



RISK FOR CHRONIC DISEASES IN PHARMACY GRADUATES
RISCO PARA DOENÇAS CRÔNICAS EM GRADUANDOS DE FARMÁCIA
RIESGO DE ENFERMEDADES CRÓNICAS EN LOS EGRESADOS DE FARMACIA

Antonio Werbert Silva da Costa¹, Amanda Pereira de Azevedo², Keila Rodrigues de Albuquerque³, Audinéia Rodrigues Pereira⁴, Fabiana Mendes Ferreira⁵, Rodrigo de Araújo Silva⁶, Pâmella Cayla Porto do Vale⁷, Eliane Porto dos Anjos⁸

ABSTRACT

Objective: to analyze the risk factors for the development of chronic non-communicable diseases in academics in a course of pharmacy. **Method:** this is a quantitative, cross-sectional, descriptive study conducted with 95 students. Submitted to the participants to answer a questionnaire, then stored the data in an electronic database and after submitted to descriptive analysis of the data, presenting with absolute values, percentages, mean and standard deviation. **Results:** it was found that most participants belonged to the eighth semester 56.9%, female 61.1%, 70.5% singles, with average age of 28 years old and average income of ± R\$ 2,348,32. It was found that the majority sleeps less than 7 hours per night, 58.6%, and 56.5% did not practice physical activities. Realizes high consumption of soft drinks in students of the eighth semester at breakfast (OR=4.01; 95% CI 1.06 - 15.19) and the meal (OR=2.91; 95% CI 1.03 - 8.21). **Conclusion:** the presence of risk factors in this population, and there is no great difference between the academics in initial and final series, needing to strategies for promoting the health of the public. **Descritores:** Chronic Diseases; Risk factors; Young Adult; Habits; Lifestyle; Health Sciences Students.

RESUMO

Objetivo: analisar os fatores de risco para o desenvolvimento de Doenças Crônicas não Transmissíveis em acadêmicos de um curso de farmácia. **Método:** trata-se de um estudo quantitativo, transversal e descritivo realizado com 95 graduandos. Submeteu-se os participantes a responderem um questionário, em seguida, armazenaram-se os dados em um banco de dados eletrônico e após submeteu-se a análise descritiva dos dados, apresentando com valores absolutos, porcentagens, média e desvio padrão. **Resultados:** constatou-se que maior parte dos participantes pertenciam ao oitavo período 56,9%, do sexo feminino 61,1%, solteiros 70,5%, com faixa etária média de 28 anos e renda média de ± R\$ 2.348,32. Verificou-se que a maioria dorme menos que 7 horas por noite, 58,6%, e 56,5% não praticam atividades físicas. Percebe-se alto consumo de refrigerantes em alunos do oitavo período no café da manhã (OR=4,01 IC95% 1,06 - 15,19) e no lanche (OR=2,91 IC95% 1,03 - 8,21). **Conclusão:** evidencia-se a presença dos fatores de risco nessa população e não existe extrema diferença entre os acadêmicos em séries iniciais e finais, necessitando-se de estratégias para promoção da saúde desse público. **Descritores:** Doenças Crônicas; Fatores de Risco; Adulto Jovem; Hábitos; Estilo de Vida; Estudantes de Ciências da Saúde.

RESUMEN

Objetivo: analizar los factores de riesgo para el desarrollo de enfermedades crónicas no transmisibles en académicos en un curso de farmacia. **Método:** se trata de un estudio cuantitativo, descriptivo y transversal, realizado con 95 estudiantes. Presentó a los participantes para responder a un cuestionario y, a continuación, almacena los datos en una base de datos electrónica y luego sometidos a un análisis descriptivo de los datos, presentando valores absolutos, porcentajes, media y desviación estándar. **Resultados:** se encontró que la mayoría de los participantes pertenecían al octavo semestre 56,9%, mujeres 61,1%, 70,5% solteros, con una edad media de 28 años y la renta media de ± R\$ 2,348,32. Se encontró que la mayoría duerme menos de 7 horas por noche el 58,6%, y el 56,5% no practican actividades físicas. Se percata de alto consumo de refrescos en estudiantes del octavo período de desayuno (OR=4,01; IC del 95%: 1.06 - 15.19) y la comida (OR=2,91; IC 95% 1.03 - 8.21). **Conclusión:** la presencia de factores de riesgo en esta población, y no hay gran diferencia entre los académicos de la serie inicial y final, la necesidad de estrategias para promover la salud pública. **Descritores:** Enfermedades Crónicas; Factores de Riesgo; Adulto Joven; Hábitos; Estilo de Vida; Estudiantes de Ciencias de la Salud.

¹Specialist, Secretary of State of Piauí. Campo Maior (PI), Brazil. Email: werbert39@hotmail.com ORCID iD: <https://orcid.org/0000-0002-9724-5420>; ^{2,4,5}Nurse (egress), Association of Higher Education of Piauí/AESPI. Teresina (PI), Brazil. Email: anandanaira@hotmail.com ORCID iD: <https://orcid.org/0000-0003-0644-4932>; audineiarodrigues@gmail.com ORCID iD: <https://orcid.org/0000-0001-7255-5871>; Email: fabiana-mendes22k@hotmail.com ORCID iD: <https://orcid.org/0000-0001-8298-8574>; ³Master, Federal University of Piauí. Teresina (PI), Brazil. Email: kraenf@gmail.com ORCID iD: <https://orcid.org/0000-0002-7867-3366>; ⁶Nurse (egress) Faculty Novafapi, Teresina - PI. Email: rodrigo199521@outlook.com ORCID iD: <https://orcid.org/0000-0003-0247-9177>; ⁷Nurse (egress), Faculty Maurissio de Nassau. Teresina (PI), Brazil. Email: pamellakaylla@hotmail.com ORCID iD: <https://orcid.org/0000-0001-6832-2506>; ⁸Nurse (egress), Faculty Santo Agostinho. Teresina (PI), Brazil. Email: kalitavale@hotmail.com ORCID iD: <https://orcid.org/0000-0002-8478-0678>

INTRODUCTION

Forming a great public health problem, chronic non-communicable diseases (CNCD) are responsible annually by approximately 36 million deaths worldwide, causing major damage to the public purse, and even preventable, it has been gradually increasing over the years.¹⁻⁴

It is perceived that few modifiable risk factors are directly related with the process of globalization and industrialization in Brazil, and account for the large number of deaths; they are: smoking, excessive use of alcoholic drinks, the sedentary lifestyle and poor nutrition, which in fact can be reduced before the practice of healthy habits.^{1,5}

It is evident that the social determinants have a direct impact on the CNCD. It should be noted that the social differences, access to goods and services, level of education and access to information are significant determinants of prevalence for the evolution in exposure to these diseases and the total number of deaths.^{1,5}

We realize that the presence of cardiovascular risk factors in young audience, in particular the university population, it should be noted that the stress related to academic life, traineeships, work, contributes to the development of negative health habits, such as the omission of meals and snacks, among other factors that help in the development of diseases in this public, that even aware that the adoption of healthy habits contributes to an improvement in the quality of life.⁶⁻⁸

Highlight the numerous expenses to the public purse and for being a group of silent diseases, they are responsible for the vast majority of deaths at national and global level, in addition to addressing the exposure to risk factors in the young population, in particular the university public, have the need to study the existing risk factors in this population, in order to seek awareness of this audience.

OBJECTIVE

- To analyze risk factors for the development of CNCD in academics in a course of pharmacy.

METHOD

It is a quantitative, cross-sectional and descriptive study developed in a private IES, located in the east of the city of Teresina, Piauí. Composed of 28 undergraduate courses

in the IES, they are functioning in the morning and night shifts.

This study was conducted with 95 academics of a bachelor's course in pharmacy, who were enrolled in first and eighth periods, aged over 18, of both genders, aware and duly registered in the IES. We chose the course of pharmacy to be studied by only this course of health have initial and final series. Semesters were selected through a non-probabilistic sample, using initial and final series for purposes of comparison of habits among the egress and undergraduates.

It was considered as exclusion criteria students younger than 18 and who refused to participate in the study. The data were collected between the months of August and September of 2016 in the following systematization: Approached the 95 academics of courses of pharmacy, considering the inclusion and exclusion criteria.

The data were collected with a questionnaire with sociodemographic variables and life styles, started the collection only after the acceptance of the voluntary participation by signing the Informed Consent Form. Held in a period compatible to the classroom schedule of academics, so at night, in a classroom in which the course works and time is accessible to everyone.

The data were stored in an electronic database in Excel 2010 (Windows 8) and subsequently analyzed statistically using the Statistical Package for the Social Sciences - SPSS (version 20.0).

Submitted to descriptive analysis of the data, presenting absolute values, percentages, average and standard deviation. There were used the bivariate and multivariate analysis to evaluate the association between course and the independent variables. There were used in the bivariate analysis the Chi-square Test and the Fisher's Exact Test, considering the values of $p \leq 0.05$ as statistically significant. Held for the multivariate analysis the multinomial logistic regression using the Wolf method to obtain estimates (odds ratio) and 95% confidence intervals (95% CI).

It is known that all research involving humans there are risks, the present study has minimal risks, and those risks were reduced by the explanation on the part of researchers who have undertaken with due confidentiality of information collected before and after the explanation, the signing of the informed consent form by the participants. Answer to ethical aspects that govern research involving

humans as the Resolution N 466/12 of the National Health Council and obtained the favorable opinion issued by the Committee of Ethics and Research of the Paulista University, as CAAE 56415916.0.0000.5512.

RESULTS

It found that the majority of participants, 56.9% belonged to the eighth period, most females, 61.1%, 70.5% singles, residing in the same city in that study 72.6%, who have no other occupation in addition to the studies or work 71.5%, with age between 17 and 58 years old and average family income of ± R\$ 2,348,32, as shown in Table 1.

Table 1. Sociodemographic characterization of Pharmacy academics. Teresina (PI), Brazil, 2018.

Bachelor of Pharmacy	N (%)	Average ±
Semester		
1	41 (43,1)	
8	54 (56,9)	
Gender		
Male	37 (38,9)	
Female	58 (61,1)	
Age	17 - 58	±28 years old
Marital Status		
Single	67 (70,5)	
Married/stable	26 (27,3)	
Divorced/separated	2 (2,1)	
Average income		± R\$ 2348,32
Lives in the same city that studies		
Yes	69 (72,6)	
No	26 (27,3)	
Has another occupation or works		
Yes	68 (71,5)	
No	27 (28,5)	
Means of transport used in everyday life		
Own vehicle	45 (47,4)	
Public transportation	47 (49,5)	
Walk or bike	3 (3,1)	
Total	95 (100)	

We performed a comparison between the semesters studied, sociodemographic data, habits and life style of the participants and realized the greater predominance of women in the eighth semester 60.3%. Analyzed the hours of sleep of participants and realizes that in both semesters, the greater part refers sleeping less than 7 hours per night, 41.4% and 58.6% respectively, Table 2.

It is evident that do not exist smokers in this group of students, but we found more alcohol drinkers in the eighth semester of 69% in the first 31%. Also with relevant value physical inactivity, 43.5% in the first semester and 56.5% in the eighth semester report not practicing any kind of physical activity during the week.

Table 2. Association between sociodemographic data and the semester, habits and lifestyle of University students of a course in pharmacy, Teresina (PI), Brasil, 2018.

	1 st semester	8 th semester	p-value	OR _{not adjusted}
	N (%)	N (%)		
Gender				
Male	18 (48,6)	19 (51,4)		
Female	23 (39,7)	35 (60,3)	0,388*	
Marital status				
Single	32 (47,8)	35 (52,2)		
Married/stable	8 (30,8)	18 (69,2)		
Divorced/separated	1 (50,0)	1 (50,0)	0,345	
Lives in the same city that studies				
Yes	31 (44,9)	38 (55,1)		
No	10 (38,5)	16 (61,5)	0,571*	
Another occupation or job				
Yes	28 (41,2)	40 (58,8)		
No	13 (48,1)	14 (51,9)	0,536*	
Hours of sleep				
Less than 7 hours	29 (41,4)	41 (58,6)	0,031	
Between 7 and 8 hours	5 (38,5)	13 (61,5)	-	

More than 8 hours	7 (100,0)	0 (0,0)		
Types of transport used				
Own vehicle	12 (26,7)	33 (73,3)	1	
Public transportation	26 (55,3)	21 (44,7)	0,29 (0,12 - 0,70)	
Walk or bike	3 (100,0)	0 (0,0)	0,001	-
Smoker				
Yes	0 (0)	0 (0)		
No	41 (43,2)	54 (56,8)	1,000	
Alcoholist				
Yes	9 (31,0)	20 (69,0)		
No	32 (48,5)	34 (51,5)	0,114*	
Physical activity				
No	30 (43,5)	39 (56,5)		
3 x/week	4 (33,30)	8 (66,7)		
More than 3 x/week	7 (50,00)	7 (50,00)	0,690*	
Food intake for breakfast				
Carbohydrates	37 (43,0)	49 (57,0)	0,935*	
Proteins	34 (41,0)	49 (59,0)	0,256*	
Oilseeds	1 (25,0)	3 (75,0)	0,631	
Fruits and juices	12 (42,9)	16 (57,1)	0,969*	
Soft drinks	3 (18,8)	13 (81,2)	0,031*	4,01 (1,06 - 15,19)
Processed	14 (56,0)	11 (44,0)	0,131*	
Fried foods	4 (33,3)	8 (66,7)	0,462*	
Food intake at lunch				
Carbohydrates	41 (43,6)	53 (56,4)	1,000	
Proteins	41 (43,6)	53 (56,4)	1,000	
Oilseeds	0 (0,0)	2 (100,0)	0,504	
Fruits and juices	30 (42,9)	40 (57,1)	0,921*	
Soft drinks	6 (33,3)	12 (66,7)	0,350*	
Processed	0 (0,0)	2 (100,0)	0,504	
Fried foods	2 (28,6)	5 (71,4)	0,695	
Food intake at dinner				
Carbohydrates	33 (47,1)	37 (52,9)	0,189*	
Proteins	38 (48,1)	41 (51,9)	0,031*	4,16 (1,06 - 16,66)
Oilseeds	10 (40,0)	15 (60,0)	0,710*	
Fruits and juices	5 (62,5)	3 (37,5)	0,285	
Soft drinks	5 (31,2)	11 (68,8)	0,292*	
Processed	8 (27,6)	21 (72,4)	0,042*	2,62 (1,02 - 6,76)
Fried foods	7 (38,9)	11 (61,1)	0,685*	
Food intake at lunch				
Carbohydrates	2 (40,0)	3 (60,0)	1,000	
Proteins	2 (50,0)	2 (50,0)	1,000	
Oilseeds	7 (43,8)	9 (56,2)	0,958*	
Fruits and juices	24 (44,4)	30 (55,6)	0,771*	
Soft drinks	6 (25,0)	18 (75,0)	0,038*	2,91 (1,03 - 8,21)
Processed	17 (42,5)	23 (57,5)	0,912*	
Fried foods	13 (34,2)	25 (65,8)	0,151*	
Frequency of fried foods				
Daily	7 (41,2)	10 (58,8)	0,389*	
3 x or less	22 (37,9)	36 (62,1)		
4 x or more	5 (62,5)	3 (37,5)		
No consumption	7 (58,3)	5 (41,7)		
Frequency of processed				
Daily	4 (50,00)	4 (50,0)	0,457	
3 x or less	20 (40,0)	30 (60,0)		
4 x or more	2 (100,0)	0 (0,0)		
No consumption	15 (42,9)	20 (57,1)		
Frequency of vegetables				
Daily	17 (41,5)	24 (58,5)		
3 x or less	15 (38,5)	24 (61,5)	0,295*	
4 x or more	9 (64,3)	5 (35,7)		
No consumption	0 (0,0)	1 (100,0)		
Excess frequency of sugar				
Daily	6 (40,0)	9 (60,0)	0,980*	
3 x or less	25 (43,1)	33 (56,9)		
4 x or more	2 (40,0)	3 (60,0)		
No consumption	8 (47,1)	9 (52,9)		
Total	41(100)	54(100)		
Fisher Test; *Chi-square Test				

Relating to food, it is perceived that students of the 8th semester of Pharmacy had greater chances of consuming soda at breakfast (OR=4.01; 95% CI 1.06 - 15.19) and the meal (OR=2.91; CI95% 1.03 - 8.21), greater chance of consuming proteins (OR=4.16; CI95% 1.06 - 16.66) and processed (OR=2.62; CI95% 1.02 - 6.76) at dinner that the students of the 1st semester of Pharmacy. It is relevant to the presence of consumption of processed foods or fried foods at least 3 times a week in the first semester, 37.9% and 40%, and at the eighth semester, 60% and 61.5%, respectively.

DISCUSSION

It appears from the sociodemographic data greater participation of females among students of courses in health, reflecting the similarity in a study that cites the predominance of women in courses in the area of health, highlighting the relationship with the self-care, compared to men, who often seek to courses of humanities and exact sciences.⁹

Stand out in other studies with undergraduates of health courses the predominance of female public, reproducing the work force in the health area is composed mostly by women.⁷

It is perceived that many of the participants have a dual journey, studies show that have to work to maintain the studies, it is a fact touted as a generator of poor quality of life. Relate various difficulties facing this situation experienced by the participants, such as fatigue, poor sleep, little time to rest and the accumulation of tasks. Joins this routine to stress and to the development of pathologies.¹⁰

This research deals with the age range of participants, taking an average of 28 years old. If this difference is explained by the fact that these students spent more time away from the school life, such as the teaching medium or pre-college courses, therefore present difficulties that may hinder their learnings and their conducts as a professional.¹¹

We evaluated the habits taken by these participants, realizing the fragility for the development of chronic diseases, through their daily routines, with the poor sleep, the routine life, stress, physical inactivity, poor diet and among other factors that are found in the standard of living of those young students.

Understand the aggregation of risk factors for CNCD in university population, showing that 86% of surveyed students have three or more risk factors for the development of such

diseases. Underestimates that to join in higher education these young people are subject to cultural and social changes, and as a consequence, the adoption of bad habits to health.⁶

Note a positive factor found in this study, the non-existence of smoking, which is a factor of extreme aggravating factors for the development of chronic diseases, in addition to the low rate of alcoholism in this population, before this agrees with the study conducted in nursing students, who found a positive factor in this group, in relation to the smoking and alcoholism, showing that there is prevention and awareness in students about the risk of development of pathologies related to these habits.¹²

It shows in other research that portrays the rich for NCDS in young adults that a large amount of this population still ingest alcohol almost daily, contradicting the found results. The exaggerated and prolonged consumption of alcohol is a risk factor for hundreds of diseases.⁷

Analyzed the level of stress on young people in another study, and it is noteworthy that the undergraduate students who work are susceptible to high levels of stress, because generally, these students act in commercial areas, with low wages and high workload, in addition to the presence of heads and goals to be achieved, further increasing the vulnerability to stress, corroborates with another study that also highlights the workload of activities, the difficulty of access to the sites of the university, teaching little lessons, a high level of demand in stages, little time for activities are major generators of poor quality of life, causing stress, physical and mental health in young people.^{7,13}

Analyzing the habits of those participants are some weaknesses when compared with healthy habits. It is known that the supply is an important factor when it comes to prevention of diseases in general. It is perceived that the young population comes every day developing habits of risk to health, through exchange of complete meals for snacks, outside of zones, in large quantities, with a high rate of salt and fat; and, in conjunction with physical inactivity increases the risk for obesity and CNCD in the future.

It is known that the association of risk factors such as poor nutrition, physical inactivity and inadequate sleep, may raise the level of obesity among adolescents. These factors trigger predispositions to CNCD. Besides the cardiovascular risk, may trigger other hemodynamic changes that compromise

the other functions, aggravating the risk of morbidity.¹⁴

Considering that the CNCD have common factors, such as smoking, alcoholism, weight gain and among other risk factors, its prevention is based mainly on healthy habits, such as nutrition, avoiding fatty foods, with excess salt and giving preference to natural foods such as fruits and vegetables.¹⁵

It is known that physical inactivity and inadequate diet are risk factors considered priorities for the development of chronic diseases. It is said, also, that the adoption of regular physical activity improves, prevents and helps in the rehabilitation of individuals with chronic diseases, in addition to bringing directly to an improvement in their quality of life.¹²

It should be noted before the data a high risk for the development of excess weight, corroborating with a research which shows that people are more sedentary, passing to consume more processed foods, with excess sugar or saturated fats. Join these behaviors to accelerated life of academics, where the lack of time is characterized as one of the reasons for the consumption of food ready and fast, in addition there is the practice of physical activities.¹⁶

It is expected that students from health courses have healthier habits into their day-to-day, by reason of that during the course, having access to the principles of health education, unlike what is evident in many studies, where they discuss that there is a lack of physical activity practice and an unbalanced feed.¹⁷

Relates to the weight gain in young adults in Brazil with industrialization and urbanization, which comes by modifying the habits and life style brought by the population, changing dietary patterns and including foods of high calorie rates. It is also emphasized the sedentary lifestyle as a result of modern western life style, developed through the mechanization of transportation and automation of daily tasks.¹⁸

Seek to diagnostic measures and investments in strategies for prevention and health promotion for the young people of today does not age with a worse quality of life, thus avoiding high levels of pathogenicity and mortality, decreasing the expenses for the public coffers.¹⁹

It is noteworthy that the good life style is essential for all ages, both in health promotion, and in the reduction of mortality from all causes. The adoption of a healthy way of life became an important factor by the

assumption that the individual is responsible for his lifestyle and quality of life, since it can directly interfere in the modifiable factors of health. It agrees through another research the importance in investing in preventive measures and health strategy, because education is and will be the best way for the promotion of health and improvement in quality of life, not only in young audience, but also in children and adolescents.¹⁸⁻²⁰

CONCLUSION

We found in this study the presence of risk factors for the development of chronic diseases in this population and also realizes that there is no great difference between the life habits of academics in initial and final series, assuming that these habits were acquired prior to the entry into college, with their parents, schools or other means.

Should take into account the limitations of the study, in which concerns the difference in quantity of participants in the semesters studied, the non-acceptance on the participation of the research and some who did not attend the site of data collection for various reasons.

Encourages the creation of new research with the public young scholar, relating the habits brought by this with the development of diseases, in addition to performing means of intervention and awareness in public, so as to reduce the risks for the development of CNCD and other pathologies, in general, improving their quality of life.

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Corresponding Address

Antonio Werbert Silva da Costa

Praça Bona Primo, 50

Bairro Centro

CEP: 64280-000 – Campo Maior (PI), Brazil