

ORIGINAL RESEARCH

Risks for non-communicable chronic diseases: A cross-sectional study with undergraduate nursing students

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Abstract

Background: The situational analysis is one of the essential competencies of the nurse as a health promoter to ensure planning by the use of adequate strategies, coherent approaches and attainable goals in a community. The present study focused on performing a situational analysis of lifestyles related to the risk factors for non-communicable chronic diseases (NCCD) with undergraduate nursing students.

Methods: A cross-sectional study developed with 77 female nursing undergraduates where the sociodemographic variables, physical conditions and lifestyles inherent to the risk for non-communicable chronic diseases were investigated.

Results: Female undergraduates between the ages of 20 and 24 years prevailed in the study. They were white, single, belonged to social class B and were in the 3rd and 4th year of the course. Though sedentary, the students had their weight fitting their height and their waist circumference values within normal standards. In addition to this, they stated being non-smokers, besides presenting low risk regarding alcohol consumption.

Conclusions: It is worth noting the nurse's role as a health promoter at the development of encouragement strategies for healthy life practices and the planning of interventions against sedentarism.

Key words

Chronic diseases, Health promotion, Nursing

1 Introduction

The nurse as a health promoter is defined as a professional specialized in maintaining and improving the populations' health by acting in the reduction of inequalities among populational groups through the joint action plans in the Ottawa letter ^[1]. Some health promotion competencies are necessary for this professional, so that his/her activities can become efficiently and effectively operational. Such competencies represent a common base for all the health promoters' roles ^[2].

The situational analysis can be cited amongst these competencies, that is the identification of health needs and priorities play an important role in the execution of actions aiming at the promotion of health ^[2]. Knowing why and how people adopted a certain lifestyle can be a good strategy to adequate more convincing measures in order to contribute to the change of a determined situation.

During the past thirty years, some epidemiologic studies have been performed aiming at the identification of risk behaviors that enable the appearance of non-communicable chronic diseases (NCCD) in the most diverse publics, including school ^[3] and university students ^[4-9]. Although there is an ample literature on the topic, there is a lack of studies aimed at investigating these behaviors in nursing undergraduates of public universities in the state of Ceara, Brazil.

Thus, the present study is interested in carrying out a situational analysis of lifestyles related to the risk factors for NCCD with nursing undergraduates of a public university of Fortaleza, Ceara, Brazil.

Based on this analysis, the nurse, making use of his/her communication and leadership skills, should take over the role of a health professional educator enabled to encourage the empowerment and participation of this youth in planning interventions on risk components. For this reason, professional and youth together can draw up a viable action plan with the goal of improving the latter's health.

2 Methods

Cross-sectional study developed from December 2010 to June 2011 at a public university in the city of Fortaleza – CE by applying a questionnaire.

2.1 Sample

This study is part of a larger project whose main goal is to identify the prevalence of metabolic syndrome among the students of a public institution of higher education in the city of Fortaleza. For the sampling calculation of the larger study, a survey was carried out of every student enrolled in the institution's presence-based courses. After this survey and the application of the formula for infinite populations ^[10] ($P=50\%$, $Q=50\%$, absolute error of 8%, relative of 4%), 660 subjects were achieved. The sample was stratified through every knowledge area existing in the institution, and for convenience two courses of each were selected. Nursing and pharmacy courses were selected from the health area. According to the stratification, 92 subjects should be part of the health area, being 15 for the pharmacy course and 77 for the nursing course. As the present study refers only to students of the nursing course, the sample comprised 77 participants.

The following were established as inclusion criteria: be aged 18 years or older, be duly enrolled and be attending the selected course.

2.2 Sociodemographic variables

The sociodemographic variables consisted of gender, age, marital status, skin color, social status and the college term. The "Economic Classification Criteria of Brazil" ^[11] were used for the classification of social status.

2.3 Physical conditions and lifestyle

The following were considered as risk factors for NCCD: physical conditions, weight excess, central obesity and lifestyles related to physical inactivity, smoking and alcohol consumption.

Weight excess was obtained through the calculation of the Body Mass Index (BMI) defined as the weight (kg) and the square of height (m) ratio. The classification occurred as per WHO ^[12]. The subjects with values $< 25 \text{ kg/m}^2$ were considered eutrophic; those with values between 25.0 and 29.9 kg/m^2 were considered overweight; and obese those with $\text{BMI} \geq 30 \text{ kg/m}^2$.

For the BMI calculation, weight was measured with students barefooted, light clothed and without any accessories that could compromise the measurement accuracy. A 200 kg-capacity electronic anthropometric scale for adults was used. Height was evaluated by an inelastic anthropometric tape fixed on a smooth wall. In order to ensure height accuracy, subjects were advised to stay erect and still, with hands flat on their thighs and head positioned at the Frankfurt plan.

Central obesity was defined according to the waist circumference (WC) measure by using an inelastic metric tape placed on the student's skin on orthostatic position and erect in the medium point between the last rib and the iliac crest at the end of the expiratory movement. The following measures were adopted as normal reference values: < 102 cm for men and < 88 cm for women ^[13, 14].

As for the physical inactivity, subjects were classified as active and sedentary ^[15]. With regard to smoking, students were classified as follows: daily smoker, occasional smoker, ex-smoker and non-smoker ^[16]. Alcohol consumption was classified in risk zones: 1, 2, 3 and 4 ^[17, 18].

2.4 Data analysis

Data were processed with SPSS, version 17.0. Statistical measures (medium and standard deviation) were calculated for every quantitative variable, in addition to the inferential statistical analysis and the confidence intervals of 95% (CI95%).

As demanded, the project was submitted to the Ethics Committee on Human Beings Research of the Federal University of Ceara, where it obtained a favorable opinion.

3 Results

Table 1. Characterization of the nursing undergraduates according to sociodemographic and clinical variables. Fortaleza-CE, 2011

Variables	No.	%	
Age (years)			Average ± DP
18 – 19	16	20.8	21.6 ± 2.7 years
20 – 24	52	67.5	
25 – 35	9	11.7	
Color (self-reported)			
White	37	48.1	
Black	3	3.9	
Yellow	5	6.5	
Brown	32	41.5	
Marital Status			
married/mutual consent union	5	6.5	
Single	72	93.5	
Social Status			
A 2	11	14.5	
B	37	48.6	
C	21	27.6	
D/E	7	9.3	
Academic Term			
1 st year	16	20.8	
2 nd year	21	27.2	
3 rd year	19	24.7	
4 th year	21	27.3	

All of the subjects were females. While age varied from 18 to 35 with an average of 21.6 ± 2.7 years, monthly family income presented an average of $3,564.20 \pm 2,117.70$ Reais (Brazilian currency). The population's characteristics regarding sociodemographic data and risk factors are displayed in the following tables.

From the data shown in table 1, the following results prevailed in the sample studied: female subjects between the ages of 20 and 24 years (67.5%); white subjects (48.1%); single subjects (93.5%); subjects among social class B (48.6%); and subjects in the 3rd and 4th years of college (52.0%).

With respect to the physical conditions and lifestyles associated with NCCD, although most of the students had been classified as sedentary (75.3%), (89.3%) presented adequate weight for height and the waist circumference values within the normal reference values (98.7%). Besides, they stated being non-smokers (94.8%) and having low risk for alcohol consumption (93.5%) (see Table 2).

Table 2. Characterization of the nursing undergraduates according to physical conditions and lifestyles variables. Fortaleza-CE, 2011

Variables	No.	%
Body Mass Index		
Eutrophic	67	89.3
Overweight	8	10.7
Waist Circumference		
$\leq 88\text{cm}$	76	98.7
$> 88\text{cm}$	1	1.3
Physical Activity Practice		
Active	19	24.7
Sedentary	58	75.3
Smoking		
Smoker	4	5.2
Non-smoker	73	94.8
Alcohol Consumption		
Low-risk standard	72	93.5
Medium-risk standard	5	6.5

4 Discussion

As mentioned, identifying health problems and inadequate lifestyles such as obesity, smoking, alcohol consumption and sedentarism can be of great importance for the survey of a community's health needs and priorities. In the present study carried out with nursing undergraduates, elevated prevalences of healthy lifestyles in relation to weight, central obesity, smoking and alcohol consumption were identified.

In regard to smoking, only four undergraduates (5.2%) claimed to be smokers. Low smoking prevalences were also found in similar studies also performed with undergraduate health students^[5-7]. In contrast, a higher smoking prevalence (27.7%) was found in a study with undergraduate biological sciences students^[8].

In the present study, alcohol consumption even at lower risk standard and sedentarism were the most prevalent inadequate lifestyles. Elevated alcohol consumption prevalences^[8, 19] and sedentarism^[9, 20] were also highlighted in similar researches with young university students. The high percentage of sedentary and low-active students was similar to the results described by other authors^[21, 22].

Although undergraduate health students are aware about the importance of practicing a physical activity on a regular basis as a protective factor against the appearance of NCCD, a high sedentarism prevalence is found among them. Maybe this

high rate is directly related to the work hours demanded in health courses, which mostly require full-time commitment (morning and afternoon). This assumption can be confirmed in a study about the undergraduate health students' physical activity level in which, when asked about the "reason for not practicing a physical activity", most of them (66.7%) claimed lack of time among other options ^[9].

Despite being considered sedentary and as such constituting a decisive factor for weight gain, the present study's female undergraduates showed low prevalence of weight excess. Only 8 (10.7%) of the participants were classified as overweight, none of them as obese. Furthermore, only one female undergraduate had waist circumference values above 88 cm, while all the others were classified within the normal standards. This lower frequency of weight excess in the female gender was also described by other authors ^[23, 24].

However, it is worth noting that the low prevalences of weight excess found in this study may be related to the participants' socioeconomic status, once the women's desires to be thin are very common among the ones belonging to a higher social class ^[25].

In order to be a professional with abilities to act as a health promoter, the nurse should have knowledge, skill and attitude ^[2]. By having this situational analysis on hand, the nurse needs to prepare his/her knowledge to adapt it to individualized care and health education programs in order to increase the chances of people to exercise greater control over themselves and on the environment, so that they can choose the most favorable health options ^[26].

It is necessary for the health education activities to integrate nursing care. Such activities include: learning and awareness of individuals, family and community, through adequate and participative techniques with instructions on behavior changes and adoption of healthy lifestyles. In this context, as understood, health education should be a pedagogical strategy based on knowledge exchange among health professionals and individuals regarding the increase of the individual and the collectivity's potentials which is an essential condition for change ^[27].

When approaching healthy individuals, as it is in the case of the present study's participants, the goals of health education actions should promote knowledge and reflection to encourage the perception of risk, which in turn, contribute to the maintenance of healthy lifestyles ^[28]. From this aspect, the nurse should use his/her knowledge not only to use disease prevention policies, but also to encourage the health maintenance of the populations, in particular the youth considered healthy, as it is the case ^[2].

Furthermore, to achieve best results, the nurse, as a health promoter, should identify partners within and outside the health sector in addition to empowering individuals. This initiative can either determine the success or improve the health promotion efforts ^[2]. Therefore, other health professionals should be involved in this process as the physical educator, the nutritionist and the physician. Teamwork is thus favored and everyone's work is facilitated.

5 Conclusion and implications

The use of the situational analysis as an essential competency allowed the identification of lifestyles and physical conditions in undergraduate nursing students of a public university with regard to their exposure to the risk of acquiring NCCD throughout their lives. As observed, the results of this analysis were useful not only to identify the undergraduate students' characteristics, but also to highlight their real health needs and priorities.

In general, the undergraduates taking part in this study presented healthy lifestyles, since the majority was non-smoker and had low risk of alcohol consumption. Also, adequate protective physical conditions were identified, as there was only one case of central obesity and eight of weight excess (overweight). On the other hand, sedentarism occurred in most of the undergraduates, therefore, being the priority health problem in the investigated students.

6 Implications for nursing

Based on the present context, one can realize that the nurse as a health promoter should encourage young people's participation in the elaboration of incentive strategies and maintenance of healthy lifestyle practices, as well as in planning interventions aimed at fighting against factors considered risky for NCCD. Thus, it is possible to draw up a viable action plan aimed not only at the imposition of prohibitive behavior that is full of rules, which only determine what should or should not be done, but instead with the goal of improving the health of these students.

7 Study's limitations

Two limitations were identified in this study. First, all of the participants belonged to the health area, which might have led the result to a greater occurrence of healthy lifestyles. In addition to this, the sample size was very little representative, with just 77 students.

Recommendations

The results of this study point to the need to adopt educational programs at the investigated institution that aim at health promotion and NCCD prevention, such as: implementation of physical activity at the investigated educational institution to reduce sedentarism; development of new similar researches with more representative samples that include other areas of knowledge; and the elaboration of other researches in order to identify the factors that might favor or interfere in the acquisition of a healthy lifestyle among students.

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Conflicting interest

The authors declare that they have no conflict of interests

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