

The influence of the university level on health conducts in university students

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ABSTRACT

Few studies have examined healthy behaviors of the university population in its entirety. This study aimed to evaluate the influence of the university position, considering undergraduate and graduate students, on the acquisition of healthy behaviors. The sample consisted of 223 undergraduate and 67 postgraduate students of the Life and Health Sciences area (Dentistry, Pharmacy, Medicine, Physical Education, Nursing and Biological Sciences courses) of a public university in southern Brazil. An instrument for the collection of demographic data and the National College Health Risk Behavior Survey (NCHRBS) was used to assess the dimensions: security in traffic and violence, tobacco and alcohol consumption, sexual behavior and feeding, physical activity and weight. It was observed that the university level did not play a significant role in the acquisition of risky habits, being this acquisition more related to the demographic profile of the individuals. Younger, male and unmarried students had a higher prevalence of habits considered harmful to health, mainly related to alcohol consumption and involvement in physical aggression. Female students presented statistically significant difference for using inappropriate methods for body weight control. The results reflect the importance of effective policies, which aim at intervention and prevention of risk behaviors among the college population, considering undergraduate and graduate students.

Descriptors: Health Behaviors. Risk Behaviors. Students. Education, Higher.

1 INTRODUCTION

Healthy behaviors and the risk of inadequate conducts among college students have been extensively explored by national and international literature¹⁻⁶. In general, studies have shown a high prevalence of tobacco, alcohol, and drug consumption among university students^{1,2}, despite results showing reduction in the prevalence of these behaviors in young people^{7,8}. The low level of physical activity and inadequate feeding, with insufficient consumption of fruits and vegetables and high ingestion of fatty and sweet foods, are also identified among the university population⁹⁻¹¹.

Research have also shown that the exposure to the main risky behaviors is associated with stress in adults^{12,13}, and that there is a relationship between stress and higher education. These data suggest that stress and anxiety are responsible for influencing students to acquire new behaviors and social relationships, in order to turn the new habits into "escape paths"^{13,14}. Among the main sources of stress for students are, for example, curriculum overload, university environment, and loss of manageability over time and recreation¹⁵.

The university period is often related to the increased risk of acquiring habits that are harmful to health^{16,17}. However, the university level occupied by the student (undergraduate or graduate) and its effect on changing health conducts remain little explored in studies conducted in Brazil.

The habits acquired by the students during higher education may remain during adulthood¹⁸, therefore, knowledge of the factors related to the adoption of healthy behaviors among the students is crucial for the insertion of appropriate interventional methods aimed at the implementation of satisfactory preventive strategies^{17,19}. This way, exploring the relationship

between the position of the student in higher education and the manifestation of risky behaviors can guide institutional actions to the most vulnerable groups, thereby assisting in the characterization of a risk population, the creation of necessary and satisfactory intervention techniques, and the evaluation of their effectiveness.

For these considerations and the relevance that the exposed object must be present in the agenda of Public Health Managers, the objective of this study is to investigate the influence of the variable university level, undergraduate or graduate, on college students' healthy behaviors.

The hypothesis of this study is that there are differences in healthy behaviors of undergraduate and graduate students, with a worse performance for the graduates. In addition, the literature has pointed that the Brazilian scientific development occurs at the expense of great stress and emotional exhaustion of the researchers, among them postgraduate students, especially regarding the constant demand for an increase in the scientific production^{20,21}. Thus, it is assumed that the demands experienced by graduate students may negatively influence their healthy behaviors.

2 METHODS

This is a cross-sectional, quantitative and exploratory research. The study was approved by the Ethics Committee for Research with Human Beings of the institution (n° 572.627/2014), respecting the dictates of Resolution 466/12 of the National Health Council.

Convenience sample was formed by the totality of the undergraduate (n=279) and graduate students (n=95) attending the last year of the courses of Life and Health Sciences, regularly offered by a public university in southern Brazil,

namely: Dentistry, Nursing, Pharmacy, Medicine, Physical Education, and Biological Sciences. All undergraduate courses are full-time, with an average duration of five years. The graduate courses have an average of two years (master's degree) and four years (doctorate). The students were identified through an official list provided by the university and the base year for the consultation was 2015 (August to December). The criterion of inclusion was that the student was enrolled in the last year of one of the undergraduate or graduate courses, regardless of social or demographic variables.

For the data collection, a questionnaire for the characterization of the sample was used, containing the demographic variables age, gender, marital status and university level (undergraduate or graduate) and the *National College Health Risk Behavior Survey* (NCHRBS), developed by the *Centers for Disease Control and Prevention* of the United States in 1995, translated into Portuguese, and validated for the use with Brazilian students²². This questionnaire is composed of 50 multiple-choice questions that seek to collect information about habits considered harmful to health. The questionnaire is divided into five dimensions, being nine questions related to safety in traffic, four to violence behaviors, 15 to the use of licit and illicit drugs, eight to sexual behavior, and 14 to eating habits, weight perception, and physical activity. Details on the validation process of the questionnaire are available in the Franca and Colares study²². The questionnaires were self-administered by the subject and were submitted as pretests with students in the same institution who were not attending the last year of both university levels described.

The data were collected by a trained researcher, individually, and in a time

considered suitable by the students who agreed to participate in the research. Prior to the application of the questionnaires, the purpose of the study, the voluntary of the participation, and the guarantee of secrecy during all stages of the research were explained to the student.

Initially, descriptive analysis of the demographic and the NCHRBS data was accomplished by frequency distribution, while the bivariate analysis was performed with the application of chi-squared, or Fisher exact test when the conditions for using chi-squared were not verified. After, only the healthy behaviors that showed significant differences between the study groups were reanalyzed, in order to minimize confounding bias with the demographic variables and assign the true association between the healthy behavior and the university level.

3 RESULTS

Two hundred ninety university students participated in the study, being 223 undergraduates and 67 graduates. Among the undergraduate students, it was verified the participation of 36 of Biological Sciences, 37 of Medicine, 38 of Dentistry, 35 of Pharmacy, 32 of Nursing and 45 of Physical Education. Among the graduates, 12 were enrolled in the master program in Biomedical Sciences, 17 in Biological Sciences, 10 in Pharmaceutical Sciences, 16 in Dentistry and 12 in the doctorate program in Dentistry. The demographic data showed that the average age for the undergraduate student was 23 ± 1.44 years old, single (95%), and women (80%), mostly, while among the graduate students the average age was 26 ± 1.90 years old, being 77.6% women, and single (81%), mostly.

Table 1 shows the health behaviors that showed statistical significance when associated with the student groups analyzed. No other dimension or behavior, regardless of the dimension to which it belongs, showed significance.

Table 1. Distribution of the NSHRBS dimensions and risky behaviors with statistical significance, according to the university level

Dimension/ Risk Behavior	Undergraduate n=223 n(%)	Graduate n= 67 n(%)	p value
Traffic Safety and Violence			
Engaged in physical fight in the past year	19 (8.5)	01(1.5)	0.032**
Smoking and alcohol use			
Alcohol consumption in the last month	159(71.3)	56(83.6)	0.044*
Sexual Behavior			
Performed tests to verify the presence of HIV	77(34.5)	38(56.7)	0.001*
Diet, Physical Activity, and Weight			
Performed diet to lose or maintain weight	70(31.4)	32(47.8)	0.013*

* Pearson's chi-square test. ** Fisher's exact test

Table 2 shows that the fact of the student being single was significant for the variable 'consumption of alcohol in the last month', not influencing other health behaviors examined. Furthermore, the gender demographic variable was significant for the prevalence of men's involvement in physical aggressions in the last year and of women carrying out diets to lose weight.

After the gender and marital status analysis, it was verified that the relationship of the variables found in the first test with the variable student level, undergraduate or graduate, remained associated only with the sexual behavior dimension, with the conduct

"have performed test to check the presence of HIV." The other variables were related to gender and age. When evaluating this behavior and the age of the students, a significant difference was found only for those interviewed aged 27 to 29 years old (Table 03). It should be noted that the total number of undergraduate students was concentrated in the age group of 21 to 26 years, while the graduate students were above 24 years old. Therefore, these results should be observed with caution.

Table 03 also shows the statistical significance for the variables related to "tobacco and alcohol consumption" and "feeding, physical activity, and weight."

Table 2. Distribution of the NSHRBS dimensions and risky behaviors with statistical significance, according to marital status and gender

Dimension/ Risk Behavior	Married n=27 n (%)	Single n=263 n (%)	p value	Male n=59 n (%)	Female n=231 n (%)	p value
Traffic Safety and Violence						
Engaged in physical fight in the past year	0 (0)	20(7.6)	0.131* *	19 (32.2)	01 (2.3)	0.000**
Smoking and alcohol use						
Alcohol consumption in the last month	15 (55.5)	200 (76)	0.020*	39 (66.1)	176 (76.2)	0.114*
Sexual Behavior						
Performed tests to verify the presence of HIV	09 (33.3)	106 (40.3)	0.314*	18 (30.5)	97 (42)	0.481*
Diet, Physical Activity, and Weight						
Performed diet to lose weight or maintain weight	07 (25.9)	95 (36.1)	0.291*	13 (22)	89 (38.5)	0.018*

* Pearson's chi-square test. ** Fisher's exact test

Table 3. Distribution of the NSHRBS dimensions and risky behaviors with statistical significance, according to age

Dimension/ Risk Behavior	21 - 23 n=150 n (%)	24-26 n=115 n (%)	27-29 n=18 n (%)	> 29 n=07 n (%)	p value
Traffic Safety and Violence					
Engaged in physical fight in the past year	15 (10)	04 (3.5)	0 (0)	01 (14.3)	*0.099
Smoking and alcohol use					
Alcohol consumption in the last month	123 (82)	71 (61.7)	17 (94.4)	04 (57.1)	*0.000
Sexual Behavior					
Performed tests to verify the presence of HIV	30 (20)	62 (53.9)	17 (94.4)	6 (85.7)	*0.000
Diet, Physical Activity, and Weight					
Performed diet to lose weight or maintain weight	52 (34.7)	30 (26.1)	16 (88.9)	04 (57.1)	*0.000

* Pearson's chi-square test.

4 DISCUSSION

Most of the investigated behaviors showed no significant difference between the university levels. The variables that demonstrated a relationship were influenced by the demographic variables. Thus, we can infer that the university level had little influence on healthy behaviors, being these more related to gender, marital status, or age. In point of fact, the literature has pointed that gender, age, ethnicity, color, income, and schooling have a considerable influence on the acquisition of risky behaviors, as well as on the demand for care in public and private health networks²³⁻²⁶.

Cotrim *et al.*²⁷, in an evaluation of students' healthy behaviors, demonstrated that men are more associated with risky behaviors, especially related to traffic conduct, to physical violence, and to bear arms²⁷, resembling the results of this study where male students exhibited significant prevalence of involvement in physical aggression. The female college students showed a higher prevalence only to the conduct "using unhealthy strategies to control body weight," supporting worldwide data^{28,29}.

Studies also have pointed to the influence of marital status and age in behavioral practices related to health³⁰⁻³². Scientific evidence shows that single individuals tend to consume alcohol in larger quantities when compared to married people^{30,31}; that young people are more susceptible to acquiring harmful health practices³²; and that these risks tend to remain for the entire life, increasing mortality rate^{2,33,34}. The self-report of the students in this study reflects the current situation of young Brazilians, where the acquisition of harmful conducts is constantly increasing, aiming at the escape of reality and achieving social patterns, especially related to the

adoption of risk measures on body aesthetics and alcohol consumption^{35,36}.

Another indication of the results brings up issues concerning the level of education. It was thought that the experience of a graduate course in the health area, full of scientific discussions and approaches of high level of criticality related to healthcare, could influence the healthy behaviors positively. Studies have exposed a close relationship between the level of education achieved by an individual and the adoption of healthy behaviors^{23,24,25}. The highest rates found in this population could be explained by the fact that these individuals tend to have a greater understanding of the effects of the disease-treatment process and the risk of the acquisition of risky behaviors, as well as greater discernment regarding the different modalities and specialties that guide the acquisition and maintenance of health. In an observational study, Silva *et al.*²⁴ showed that higher income and education groups and women have an increased demand for health services. It could explain the search for "conducting diagnostic test for the presence of HIV" by the graduate group found in this research.

In this study, and particularly concerning the graduate group, it is suggested that higher education provides an appreciation of aspects that guide the scientific and professional development. Severino³⁷ shows that the university life of a graduate student must present an incorporation of an investigative spirit, dedicated to building knowledge and immersed in a problem-solving context. Moreover, university environments for graduate students end up providing only infrastructural and technological benefits to the development of research, generating a sort of deficiency of questions related to the condition of human integrality, including here the adoption of

healthy behaviors. The lack of discussion and socialization scenarios about factors that affect health and quality of life of graduate students helps to explain the similarity found between the investigated behaviors and the university level.

The achieved results show that intervention policies related to healthy behaviors among the analyzed students can follow a single direction by educational managers, as the differences between graduate and undergraduate students were more related to the demographic conditions than to the level of education. However, as undergraduate courses in the health area often promote lessons and programs related to healthcare, there is the need to develop moments in the graduate courses where they can discuss relevant aspects regarding the adoption of healthy habits.

Studies on the presence and effectiveness of strategic policies for the acquisition of healthy behaviors by the university population, especially graduate students, can help reduce risky behaviors in the university community and drive effective strategies for prevention and control of these behaviors. An example of an effective strategy is described in the study by Deliens *et al.*³⁸ with college students. The authors showed that reducing the price of fruit and increasing French fries in equal proportion reduces the consumption of unhealthy foods and increases the consumption of healthy ones, thus aiding in the behavioral change process.

The subsidy to the adoption of healthy practices brings individual, social, and economic significant impacts. National and international studies show that people who adhere to healthy behaviors have greater longevity^{33,39}, reducing vulnerability to becoming ill^{25,33,39}, and overall mortality^{25,26,40}, as well as decreasing the financial impact on the health system and adverse effects on

their quality of life^{25,41}.

It is important to note that the representativeness of the sample is an issue that should be carefully evaluated. Although it involved students from different courses in the Life and Health Sciences School, it may not be representative of the undergraduate and graduate universe of different educational institutions. Thus, and for external validation effect, it is suggested that similar studies be conducted in other universities involving other areas of education.

Also, for purposes of analysis, only the presence or absence of the health conducts was considered, regardless of their nuances of occurrence. This fact suggests the importance of investigating these behaviors also in terms of frequency and duration of exposure.

5 CONCLUSION

It is concluded that the academic position, singly, showed little influence on healthy behaviors, as in all analyzed behaviors, influence of the demographic variables was found. The hypothesis of this study was not confirmed. Thus, the data revealed the need for actions by institutional managers, in an integrated manner, with the undergraduate and graduate students through the adoption of policies aimed at prevention and intervention of risky behaviors.

RESUMO

A influência da posição acadêmica sobre condutas de saúde em universitários

Poucos estudos têm examinado as condutas de saúde da população universitária em sua totalidade. O objetivo deste estudo foi avaliar a influência da posição acadêmica, considerando estudantes de graduação e pós-graduação, sobre a

aquisição de condutas de saúde. A amostra foi composta por 223 graduandos e 67 pós-graduandos, ambos concluintes dos cursos de Odontologia, Farmácia, Medicina, Educação Física, Enfermagem e Ciências Biológicas de uma universidade pública da região Sul do Brasil. Utilizou-se um instrumento para a coleta de dados demográficos e o questionário autoaplicável *National College Health Risk Behavior Survey* (NCHRBS), para a avaliação das dimensões segurança no trânsito e violência, consumo de tabaco e álcool, comportamento sexual e alimentação, atividade física e peso. Observou-se que a posição acadêmica não exerceu papel significativo na aquisição de condutas inadequadas, estando estas mais relacionadas com o perfil demográfico dos indivíduos. Estudantes mais jovens, do gênero masculino e solteiros apresentaram maior prevalência de hábitos considerados prejudiciais à saúde, principalmente relacionados ao consumo de bebida alcoólica e ao envolvimento em agressão física. Estudantes mulheres apresentaram aquisição significativa de métodos inapropriados para o controle do peso corporal. Os resultados encontrados refletem a importância da efetivação de políticas que visem à intervenção e prevenção de comportamentos prejudiciais à saúde entre universitários, considerando-se o universo de graduandos e pós-graduandos.

Descritores: Comportamentos Saudáveis. Risco. Estudantes. Educação Superior.

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