Original Article

Brief intervention applied to college students screened positive for at-risk alcohol consumption*

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Objective: to investigate the alcohol consumption among nursing college students and evaluate a brief intervention for abusers of alcoholic beverages. Method: longitudinal, experimental study. Data obtained through a self-applicable questionnaire and three instruments. Descriptive statistical analysis and use of specific tests. Results: 36 college students participated in this study. The most used drugs were: alcohol (vodka, beer), tobacco and marijuana. Age of first contact with alcoholic beverages: 15 years; repercussions after use: falls, headache, vomiting and amnesia; and the reasons for consumption: socialization, sensation and pleasure. The brief intervention significantly decreased the risk of consumption among those who abused alcoholic beverages. Among low-risk alcohol consumers, half of them said they were ready to reduce consumption. Conclusion: the short intervention significantly decreased the pattern of alcohol consumption thus promoting the health of the students.

Descriptors: Students; Nursing; Alcohol; Health Promotion.

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Intervenção breve aplicada a universitários consumidores de risco de bebidas alcoólicas

Objetivo: investigar o consumo de álcool entre universitários de enfermagem e avaliar intervenção breve para abusadores de álcool. Método: estudo longitudinal, experimental. Dados coletados por questionário autoaplicável e três instrumentos. Análise estatística descritiva e utilização de testes específicos. Resultados: participaram 36 universitários e as drogas mais utilizadas foram: álcool (vodka, cerveja), tabaco e maconha. Idade do primeiro uso de álcool: 15 anos; repercussões após uso: quedas, cefaleia, vômitos e amnésia; e os motivos para consumo: social, sensação e prazer. Intervenção breve diminuiu significativamente o consumo de risco entre os abusadores. Entre os bebedores de baixo risco, metade referiu estar preparada para diminuir o consumo. Conclusão: intervenção breve diminui significativamente o padrão de consumo de álcool, promovendo a saúde.

Descritores: Estudantes; Enfermagem; Álcool; Promoção da Saúde.

Intervención breve aplicada a universitarios consumidores de riesgo de bebidas alcohólicas

Objetivo: investigar el consumo de alcohol entre universitarios de enfermería y evaluar la intervención breve para los abusadores de alcohol. Método: estudio longitudinal, experimental. Los datos recolectados por cuestionario autoaplicable y tres instrumentos. Análisis estadístico descriptivo y uso de pruebas específicas. Resultados: participaron 36 universitarios, las drogas más utilizadas fueron alcohol (vodka, cerveza), seguido de tabaco y marihuana. La edad del primer uso de alcohol 15 años, repercusiones después del uso fueron caídas, cefalea, vómitos y amnesia y los motivos para el consumo: social, sensación y placer. La intervención breve disminuyó significativamente el consumo de riesgo entre los abusadores y entre los bebedores de bajo riesgo, la mitad, dijo estar dispuesta a disminuir el consumo. Conclusión: intervención breve disminuye significativamente el patrón de consumo de alcohol promoviendo la salud.

Descriptores: Estudiantes; Enfermería; Alcohol; Promoción de la Salud.

Introduction

Abusive and harmful alcohol use is a serious global public health problem that causes physical and psychosocial consequences and damages to other people in the community[1-2].

According to the Pan American Health Organization's 2012 report, average alcohol consumption in the Americas was higher than in other parts of the world. In particular, frequency rates of heavy drinking or episodic heavy drinking (EHD) accounted for 13% among women and 29.4% among men. Adolescents consumed more alcohol on average each time they drank; although the frequency was lower[2].

Episodic heavy drinking is defined as the minimum consumption of 60 grams - approximately 5 typical doses of alcohol - at least once in the last 30 days, and may lead to health risk[2]. The World Health Organization (WHO) highlights the vulnerability of women to harms caused by alcohol consumption and the increase of alcohol consumption among them as a result related to economic development and change of gender roles [1].

A North American study developed with nursing students identified the following risk factors related to alcohol abuse: lack of information on alcohol; expectations about the university course that increased stress and anxiety; unhealthy lifestyle habits; social isolation; and individual and peer influences. On the other hand, specific university policies; life experiences, responsibilities; and peer influence stood out as protective factors[3].

The Action Plan to Combat Chronic Non-communicable Diseases established in Brazil included as a goal the reduction of the prevalence of harmful alcohol consumption from 18% to 12% between 2011 and 2022. The aim was to cause an impact on the reduction of cardiac, hepatic, mental and oncological diseases, as well as on accidents and violence[4].

The possibility of reducing alcohol abuse depends on regulatory measures adopted by governments and the confrontation against the powerful industries of alcoholic beverages and associated products[5]. As measures, higher prices for alcoholic beverages, taxes and the ban on alcohol-related advertising are recommended by WHO[1]. Another important action is the application of Brief Interventions (BIs), which present as theoretical assumption the fact that inappropriate behaviors can be modified with the use of educational strategies, brief counseling and motivational interviewing[6].

A brief intervention (BI) can be performed by health professionals to prevent excessive alcohol consumption, as a first step to motivate reflection on the pattern of alcohol consumption[7].

The objectives of this research were: to identify the consumption of psychoactive substances (PAS), the pattern of alcohol consumption and its characteristics among nursing students and the impact of a brief intervention on the alcohol consumption pattern of college students screened positive for as at risk of likely harmful dependence.

Method

Study approved by the Research Ethics Committee of the Federal University of São Paulo (UNIFESP) (CAAE: 40884915.9.0000.5505). The participants signed the Informed Consent Term and the anonymity and confidentiality of the information were guaranteed.

Longitudinal and experimental research carried out at the School of Nursing of São Paulo, UNIFESP, between March 2015 and September 2016. The data were collected and the BI was applied in classrooms after authorization by the head office and the teachers.

A total of 281 college students of all semesters participated in this study. Sociodemographic data and the pattern of alcohol consumption were collected using the Alcohol Use Disorders Identification Test (AUDIT)[8], a self-administered instrument validated in Brazil. This test evaluates the pattern of alcohol consumption and tracks problematic use based on the sum of the score of 10 questions, varying from 0 to 40 points, and classifies the consumers of alcoholic beverages into: low risk (0 to 7 points), risky use (8 to 15 points), harmful use (16 to 19 points) and probable dependence (above 20 points).

After data collection and tabulation, the 1st Brief Intervention (BI) of the study was applied. In this moment, a feedback obtained through the AUDIT score was provided for each semester and globally, and then a lecture entitled "Alcohol consumption and its consequences" was presented. A folder was delivered to the students and an educational booklet was sent to the electronic address of each semester. After the 1st BI, 41 (14.59%) of the college students were still classified as alcohol abusers; of these, 36 continued in the study and five withdrew.

In the second BI (one year after the first BI), a new feedback was given on the results of excessive consumption pattern of each college student and they were instructed again to read the educational booklet and subsequently requested a BI evaluation. Questions were asked about the profile of consumption of other psychoactive substances, and the AUDIT instrument was applied along with The Drinker Inventory of Consequences (DrInC)[9], validated in Brazil and containing 50 questions subdivided into 5 domains (physical, interpersonal, intrapersonal, impulse control and social responsibility) to assess the consequences of overconsumption of alcohol. The results are dichotomic and the total sum generates a score between 0 and 45 points; the consequences of excessive alcohol consumption are classified as very low (0-23), low (24-28), medium (29-34), high (35-38) and very high (39-45). The rule of readiness for change (RRC) was also used to verify the motivation of college students to decrease their alcohol consumption pattern. The RRC is a simple and effective analogue-visual technique for ascertaining the degree of motivation of individuals to change their attitude. The evaluator asks which of the points of the rule best reflects how ready the individual is, at the present time, to change his behavior-problem. The score varies from zero to ten, considering that zero indicates that the person is not ready and ten indicates that the person is actively working on changing the behavior[10].

The Statistical Package for the Social Sciences (SPSS) IBM version 19 was used for data tabulation and statistical calculations. For the descriptive analysis

of the continuous variables, the following parameters were calculated: mean, standard deviation, median, minimum and maximum. As for the categorical variables, the frequency and percentage were calculated. The Generalized Estimating Equation (GEE) was used for the evolution of the AUDIT and specific variables and the Likelihood Ratio Test was used for multiple comparisons. The significance level adopted was 5% ($p \leq 0.05$).

Results

The average age of the students was 20 years; there were 33 (91.7%) women, 28 (77.8%) whites, 5 (13.9%) yellow and 3 (8.3%) brown. All were single, 16 (44.4%) were Catholics, 11 (30.6%) had no religion, 5 (13.9%) were spiritists and 4 (11.1%) evangelicals. Thirteen (36.1%) students were on the first semester, 9 (25%) in the 2nd, 9 (25%) in the 3rd and 5 (13.9%) in the 4th. The self-reported family income of 9 (25%) students was up to 13 minimum wages (MW); of 12 (33.3%) was of up to 7; of 11 (30.5%) was up to 4.5; of 2 (5.6%) was up to 2; of 1 (2.8%) was up to 1.5; and of 1 (2.8%) was up to 1 MW. Two (5.6%) students had work, one worked as a bar tender and the other as a nursing trainee, with an average income of 1.5 MW.

When asked about alcohol consumption of PAS in life, 26 (72.2%) stated that they had already consumed PAS and in terms of current use, apart from alcohol, 8 (22.2%) students reported using one or more PAS and, of them, 7 (87.5%) reported tobacco, 3 (37.5%) marijuana and 1 (12.5%) cocaine.

The median age for first use of alcohol was 15 years (3-18). As for alcoholic beverages (multiple choice), they were: vodka 32 (88.9%), beer 31 (86.1%), tequila 24 (66.7%), sake 17 (47.2%) and wine/brandy 12 (33.3%). The places where they consumed the drinks were: bars 34 (94.4%), ballades 32 (88.9%), friends' houses 28 (77.8%) and places nearby the university 19 (52.8%).

As justification for alcohol consumption, 16 (44.5%) college students consumed alcohol for social reasons, 11 (30.5%) for enjoying the taste, and 9 (25%) for the sensation and pleasure.

The events experienced after alcohol use were: falls 23 (63.9%); public humiliation 20 (55.6%); ride with a drunk driver 15 (41.7%); intercourse without condom, fight in bars and in ballades 7 (19.4%) and others (drunk driving, family quarrel and burns). As consequences, they mentioned: headache 34 (94.4%); puke/nausea 26 (72.2%); amnesia 25 (69.4%); embarrassing situation 11 (30.6%); disruption of love relationship 8 (22.2%) and others (lack of commitment, fainting spells, orthopedic trauma and alcoholic coma).

The results of the DrInc, applied after the 2nd BI, showed that 36 (100%) college students presented low risk for consequences of excessive alcohol consumption in all domains of the questionnaire.

They reported having read the educational booklet (32 students, 88.9%), 16 (44.4%) evaluated it as good, 13 (36.1%) as very good and 3 (8.3%) as regular.

Figure 1 shows the results of the AUDIT that indicate alcohol consumption patterns of college students, before step 1; after the 1st BI, step 2; and after the 2nd BI, step 3.

Results of AUDIT/BI
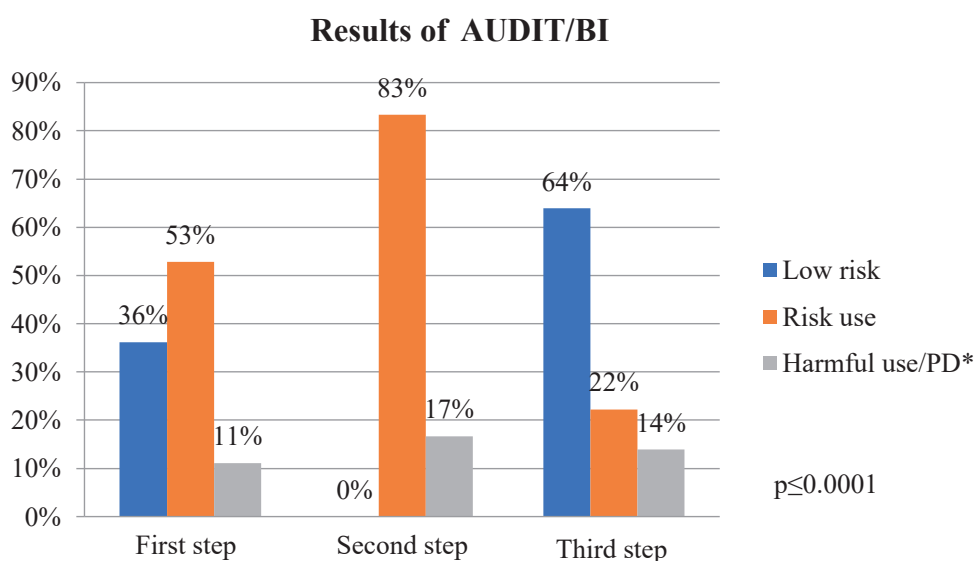
*PD: Probable dependence

Figure 1 – Comparison of alcohol consumption patterns, according to the AUDIT, of 36 nursing students before and after each BI. Escola Paulista de Enfermagem - UNIFESP. São Paulo, SP, Brazil, 2016

Table 1 shows that there was a significant correlation between the AUDIT dimensions and some sociodemographic and economic variables. College students of the first semester presented a reduction in the frequency of consumption of 5 doses or more per episode, not consuming or consuming less than once a month, after the 2nd BI, when compared to the previous steps of the study (p ≤ 0.0086). Students of the third semester consumed more doses than those in other semesters (p ≤ 0.0054). Non-white students consumed more doses (p ≤ 0.0335) and did it more frequently (p ≤ 0.0114) than white peers, even after the 2nd BI. College students with a family income of up to 7 MW were less likely to drink alcohol after the 2nd BI (p ≤ 0.0427). The lower the age of the student, the lower was the frequency of alcohol intake after the 2nd BI (p ≤ 0.0001).

Table 1 – Degree of significance of correlations between AUDIT dimensions and sociodemographic and economic variables of the 36 nursing students. Escola Paulista de Enfermagem - UNIFESP. São Paulo, SP, Brazil, 2016

Variable of Interest	Skin color	Family income	Semester	Age
AUDIT				
Frequency Intake	0.0114	0.0427		0.0001
QDTC*	0.0335		0.0054	
FIFDT†			0.0086	

*QDTC: Quantity of doses typically consumed; †FIFDT: Frequency with which ingests five doses at a time

Considering the EHD pattern, it was observed that after the 2nd BI, 29 (80.6%) students reported never consuming 5 doses or more and 7 (19.4%) reported this consumption at a weekly or monthly basis, a frequency significantly lower than that informed in the previous step p ≤ 0.0418.

Table 2 shows the linear regression between AUDIT domain scores and the readiness to change the pattern of alcohol consumption according to the RRC. After the 2nd BI, most of the students who made harmful use of alcohol or had probable dependence "thought of changing". Students who made risky use of alcohol reported that "they were by no means ready to change", and those who made low-risk use of alcohol were "making arrangements to change".

Table 2 – Linear regression between AUDIT domains and levels of readiness to change the pattern of alcohol consumption among nursing students. Escola Paulista de Enfermagem - UNIFESP. São Paulo, SP, Brazil, 2016

	AUDIT Results – 2nd IB (n/%)			Total	p†
	Low risk	Use risk	Harmful/ PD*		
Decreasing consumption pattern - RRC‡					
Not ready to change	2 (8.7)	2 (25)	0 (0)	4 (11.1)	0.0001
Thinking about changing	3 (13)	6 (75)	5 (100)	14 (38.9)	
Making arrangements to change	12 (52.2)	0 (0)	0 (0)	12 (33.3)	
Working actively on change or maintaining it	6 (26.1)	0 (0)	0 (0)	6 (16.7)	
Total	23 (100)	8 (100)	5 (100)	36 (100)	

*PD: Probable dependence; †Likelihood Ratio Test; ‡RRC: Rule of readiness for change

Discussion

The sociodemographic profile of the students of this research showed prevalence of white women, single, and with an average age of 20 years. This profile resembles other findings in the literature[11-13]. All college students used alcoholic beverages and the median age of first use was 15 years. A study on use of alcoholic beverages and other drugs conducted with Brazilian college students showed that 86.2% had tried alcoholic beverages at some point in their life and, of these, 79.2% were up to 18 years old[14]. A research developed with college students of the nursing course showed that 83.5% of them had tried alcoholic beverages and, of these, 39.5% were between 14 and 15 years old and 16.5% were over 18 years old when they used first time[12]. In another study, alcoholic beverages had first been used before the age of 17 in the case of 68.1% of college students in the health area[13]. The majority of college students, in the different studies, showed that they had tried alcoholic beverages before 18 years of age, which is the lower age allowed in Brazil for consumption and purchase of alcoholic beverages[15]. An integrative review of the literature evidenced the complexity of the risks for harmful use of alcohol/probable dependence among adolescents, with early onset being one of the risk factors[16].

Tobacco and marijuana were the most used PAS others than alcohol among college students in this study. A national study with college students found that 46.7% of them had used tobacco once or more times in life and the highest prevalence was found among male college students, from the South and Southeast regions, over 35 years of age, and the illicit most used PAS was marijuana, which was the case of 26.1% of the sample[14].

In Brazil, in 2010, the most consumed alcoholic beverage by adults of both sexes was beer (61%), followed by wine (25%), with higher consumption among women and in urban regions[17]. Another study with college students identified similar findings[12]. In the present study, however, the students were found to drink more vodka, whose alcohol concentration is higher when compared to beer and wine.

Research conducted in Southern Brazil found that 70.2% of college students drank alcohol at parties and barbecues, 25% at home and 4.8% at bars and restaurants near the university[13].

In Germany, 83.8% of nursing students consumed alcohol at meetings or parties and 66% at nightclubs or pubs, and the reasons they had drank were stress and/or problems[18].

Confirming the reasons for the consumption of alcoholic beverages by college students of this research, college students from other areas of knowledge, including nursing, reported that they consumed alcoholic beverages seeking socialization, appreciating the taste of the drinks and the sensation, pleasure and relaxation caused by them[13].

Excessive consumption of alcoholic beverages can involve a number of risks and consequences, as demonstrated by a national survey of college students who reported EHD and who experienced risks of traffic accidents, intoxication, acts of violence and sexual abuse, unprotected sex, learning impairment, inappropriate behaviors and problems with the Law[14]. In another study, health professionals reported physical consequences of alcohol abuse: nausea and puke (50.7%), dizziness and falls (27.3%), amnesia (9.9%) and 1.4% were involved in automobile accidents[13]; these rates are lower when compared to ones reported by college students in the present research.

In a study with women evaluated by the DrInc scale at the Center for Psychosocial Care - Alcohol and drugs in the countryside of São Paulo, it was verified that the negative consequences of drinking resulted in impairment in all aspects evaluated, with emphasis on the intrapersonal area and control of impulses[19]. This result was different from that found in the present study, probably because the pattern of consumption of women under treatment was different from that presented by the college students investigated and associated with their younger age.

Almost half of the college students evaluated the didactic material used in the BI as good and 36.1% as very good. Thus, we observed a significant decrease in the pattern of harmful alcohol consumption /probable dependence for low-risk consumers ($p \le 0.0001$) after the second BI. A study conducted with college students from São Paulo found that 56.3% of the control group passed to the low-risk pattern of alcohol consumption after a BI, a slightly lower value than the found in the present study[20] which was 64% after the second BI.

White students took fewer doses of alcoholic beverages and did it less frequently compared to non-whites after the second BI. Similar data were found in a multicenter study conducted with the Brazilian population in 2013 that investigated alcohol consumption in the last 30 days and verified that 13.7% of the individuals used alcohol abusively, and of these, 47.3% did it with a frequency of up to twice a month, with a higher prevalence among black people and mulattos, and in the age range between 18 and 29 years[21].

In this study, the frequency of alcohol intake was lower among students with a family income of up to 7 MW and after the second BI. The relationship between individual socioeconomic status and alcohol consumption analyzed in 33 countries showed that

people with a higher socioeconomic level were more likely to use alcohol while EHD was associated with men with a lower socioeconomic level. Among women, the consumption of risk correlated with higher socioeconomic level, especially in middle and lower income countries[22]. There was a positive response to the BI for the first-year students (p ≤ 0.0086), who reported that they had decreased their intake frequency, because they were possibly not so much under influence of the new habits and the parties. The increased consumption of 5 or more doses, per episode, corresponded to 32.1% of nursing students from Rio de Janeiro in the different semesters of the course[12]. In the present study, a significant difference in the number of consumed doses was identified between semesters, as well as a decrease in the frequency of EHD after the 2nd BI. This was also found in another study involving a BI with college students[20].

A longitudinal study using the RRC on Swiss citizens who were abusers and dependents on alcohol found higher scores of readiness and confidence to the decision to stop drinking and maintaining abstinence and lower scores for the importance of changing drinking behavior[23]. North Americans between 21 and 75 years of age classified as abusive consumers or alcohol-dependent, followed up in primary care services, received a BI by nurses and after that they showed a readiness to change: 36% reported that it was important to change their behavior towards alcohol consumption; 44.1% were very confident in the ability to change; and 42.8% were more or less ready to change[24]. In this study, 52.2% of nursing students who after the 2nd BI were in the low-risk pattern of alcohol consumption, reported, through the RRC, that they were ready to change their pattern of alcohol consumption, and 75% of those who were in the pattern of risky use said they were only thinking about changing.

Conclusion

White women with religion and median monthly family income predominated among the youth who were risk drinkers/had probable dependence. The association between alcohol consumption and other PAS was demonstrated. The median age of onset of alcoholic beverage use was low, with possible important future consequences. Risks and consequences associated with alcohol consumption were frequent reports and with varying degrees of danger that put the college students' safety at risk. The DrInc score was probably influenced by the average age, still low, of the students and the pattern of consumption.

BI had a positive and significant effect on the pattern of alcohol consumption and on the willingness to change of the nursing students.

Measures to prevent alcohol use and abuse should be planned, in particular, to neutralize or minimize the correlations between AUDIT findings and sociodemographic and economic variables aiming at the prevention of problems caused by excessive alcohol consumption and the promotion of physical and psychosocial health.

Acknowledgements

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