Food Consumption by College Students

ORIGINAL

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Abstract

Objective: To assess food consumption by the college students regarding the frequency and type of food eaten.

Methods: Cross-sectional study with 203 students. The research instrument was a questionnaire with sociodemographic and academic life data, and the food frequency questionnaire (FFQ). For the data analysis was used descriptive statistics, chi-square test of Pearson, Fisher exact, linear trend and prevalence ratio. Statistical significance of 5% was adopted.

Results: Most participants were female, aged 20 to 24 years, enrolled between the 2nd and the 4th year of college, 52.2% of the students who did not eat fruit daily also did not eat vegetables daily (p = 0.01), there was positive association in the consumption of rice and beans with economic class, individuals in class C showed 1.7 times more likely to ingest this combination than class A (p = 0.00). Limitations occurred because this is a cross design study, not allowing to establish causal relationships; took place only at a single university in Fortaleza-CE; were not surveyed the intrinsic motivations of each individual to food consumption limited determining the dietary habits profile of college students.

Conclusion: University students who do not consume fruits also tend to not eat vegetables. It is recommended to be implemented in universities nationwide intervention research aimed at bringing about changes in eating habits, seeking to improve the quality of life of undergraduate students from Brazil.

Introduction

Worldwide, unappropriate eating habits are related to the increase of prevalence of non-communicable chronic diseases (NCCD) like cardiovascular, obesities, osteoporosis and type 2 mellitus diabetes [1, 2, 3].

The increasing number of overweight and obesity in children and adults shows the urge in improving public policies to reverse this situation and prevent the aforementioned illnesses [4, 5].

In particular, the college students, maybe due to the changes in the lifestyle caused by the academic world, develop favorable behaviors, above all, the obesity and overweight mainly for the adoption of unhealthy eating habits [6, 7].

Broadly, the studies involving college students show significant consumption of fats, fried food and sugars in detriment of the one of fruits, vegetables and greens [1, 8, 9].

In Fortaleza, Ceará, Brazil, the college students' eating habits are unknown, configured as a gap in knowledge production.

Thus, the goal is to know the eating habits of college students in Fortaleza. Moreover, it conducted a review of its association with relevant demographic data.

Method

Cross-sectional study with 203 undergraduate students at a public university, located in Fortaleza-CE-Brazil, who participated in a previous investigation into the risk factors for metabolic syndrome [7].

In that survey were investigated 702 students from various undergraduate courses. During its implementation, was built up a database of landline number, mobile and email address, among other information.

Then, students were contacted and invited to participate in this survey. They were informed about the objectives, the method and the criteria for inclusion/exclusion. The inclusion criterion was having participated in the earlier study of risk factors for metabolic syndrome [7]. It excludes those who reported having completed the undergraduate program, as well as those on specific diets.

Given the acceptance, they were enlightened on the need to sign the Consent Form (CF) in two copies, one of which should be sent to the researcher via email. Then it was reported that, after receiving the consent form duly signed, the student would be contacted by phone again for the data collection form to be applied.

As the CF returned signed, the telephone interviews were initiated, using a form containing questions on sociodemographic data (age, gender, marital and employment status, color, economic class, with whom he/she lives, undergraduate course and semester ongoing) and data related to eating habits (daily number of meals daily, local, consumption frequency of food and person responsible for food preparation).

The interviews lasted about 25 minutes. Over a six week period attempted to contact telephone 702 pupils. After this stage were excluded 436 students after five attempts of contact, because of missing or disconnected phone number. In addition, 63 students were excluded for not having returned the consent form signed. Therefore, we investigated 203 undergraduate students.

Food intake was assessed using a FFQ built for adult population of Ceará, containing 89 items divided into food groups I (dairy products); II (fruits); III (vegetables); IV (meat and eggs); V (pulses); VI (sugars and sweets); VII (water); VIII (cereals and tubers) [9].

In FFQ the consumption frequency was stratified into daily, weekly, monthly, yearly and never consumed. For each food, was recorded the number of times regarding consumption according to the frequency referred to by the student during the interview.

It was inserted into the FFQ items related to socio-demographic characteristics and eating habits of co-

llege addressing: age (years), gender, self-reported color (white, black, brown or yellow), economy class (A1, A2, B1, B2, C, D or E), semester course, employment status (study or work and study), marital status (single, married or widowed), with whom the student lives (parents, relatives or friends), who performs the preparation of meals (family, friends or the student himself), number of daily meals and where does most meals (at home or outside the home).

After consolidation of the FFQ food consumption, data was stratified in weekly consumption 1 to 3 times weekly consumption from 4 to 6 times daily consumption of 1 to 2 times, daily consumption of 3 times or more. And water consumption was stratified by number of glasses consumed daily, namely less than four cups, between four and five, from six to eight, and 8 or more glasses [11, 16].

Statistical analysis was performed using STATA version 8.0. mean and standard deviation and frequency univariate and bivariate were calculated in the descriptive analysis of the sociodemographic data and eating habits.

As for the statistical tests we used chi-square test, Fisher exact, the prevalence of reason to establish the relationship between food consumption and sociodemographic variables. In the inferential statistical analysis was considered as significant $p < 0.05$.

The development of the study met national and international standards of ethics in research involving human subjects.

Results

The study population consisted of 203 students with a mean age = 22.9 years (SD ± 3.6 years), there was a predominance of females (66.5%) of single individuals (95.6%) coursing between the 5th and 8th semester of college (52.2%) **(Table 1)**.

Approximately 35% of the sample study and work simultaneously with predominance in females

Table 1. Prevalence of gender for food groups (n = 203). Fortaleza - Ceará, 2013.

Consumption frequency of food groups	Prevalence N (%)	Men N (%)	Women N (%)	P-value
Vegetables				
Never	19 (9.4)	8 (11.8)	11 (8.2)	
1 to 3 times a week	31 (15.3)	6 (8.8)	25 (18.5)	
4 to 6 times a week	31 (15.3)	11 (16.2)	20 (14.8)	0.52[a]
1 to 2 times a day	67 (33.0)	23 (33.8)	44 (32.6)	
3 times or more a day	55 (27.0)	20 (29.4)	35 (25.9)	
Fruits				
Never	20 (9.9)	7 (10.3)	13 (9.6)	
1 to 3 times a week	36 (17.7)	9 (13.3)	27 (20)	
4 to 6 times a week	36 (17.7)	11 (16.2)	25 (18.5)	0.22[a]
1 to 2 times a day	83 (40.8)	29 (42.6)	54 (40.0)	
3 times or more a day	28 (13.8)	12 (17.7)	16 (11.9)	
Meat				
Never	0 (0.0)	0 (0)	0 (0)	
1 to 3 times a week	1 (0.5)	0 (0)	1 (0.7)	
4 to 6 times a week	9 (4.4)	3 (4.4)	6 (4.4)	0.30[a]
1 to 2 times a day	186 (91.6)	61 (89.7)	125 (92.6)	
3 times or more a day	7 (3.45)	4 (5.9)	3 (2.2)	
Milk and milk products				
Never	19(9.4)	8(11.8)	11(8.2)	
1 to 3 times a week	31(15.3)	6(8.8)	25(18.5)	
4 to 6 timer a week	31(15.3)	11(16.2)	20(14.8)	0.52[a]
1 to 2 times a day	67(33)	23(33.8)	44(32.5)	
3 times or more a day	55(27)	20(29.4)	35(25.9)	

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Consumption frequency of food groups	Prevalence N (%)	Men N (%)	Women N (%)	P-value
Cereals				
None	0 (0.0)	0 (0.0)	0 (0.0)	
1 to 3 times a week	0 (0.0)	0 (0.0)	0 (0.0)	
4 to 6 times a week	0 (0.0)	0 (0.0)	0 (0.0)	0.00a
1 to 2 times a day	21 (10.3)	1 (1.4)	20 (14.8)	
3 times or more a day	182 (89.7)	67 (98.5)	115 (85.1)	
Fried food				
None	47 (23.1)	10 (14.7)	37 (27.4)	
1 to 3 times a week	135 (66.5)	44 (64.7)	91 (67.4)	
4 to 6 times a week	9 (4.4)	8 (11.7)	1 (0.7)	0.00a
1 to 2 times a day	12 (5.9)	6 (8.8)	6 (4.4)	
3 times or more a day	0 (0.0)	0 (0.0)	0 (0.0)	
Soda				
None	39 (19.2)	9 (13.2)	30 (22.2)	
1 to 3 times a week	115 (56.7)	39 (57.3)	76 (56.3)	
4 to 6 times a week	21 (10.3)	10 (14.7)	11 (8.1)	0.11a
1 to 2 times a day	27 (13.3)	10 (14.7)	17 (12.6)	
3 times or more a day	1 (0.4)	0 (0)	1 (1.7)	

Source: Self elaboration. a: Linear Trend Chi- square test

($p = 0.006$). Substantial and significant portion of college students live with their parents and/or relatives ($p = 0.029$). On the other hand, proportionally, living alone or with friends is prevalent among men ($p = 0.029$).

Referring to the consumption of fruits, 9.9% and 40.8% of the sample reported never consuming and consume one to two times per day, respectively.

The proportional distribution of fruit was homogeneous by gender ($p = 0.52$). However, when considering the daily consumption (either once or twice or three times or more) consumption was higher among men compared women **(Table 2)**.

Regarding the vegetable intake 9.4% and 33%, respectively, reported never drinking and eating one to two times per day. Statistically, proportional differences were observed significant gender ($p = 0.22$). However, when considering the daily consumption (either once or twice or three times or more) men had slightly higher percentages than women **(Table 2)**.

As for the daily consumption of fruits and vegetables, a substantial portion of participants (70.3%) mentioned this habit. On the other hand, 52.2% of the students who did not eat fruit daily also did not eat vegetables daily ($p = 0.001$) **(Table 3)**.

In the case of the meat group, it was shown that 91.6% of participants reported daily intake (one to two times per day). According to gender, it was found a frequency of one to two times a day the

Table 2. Distribution of the number of college students according to the consumption of fruits and vegetables. Fortaleza - CE, 2013.

Consumption of vegetables and greens	Never N (%)	1 to 3x/week N (%)	4 to 6x/week N (%)	1 to 2x/day N (%)	3x or more/day N (%)
Never	4 (20)	7 (19.4)	3 (8.3)	3 (3.61)	3 (7.2)
1 to 3 times a week	5 (25)	6 (16.7)	7 (19.4)	12 (14.5)	1 (3.6)
4 to 6 timer a week	5 (25)	8 (22.2)	3 (8.3)	12 (14.5)	3 (10.7)
1 to 2 times a day	3 (15)	9 (25%)	15 (41.6)	30 (36.2)	10 (35.7)
3 times or more a day	3 (15)	6 (16.7)	8 (22.2)	26 (31.3)	12 (42.9)

Source: Self elaboration. a: Linear Trend Chi- square test: p<0.0001

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Table 3. Prevalence and gross association prevalence ratio between the daily consumption of rice and beans and independent characteristics (n = 203). Fortaleza - Ceará, 2013.

Characteristics	FVG		Rice and ceans	
	Prev (%)	PR$_{gross}$ (CI95%)	Prev.	PRgros (CI95%)
Gender				
Female	35.6	1.0	64.4	1.0
Male	44.1	1.2 (0.9-1.8)	73.5	1.1 (0.9-1.4)
P-value		0.237[a]		0.192[a]
Age				
< 20 years	9.5	1.0	66.7	1.0
20 to 24 years	43.0	4.5 (1.2-17.2)	72.6	1.1 (0.8-1.5)
25 to 29 years	33.3	3.5 (0.9-14.1)	51.3	0.8 (0.5-1.2)
30 and more	62.5	6.6 (1.6-27.3)	62.5	0.9 (0.5-1.7)
P-value		0.13[c]		0.08[c]
Socioeconomic classification				
A	30.0	1.0	45.0	1.0
B	46.2	1.2 (0.6-2.5)	46.1	1.3 (0.8-2.3)
C	36.4	1.3 (0.7-2.7)	60.6	1.7 (1.1-2.9)
D and E	40.4	1.5 (0.6-3.8)	78.8	1.0 (0.5-2.2)
P-value		0.54[c]		0.00[c]
Field of knowledge				
Health	23.1	1.0	64.1	1.0
Human	16.7	0.7 (0.1-4.7)	50.0	0.8 (0.3-1.8)
Exact	40.4	1.8 (0.9-3.4)	67.3	1.0 (0.8-1.4)
Agricultural	55.9	2.4 (1.3-4.6)	76.5	1.2 (0.9-1.6)
Science	40.0	1.7 (0.9-3.4)	68.9	1.1 (0.8-1.5)
Technology	37.0	1.6 (0.8-3.4)	63.0	1.0 (0.7-1.4)
P-value		0.08[a]		0.736c

Source: [a]: Pearson Chi-square test; [b]: Linear Trend Chi-square Test, [c]: Fisher Freeman-Halton Exact test .

female predominance (92.6%) compared to males (89.7%) **(Table 2)**.

Regarding the group of cereals, 98.5% reported the consumption frequency of food in this group three times or more per day. There was a statistically significant difference (p ≤ 0.05) between genders, considering that 14.8% of women and 1.4% of men eating food included in that group once or twice a day. As for the daily consumption frequen-

cy of three times or more per day men (98.5%) showed consumption when compared to women (85.1%) **(Table 2)**.

The prevalence of weekly consumption, in the range of one to three times per week for frying, was 66.5%. Proportional differences were found statistically significant in gender (p ≤ 0.05) – men had a higher frequency of daily consumption (one to two times) and weekly (four to six times a week) when compared to women. In addition to the fried food, it was also highlighted the prevalence of weekly consumption (one to three times a week) refrigerant reported by 56.7% of the students **(Table 2)**.

The analysis of the prevalence of daily consumption of water reveals that 51.2% of the students said intake six to eight cups/day while only 9.9% said intake eight cups/day or more. Regarding gender, the men had higher intake of eight glasses/day or more and six to eight glasses/day compared to women. **(Table 1, 2)**

The prevalence of daily fruit consumption among women was 35.6% and 44.1% among men, the association between the consumption of fruits and vegetables by gender was positive, it was found that there are 1.2 times more likely (95% CI 0.9-1.8) of men consuming fruits and vegetables when compared to women, but this association was not statistically significant. As for the daily consumption of rice and beans by gender, prevalence among women was 64.4% and 73.5% among men, the association was positive, it was found that there are 1.1 times more likely (95% 0.9-1.4) of men consuming beans and rice as compared to women, but this association was not statistically significant.

The prevalence of consumption of fruits and vegetables according to age distribution shows that persons aged <20 years consume fewer fruits and vegetables when compared with other age groups (9.5%), consumption of fruits and vegetables was more prevalent among those aged 30 and over (62.5%), followed by those aged 20 to 24 years (43%) and between 25 to 29 years (33.3%). The

association between the consumption of fruits and vegetables and the age distribution was positive for all ages, the chance of individuals aged 20 to 24 consume Fruits and Vegetables was 4.5 times higher (95% CI 1.2 - 17.2) when compared with patients aged <20 years, 25 to 29 years the chance was 3.5 times higher (95% CI 0.9 to 14.1) compared to subjects aged <20 years and among those 30 years and older the chance was 6.6 times higher (95% CI 1.6 to 27.3) compared to subjects aged <20 years, these statistically significant results, except for the bands between 25 to 29 years.

The rice and beans consumption prevalence, according to socioeconomic status, shows that individuals of class C; D and E are more prevalent as the consumer 78.8%, 60.6% respectively. proportional trends were observed statistically significant increase in consumption between classes (p = 0.00), the associations were positive for classes B and C compared to A class, the chance of rice and beans consumption among individuals of the class C was 1.7 times higher (95% CI 1.1 to 2.9) when compared to individuals of the class, which is statistically significant result.

The prevalence of fruit and vegetables consumption, according to area of knowledge, reveals that individuals of Agricultural Sciences were more prevalent 55.9% and individuals in the areas of Human and Health had the lowest consumption prevalence of 16.7% and 23.1% respectively. The association was positive and statistically significant for individuals of Agricultural Sciences, there was increased chance of fruits and vegetables consumption of 2.4 times (95% CI 1.3-4.6) when compared to individuals of Health. **Table 3**

Discussion

In Brazil, since the 70s, globalization is changing the higher education culture, since access to the various levels of education has been expanding, especially in the female population, reversing a historical inequality of environment by consolidating a new reality and demystifying the fact to which the university is a male space [18, 19].

However, another cultural aspect, the young stay in the family during the college period, it is still quite common in South American countries, and in Brazil especially among Northeast [20]. The present study found a statistically significant difference in this aspect between men and women, although the majority of respondents in both sexes still refer living with parents or relatives, women standing out in this condition.

It's noteworthy that a significant number of the sample study and work simultaneously. This double shift negatively interfere with the time devoted to studies and still favors sedentary lifestyle and the seek for fast food restaurants and snack bars. [21]

Participants of MONISA survey (Monitoring Indicares Health and Quality of Life in Academic), population-based study conducted in Brazil with 1084 students, showed some sociodemographic characteristics similar to those of this study, given that the average age was 23.5 years, 54.7% of participants were female and 86.4% were single [22].

Regarding age, among all age groups, the group of young adults is considered the one more exposed to risk behaviors to health, added to the fact the university period is critical, due to stress generated by excess academic activities and the various changes that occur in the lives of graduate students. The study's university population is vulnerable to the performance of poor eating habits such as consumption of foods with high energy content and low nutritional value [3, 22, 23].

In this study, 52.2% of respondents were enrolled between the 5th and the 8th semester, or were already exposed to the academic environment between two and four years. Discussions based on common sense suggest that healthy lifestyle habits develop more easily in people with higher education or are graduated in health-related courses. However, national and international studies have shown

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that higher education does not cause protective effect on the adoption of healthy lifestyle and that, regardless to the type of undergraduate course, the students tend to develop inadequate life habits over time of exposure to academia [4].

Other national and international surveys with university also showed a pattern of consumption for fruits and vegetables out of the recommendations oriented to structure a healthy life. This fact can be considered serious, since the living habits acquired in youth can endure into adulthood and that the consumption of fruits and vegetables is associated or isolated protective factor for the development of metabolic syndrome, type 2 diabetes, cardiovascular disease, intestinal and some types of cancer [3, 13, 21, 22, 24].

The results regarding the consumption of fruits and vegetables during college are similar to data from large surveys like VIGITEL, which presented the frequency of regular consumption (five or more times a week) and 30.9% of recommended intake (five or more daily servings of fruits and vegetables) of 20.2% [25].

Scholars point out that there are differences in the consumption of fruits and vegetables between men and women. In the present survey, men (44.1%) had a higher prevalence of daily consumption of these foods, unlike what has been shown in a research done with the university northern Brazil and the investigation VIGITEL – in both women had a higher consumption than men. [23, 25]

In contrast, a study in the US showed that the low consumption of fruits and vegetables among men is related to reduced belief in the benefits of these foods to health and the fact that they do not think it is possible to eat fruits and vegetables at work, when they are tired, watching television and when other type of fast food is available [26].

In terms of water intake, a significant percentage (51.2%) of the students interviewed in this study had related daily intake of water (six to eight glasses), it is noteworthy that the percentages were higher in

men, which is a relevant question, considering that no other nutrient has many functions in the body such as water.

Adequate hydration is essential to maintain blood volume, renal function and also prevent constipation and urinary tract infections. Water has no calories, is widely available and low-cost, thus your daily intake is feasible and crucial for health. [11, 14, 27]

A 12-year cohort study conducted with 82,902 American women showed that replacing sugary drinks with water is associated with lower risk of type 2 diabetes daily replacement sugary drink with water reduced the risk for type 2 diabetes in 8%, and such results can be used to help guiding the choice of healthy drinks. [28]

In addition to the daily intake of water, fruits and vegetables, the daily consumption of rice mix and beans in the ratio of two servings of rice for one of beans is also a quality indicator in the diet, once this combination is considered a complete source of protein, It has low energy density, low-fat, low glycemic-load and high-density fibreboard. [11]

Surveys to assess the consumption of this typically Brazilian mix specifically in university are still incipient. However, in a survey of 253 college students in Pernambuco also showed high percentages of rice and beans consumption (79.1%) (PASSION; DIAS; PRADO, 2010).

Another study, with college students of Rio Grande do Sul, showed that a diet based on rice and beans combination was associated with a reduction in the values of BMI and blood cholesterol in both genders. However, the literature highlights a greater vulnerability of women in relation to the low consumption of rice and beans, a fact to be observed by professionals and health educators [17, 25]

A historical serie performed with VIGITEL data from 2006 to 2009 showed worrying data related to the consumption of beans in the population under discussion, since youth 18 to 24 years showed a reduction of 10.1% in the consumption of beans over the years and Brazilians schooling time more

than 12 years had the lowest percentage of consumption in the entire series. [28]

However, the present research should be a warning to the awakening of multidisciplinary actions, involving primary care and universities in preventing the development of bad eating habits in college students, because even all the graduate students involved in this research had the knowledge of the their health conditions, only a very small percentage showed positive changes in diet.

This, together with the context presented in the previous pages, allows us to deduce that it is necessary to intervene in the pattern of food consumption presented by academics, seeking healthy aging, taking into account that the feeding habits can last for life and also the recommendations of the Ministry of Health, which advocates as healthy eating the daily consumption of fruits and vegetables, beans, rice, dairy products, daily two liters (six to eight glasses) of water, non-fat meat or chicken, or eggs and fish at least twice/week.

However, this intervention is a difficult task, considering that food habit is influenced by several factors (social, cultural and economic), and even scholars argue that for undergraduates feeding is not one of the most important aspects of your troubled daily life, and changing this culture requires actions that favor the understanding that each person is responsible for what he/she decides to eat and the benefits or risks that these choices can bring to your health. [23]

Scholars say that the university is a space with structural and organizational conditions conducive to the implementation of health promotion strategies in their environment, and may provide a healthier living space that would encourage the formation of aware individuals to the importance of healthy eating to the well-being. [24]

But, in reality, in most of the universities in Brazil health promotion actions are incipient and occasional difficult to change or acquire better eating habits, knowing that changing habits is intrinsic to

the individual, it is believed that the multiprofessional intervention throughout the period in which the student is inserted in college can facilitate this process of change. However, the availability of a balanced diet in the university restaurant is a positive factor that enables college students' choice for healthy foods at meals.

Within this perspective, nursing, which has in primary care as its main objective to preserve and promote the health of individuals, encouraging the adoption of a healthy lifestyle that includes improving the quality of life and longevity, must play a leading role in the team of the Family Health Strategy (FHS). It is indispensable that nurses explore the evaluation tools of the eating habits and seek approach of the university as favorable field for the care of the youth, because the clinical practice and scientific research presented by this survey reveals the need for evaluation and intervention in the population of young adults, with a focus on promoting healthy eating.

Limitations occurred because this is a cross design study, not allowing to establish causal relationships; took place only at a single university in Fortaleza-CE; were not surveyed the intrinsic motivations of each individual to food consumption limited determining the dietary habits profile of college students.

Conclusion

In the field of public health, this study points to the need for primary care to use the university space to promote health, by stimulating the adoption of healthy dietary practices among young people.

It is recommended to be implemented in universities nationwide intervention researches aimed at bringing about changes in eating habits, seeking to improve the quality of life of undergraduate students from Brazil.

Finally, the implications of this study for nursing is that the issue of healthy eating should be viewed as multidisciplinary, and nurses should approach

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methods of assessment of food consumption, especially in the population of students that is vulnerable to developing poor eating habits. Thus, in the context of health promotion, nurses must work together with young scholars and through strategies such as health education for guidance and implementation of groups to monitor the eating habits, using the FFQ intervening and stimulating change in the choice habits for food consumption in this population.

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Conflict of interest

No conflicts of interest to declare.

References

1. Baumgarten LZ, Gomes VLO, Fonseca AD. Consumo alcoólico entre universitários (as) da área da saúde da Universidade Federal do Rio Grande/RS: subsídios para enfermagem. Esc. Anna Nery [online]. 2012 [acesso 2014 Sep 15]; 16(3): 530-535. Disponível em: http://dx.doi.org/10.1590/S1414-81452012000300015.

2. Hacihasanog˘Lu R; Yildirim A; Karakurt P; Sag˘Lam R. Healthy lifestyle behaviour in university students and influential factors in eastern Turkey. International Journal of Nursing Practice.2011;.17:43-51.

3. Brandão MP, Pimentel FL, Cardoso MF. Impact of academic exposure on health status of university students. Rev. Saúde Pública [online]. 2011 [acesso 2014 Sep 15]; 45(1): 49-58. Disponível em: http://dx.doi.org/10.1590/S0034-89102011000100006.

4. Spanos D, Hankey CR. The habitual meal and snacking patterns of university students in two countries and their use of vending machines. J Hum Nutr Diet [online]. 2010 [acesso 2014 Sep 15]; 23(1):102-7.

5. Al-Rethaiaa AS, Fahmy AE, Al-Shwaiyat NM. Obesity and eating habits among college students in Saudi Arabia: a cross sectional study. Nutr J [online]. 2010 [acesso 2014 Sep 15] 19 (9):39.

6. Kim H; Han SN; Lee H. Lifestyle, habits and consumption pattern of male university, students according to the frequency of commercial beverage consumptions. Nutrition Research and Practice [online]. 2011; [acesso 2014 Ago 15] 5 (12): 124-131. Disponível em: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3085801/.

7. Freitas RWJF; Araújo MFM; Marinho NBP; Vasconcelos HCA; Lima ACS; Pereira DCR; Almeida PC; Zanetti ML; Damasceno MMC. Prevalence of the metabolic syndrome and its individual components in brazilian college students. Journal of Clinical Nursing (Print), v. 22, p. 1291-1298, 2013.

8. Brasil. Plano de ações estratégicas para o enfrentamento das Doenças Crônicas Não Transmissíveis (DCNT) no Brasil 2011-2022. Ministério da Saúde, 2011. Disponível em: http://portal.saúde.gov.br/portal/arquivos/pdf/cartilha_dcnt_pequena_portugues_espanhol.pdf.

9. Sampaio HAC, Sabry MOD, Diniz DB, Sá MLB, Castro SMV, Feijão IEP, Bezerra SR. Consumo de frutas e hortaliças por indivíduos atendidos pelo Programa Saúde da Família na periferia da cidade de Fortaleza-Ceará. Rev. APS [online]. 2010 [acesso em 2014 Sep 15]; 13(2): 175-181. Disponível em: http://aps.ufjf.emnuvens.com.br/aps/article/view/455/311.

10. Brasil. Ministério da Saúde (MS). Coordenação-Geral da Política de Alimentação e Nutrição, Secretaria de Atenção à Saúde. Guia alimentar para a população brasileira. 2a ed. Brasília: MS; 2014.

11. Cavagioni LC, Pierin AMG. Hipertensão arterial e obesidade em motoristas profissionais de transporte de cargas. Acta paul. enferm. [online]. 2010 [acesso em 2014 Sep 15]; 23(4): 455-460. Disponível em: http://dx.doi.org/10.1590/S0103-21002010000400002.

12. Castanho GKF, Marsola FC, Mclellan KCP, Nicola M, Moreto F, Burini RC. Consumo de frutas, verduras e legumes associado à Síndrome Metabólica e seus componentes em amostra populacional adulta. Ciênc. saúde coletiva [online]. 2013 Feb [acesso 2014 Sep 16]: 18(2): 385-392. Disponível em: http://dx.doi.org/10.1590/S1413-81232013000200010.

13. Muniz LC, Zanini RV, Schneider BC, Tassitano RM, Feitosa WMN, González-Chica DA. Prevalência e fatores associados ao consumo de frutas, legumes e verduras entreadolescentes de escolas públicas de Caruaru, PE. Ciênc. saúde coletiva [online]. 2013 Feb [acesso em 2014 Sep 16];18(2): 393-404. Disponível em: http://dx.doi.org/10.1590/S1413-81232013000200011.

14. Olinto MT, Gigante D, Horta B, Silveira V, Oliveira I, Willett W. Major dietary patterns and cardiovascular risk factors among young Brazilian adults. Eur J Nutr 2011; 51(3):281-291.

15. Costa, SM; Duares, SJA; Abreu, MHNG. Feminização do curso de odontologia da Universidade Estadual de Montes Claros. Ciênc. saúde coletiva [online], 2010 [acesso em 09 Apr. 2014]; 15: 73-8. Disponível em: http://dx.doi.org/10.1590/S1413-81232010000700100.

16. Guedes, MC. A presença feminina nos cursos universitários e nas pós-graduações: desconstruindo a idéia da universidade como espaço masculino.Hist. cienc. Saúde. 2008; 15:463-64.

17. Brandão T, Saraiva L, Matos, PM. O prolongamento da transição para a idade adulta e o conceito de adultez emergente: especificidades do contexto português e brasileiro. Análise Psicológica [online] 2012 [acesso em 16 Sep 2014] 30(3): 301-313. Disponível em: http://www.scielo.gpeari.mctes.pt/scielo.php?script=sci_arttext&pid=S0870-82312012000200004&lng=pt&tlng=pt.

18. Ramalho AA, Dalamaria T, Souza, OF. Consumo regular de frutas e hortaliças por estudantes universitários em Rio Branco, Acre, Brasil: prevalência e fatores associados. Cad. Saúde Pública [online] 2012 [acesso em: 09 abr.2014];28(7): 1405-1413 Disponível em: http://www.scielosp.org/scielo.php?script=sci_arttext&pid=S0102-311X2012000700018&lng=pt&nrm=iso.

19. Sousa TF, José HPM, Barbosa AR. Condutas negativas à saúde em estudantes universitários brasileiros. Ciênc. saúde coletiva [online]. 2013 Dec [acesso em 2014 Sep 16]; 18(12): 3563-3575. Disponível em: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1413-81232013001200013&lng=en. http://dx.doi.org/10.1590/S1413-81232013001200013.

20. Sebold LF, Radünz V, Carraro TE. Percepções sobre cuidar de si, promoção da saúde e sobrepeso entre acadêmicos de enfermagem. Esc. Anna Nery [online]. 2011 [Acesso em 2014 Sep 16];15(3): 536-541. Available from: http://dx.doi.org/10.1590/S1414-81452011000300014.

21. Maciel ES, Sonati JG, Modeneze DM, Vasconcelos JS, VR. Consumo alimentar, estado nutricional e nível de atividade física em comunidade universitária brasileira. Rev. Nutr. [online]. 2012 Dec [acesso em 2014 Sep 16]; 25(6): 707-718. Disponível em: http://dx.doi.org/10.1590/S1415-52732012000600003.

22. Brasil. Vigitel Brasil 2011: Vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico. Brasília, 2012.

23. Emanuel AS, McCully SN, Gallagher KM, Updegraff JA. Theory of Planned Behavior explains gender difference in fruit and vegetable consumption. Appetite [online]. 2012 Dec [acesso 2014 Sep 16]; 59(3):693-7. Disponível em: http://www.ncbi.nlm.nih.gov/pubmed/22898607.

24. Sousa TF, José HPM, Barbosa AR. Condutas negativas à saúde em estudantes universitários brasileiros. Ciênc. saúde coletiva [serial on the Internet]. 2013 Dec [cited 2014 Sep 17]; 18(12): 3563-3575. Disponível em: http://dx.doi.org/10.1590/S1413-81232013001200013.

25. Pan A, Malik VS, Schulze MB, Manson JE, Willett WC, Hu FB. Plain-water intake and risk of type 2 diabetes in young and middle-aged women. Am J Clin Nutr [online]. 2012 acesso em acesso 2014 Sep 16] Jun;95(6):1454-60.

26. Velásquez-Meléndez G, Mendes LL, Pessoa MC, Sardinha LMV, Yokota RTC, Bernal RTI et al. Tendências da frequência do consumo de feijão por meio de inquérito telefônico nas capitais brasileiras, 2006 a 2009. Ciênc. saúde coletiva [serial on the Internet]. 2012 Dec [cited 2014 Sep 17]; 17(12): 3363-3370. Available http://dx.doi.org/10.1590/S1413-81232012001200021.