



Psychological concept of optimism and drug use among nursing students*

Conceito psicológico de otimismo e uso de drogas entre estudantes de enfermagem

Concepto psicológico de optimismo y uso de drogas entre estudiantes de enfermería

Marcos Hirata Soares¹, Margarita Antonia Villar Luís², Clarissa Mendonça Corradi-Webster³, Júlia Trevisan Martins⁴, Andréia Gonçalves Pestana Hirata⁵

ABSTRACT

Objective: To describe the consumption of psychoactive substances among undergraduate nursing students and nursing residents, and verify a correlation between psychoactive substances and the perception of optimism. **Methods:** This is a quantitative, descriptive, correlational study involving 229 subjects, including 184 undergraduate students and 45 nursing residents, from a public University of Parana, in 2010. The Life Orientation Test and the Screening Test for Alcohol, Tobacco and other Substances were used for the study. Descriptive statistics, Spearman correlation and Kruskal Wallis statistics were used for analysis. **Results:** We found significant differences for the consumption of tobacco and sedatives within different series. There was weak negative correlation between sedatives and optimism. Misuse was found for alcohol, tobacco, marijuana and sedatives. **Conclusions:** Further studies should be conducted to understand the reasons for the gradual increase in tobacco use in the series, the dramatic decline in tobacco use and sedatives in the Residency Program in Nursing and the correlation between use of sedatives and optimism, in order to prevent injuries and promote mental health in students.

Keywords: Students, nursing; Internship, Nonmedical Higher Education Institutions ; Substance abuse detection

RESUMO

Objetivo: Descrever o consumo de substâncias psicoativas entre alunos de graduação em Enfermagem e residentes em Enfermagem e verificar a correlação deste com a percepção de otimismo. **Métodos:** Trata-se de uma pesquisa quantitativa, descritiva e correlacional abrangendo 229 sujeitos, sendo 184 alunos de graduação e 45 da modalidade residência em Enfermagem de uma universidade pública do Paraná, no ano de 2010. Os Testes de Orientação de Vida e o de Triagem do Envolvimento com Álcool, Tabaco e outras Substâncias foram aplicados e utilizada a análise estatística descritiva, assim como os testes de correlação de Spearman e o de Kruskal Wallis. **Resultados:** Foram encontradas diferenças estatísticas significantes para o consumo de tabaco e sedativos entre as diferentes séries. Houve correlação negativa fraca no uso de sedativos, e otimismo. O consumo indevido foi encontrado para álcool, tabaco, maconha e sedativos. **Conclusões:** Novos estudos devem ser realizados para se compreender os motivos do aumento gradativo do uso de tabaco nas séries, a queda drástica do uso de tabaco e os sedativos no Curso de Residência em Enfermagem e a correlação entre uso de sedativos e otimismo, como forma de prevenir os agravos e promover a saúde mental nos estudantes.

Descritores: Estudantes de enfermagem; Internato não médico; Instituições de ensino superior; Detecção do abuso de substâncias

RESUMEN

Objetivo: Describir el consumo de sustancias psicoactivas entre alumnos de pregrado en Enfermería y residentes en Enfermería y verificar la correlación de éste con la percepción de optimismo. **Métodos:** Se trata de una investigación cuantitativa, descriptiva y correlacional que abarcó a 229 sujetos, siendo 184 alumnos de pregrado y 45 de la modalidad de residencia en Enfermería de una universidad pública del Paraná, en el año de 2010. Fueron aplicados los Tests de Orientación de Vida y del Triaje del Involucramiento con Alcohol, Tabaco y otras Sustancias, utilizándose el análisis estadístico descriptivo, así como los tests de correlación de Spearman y el de Kruskal Wallis. **Resultados:** Se encontraron diferencias estadísticas significativas para el consumo de tabaco y sedantes entre las diferentes series. Hubo correlación negativa débil en el uso de sedantes, y optimismo. El consumo indebido fue encontrado en relación al alcohol, tabaco, marihuana y sedantes. **Conclusiones:** Deben realizarse nuevos estudios a fin de comprender los motivos del aumento gradual del uso de tabaco en las series, la caída drástica del uso de tabaco y los sedantes en el Curso de Residencia en Enfermería y la correlación entre el uso de sedantes y optimismo, como forma de prevenir los agravios y promover la salud mental en los estudiantes.

Descriptor: Estudiantes de enfermería; Internado no médico; Instituciones de Enseñanza Superior; Detección de abuso de sustancias

* Research accomplished at the Nursing Department, Centro de Ciências da Saúde, Universidade Estadual de Londrina - UEL - Londrina (PR), Brazil.

¹ Assistant Professor in Psychiatric Nursing and Mental Health, Nursing Department, Centro de Ciências da Saúde, Universidade Estadual de Londrina - UEL - Londrina (PR), Brazil.

² Full Professor, University of São Paulo at Ribeirão Preto College of Nursing - USP - Ribeirão Preto (SP), Brazil.

³ Psychologist. Researcher. Psychiatric Nursing and Human Sciences Department, University of São Paulo at Ribeirão Preto College of Nursing - USP - Ribeirão Preto (SP), Brazil.

⁴ RN. Adjunct Professor in Nursing Fundamentals. Nursing Department, Centro de Ciências da Saúde, Universidade Estadual de Londrina - UEL - Londrina (PR), Brazil.

⁵ RN. Collaborating Professor, Nursing Department, Centro de Ciências da Saúde, Universidade Estadual de Londrina - UEL - Londrina (PR), Brazil.

INTRODUCTION

The matter of abuse and/or dependence on alcohol and other drugs should not be understood as an exclusively psychiatric or medical problem, as its social, psychological, economic and political implications should be taken into account in the global understanding of the problem, which should cover the “substance, individual and environment” triad and its most diverse characteristics, which permit endless configurations in psychoactive substance use⁽¹⁾. Data suggest that the prevalence levels of tobacco and alcohol dependence in the Brazilian population correspond to 10.1% and 12.3%⁽²⁾, respectively, which continue at the same height in the I National Survey on Alcohol Consumption Patterns in the Brazilian Population⁽³⁾.

In the I National Survey involving 12,856 college students⁽⁴⁾, higher frequencies of tobacco use were identified in the Southeast, among students in biological sciences. Also, 48.7% reported previous use of illegal substances, with marijuana as the most frequently consumed substance, followed by amphetamines, tranquilizers, inhalants and hallucinogens. Regarding use, gender did not interfere either, although it is known that some conditions negatively or positively affect people to use drugs, as mentioned in a study involving students living in university accommodations, where easy access to drugs and different existing problems make students more vulnerable to psychoactive substance use⁽⁵⁾.

These conditions, which make people more or less vulnerable to chemical dependence, can be greater or smaller when the characteristics or attributes of an individual, social group or environment contribute to increase or decrease the probability that drugs abuse will occur. Nursing students are subject to biopsychic exhaustion due to the required academic activities and contact with ergonomic, psychosocial and organizational risks in the work environment⁽⁶⁻⁷⁾.

With a view to creating a more integrative concept, the World Health Organization (WHO) created the Positive Mental Health concept, which comprises a group of key concepts, including wellbeing and positive states of mind, which also represent a comprehensive part of health. Spiritual, environmental, physical, social and emotional factors are seen as integrative and interactive inside this complex system, including love, familiarity and ability to maintain reciprocal relations for example, as well as empathy and good sense, creation of emotional/social intelligence, temperament and self-control, curiosity and creativity, courage, justice, hope and future perspective⁽⁸⁾.

Also, researchers⁽⁹⁾ proposed the dimension of optimism as a way to assess mental health. Optimism is described as the trend to believe that believe will generally

have good and bad experiences in life, in a more or less optimistic way. This construct was defined based on people's expectations of the events that will occur in their lives. Based on this premise, the Life Orientation Test-LOT was developed, which WHO also considers a positive mental health indicator^(8,10).

The concept of optimism derives from that of attributional style, which in turn derives from a cognitive model that establishes that the causal explanations people adopt will influence their future life expectations. Hence, in this model, negative events of internal, stable and global causes are related with a pessimistic posture while, when negative events attributed to external, unstable and specific causes are supposedly related with a more optimistic orientation. It is again repeated, however, that differences exist between both concepts, as optimism assesses people's expectations of future events, while the attributional style measure assessed people's causal explanations of events⁽⁹⁻¹⁰⁾.

Optimism can be understood and discussed in different ways. To give an example, in Psychology, the concept of optimistic orientation in life has been studied in different contexts, like in education, where it is related with the ability to adapt and school performance. In one study, low levels of optimism serves as predictive factors of difficulties to adapt to the academic environment in college students, in terms of depressive symptoms, feelings of solitude and stress symptoms throughout the first course year, and also of lesser academic performance in subsequent years^(9,11). A more recent study by one of the researchers on this theme⁽¹²⁾ served to compare the optimistic perception of women who underwent breast cancer surgery. Among other information, the study concludes that women who reported greater optimism perceived greater social support from partners, family and friends.

Although no study was found which related psychoactive substance use and optimism, research on this theme is considered important, as the analyzed studies^(9,11-15) do not address this theme. Thus, the present is a practically unedited study on the theme and relevant for Nursing.

Nursing students and residents' academic-professional daily reality exposes them to a situation of greater vulnerability to psychic suffering and coping forms in which they use legal and illegal drugs⁽⁵⁻⁷⁾. Besides, for some, these experiences can overcome their coping skills in such a way as to trigger a mental disorder.

In view of these considerations, the following inquiries are raised:

- Does legal and illegal drugs use increase progressively with course years?
- Are there significant differences related to the consumption pattern and course year the student is in,

also regarding nursing residents?

- Are optimistic/pessimistic perceptions correlated with the use of some kind of drug?

In this study, alcohol, tobacco and sedative consumption will be emphasize, due to the characteristic of legal drugs as a public health problem.

Thus, in this study, we aimed to describe psychoactive substance consumption among undergraduate Nursing students and Nursing residents and to check its correlation with perceived optimism.

METHODS

A quantitative and descriptive correlational study was carried out. The sample comprised 184 undergraduate Nursing students and 45 graduate students in the Nursing residence program (R1 and R2), totaling 229 students from a public university in Paraná State. Inclusion criteria were: being an undergraduate or graduate (resident) Nursing student and accepting to participate in the study.

The following data collection instruments were used:

Life Orientation Test (LOT)^(9,11-16): validated for Brazilian Portuguese⁽¹⁴⁾ with a Cronbach's alpha coefficient of 0.68. It aims to measure the life orientation construct, considering the more or less optimistic way people perceive their lives. This construct was defined in terms of people's expectations on the events that will occur in their lives in the future. It is part of the self-regulation theory of behavior, according to which people fight to reach goals, when they believe these are possible and that their actions will produce the desired effects in this sense⁽¹⁵⁾.

The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) is an internationally validated test by WHO, which serves to assess involvement with legal and illegal drugs. It was planned for different countries and scenarios⁽¹⁷⁻¹⁹⁾ and has been validated in Brazil⁽¹⁸⁻¹⁹⁾. The second version⁽¹⁹⁾ was used in this study. It is a structured questionnaire, comprising eight questions on the use of nine classes of psychoactive substances (tobacco, alcohol, cocaine, stimulants, sedatives, inhalants, hallucinogens and opioids). Questions address usage frequency in life and in the last three months, use-related problems, concern with use by people close to the user, impaired performance of expected tasks, failed attempts to quit or reduce usage, compulsive use and injectable use.

Approval for the research project was obtained from the Institutional Review Board at Universidade Estadual de Londrina (Opinion No 057/10). Subjects were orally invited to participate between June 27th and July 26th 2010. The faculty members responsible for the activities were previously asked permission, so as to find the best day for data collection. On the scheduled days, the

research aim was explained, and anonymity and all other recommendations regarding ethical standards in research involving human beings were guaranteed. At the time of data collection, class groups from the second and fourth year had already taken Mental Health subjects in line with the course curriculum.

After initial orientations, none of the subjects refused to participate. Thus, the Informed Consent Term was distributed and, after their signature, the students received the two questionnaires, stapled together.

For data analysis, a worksheet was constructed in Microsoft Office Excel 2007. Data were exported to Statistical Package for Social Sciences v.11 (SPSS). Data analysis involved absolute and relative frequencies and calculation of means. Group means were compared through the Kruskal-Wallis test. Spearman's correlation test was used to discover possible correlations among the variables. Significance was set at $p \leq 0.05$.

RESULTS

Regarding psychoactive substance use, statistically significant differences were found for tobacco and sedative consumption among different groups (Kruskal Wallis, $p < 0.05$).

The mean LOT score was 17.72 (min=7; Max=17.72; sd=3.31). A weak negative correlation was found between sedative use and optimism ($r = -0.19$), indicating that, the lower the degree of reported optimism, the higher the levels of sedative use and abuse. No significant differences were found, however, in terms of other substance consumption and their correlation with optimism in different class groups.

Data in Table 1 reveals that most students declared themselves non-smokers (67.2%). Marijuana, in turn, ranked third among referred psychoactive substances and was the substance study subjects most consumed, also followed by sedatives, which include anxiolytics and hypnotics.

The analysis of data in Table 2 shows that the percentage of students who declared themselves non-smokers remained practically unchanged among first to third-year students, ranging from 76.7% to 69.4%, respectively, with a more than 30% decrease in the fourth year, but returning to the same pattern among R1 and R2 students. Occasional use, then, gradually increases up to R1 and decreases in Nursing R2. Low levels are found for use suggesting abuse (2%), found in the second and third year and indicated as null among Nursing residents.

It should be highlighted that, as students advance, more of them confirm sedative consumption, although no significant differences were found among different groups ($p = 0.43$; Kruskal Wallis).

Table 1—Students from all class groups according to drugs consumption pattern in undergraduate and specialization-residence courses in Nursing, Londrina - PR, 2010.

Type of drug	n=229								
	No use		Occasional use		Suggestive of abuse		Suggestive of dependence		Total
	n	%	n	%	n	%	n	%	%
Tobacco	154	67.2	60	26.2	14	6.1	1	0.4	100
Alcohol	29	12.7	117	51.1	82	35.8	1	0.4	100
Marihuana	195	85.2	28	12.2	6	2.6	-	-	100
Cocaine	224	97.8	5	2.2	-	-	-	-	100
Amphetamins	224	97.8	5	2.2	-	-	-	-	100
Inhalants	220	96.1	8	3.5	1	0.4	-	-	100
Sedatives	203	88.6	21	9.2	5	2.2	-	-	100
Hallucinogens	222	96.9	7	3.1	-	-	-	-	100
Opioids	227	99.1	2	0.9	-	-	-	-	100
Others	227	99.1	1	0.5	1	0.5	-	-	100

Table 2—Referred tobacco consumption pattern according to course years in undergraduate and specialization-residence courses in Nursing, Londrina - PR, 2010.

Year	n=229									
	No use		Occasional use		Suggestive of abuse		Suggestive of dependence		Total	
	n	%	n	%	n	%	n	%	n	%
1 st year	33	76.7	5	11.6	5	11.6	-	-	43	18.8
2 nd year	40	80.0	8	16.0	1	2.0	1	2.0	50	21.8
3 rd year	34	69.4	14	28.6	1	2.1	-	-	49	21.4
4 th year	14	33.3	16	38.1	7	16.7	-	-	42	18.3
R1	14	60.9	9	39.1	-	-	-	-	23	10.0
R2	16	72.7	6	27.3	-	-	-	-	22	9.1

Table 3—Students per course year in undergraduate and specialization-residence courses in Nursing who indicated previous sedative consumption, Londrina - PR, 2010.

Year	Self-referred consumption		Total per year	
	n	%	n	%
1 st year	3	7.0	43	18.8
2 nd year	5	10.0	50	21.8
3 rd year	7	14.3	49	21.4
4 th year	8	21.6	42	18.3
1 st year Nursing Residency	1	4.4	23	10.0
2 nd year Nursing Residency	2	9.1	22	9.1
Total	26	11.3	229	100.0

Table 4—Percentage of students in undergraduate and specialization-residence courses in Nursing who indicated drugs use in life. Londrina - PR, 2010.

In your life, which of these substances have you already used? (non-medical use)	No %	Yes %
a. Tobacco derivatives (cigarettes, cigars, pipe, chewing tobacco...)	67.7	32.3
b. Alcoholic beverages (beer, wine, spirits, including cachaça, whisky, vodka, vermouth...)	14.8	85.1
c. Marihuana (joint, pot, hash...)	86.9	13.1
d. Cocaine, crack (powder, rock, dissolvable in water, cloud...)	96.9	3.1
e. Amphetamine or ecstasy type stimulants (pills...)	97.8	2.2
f. Inhalants (glue, <i>chérinho-da-loló</i> , paint, fuel, ether, ethyl chloride, benzene...)	96.1	3.9
g. Hypnotics/sedative (sleeping pills: diazepam, lorazepam, lorax, dienpax, rohypnol).	98.7	1.3
h. Hallucinogens (LSD, acid, datura stramonium infusion, mushrooms...)	96.9	3.1
i. Opioids (heroin, morphine, methadone, codeine...)	98.7	1.3
j. Others, Specify: (anti depressants, herbal medicines)	99.1	0.9

Table 5 - Distribution (%) of students in undergraduate and specialization-residence courses in Nursing who indicated their drugs consumption pattern in the last three months. Londrina - PR, 2010.

In the last three months, how frequently have you used this(ese) substance(s) you mentioned? (First drug, then second drug, etc.)	Never %	At least once %
a. Tobacco derivatives (cigarettes, cigars, pipe, chewing tobacco...)	67.2	32.8
b. Alcoholic beverages (beer, wine, spirits, including cachaça, whisky, vodka, vermouth...)	12.7	87.3
c. Marijuana (joint, pot, hash...)	85.2	14.9
d. Cocaine, crack (powder, rock, dissolvable in water, cloud...)	97.8	2.2
e. Amphetamine or ecstasy type stimulants (pills...)	97.8	2.2
f. Inhalants (glue, <i>chérinho-da-loló</i> , paint, fuel, ether, ethyl chloride, benzene...)	96.9	3.1
g. Hypnotics/sedative (sleeping pills: diazepam, lorazepam, lorax, dienpax, rohypnol).	88.6	11.4
h. Hallucinogens (LSD, acid, datura stramonium infusion, mushrooms...)	96.9	3.1
i. Opioids (heroin, morphine, methadone, codeine...)	99.1	0.9
j. Others, Specify: (anti depressants, herbal medicines)	99.1	0.9

Data in Tables 4 and 5 reveal, except for referred sedative consumption, which increases almost nine times, that the drugs consumption pattern preserves the same proportions, with slight variations.

According to data in Tables 4 and 5, 32.3% mentioned previous tobacco use and 32.8% confirmed having smoked at least once in the last three months, indicating high possibilities that students are smoking while in college.

DISCUSSION

Data in Table 1 are a source of concern, as 51.1% indicated occasional alcohol consumption, 35.8% suggest abuse, 0.4% a dependence pattern and 12.7% did not drink; the applied instrument, however, does not permit measuring consumed quantities, in view of binge consumption. Tables 4 and 5 reveal that 85.1% of the subjects mentioned previous alcohol consumption and 87.3% at least once in the last three months. This indicates that students are probably consuming alcohol while in college. In another study of 393 students from a private nursing college, 89.6% had already consumed alcohol⁽²⁰⁾.

In a study of Brazilian college students⁽⁴⁾, 86.2% had already consumed alcohol, with the South showing the highest percentage of alcohol consumers (92.1%), but without significant differences in terms of class groups and study areas, like in the case of tobacco. In another study of 51 nursing students⁽⁷⁾, alcohol and tobacco consumption levels were higher during the boarding period and, in a study⁽²¹⁾ of 179 nursing students at a public university, 22.4% indicated previous tobacco consumption. According to data in Tables 4 and 5, the possibility that students are consuming tobacco while in college is high.

These data are in line with a survey among Brazilian college students⁽⁴⁾, in which 32.2% of students who indicate smoking are concentrated in the South, 35.6%

at public institutions and 43.3% in biological sciences. Also, 35.7% of students who mention smoking study full-time (like in this case), but this is the lowest rate when comparing tobacco consumption per study period, while 50.5% of students who study in the morning period indicate smoking.

In Tables 4 and 5, drugs classified under "others" regard antidepressants and herbal medicines, indicating use in life and in the last three months. Based on these data, it can be supposed that students are using these drugs while in college. According to Table 3 and Spearman's correlation test, a weak, negative but statistically significant correlation was found between sedative consumption and optimism ($r = -0.219$; $p < 0.05$). These data suggest that, due to the small number of subjects who mentioned sedative consumption, the correlation level was low. It is possible though that, in a population with more subjects indicating sedative consumption, a stronger and clinically significant correlation may be found.

The comparison of Tables 4 and 5 shows that unprescribed sedative consumption increased in the last three months. In other words, during the study period, consumption levels are almost nine times higher than referred consumption in life, indicating that university life can influence self-medication in students. According to a study of college students in 2009⁽⁴⁾, sedative abuse is present in 2.2% of students, but a more detailed comparison is not possible, as the drugs classification used in that survey differs from the ranking applied in the present nursing research. According to a study⁽²⁰⁾ of self-referred consumption among 393 students from a private Nursing course, anxiolytic consumption was found in 19.1%, suggesting that students may be using these drugs more.

Another study⁽²²⁾, which reports on the results of different other studies, involving more than 1,000 North American Nursing schools, revealed and access to and

information about drugs can also serve as an aggravating factor in sedative consumption, as well as the fact that the current socioeconomic and cultural context should be taken into account, in which the media emphasizes the benefits of drugs and the stressful life context the global world is facing, as the false idea can be transmitted that drugs are safe, and that self-medication is part of most people's daily reality.

A study about medication use among nursing students in Ecuador⁽²³⁾ reveals that this practice is common among students and refers to unprescribed benzodiazepine use. Causal motives are factors considered as stressors and increased vulnerability, in line with previous knowledge on the theme.

The obtained data permit some explanatory hypothesis, one of which, according to the studies cited here⁽⁵⁻⁷⁾ refers to the relation between the increase in sedative consumption and growing tension and stress, with rising levels as the course advances and a positive correlation.

Complex skills and knowledge are demanded from students as they move on in the course and, when some students start the residency program, they gain greater dominion, self-confidence and personal-professional security regarding their professional performance, called intelligence, skill or emotional competency. Among the investigated drugs, only tobacco showed a statistically significant increase along course years, while sedatives are negatively correlated with optimism.

CONCLUSIONS

The results revealed that nursing undergraduates and residents used drugs that are considered legal and illegal.

REFERENCES

1. World Health Organization. Disease control priorities related to mental, neurological, developmental and substance abuse disorders. Geneva: World Health Organization; 2006.
2. Carlini EA, Galduroz JCF. II Levantamento domiciliar sobre o uso de drogas psicotrópicas no Brasil: estudo envolvendo as 108 maiores cidades do país: 2005. São Paulo: UNIFESP-CEBRID; 2006. 472p.
3. Secretaria Nacional Antidrogas. I Levantamento Nacional sobre os padrões de consumo de álcool na população brasileira. Brasília: Secretaria Nacional Antidrogas; 2007. 76p.
4. Brasil. Presidência da República. Secretaria Nacional de Políticas sobre Drogas. I Levantamento Nacional sobre o uso de álcool, tabaco e outras drogas entre universitários das 27 capitais brasileiras. Brasília: SENAD; 2010. 284p.
5. Zalaf MRR, Fonseca RMGS. Uso problemático de álcool e outras drogas em moradia estudantil: conhecer para enfrentar. *Rev Esc Enferm USP*. 2009;43(1):132-8.
6. Martins ERC, Corrêa AK. Lidar com substâncias psicoativas: o significado para o trabalhador de enfermagem. *Rev Latinoam Enferm*. 2004;12(N Esp):398-405.
7. Oliveira EB, Furegato ARF. Nursing students' work, a risk factor for the consumption of alcohol and other drugs. *Rev Latinoam Enferm*. 2008;16(N Esp):565-71.
8. World Health Organization. Promoting mental health: concepts, emerging evidence, practice. Geneva: World Health Organization; c2005. 310p.
9. Scheier MF, Carver CS. Optimism, coping, and health: assessment and implications of generalized outcome expectancies. *Health Psychol*. 1985;4(3):219-47.
10. World Health Organization. Prevention and promotion in mental health. Geneva: World Health Organization; 2002. 50p.
11. Vickers VK, Vogeltanz ND. Dispositional optimism as a predictor of depressive symptoms over time. *Person Ind Differ*. 2000;28(2):259-72.
12. Wimberly SR, Carver CS, Antoni MH. Effects of optimism, interpersonal relationships, and distress on psychosexual well-being among women with early stage breast cancer. *Psychol Health*. 2008;23(1):57-72.
13. Scheier MF, Carver CS. Effects of optimism on psychological and physical well-being: theoretical overview and empirical update. *Cog Ther Res*. 1992;16(2):201-28.

Except for tobacco, no significant differences were found among the course years, as only tobacco showed a statistically significant increase during the course, in line with the growing complexity of skills demanded in different years, associating the stress load with the study-work regime, which represent factors of burden.

One study limitation is the negative correlation between sedative use and optimism, due to small subject numbers. Further research can be conducted though to assess this weak negative correlation more safely. In addition, answers in the Nursing resident population were not fully satisfactory, as other factors, like concern with their self-image for example, may interfere in their answers to the questionnaires.

It is fundamental for colleges to be able to invest in programs to monitor students' drugs use and self-medication, as referred consumption practically continues in life, while referred sedative use increases almost ninefold after starting university. Finally, further research is needed to understand the reasons for the gradual increase in tobacco use across course years, the drastic drop in tobacco and sedative abuse in the Nursing residence program and the correlation between sedative use and optimism as a way to prevent problems and enhance students' mental health.

ACKNOWLEDGEMENTS

To the National Secretary for Drugs Policies-SENAD for funding the specialization course for Researchers in Alcohol and other Psychoactive Substances at the University of São Paulo at Ribeirão Preto College of Nursing.

14. Bandeira M, Bekou V, Lott KS, Teixeira MA, Rocha SS. Validação transcultural do teste de orientação da vida (TOV-R). *Est Psicol (Natal)*. 2002;7(2): 251-8.
15. Scheier MF, Carver CS, Bridges MW. Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): a reevaluation of the Life Orientation Test. *J Pers Soc Psychol*. 1994;67(6):1063-78.
16. Laranjeira CA. Tradução e validação portuguesa do revised life orientation test (LOT-R). *Univ Psychol*. 2008;7(2):469-76.
17. WHO ASSIST Working Group. The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): development, reliability and feasibility. *Addiction*. 2002;97(9):1183-94.
18. Humeniuk R, Ali R, Babor TF, Farrell M, Formigoni ML, Jittiwutikarn J, et al. Validation of the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). *Addiction*. 2008;103(6):1039-47.
19. Henrique IFS, De Micheli D, Lacerda RB, Lacerda LA, Formigoni MLOS. Validação da versão brasileira do teste de triagem do envolvimento com álcool, cigarro e outras substâncias (ASSIST). *Rev Assoc Med Bras (1992)*. 2004;50(2):199-206.
20. Botti NCL, Lima AFD, Simões WMB. Uso de substâncias psicoativas entre acadêmicos de enfermagem da Universidade Católica de Minas Gerais. *SMAD Rev Eletrônica Saúde Mental Álcool Drog*. 2010;6(1):1-16.
21. Mandegan PS, Souza RS, Buaziz V, Siqueira MM. Uso de substâncias psicoativas entre estudantes de enfermagem. *J Bras Psiquiatr*. 2007;56(4):260-6.
22. Apa-Hall P, Schwartz-Bloom RD, McConnell ES. The current state of teenage drug abuse: trend toward prescription drugs. *J School Nurs*. 2008;24(3):S1-15.
23. Paredes NP, Miasso AI, Tirapelli CR. Consumption of benzodiazepines without prescription among first-year nursing students at the University of Guayaquil, school of nursing, Ecuador. *Rev Latinoam Enferm*. 2008;16(N Esp):634-9.