known

that the prevalence of depression among people younger than 20 years of age has increased worldwide⁽²⁾. It is estimated that the prevalence of depression among the young population might reach 8.3%⁽³⁾ and that the frequency of depression is higher among students than in the population in general⁽⁴⁻⁵⁾. Therefore, university students have been a target of studies addressing mental disorders. One study carried out with nursing students

shows that 55% of students present a high level of depressive symptomatology⁽⁶⁾. In accord with this finding, one recent study verified that 41.4% of nursing students presented levels of depression that varied from light to severe⁽⁷⁾.

Two types of treatment have been used to treat this population: psychotherapy and therapy with antidepressant medications. However, the number of antidepressants prescribed to young individuals has increased in recent years⁽²⁾. The treatment of depression includes medications that belong to one of the following classes: tricyclic (TCAs), serotonin-specific reuptake inhibitor (SSRIs), Serotonin-norepinephrine reuptake inhibitors (SNRIs), Monoamine oxidase inhibitors (MAOIs) and atypical antidepressant⁽²⁾. Among the different classes of antidepressant medication, the SSRIs are the most commonly used by young individuals with depression due to their profile with less side-effects⁽²⁾. Several studies stress that health professionals play an important role in treatment adherence. These studies show that one of the key factors influencing treatment adherence is how much patients rely on the prescription, on the health team and/or the physician⁽⁸⁻⁹⁾.

Nurses have various functions and the most traditional one is the technical function in which the responsibility to administer medication stands out. This responsibility includes: pharmacological knowledge concerning medications; planning inventory and storage; educating employees, patients and family members; assessing patients before and after administering medication; preparing and administering medication; assessing and promoting therapeutic effects; taking action to reduce adverse effects and adverse interactions and controlling toxicity⁽¹⁰⁻¹¹⁾. Considering the increased prevalence of depression among the youth and the fact there is a considerable incidence of this disorder among university students, this study evaluated the opinion of antidepressant users concerning instruction about the use of medication, verified the knowledge of users concerning antidepressants and characterized the pattern of consumption of antidepressants. Additionally, based on the main identified issues, actions are proposed to nursing professionals so that therapy with antidepressant medication is carried out in a safe and effective manner.

Method

This cross-sectional and descriptive study was carried out in a public nursing school in the state of São Paulo between March and November 2008. This institution

had, at the time of data collection, four classes (with 80 students each) in the bachelor's program and three classes (with 50 students each) in the teaching diploma program, totaling 470 students. Of the 390 students contacted, 273 agreed to participate in the study and composed the study's sample; 52 of these reported the use of antidepressant medication. Data were collected through a closed questionnaire composed of four parts. The 1st part collected the subjects' identification data; the 2nd part asked the opinion of antidepressant users concerning instruction provided about using the medication; the 3rd part collected data related to the knowledge of users concerning the antidepressant medication, and the last part characterized the pattern of consumption of antidepressants (type of antidepressant, dosage, frequency of consumption, medical follow-up, and reason for taking the medication). A structured self-report technique through a questionnaire was used to collect data. Information was recorded by the individuals themselves (self-reported) but they had the opportunity to clarify their doubts with the interviewer⁽¹²⁾. Interviewees were not obliged to fill in the questionnaire and could return it blank.

A quantitative approach was used for data analysis. After coding each of the variables, a dictionary was developed to construct a database in Excel (Windows[®]). Data were statistically analyzed in SPSS version 15.0. Analysis of data correlation was carried out with Person's correlation coefficient test. Statistical associations between variables were investigated through the Chi-square test (χ^2), and hypothesis of association was accepted when $p < 0.05$. Statistical correlations were investigated between the different variables that composed the questionnaire, which are: education concerning side effects, drug interactions, time required for the antidepressant to start acting, type of education provided (who provided the instruction – appropriate or not) and doubts regarding its use. The project was approved by the Committee of Ethics Research Involving Human Subjects at the University of São Paulo at Ribeirão Preto, College of Nursing (Protocol 0843/2007). The participants signed free and informed consent forms in compliance with the resolution of the National Council of Health (CNS 196/96).

Results

The number of participants who were using or had already used antidepressants was 52 students, 19% of 273 students participating in the study. Of the 52 participant users of antidepressant, 25 were from the

bachelor's degree program and 27 from the teaching diploma degree. The participants' socioeconomic data are presented in Table 1.

Table 1 – Frequency and percentage of socioeconomic characteristics of students who were using or had used antidepressants. Ribeirão Preto, Brazil 2008

Variables	f (n=52)	%
Program		
Bachelor's program in nursing	25	48.0
Teaching diploma	27	52.0
Gender		
Male	07	13.5
Female	45	86.5
Age		
18-22 years old	37	71.1
23-27 years old	08	15.4
28 years or older	07	13.5
Marital status		
Single	45	86.5
Married	06	11.5
Divorced	01	2.0
Children		
No children	47	90.4
1 child	03	5.8
2- 3 children	02	3.8
Work		
Yes	11	21.5
No	41	78.5
Family Income		
Less than minimum wage	3	5.8
2-5 times minimum wage	31	59.6
6-10 times minimum wage	14	26.9
11 times or more than minimum wage	4	7.7
Last medical consultation		
Less than 3 months ago	36	69.2
4 to 6 months	07	13.5
7 months to 1 year	05	9.6
More than 1 year	04	7.7

Most of the participants (96.1%) received instruction regarding the medications' side effects, drug interactions and time for the medication to start acting ($\chi^2_1=44.30$; $p<0.05$). The instruction was mainly provided by physicians ($\chi^2_1=46.10$; $p<0.05$) and a psychologist was mentioned only once (Table 2). Most of the participants (98.1 %) considered that the instruction provided was important ($\chi^2_1=48.10$; $p<0.05$) in increasing , safety, effectiveness of and trust in the therapy, to minimize its side effects and drug interactions. Even though instruction was provided before antidepressants were administered, no significant differences ($\chi^2_1=0.07$; $p>0.05$) were found between users (51.9%) who presented doubts and those who (48.9%) did not (Table 2).

Table 2 – Distribution of the study participants according to their opinion regarding the importance of treatment instruction. Ribeirão Preto, Brazil, 2008

Variables	f (n=52)	%	χ^2
Received instruction concerning the use of the antidepressant			
Yes	50	96.1	$\chi^2_1=44.31$; $p<0.05$
No	02	3.9	
Who provided it			
Physician	51	98.1	$\chi^2_1=46.08$; $p<0.05$
Other	01	1.9	
Consider the instruction important			
Yes	51	98.1	$\chi^2_1=48.08$; $p<0.05$
No	00	0.0	
Do not know	01	1.9	
How important is the instruction			
Increases trust in the therapy	18	34.6	$\chi^2_5=18.85$; $p<0.05$
Increases therapy safety	22	42.3	
Increases therapy effectiveness	05	9.6	
Reduces side effects and drug interactions	06	11.6	
Others	01	1.9	
Doubts about the treatment			
Yes	27	51.9	$\chi^2_1=0.077$; $p>0.05$
No	25	48.1	

We observed in Table 3, which presents the knowledge of participants concerning the actions of antidepressants that, 44.2% of the participants did not know when the antidepressant would start to act. Additionally, most of the antidepressant users believed these medications cause tolerance and dependency issues. We also observed that the participants did not increase the dosage of the medication without medical consent. However, statistically significant differences ($\chi^2_1=0.49$; $p>0.05$) were not found between the number of participants who interrupted the treatment without consulting their physicians and those who did not.

Table 3 – Distribution of the study's participants according to their knowledge concerning the actions of antidepressants. Ribeirão Preto, Brazil, 2008

Variables	f (n=52)	%	χ^2
Period in which antidepressant starts acting			
12 hours	05	9.6	$\chi^2_4=45.31$; $p<0.05$
1 day	01	1.9	
1 week	08	15.4	
2 weeks or more	29	55.8	
Do not know	09	17.3	
Have already increased the dosage without asking the physician			
Never	40	76.9	$\chi^2_2= 44.92$; $p<0.05$
Once	08	15.4	
Frequently	04	7.7	
Side effects due to the use antidepressants			
Yes	17	32.7	$\chi^2_2= 21.04$; $p<0.05$
No	31	59.6	
Do not know	4	7.7	
Antidepressants might cause dependency			
Yes	41	78.8	$\chi^2_2=49.19$; $p<0.05$
No	3	5.8	
Do not know	8	15.4	

Continue...

Table 3 – Continuation

Variables	f (n=52)	%	χ^2
Antidepressants might cause tolerance			
Yes	37	71.1	$\chi^2_2=34.89$; $p<0.05$
No	4	7.7	
Do not know	11	21.2	
Interruption of medication at the end of the treatment should be gradual			
Yes	44	84.6	$\chi^2_2=62.00$; $p<0.05$
No	2	3.8	
Do not know	6	11.6	
Have interrupted the treatment without asking the physician			
Yes	28	53.8	$\chi^2_1=0.49$; $p>0.05$
No	24	46.2	
Use other(s) medication(s) in addition to the antidepressant			
Yes	25	48.1	$\chi^2_1=0.020$; $p>0.05$
No	27	51.9	

Thirty-one (59.6%) out of the 52 participants who were using or had already used the medication did not present side effects and only 17 (32.7%) reported such effects (4 nausea, 2 vomiting, 6 anxiety, 2 diarrhea, 4 headaches, 4 insomnia, 3 weight gain, 2 dizziness,

6 diminished sexual interest, 10 others). Almost half of the participants using antidepressant (48.1%) used another medication concomitantly; diazepam was the most used (9.6%). Other medications such as Amitriptyline (5.8%), Alprazolam (3.8%), propranolol (3.8%), lorazepam (1.9%), carbamazepine (1.9%) were also mentioned.

A positive correlation was found between doubts concerning the treatment and the fact that participants interrupted the treatment without consulting their physicians and also a positive correlation between the use of medications and side effects. However, positive correlations were not found between doubts concerning the treatment and information about the antidepressant or between the period for antidepressant to start acting and interruption of treatment without the physician's consent. Likewise, positive correlation was not found between the presence of side effects and increasing the dosage without first consulting the physician (Table 4).

Table 4 - Correlation matrix of variables

		Received information concerning the use of AD	Doubts concerning the AD treatment	When AD started to act	Increased dosage without consulting the physician	Presented side effects	Interrupted treatment without consulting the physician	Use other medications in addition to the AD
Received information concerning the use of AD	Spearman's correlation coefficient	Not applicable.	-0.192	0.177	-0.109	-0.084	0.020	-0.206
	Significance (p)		0.172	0.210	0.443	0.552	0.890	0.147
Doubts concerning the AD treatment	Spearman's correlation coefficient		Not applicable.	-0.020	0.146	-0.055	0.294(*)	0.060
	Significance (p)			0.889	0.300	0.700	0.036	0.675
When AD started to act	Spearman's correlation coefficient			Not applicable.	-0.062	0.297(*)	-0.029	0.156
	Significance (p)				0.660	0.032	0.837	0.276
Increased dosage without consulting the physician	Spearman's correlation coefficient				Not applicable.	-0.063	-0.276(*)	-0.045
	Significance (p)					0.657	0.050	0.756
Presented side effects	Spearman's correlation coefficient					Not applicable.	0.045	0.335(*)
	Significance (p)						0.754	0.016
Interrupted treatment without consulting the physician	Spearman's correlation coefficient						Not applicable.	-0.035
	Significance (p)							0.807
Use other medications in addition to the AD	Spearman's correlation coefficient							Not applicable.
	Significance (p)							

* Significant Correlation at 0.05.
N = 52 participants

Fluoxetine was the most frequently used medication in the treatment of depression in the study's population (Figure 1). Age at which this medication was used for the first time varied from 14 to 35 years of age and dosage varied from 10 to 60mg. An alarming point is that 42.3% used the medication without a medical prescription and did not have medical follow-up. The reasons for medication use included anxiety, distress, depression, tension headache, insomnia, mood changes, nervousness, unhappiness, dysthymia, eating disorders, stress, panic attacks, lack of concentration, excessive dependency, hospitalization and depression after accident.

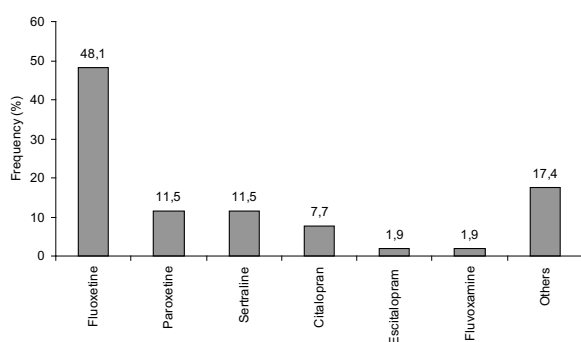


Figure 1 – Frequency of use of different antidepressant among nursing students. Ribeirão Preto, Brazil, 2008

Discussion

The use of antidepressants by young individuals in general can reach 8.3%⁽³⁾ and according to this study's results, the use of these medications is higher among nursing students, since 19% of the participants use antidepressants. These results are in agreement with the literature, which reports a higher prevalence of depression among university students, whereas 40% to 55% of nursing students present high levels of depressive symptomatology⁽⁶⁻⁷⁾. However, results similar to this study should be carefully interpreted since most of the studied sample was female and depression and anxiety (conditions that require the prescription of AD) are known to have a higher prevalence among women.

The majority of antidepressant users in this study had medical follow-up and followed the medical prescription, which shows they trusted the treatment and instruction provided by the physician. This observation is corroborated by the fact that there was no positive correlation between side effects and increasing dosage without previously asking the physician. Several studies

state that health professionals play a central role in treatment adherence. These studies show that one of the key factors influencing treatment adherence is the trust patients have in the prescription, the health team and the physician⁽⁸⁻⁹⁾. This study confirms these data when it reveals that most of the users believe that the instruction provided by health professionals on the appropriate use of the medication increases the therapy's safety and trustworthiness. Nurses have an essential role in educating and establishing bonds with patients in order to promote a trust relationship, and increase the therapy's safety and effectiveness⁽¹⁰⁾. Even with all this responsibility in the process of implementing and maintaining the therapy, the participation of nurses was not observed in the education process provided before the administration of the medication; this responsibility was restricted almost exclusively to the physician. One cannot explain why nurses did not provide instruction concerning the use of antidepressant medication to these individuals based on the study's data. However, it might have occurred due to the fact that most cases of depression and anxiety (diagnoses that require antidepressant prescriptions) are focused on a physician-patient relationship, which usually occurs at an outpatient level. Nurses' participation more frequently occurs in hospitalization or semi-hospitalized situations, in services in which a multidisciplinary participation is more appreciated. Medical education concerning the medication's dosage and up to the final stage of treatment was efficient because most of the participants were aware that the medication has to be gradually interrupted. However, it is important to highlight that even though almost all participants received instruction concerning the medications' uses, many of them had doubts and misconceptions about these medications. From this perspective, a positive correlation between doubts concerning the antidepressant treatment and the fact that patients interrupted treatment without consulting their physicians was found. This is an important aspect because interrupting treatment without consulting the physician can lead to the reappearance of depressive symptoms⁽¹⁰⁾. The fact that many of the study's participants did not know there is a latent period greater than two weeks for the medication to cause any effect can directly interfere in the therapy. The reason is that these patients might interrupt the treatment due to not observing an immediate improvement in their condition or they may increase the medication dosage in order to observe the desired effects. Moreover, educating patients regarding the need to wait a period

to observe the first effects of antidepressant medications does not generate unfounded expectations, which can increase treatment adherence⁽¹⁰⁾. We also observed that most antidepressant users believe that the medication can cause tolerance and/or dependency, which are not actually associated with this type of medication. This is an alarming finding since most of the students who use antidepressants already have knowledge about the pharmacological actions of these medications. Lack of knowledge concerning the pharmacological actions of these medications was previously reported and was attributed to a gap between theory and professional practice, a fact that hinders understanding and implementation of pharmacological principles in daily practice⁽¹³⁾.

Prescribing multiple medications requires constant attention and care because there is a positive correlation between the use of other medications and side effects. Most of the participants in this study reported the use of other medications concomitantly with antidepressants. Prescribing multiple medications requires the review of medications in use and extensive knowledge of them, in order to minimize substances used, monitoring and taking into account side effects and toxic effects⁽¹⁴⁾. The foundation of identifying and understanding drug interactions is based on physiology, physiopathology, drugs mechanisms of action, but also on care focused on the clinical observation of patients, characterizing symptoms and their development over the treatment course.

Fluoxetine was the most frequently used antidepressant and some users concomitantly use it with other antidepressants and diazepam, an association potentially dangerous since diazepam is a substrate of the enzyme CYP 2C19⁽¹⁵⁾, which promotes hepatic metabolism of this compound. Fluoxetine can increase plasma concentrations of diazepam by inhibiting its metabolism⁽¹⁶⁾ and lead to psychomotor and attention impairment. The set of presented data shows that there are doubts concerning antidepressant therapy. Due to such a situation, nursing actions should include the development of an educational plan to be provided

before the administration of medication, in order to provide information about the time it takes to act and potential side effects associated with its use. Nurses should also provide a written list of the main medications that interact with antidepressants and instruct patients never to use additional medication without the previous approval of their physicians. These actions increase treatment adherence because they do not lead patients to create unfounded expectations in relation to the antidepressant treatment⁽¹⁰⁾.

Recent studies show there is a high incidence of depression⁽¹⁷⁾ and consumption of psychotropic medication among nursing students⁽¹⁸⁾. This study corroborates these data and also shows that there is a lack of knowledge concerning how these medications act among students who use them.

Conclusions

In total, 19% of the interviewed nursing students were using or had already used antidepressants: fluoxetine was the most frequently prescribed antidepressant. Nurses did not take part in the education of this study's population before medication was administered; that role was restricted to physicians. Most of the antidepressant users believe that the instruction provided by the health professional regarding the appropriate use of medication increases trust in and safety of therapy. Despite the education provided, a large percentage of users still had doubts about the use of antidepressants, especially in relation to the period it takes to start acting, potential drug interactions, and whether it causes tolerance and/or dependency. It is important to highlight that this study's sample is composed of nursing students who should be prepared to educate patients in the use of antidepressants. The reason for such a lack of knowledge is not clear, but it might be related to a gap between theory and professional practice. Future actions with a view to improve the knowledge of nurses-to-be concerning the use, side effects and therapeutic effects of antidepressant medication seem to be particularly needed and relevant.

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