

# Impact of Tobacco and Alcohol on the Body Composition of Youth

## *Impacto do Tabagismo e Alcool sobre a Composição Corporal de Jovens*

## *Impacto del Tabaquismo y el Alcohol en la Composición Corporal en la Juventud*

Ellencristina da Silva Batista<sup>1</sup>, Tatiana do Nascimento Campos<sup>2</sup>, Flávia Xavier Valente<sup>3</sup>, Sílvia Eloiza Priore<sup>4</sup>, Sylvia do Carmo Castro Franceschini<sup>5</sup>, Céphora Maria Sabarense<sup>6</sup>, Maria do Carmo Gouveia Peluzio<sup>7</sup>

### **Abstract**

**Introduction:** The early onset of smoking and alcohol consumption, whether or not associated with excess weight are considered modifiable risk factors for chronic diseases such as cardiovascular diseases and cancer. When occurring concomitantly, they increase the likelihood of developing these diseases. **Objectives:** Given these assumptions, this study aimed to evaluate the influence of smoking and alcohol consumption on body composition of young people. **Method:** A cross-sectional, analytical and descriptive study with 68 volunteers, among smokers and non-smokers, between 18 and 26 years of age, from three universities, four elementary schools, two high schools and two technical courses in the town of Viçosa, MG, Brazil. **Results:** Among the body composition measures, BMI, waist circumference and waist-hip ratio were higher among male smokers ( $p < 0.05$ ). In addition, smokers drank alcohol more often than nonsmokers of the same gender. Weight and waist/hip ratio were positively correlated ( $p < 0.05$ ) with the number of cigarettes smoked per day. **Conclusion:** The results showed that young male smokers were associated with at least three of the risk factors for chronic diseases, which suggests an immediate loss of health due to abuse of these substances at this stage.

**Key words:** Smoking; Body Composition; Adolescent

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<sup>1</sup> Assistant Professor II at the Nutrition Course from Centro Universitario Vila Velha (ES), Brasil. Master in Nutrition Science by Universidade Federal de Vicosa (MG), Brasil. *Email:* ellencristinasb@yahoo.com.br.

<sup>2</sup> Nutritionist. Master degree student in Nutrition Science from Departamento de Nutrição at Universidade Federal de Vicosa (MG), Brasil. *Email:* tatiana.campos@ufv.br.

<sup>3</sup> Nutritionist. Master degree student in Nutrition Science from Departamento de Nutrição e Saúde da Universidade Federal de Vicosa. *Email:* flavia.valente@ufv.br.

<sup>4</sup> Associate Professor I at Departamento de Nutrição e Saúde at Universidade Federal de Vicosa (MG), Brasil. PhD in Nutrition by Universidade Federal Sao Paulo. *Email:* sepriore@ufv.br.

<sup>5</sup> Associate Professor I at Departamento de Nutrição e Saúde at Universidade Federal de Vicosa (MG), Brasil. PhD in Nutrition Universidade Federal Sao Paulo. *Email:* sylvia@ufv.br.

<sup>6</sup> Assistant Professor IV at the Nutrition Course from Universidade Federal de Juiz de Fora (MG), Brasil. PhD in Food Science by Universidade Estadual de Sao Paulo. *Email:* cephora.sabarense@uff.edu.br.

<sup>7</sup> Associate Professor I at Departamento de Nutrição e Saúde da Universidade Federal de Vicosa (MG), Brasil. PhD in Biochemistry and Immunology by Universidade Federal de Minas Gerais. *Email:* mpeluzio@ufv.br.

*Correspondence Address:* Maria do Carmo Gouveia Peluzio. Departamento de Nutrição e Saúde. Centro de Ciências Biológicas e da Saúde. Universidade Federal de Vicosa. Avenida P.H. Rolfs, s/no. Vicosa (MG), Brasil. CEP: 36570-000.

## INTRODUCTION

Tobacco smoking is considered today a global Public Health problem and the strongest preventable isolated cause of diseases and premature deaths in the world, accounting for 5 million deaths a year. If the current pattern of consumption remains the same, 10 million deaths are expected a year in 2020, 70% of them in developing countries. In Brazil, data from the Pan American Health Organization (OPAS), point out to 200 thousand deaths a year due to tobacco smoking<sup>1</sup>.

Tobacco initiation usually occurs in adolescence, between 13 and 14 years old on average. The earlier the initiation, the more severe the addiction to associated problems<sup>2</sup>. Tobacco smoking in adolescence has been associated to parental, friend, and older siblings smoking, low performance in school, school dropout and paid work<sup>3</sup>. Among the reasons for adolescent cigarette experimentation, the most common one was "curiosity". Other reasons shown were the nicotine effect (pleasure and relaxation) and friends' influence<sup>4</sup>.

Inappropriate feeding in this period, characterized by the massive consumption of sugar and fats, associated to low consumption of fruits and greenery and the long period dedicated to low intensity activities, such as watching television, using the computer and playing video games, contributes to the gaining of weight among adolescents<sup>5</sup>. Considering that many unsolved questions as to the effect of tobacco over body weight, there are increasing evidences that smoking is favorable to a major accumulation of visceral fats and resistance to insulin, and, as a result, it increases the risk of metabolic syndrome and type 2 diabetes<sup>5</sup>.

As much as it is for tobacco, the early initiation of alcohol consumption is one of the most relevant predictors of health, social, cultural and economic problems. Consumption before the age of 16 significantly raises the risk of excessive alcohol consumption at adult age, for both genders. Young adults constitute the population group with the most serious problems concerning alcoholic beverages<sup>6</sup>.

Accordingly to Slaterry et al., the consumption of grams of alcohol per week and the number of cigarettes smoked a day were significantly associated to total body fat and body fat distribution through the waist/hip circumference ratio in young men and women<sup>7</sup>.

As we face these assumptions, this study aims at evaluating the influence of tobacco smoking and alcoholic beverage consumption in the body composition of young adults.

## METHOD

A transversal, analytics and descriptive study was developed with volunteers between 18 and 26 years old from three colleges, four schools, two pre-college courses

and two technical courses in the city of Viçosa, MG, Brazil.

The volunteers were selected through the filling out of a form with questions about cigarettes consumption. Individuals were considered smokers if they stated smoking, at least, a cigarette a day during the last 30 days before filling out the form and, non-smokers, those who have never tried a cigarette before. A person was considered a former smoker if he smoked for a long period, and these were excluded from the research.

Also, those who stated having experimented a cigarette at least once; who had cardiovascular problems, thyroid alterations, diabetes, cancer, hypertension, feeding allergy or intestinal malabsorption syndrome; pregnant women and nursing, were excluded. Individuals who were making regular and recent use of multivitamins (during the last six months) were also excluded.

The evaluations were individually done and led by only one qualified professional. The research was conducted after approval of the Research Ethics Committee from Viçosa Federal University (UFV), Viçosa (MG), Brazil, in 2005, in accordance with the Resolution 196/96 about "Research involving Human Beings", from the Health Council of the Ministry of Health. All participants signed a free and clear Informed Consent before their inclusion on the sample.

The volunteers were divided in two groups: smokers (34) and non-smokers (34). For each selected smoker, a non-smoker of the same age and gender was chosen by lot, once there was a pairing by gender and age, totalizing 68 participants.

The information about smoking was obtained through a questionnaire. For the management of the variables about tobacco smoking, the following measures were taken into consideration: the number of cigarettes smoked a day, the date of smoking initiation to calculate the time of consumption. The consumption of alcoholic beverages was also evaluated through a questionnaire and its classification was done in quarters based on quantity (quarter I: if consumption was between 80 and 1,750 ml, and quarter II, between 1,750 ml and 5,400 ml; quarter III: between 5,400 and 6,750ml and quarter IV: between 6,750ml and 29,400ml and on the weekly frequency.

Weight and height were obtained according to techniques proposed by Jelliffe<sup>8</sup> and the body mass index (BMI) was calculated. The proposed anthropometric reference for BMI/age from the World Health Organization (WHO, 2007)<sup>9</sup> was used for individuals between 18 and 19 years old and, for adults, the adopted BMI was from WHO (1998)<sup>10</sup>.

The percentage of body fat was evaluated by the skin folds (triceps, biceps, subscapular and suprailiac), according to Heyward and Stolarczyk<sup>11</sup> technique. Calculation of the body fat percentage was done according to the classification

proposed by Lohman<sup>12</sup>. Central body fats (CF) and peripheral fats (PF) were calculated as from the sum of all subscapular and suprailiac folds (central fat) and biceps and triceps (peripheral). The relationship between central and peripheral fats (CF/PF) was obtained by dividing the central fat (CF) by the peripheral fat (PF)<sup>13</sup>.

Waist circumference (WaC) and waist/hip ratio (WHR), which was obtained by dividing the waist circumference and the hip circumference, were based on recommended cut-off points (WHO, 1998)<sup>10</sup>.

For the statistical analysis, the SPSS for Windows program (Release 8.0 Chicago, IL, USA) was used. For the numerical variables, average (A), standard deviation (SD), median (M) were presented. For the comparison of two independent groups, Mann Whitney test was used, once the variables did not pass through regular distribution. For the comparison of two dependent groups, the paired t test was applied. To check the correlation between two variables, Pearson or Spearman correlation was used, according to the linear characteristics between them<sup>14</sup>. 5% was considered as the level of statistical significance.

## RESULTS

2,019 questionnaires were answered, 93.3% (1,883) of which were valid. Among these questionnaires, it could be observed that 72.9% (1,372) adolescents had never smoked; 21.1% (397) have smoked a cigarette just

once; 2.4% (45) were former smokers and 3.6% (69) were smokers.

Out of the total number of smokers detected, 30.6% (28) didn't want or could not take part due to business or travel. It was not possible to contact 5 individuals and 2 of them presented a criterion of exclusion. Therefore, 49.3% (34) smokers took part in the study.

Between the smoker and non-smoker group, distribution by gender was 50% women and 50% men and average age (20.53, SD=2.0) and median (21.0) was the same for both groups.

As for tobacco smoking, it could be observed that participants smoked between 7.44 ±5.03 cigarettes a day; they had been smokers for about 4.66 ±2.94 years; tried a cigarette when they were 13.38 ±2.06 years old and initiated smoking when they were 15.94±2.36 years old. No statistically significant difference (0.94) between genders for the above variables was observed.

By analyzing the anthropometric parameters and body composition (Table 1), it could be observed that the frequency of overweight and increased waist circumference was higher among smokers rather than among non-smokers. Women who smoke (n=17) showed a higher percentage of body fat than men and the latter showed higher overweight figures considering the BMI and high waist circumference.

According to Table 2, the group of smokers had higher average with significant difference for BMI, WaC and WHR when compared to the non-smoker group. When evaluated by gender, (Table 3), male smokers had higher

**Table 1.** Classification of the anthropometric parameters and of body composition of young smokers and non-smokers, according to gender. Viçosa (MG), 2005.

Parameter and classification	Smoker			Non-Smoker		
	Total	Female	Male	Total	Female	Male
	% (n)					
<i>BMI</i> <sup>(a)</sup>						
Low weight	5.9 (2)	11.8 (2)	-	14.7 (5)	5.9 (1)	23.5 (4)
Eutrophy	70.06 (24)	82.3 (14)	58.8 (10)	82.4 (28)	88.2 (15)	76.5 (13)
Overweight	23.5 (8)	5.9 (1)	41.2(8)	2.9 (1)	5.9 (1)	-
% Body Fat						
Elevated	11.7 (4)	23.5 (4)	-	14.7 (5)	23.5 (4)	5.9 (1)
Acceptable	55.9 (19)	52.9 (9)	58.8 (10)	44.1 (14)	64.7 (11)	23.5 (4)
Ideal	29.4 (11)	23.5 (4)	41.2 (7)	41.2 (14)	11.8 (2)	76.5 (12)
Waist Circunference (WaC)						
High	5.9 (2)	5.9 (1)	5.9 (1)	-	-	-
Adequate	94.1 (32)	94.1 (16)	94.1 (16)	100.0 (34)	100.0 (17)	100.0 (17)
Waist/Hip (WHR) Ratio						
High	-	-	-	-	-	-
Adequate	100.0 (34)	100.0 (17)	100.0 (17)	100.0 (34)	100.0 (17)	100.0 (17)

<sup>(a)</sup> For adolescents, BMI was considered for their age.

weight, BMI, WaC, WHR and significant peripheral fat rather than non-smokers of the same gender.

According to Table 4, smokers of both genders consumed alcoholic beverages more frequently and in higher quantity than non-smokers. Among smokers, individuals of both genders consumed alcoholic beverages more frequently per day and per week ( $p < 0.01$  and  $p = 0.05$ ).

The number of cigarettes smoked a day showed a positive correlation with weight, WHR and CF/PFR ( $r = 0.339$  and  $p = 0.049$ ;  $r = 0.404$  and  $p = 0.017$ ;  $r = 0.456$  and  $p = 0.006$ , respectively).

According to Table 5, young smokers who consumed alcoholic beverages weekly over 80 ml in amount, (quarter I) had higher weight, BMI and WHR. Also those who consumed 1,750ml or more (quarter III) a week presented higher WaC and CF/PFR.

Positive correlation was obtained between CF/PFR with the consumption of alcoholic beverages on a single

day (Table 4) ( $r = 0.390$  and  $p = 0.022$ ), as well as with the weekly consumption ( $r = 0.390$  and  $p = 0.022$ ) for smokers only. For male smokers, positive correlation between the consumption of alcoholic beverages on a single day and per week and the concentration of fat in the central area was found ( $r = 0.611$  and  $p = 0.025$ ;  $r = 0.7171$  and  $p = 0.005$ ).

## DISCUSSION

Adverse effects for health caused by unhealthy lifestyles, such as tobacco and alcohol consumption, associated to the increase of abdominal adiposity in adolescence and early adulthood can come about later as chronic diseases of high morbidity and mortality<sup>15</sup>.

Nowadays, tobacco is considered the most isolated cause of diseases and early deaths in the world<sup>16</sup>. It is among the causative factors of about 50 diseases as well as several types of cancer (lung, larynx, pharynx, esophagus,

**Table 2.** Anthropometry and body composition of young smoker and non-smoker participants. Viçosa (MG), 2005

Anthropometry and body composition	Smoker		Non Smoker		P
	M + SD	Md	M + SD	Md	
Weight (kg)	64.96+13.27	62.12	59.97+8.92	59.47	0.061
Height (cm)	169.04 + 9.71	168.60	169.4 + 8.58	169.50	0.955
BMI (kg/cm <sup>2</sup> )	22.82 + 3.26	22.25	20.96 + 2.72	20.95	0.036*
WaC	76.17 + 9.35	74.25	70.58 + 4.97	69.5	0.006*
WHR	0.79 + 0.06	0.78	0.75 + 0.03	0.75	0.001*
Body fat (%)**	21.75 + 7.03	20.7	19.43 + 8.79	19.67	0.312
Peripheral fat**	20.44 + 7.3	20.5	17.09 + 8.78	15.25	0.124
Central fat**	29.4 + 10.39	27.5	23.54 + 9.92	21.50	0.056
PF/CFR**	1.49 + 0.39	1.38	1.46 + 0.34	1.41	0.764

\* p-value came from the paired t test (variables with regular distribution) and Wilcoxon test (variables without regular distribution).

\*\*Variables without regular distribution. P-value came from the paired t test (variables with regular distribution) and Wilcoxon test (variables without regular distribution).

**Table 3.** Anthropometry and body composition of young smoker and non-smoker participants, according to gender. Viçosa (MG), 2005

Anthropometry and body composition	Female					Male				
	Smoker		Non Smoker		P	Smoker		Non Smoker		P
	M + SD	Md	M + SD	Md		M + SD	Md	M + SD	Md	
Peso (kg)	57.06 + 8.38	58.30	57.86 + 8.03	59.25	0.548	72.86 + 12.70	74.60	61.66 + 9.43	60.50	0.015*
Altura (cm)	163.02 + 6.38	162.5	163.91 + 6.421	165.50	0.329	175.06 + 8.75	177.50	173.84 + 7.56	173.70	0.927
IMC (kg/cm <sup>2</sup> )	21.92 + 2.56	21.40	21.75 + 2.98	21.40	0.940	23.72 + 3.70	23.90	20.33 + 2.38	19.85	0.011*
CC (cm)	71.50 + 6.50	72.50	70.40 + 4.26	69.50	0.890	80.84 + 9.60	81.8	70.73 + 5.57	68.5	0.003*
RCQ	0.74 + 0.03	0.74	0.73 + 0.03	0.74	0.358	0.83 + 0.04	0.83	0.76 + 0.03	0.76	<0.001*
Gordura corporal (%)	27.26 + 4.60	28.8	27.92 + 3.71	27.80	0.459	16.25 + 4.09	17.60	22.34 + 4.73	10.90	0.064
Gordura periférica	24.29 + 7.09	24.00	24.94 + 6.81	26.50	0.632	16.50 + 5.23	18.0	10.82 + 3.52	10.50	0.006*
Gordura central	32.64 + 10.10	36.00	20.22 + 9.55	25.00	0.762	26.20 + 9.40	25.00	18.20 + 6.45	16.5	0.071
GC/GP	1.35 + 0.27	1.30	1.26 + 0.27	1.28	0.469	1.62 + 0.45	1.45	1.67 + 0.30	1.64	0.644

\* p-value originated from Wilcoxon test

**Table 4.** Consumption of alcoholic beverages among young smoker and non-smoker individuals, according to gender. Viçosa (MG), 2005

Frequency of alcoholic beverages consumption	Smoker			Non-Smoker		
	Total	Female	Male	Total	Female	Male
	% (n)					
Does not consume	5.9 (2)	11.8 (2)	-	29.4 (9)	17.6 (3)	35.3 (6)
Consumes	94.1 (32)	88.2 (15)	100.0 (17)	(25)	82.4 (14)	64.7 (11)
< 1 per week	17.6(6)	13.3 (2)	23.5 (4)	(13)	64.3 (9)	36.4 (4)
1 per week	23.5(8)	40.0 (6)	11.7 (2)	(5)	7.1 (1)	36.4 (4)
twice a week	26.5(9)	33.4 (5)	17.6 (4)	(5)	21.5 (3)	18.2 (2)
3 to 4 times a week	29.4(10)	13.3 (2)	47.1 (8)	(2)	7.1 (1)	9.1(1)
<b>Quantity</b>	<b>M + SD</b>					
Liters consumed a day <sup>(1) (2) (3)</sup>	1.43 + 1.24	1.15 + 1.16	1.82 + 1.25	0.30 + 0.62	0.39 + 0.75	0.23 + 0.47
Liters consumed a week <sup>(1) (2) (3)</sup>	5.18 + 5.78	2.15 + 2.68	5.16 + 6.91	6.64 + 1.63	2.09 + 0.51	0.42 + 0.12

For a comparison between smokers and non smokers groups, p- value originated from Wilcoxon Test. For the comparison among female individuals, smokers or non smokers, as well as for male smokers or non smokers, p-value came from Wilcoxon Test.

<sup>(1)</sup> p<0.05 – smokers > non smokers

<sup>(2)</sup> p<0.05 – female smoker > female non smoker

<sup>(3)</sup> p<0.05 – male smoker > male non smoker.

For the comparison between male and female smokers, p-value came from Mann Whitney Test, and for non smokers as well.

**Table 5.** Anthropometry and body composition of young smoker and non-smoker participants, according to the quarter consumption of alcoholic beverage per week. Viçosa (MG), 2005

Anthropometry and body composition	<Quarter I		>Quarter I		P	<Quarter II		>Quarter II		P	<Quarter IV		>Quarter IV		P
	M + SD	Md	M + SD	Md		M + SD	Md	M + SD	Md		M + SD	Md	M + SD	Md	
	Weight (kg)	55.02 + 7.63	58.35	67.28 + 12.25		67.7	0.042*	59.67 + 9.19	59.37		70.85 + 13.84	68.47	0.038*	61.82 + 10.46	
BMI (kg/cm <sup>2</sup> )	20.56 + 2.01	21.21	23.61 + 3.27	23.28	0.057	21.58 + 2.44	21.3	24.62 + 3.53	24.62	0.020*	22.23 + 2.75	21.7	24.79 + 4.2	25.1	0.16
WaC	69.00 + 4.99	70	78.21 + 9.14	77.75	0.030*	75.52 + 6.71	71.75	80.65 + 10.31	79.5	0.038*	74.54 + 7.74	73.5	80.00 + 12.45	76	0.39
Hip Circunference											94.21 + 6.55	96	94.21 + 8.76	96	0.42
WHR	0.73 + 0.02	0.74	0.81 + 0.04	0.81	0.001*	0.77 + 0.05	0.77	0.82 + 0.05	0.82	0.015*	0.78 + 0.05	0.78	0.81 + 0.06	0.8	0.35
Central fat %**	24.27 + 6.14	26.4	19.80 + 7.51	9.66	0.194	21.52 + 7.33	21.2	20.06 + 7.64	19.08	0.639	21.10 + 7.40	20.7	20.33 + 7.81	20.2	0.84
Peripheral fat**	20.33 + 5.82	22	18.94 + 8.23	18.5	0.463	20.43 + 7.88	21	17.70 + 7.30	18	0.429	19.61 + 7.50	20	18.33 + 8.60	18	0.64
Central fat	27.25 + 8.62	22	29.66 + 12.30	26.5	0.714	27.82 + 11.07	25.5	30.8 + 12.13	26.5	0.539	28.58 + 11.28	26	30.50 + 12.56	26.5	0.67
PF/CF R <sup>(d)</sup>	1.35 + 0.22	1.34	1.62 + 0.43	1.44	0.172	1.37 + 0.21	1.34	1.80 + 0.48	1.92	0.012*	1.47 + 0.28	1.4	1.79 + 0.61	1.75	0.24

\* p-value originated from the Wilcoxon test.

24 individuals were evaluated, and those who did not drink alcoholic beverages or rarely did it were excluded

<sup>(d)</sup> central and periferical fat ratio

stomach, pancreas, liver, kidney, bladder, cervix and leukemia), in addition to respiratory and cardiovascular diseases. As a carcinogen, tobacco either in cell induction (mutagenic effects) or cell proliferation<sup>16-19</sup>.

In this study, only 3.6% of contacted adolescents were smokers and 2.4% were former smokers. Studies of prevalence of smokers and former smokers at that age range in this population are still unknown. This data would be important to foresee the future dissemination of tobacco smoking and analyze the results of big anti-tobacco campaigns adopted by the government in this analyzed population<sup>15</sup>.

According to the Household Survey about Risky Behaviors and Referred Morbidity of Diseases and Non-Transmissible Aggravations, carried out in 2002 and 2003, with people between 15 year-old or above, living in 15 Brazilian capitals and in the Federal District, prevalence of tobacco smoking varied between 12.9% and 25.2% in the analyzed cities. Men presented higher prevalence than women in all capitals<sup>17,19</sup>.

The number of smoked cigarettes a day showed a positive correlation with higher weight and fat concentration in the abdominal area. The number of smoked cigarettes a day and length of time of addiction are associated to higher values of WHR and weight of adult smokers, and WHR increases progressively with the number of smoked cigarettes a day<sup>20-21</sup>. Obesity and smoking have a highlighted position in Public Health of western countries as avoidable causes of cancer<sup>17</sup>.

Presence of higher BMI, WaC and WHR in the smoker group was found only among males. Freedman et al. found a higher BMI and higher prevalence of obesity in adolescent smokers rather than non-smokers of both genders<sup>5,21</sup>. In this study, the smoker group had women who were underweight (n=2) and even in a small number, might have influenced the results above; whereas, for men, the same group did not present any underweight individual.

The explanation for the difference of the central fat distribution in smokers has not been well established yet. Some authors suggest that differences related to sexual hormones may provide a feasible biological explanation<sup>21</sup>. These authors suggest that tobacco may have an anti-estrogenic effect and or increase the levels of androgens, resulting in high androgen/estrogen ratio favors the deposition of fats in the abdominal area.

Han et al.<sup>22</sup> observed, in adult men only, that higher than expected WaC for BMI is associated to smoking. For Freedman et al.<sup>21</sup>, the high values of BMI and body weight found in young male smokers could be related to the short time and lower number of cigarettes smoked if compared to adults, and there may be limitation of nicotine action on energy expenditure.

In case this pattern of body fat remained in these male individuals, between the age of 35 and 40, it could have been aggravated due to the drop of testosterone level, contributing to the increase of abdominal adiposity and as a consequence, to the emergence of aggravations such as cancer and cardiovascular diseases<sup>17</sup>.

The higher accumulation of fat in the abdominal region and high weight in smokers reflect subjacent differences to lifestyle between smokers and non-smokers, such as food intake, alcoholic beverages consumption, physical activity and educational level<sup>23-24</sup>.

In this study, there was a statistically significant difference in the amount of alcoholic beverages consumed by young smokers comparing to non-smokers per day and per week, which can become a confusing factor to interpret the higher BMI and higher concentration of abdominal fat among smokers.

Lahti-Koski et al. observed positive association between high consumption of alcoholic beverages with BMI<sup>23</sup>. Smokers who drank 80ml or more of alcoholic beverages a day already presented higher WHR for the consumption of less than 80 ml a day.

Horta et al.<sup>25</sup> confirmed a positive association and correlation between smoking and alcoholism, and a tendency of alcohol-dependants to initiate smoking earlier, keep smoking for a longer period a higher number of cigarettes.

## CONCLUSION

Smoking and the consumption of alcoholic beverages among young men have a positive correlation with the levels of WaC, characterizing an inappropriate lifestyle that, if maintained, may result throughout life in several types of chronic diseases, like cardiovascular, pulmonary and many types of cancer.

On account of the context presented, the importance of the prevention of these diseases programs is highlighted, such as control of tobacco use, as well as the reduction of alcohol consumption, especially during adolescence, searching for the effective elimination or reduction of the main risk factors associated to cancer and to several other chronic non-transmissible diseases.

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## CONTRIBUTIONS

Ellencristina da Silva Batista took part in the conception, planning of the research project; data

collection, analysis and interpretation; writing and critical review. Tatiana do Nascimento Campos and Flávia Xavier Valente took part in data collection, analysis and interpretation, writing and critical review. Sílvia Eloiza Priore took part in coordination, conception, planning of the research project; writing and critical review. Sílvia do Carmo Castro Franceschini participated on data analysis and interpretation, writing and critical review. Maria do Carmo Gouveia Peluzio took part in students' orientation; conception, research project planning; data analysis and interpretation; writing and critical review.

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## Resumo

**Introdução:** A precocidade no início do tabagismo e consumo de bebida alcoólica, associados ou não ao excesso de peso, são considerados fatores de risco modificáveis para doenças crônicas, como as cardiovasculares e o câncer. Quando ocorrem concomitantemente, elevam a probabilidade de desenvolvimento dessas doenças. **Objetivos:** Diante desses pressupostos, objetivou-se avaliar a influência do tabagismo e do consumo de bebida alcoólica sobre a composição corporal de jovens. **Método:** Estudo transversal, analítico e descritivo com 68 voluntários, fumantes e não fumantes, entre 18 a 26 anos, de três instituições de ensino superior, quatro de ensino médio, dois cursos pré-vestibulares e dois cursos técnicos do município de Viçosa (MG), Brasil. **Resultados:** Entre as medidas de composição corporal, o índice de massa corpórea, circunferência da cintura e relação cintura/quadril foram maiores entre os fumantes do sexo masculino ( $p < 0,05$ ). Além disso, os fumantes consumiram bebidas alcoólicas mais frequentemente que os não fumantes do mesmo sexo. O peso e relação cintura/quadril apresentaram correlação positiva ( $p < 0,05$ ) com o número de cigarros fumados por dia. **Conclusão:** Os resultados mostraram que jovens do sexo masculino tabagistas apresentaram associação positiva com pelo menos três dos fatores de riscos para doenças crônicas, o que indica um prejuízo imediato sobre a saúde, devido ao uso abusivo dessas substâncias nessa fase.

**Palavras-chave:** Tabagismo; Composição Corporal; Adolescente

## Resumen

**Introducción:** La precocidad en el inicio del tabaquismo y el consumo de alcohol estar asociados o no al exceso de peso son considerados factores de riesgo modificables para enfermedades crónicas como las cardiovasculares y el cáncer. Cuando ocurren juntas elevan la probabilidad de desarrollar estas enfermedades. **Objetivos:** Evaluar la influencia del tabaquismo y el consumo de alcohol en la composición corporal de los jóvenes. **Método:** Estudio transversal, analítico y descriptivo con 68 voluntarios, fumadores y no fumadores, entre 18 y 26 años, de tres instituciones de educación superior, cuatro de enseñanza media, dos cursos pre-universitarios y dos cursos técnicos de la municipalidad de Viçosa (MG), Brasil. **Resultados:** Entre las medidas de la composición corporal, el índice de masa corporal, la circunferencia de la cintura y la relación cintura/cadera fueron mayores entre los fumadores varones ( $p < 0,05$ ). Además, los fumadores bebían alcohol con mayor frecuencia que los no fumadores del mismo sexo. El peso y la relación cintura/cadera se correlacionaron positivamente ( $p < 0,05$ ) con el número de cigarrillos fumados por día. **Conclusión:** Los resultados mostraron que los jóvenes varones fumadores presentaron una asociación positiva con al menos tres factores de riesgo para enfermedades crónicas, lo que indica una pérdida inmediata de la salud debido al abuso de estas sustancias en esa etapa.

**Palabras clave:** Tabaquismo; Composición Corporal; Adolescente