WEIGHT GAIN IN UNIVERSITY STUDENTS DURING COVID-19: UNDERLYIG FACTORS AND LESSONS FOR THE POST-PANDEMIC MOMENT

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Abstract

The COVID-19 pandemic posed significant challenges to public health, notably affecting the lifestyle and health of university students. Understanding the impacts of this period, particularly regarding weight gain, is essential to support institutional actions. The transition to remote learning substantially altered the behaviors of this population, already vulnerable to increasing obesity rates. This study aimed to analyze the factors associated with weight gain among university students during the pandemic, emphasizing changes in lifestyle related to remote education. A retrospective longitudinal study was conducted between 2020 and 2021, involving 441 students from one of the largest public universities in Brazil. Body Mass Index (BMI) variations and associated factors were analyzed using multivariate linear regression. Prevalence of excess weight of 31% was identified, with BMI increases ranging from +0.30 to +14.20 kg/m². The main associated factor was reduced physical activity, regardless of exercise frequency. Pre-existing obesity, distorted body image perception, and lower body image satisfaction were also associated with weight gain. The findings highlight the urgent need for institutional policies that promote physical activity and positive body image, contributing to the comprehensive health and well-being of university students.

Keywords: Students, COVID-19, Obesity, Exercise, Body Image, Sedentary Behavior

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INTRODUCTION

The obesity epidemic was already on the rise when the World Health Organization declared the COVID-19 pandemic on March 11, 2020, leading to the convergence of two global health crises (ORGANIZAÇÃO PAN-AMERICANA DA SAÚDE, 2022). These conditions intersected, with obesity contributing to more severe outcomes of COVID-19 (BRANDÃO et al., 2021). Social distancing measures and lockdowns were particularly influential in increasing sedentary behaviors, binge eating, and reduced physical activity among individuals, including university students (FERRAN et al., 2020).

Although we are in the post-pandemic period, analyzing and reflecting on the impacts of the pandemic across various scenarios, including the educational environment, remains crucial for making adjustments aimed at promoting health and well-being, in line with the United Nations' Sustainable Development Goal 3 (SDG 3) (AZIZI et al., 2022). Educational systems worldwide, in fact, underwent profound changes during the pandemic, as educational activities shifted to remote formats, impacting students' physical and mental health. These changes led to a significant reduction in physical activity levels and an increase in sedentary behaviors, which were linked to weight gain among university students (ROBERTSON et al., 2021).

In this context, our study aimed to explore the factors contributing to body mass index (BMI) variation among university students during the COVID-19 pandemic.

MATERIALS AND METHODS

Ethics declarations - The research was approved by the Research Ethics Committee of the Botucatu Medical School, with the Certificate of Presentation for Ethical Appreciation (CAAE) 46744821.2.0000.5411. All eligible volunteers were informed and agreed to the Free and Informed Consent Form (FICF).

Study design - This study adopts a retrospective longitudinal design, employing both descriptive and qualitative-quantitative methodologies. Its primary objective is to evaluate the prevalence of overweight and obesity among university students before and during the pandemic, while also investigating the potential factors contributing to weight gain during this period. The study's target audience comprised university students from São Paulo State University "Júlio de Mesquita Filho", UNESP/campus Botucatu, aged 18 and above, and regularly enrolled in one of the 11 undergraduate courses during the year 2021. The sample size was calculated considering the estimated population of 2,890 students. The calculation of

the sample size utilized the following elements (LUIZ; MAGNANINI, 2000): 1) tolerable sampling error of 8%; 2) the alpha error of 5%; 3) the prevalence of overweight of 20% among Brazilian university students (VIEIRA et al., 2017). These elements were applied to the equation for estimating the sample size in a prevalence study: $n = N.Z^2.p.(1-p) / Z^2.p.(1-p) + e^2.N-1$, in which n: calculated sample; N: student population; Z: normal variable; p: actual probability of the event; e: sampling error. The minimum estimated number, accounting for a 10% form completion failure rate, was 380 participants. Data collection was performed using an electronic form developed by the authors via Google Forms, and provided to participants through institutional email and exclusive WhatsApp groups. The questionnaire was accessible from August 3 to September 10, 2021. Exclusion criteria included underage students, unspecific self-declaration of weight, non-agreement with the IC and other inconsistencies in completion.

Structure of the research form - The data collection form was structured into five dimensions:

1. **Sample characterization:** Age, gender, ethnicity, course and year of undergraduate studies, state of origin, and the presence of obesity in different life stages (childhood, adolescence, and adulthood) were collected. Participants were asked if they had COVID-19 and the severity, according to the stratification in the National Institute of Health's COVID-19 Treatment Guidelines (INSTITUTO NACIONAL DE SAÚDE, 2021). The presence or absence of obesity in different life stages was expressed through a systematized obesity frequency score: 0 - individuals who were never obese; 1 - the presence of obesity in one life stage; 2 - obesity in all life stages."

2. **Nutritional status and level of physical activity and exercise:** Weight before and during the pandemic, as well as height, were collected for the calculation of body mass index [BMI = weight/(height in meters)^2]. The BMI was stratified into four groups (ASSOCIAÇÃO BRASILEIRA PARA O ESTUDO DA OBESIDADE E SÍNDROME METABÓLICA, 2022): underweight (BMI < 18.59), normal weight (BMI = 18.60-24.99), overweight (BMI = 25.00-29.99), and obesity (BMI > 30.00). Additionally, the level of physical activity (any action that requires body movement outside the state of rest, including activities of daily living) and the frequency of exercise (a component of physical activity involving planning and intentionality) were assessed. Regarding physical activity, participants were asked whether they increased, decreased, or maintained their level of physical activity during the pandemic. As for physical exercises, respondents reported the number of minutes per week (0, 30, 60,

90, 120, ≥150 minutes/week) they engaged in before and during the pandemic.

3. **Body self-image:** It was based on the use of 15 cards with different silhouettes corresponding to the BMI range from 12.5 to 47.5 kg/m2, with a 2.5-unit interval between each one (KAKESHITA et al., 2009). Respondents were asked to choose two cards, one representing their body silhouette before the pandemic and another during. Using the self-declared data, it was possible to determine the volunteer's actual BMI, which was associated with a 'real card' represented by a specific number (ranging from 1 to 15) according to the BMI intervals corresponding to each card. The analysis of the association between the real BMI and the BMI chosen by students before and during the pandemic was conducted by subtracting the corresponding numbers of the cards from 1 to 15. A positive result indicates that the chosen card refers to a BMI greater than that represented by the 'real card,' and therefore, the respondent overestimated their weight. Conversely, a negative result reflects the underestimation of their weight by choosing a card smaller than representative of their actual BMI. Additionally, the level of satisfaction with one's body was assessed using the Likert linear scale ranging from 1 to 5 (1 dissatisfied; 2 somewhat satisfied; 3 moderately satisfied; 4 satisfied; 5 very satisfied).

4. **Nutritional and dietary knowledge:** aimed to assess the students' level of nutritional knowledge regarding macro and micronutrients (6 points); processing level, considering fresh/minimally processed, processed, and ultra-processed foods (14 points); and classification of food groups into healthy and unhealthy (6 points). Nutritional knowledge was represented by a score obtained through the summation of correct answers, with a variable value ranging from 0 to 26 points.

5. **Socioeconomic stratification:** based on the validated form (ABEP, 2019), where each individual was represented by a final score resulting from the sum of all evaluated items.

The outcome or dependent variable was exposed to one or more independent variables in search of the association between these exposure factors and the outcome. In this research, the outcome was the BMI delta (ΔBMI), calculated by the variation between the BMI during the pandemic and the BMI pre-pandemic. Negative values denoted weight loss, while positive values represented weight gain. The independent or predictor variables were those categorized in the electronic form as 1) age; 2) gender; 3) ethnicity; 4) undergraduate course; 5) year of study; 6) diagnosis of chronic diseases; 7) obesity frequency score; 8) COVID-19 severity

score; 9) level of physical activity; 10) frequency of exercise; 11) body self-image; 12) satisfaction with the body; 13) nutritional knowledge, and 14) socioeconomic stratification.

The statistical analysis was performed using the Jamovi 2.2.5 program. Multiple linear regression was employed, starting with the analysis of simple bivariate linear regression, considering a significance level of 20% to assess a possible association of the independent variables with the dependent variable. After this initial analysis, predictors with a p-value > 0.2 were considered unrelated to the outcome and were removed from the multiple linear regression model. The initial multiple model considered a significance level of 5% ($p < 0.05$), using only the variables retained in the bivariate analysis with $p \leq 0.2$ ("has chronic disease" (yes or no), obesity frequency score, level of physical activity, exercise score, body image, and satisfaction with the body) for association with ΔBMI. To obtain the final multiple regression model, non-significant predictors ($p > 0.05$) were sequentially excluded using the hierarchical Backward method until reaching a final model containing only predictors that had a significant impact on the evaluated outcome (ΔBMI). For data discussion purposes, the correlation coefficient (R) was used to show the degree of relationship and intensity between variables, and the coefficient of determination (R^2) was used to estimate the relative percentage of how much the predictor variables can explain the outcome.

RESULTS

A total of 441 valid participants (loss of 3.15%) were included, exceeding the minimum estimated number, thus being representative of the university population studied concerning the prevalence of overweight.

The minimum age of students was 18 years, and the maximum was 48, with a median (percentiles 25-75) of 21 (19-23) years. The sample characterization data are described in Table 1, which shows that the majority of respondents were women, of white ethnicity, originating from São Paulo, the most populous state in the Brazilian federation. The 441 university students were evenly distributed among the 11 different courses on campus and concentrated mainly in the first two years of undergraduate studies.

Table 1 – Descriptive variables of the population of 441 university respondents (absolute and relative values).

Variables	n	%
Gender		
Cisgender women	282	64%
Cisgender man	145	33%
Non-binary gender	6	1%
Preference not to disclose	4	1%
Others	4	1%
Ethnicity		
White	336	76%
Brown/Mixed race	60	14%
Black	28	6%
Yellow/Asian	13	3%
Preference not to disclose	4	1%
State of origin		
São Paulo	420	95%
Minas Gerais	9	2%
Goiás	3	1%
Others	9	2%
Undergraduate course		
Agricultural Engineering	50	11%
Biological Sciences	47	11%
Medicine	44	10%
Biomedical Sciences	43	10%
Veterinary Medicine	41	9%
Medical Physics	41	9%
Bioprocess Engineering	39	9%
Animal Science	36	8%
Nutrition	35	8%
Forestry Engineering	33	7%
Nursing	32	7%
Year of undergraduate study		
1º	114	26%
2º	120	27%
3º	55	12%
4º	64	15%
5º	64	15%
6º	24	5%

In terms of nutritional status, the most university students were eutrophic before (61%) and during the pandemic (62%). It was observed that, before the pandemic, 10% of students were underweight, with 76% being women and 24% men. During the pandemic, it was 7%, involving 81% women and 19% men. Despite the pandemic, the prevalence of overweight (21%) remained stable compared to the pre-pandemic rate (20%). However, obesity rates (8%) experienced an increase, impacting 11% of the student population.

Indeed, in our study, a significant increase in the median BMI during the pandemic was observed when compared to the pre-pandemic value (23.1 (20.7 – 26.4) vs. 22.5 (20.1 – 25.9); p<0.001). The BMI delta (ΔBMI) represents the variation in students' body weight during and before the pandemic. Out of the 441 respondents, 126 (29%) achieved negative values, indicating weight loss during the pandemic in a range from -0.08 to -10.93 kg/m^2; 39 (8%) maintained their weight, characterized by a variation of 0.00; and 276 (63%) gained weight, with positive values ranging from +0.30 to +14.20 kg/m^2. The factors associated with the increase in BMI during the pandemic were investigated through linear regression analysis and Figure 1 summarizes the main results.

Figure 1 – Variation of BMI in university students during the COVID-19 pandemic. It depicts variables unrelated and predictors related to weight gain.
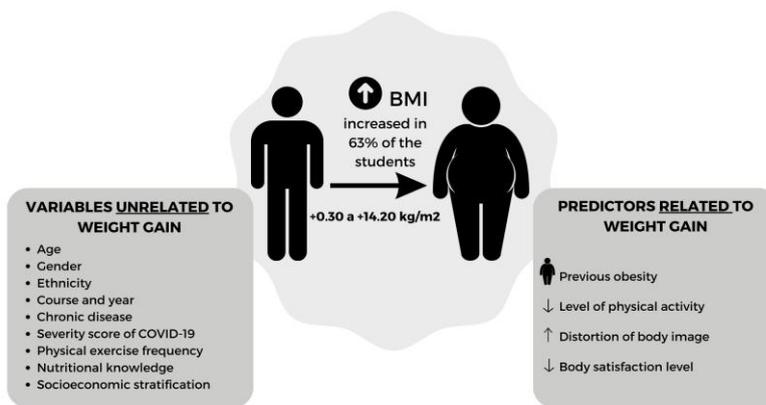
In the bivariate linear regression analysis, the independent variables age, gender, ethnicity, course, year of study, COVID-19 severity score, nutritional knowledge, and socioeconomic stratification (Table 2) had a minimal association with ΔBMI (p>0.2), justifying the exclusion of these variables in the final multivariate statistical analysis. On the other hand, the independent variables: obesity frequency score, level of physical activity, frequency of exercise, body self-image, and satisfaction with the body (table 3) had association with ΔBMI (p<0.2) and, therefore, were considered for the final multivariate analysis.

Table 2 - Independent variables (absolute and relative values) with no significant influence on delta BMI (p > 0.2).

Variables	n	%		
Nutritional knowledge				
Prior nutrition education				
Yes	164	37%		
No	277	63%		
Familiar with Dietary Guidelines for the Brazilian Population				
Yes	189	43%		
No	252	57%		
Nutritional score (0-26)				
≥ 18 (≥ 70% accuracy)	340	77%		
< 18 < 70% accuracy)	101	23%		
Socioeconomic stratification				
A	139	32%		
B1/B2	235	53%		
C1/C2	66	15%		
D/E	1	0,2%		
COVID-19 diagnosis				
No	361	82%		
Yes	67	15%		
Asymptomatic or pre-symptomatic	15	22%		
Mild COVID-19	41	61%		
Moderate COVID-19	11	16%		
Physical Exercise	**Pre-pandemic**		**Post-pandemic**	
	n	%	n	%
0 min/sem (sedentary)	94	21%	138	31%
30 - 120 min/sem (below ideal).	201	46%	166	38%
≥ 150 min/sem (ideal)	146	33%	137	31%

Table 3 - Independent variables (absolute and relative values) with significant influence on delta BMI.

Variables	n		%	
Obesity Frequency				
Never obese	248		56%	
At some point in life	141		32%	
All phases of life	52		12%	
Physical Activity Level				
Decreased	246		56%	
Maintened	77		17%	
Increased	118		27%	
Body Satisfaction Level				
1- Dissatisfied	60		14%	
2- Somewhat dissatisfied	78		18%	
3- Moderately satisfied	145		33%	
4- Satisfied	132		30%	
5- Very satisfied	26		6%	
Body Image	**Pre-pandemic**		**Post-pandemic**	
	n	%	n	%
Aligned	66	15%	67	15%
Overestimated	327	74%	336	76%
Underestimated	48	11%	38	9%

In this context, the final multiple regression model (Table 4) revealed a noteworthy and significant moderate correlation ($p < 0.01$) among these independent variables and the increase in BMI (R = 0.45), with a coefficient of determination of 0.201. Hence, 20% of the BMI increase can be collectively explained by the persistent presence of obesity throughout one's life, a lower level of physical activity, distortions in body image, and the degree of satisfaction with one's own body. The presence of obesity throughout all life stages is responsible for an additional increase of 0.74 in ΔBMI (p=0.048) during the pandemic, when compared to individuals without a history of obesity (Table 4). The level of physical activity, rather than the frequency of physical exercise, indeed demonstrated a correlation with BMI variation. Those who reduced their activity level exhibited a 1.32 increase in ΔBMI ($p < 0.001$) compared to individuals who increased their physical activity level. Individuals who reported maintaining their activity level showed a 1.05 increase in ΔBMI (p = 0.002) compared to those who increased physical activity.

Table 4 - Final multiple model containing only the independent variables that significantly impact the increase in BMI values in university students during the COVID-19 pandemic.

Model: y = 1,008 + Obesity Score*X1 + Physical Activity*X2 + body image*X3 + body satisfaction*X4				
	R	R²	F	p
	0.448	0.201	15.5	< .001
Predictors	**Estimated**	**SE**	**t**	**p**
Interception	**1,008**	**0,476**	**2,12**	**0,035***
Obesity Score				
1 – 0	0,252	0,251	1,00	0,316
2 – 0	**0,744**	**0,376**	**1,98**	**0,048***
Physical activity during the pandemic compared to pre-pandemic.				
decreased – increased	**1,32**	**0,268**	**4,94**	**<,001***
maintained – increased	**1,051**	**0,339**	**3,1**	**0,002***
Body Image Overestimation Before the Pandemic (Body Image)	**-0,6**	**0,102**	**-5,9**	**<,001***
Body Image Overestimation During the Pandemic (Body Image)	**0,43**	**0,102**	**4,19**	**<,001***
Body Satisfaction	**-0,377**	**0,108**	**-3,5**	**<,001***

R: Correlation coeficiente; R^2: Coefficient of determination.

Regarding body self-image, the majority of students overestimated their weight (Table 3). Through multivariate analysis (Table 4), individuals who overestimated their weight experienced a reduction of 0.6 in ΔBMI (p<0.001) before the pandemic. However, during the pandemic, those who overestimated their weight had an additional increase of 0.42 in ΔBMI when compared to individuals with no change in body image. In other words, despite the error in overestimating weight, respondents had a correct perception of increased weight. University students with a higher level of body satisfaction were those who reduced ΔBMI; for each unit they increased in body satisfaction, ΔBMI decreased by 0.37 (p<0.001).

DISCUSSION

Our research delved into the effects of the COVID-19 pandemic on the lifestyles of university students, providing valuable insights into the key factors associated with weight gain during this challenging period. In the literature, the prevalence of overweight and obesity

among university students varies widely, ranging from 10% to 55%. This variability appears to be influenced by socio-economic, cultural, and human development aspects specific to each country, as well as the date of completion of the respective studies (PELTZER; PENGPID, 2015). The prevalence of overweight and obesity found in our study falls within this range described in the literature. It is noted that the prevalence of overweight and obesity has been increasing in the university population over the years, even before the COVID-19 pandemic. Studies show that the dietary transition in emerging Latin American countries (KAC; VELÁSQUEZ-MELÉNDEZ, 2003) and the well-established fast-food industry in more developed countries may have a significant association with the increase in BMI among university students over the years. Dietary factors, such as an increase in the consumption of saturated fats, simple carbohydrates, and ultra-processed foods, coupled with a rise in sedentary behavior, have been linked to the increased prevalence of excess weight in this population, exacerbated by the pandemic (ROCHA et al., 2020).

Since there was a significant increase in BMI during the pandemic, our study's analyses were focused on explaining this outcome. One key finding in our study indicates that the rise in BMI is partially attributed to a decrease in the level of physical activity rather than being associated with the frequency of physical exercise. The association between physical exercise and weight loss with health benefits is well documented in the literature(ROSS et al., 2000) . The concept of physical exercise, according to the WHO, refers to planned practices with sequences of movements aimed at a specific health and/or aesthetic goal. On the other hand, physical activity is defined as any day-to-day movement that results in muscle recruitment and energy expenditure. In 2020, the WHO changed the guidelines for physical exercise recommendations, considering 150 to 300 minutes per week as the minimum ideal frequency (BULL et al., 2020). In our study, sedentary behavior in the university population increased during the pandemic. The majority of the sample population, even before the pandemic, reported exercising below the recommended frequency of 150 minutes per week. In our study, the frequency of physical exercise did not show an association (p > 0.05) with the increase in BMI during the pandemic. This result was also found in another study that demonstrated a decrease in the level of exercise among university students during the pandemic, a finding that was also statistically unrelated to weight gain (KASIAK; JODCZYK, 2021). Studies demonstrate that physical activity was already reduced in the university population, but this was intensified during the pandemic (LUCRETIA POP, 2021). Therefore, these data suggest that overall reduced mobility, as expressed by the level of physical activity, due to various factors imposed by the pandemic, had a more significant

impact on the increase in BMI than the frequency of exercise. This result reinforces the message of the WHO, which emphasizes that "every move counts", and is in line with recent studies showing that the benefits of the recommended 30 minutes of physical exercise are attenuated when sedentary behavior prevails for most of the day (CHASTIN et al., 2021).

Another intriguing aspect uncovered in our study is the correlation between an increase in BMI and the distortion of body image, leading to low satisfaction with one's own body. It is possible that lifestyle changes, such as increased sedentary behavior, alterations in eating habits, and greater use of mirrors (ZAAMI S et al., 2022), may have brought awareness to students about weight gain. Indeed, the analysis of body satisfaction in our study reveals that 32% of students have a low level of satisfaction with their bodies. Among these, 72% are women and 28% are men, reinforcing findings from the literature that indicate higher aesthetic dissatisfaction among women (BACEVICIENE; JANKAUSKIENE, 2021). The number of respondents satisfied with their bodies was relatively low (36%), a fact highlighted in the literature as indicative of low self-esteem and body satisfaction among university students (SILVA et al., 2019). The high percentage of body dissatisfaction during the pandemic may be related to the increased use of social media, which tends to foster body comparisons. The literature indicates that young people with higher body satisfaction during the pandemic were those with a higher level of physical activity (FARAMARZI et al., 2021), supporting our data on the reduction in physical activity levels leading to a significant increase in BMI and reflecting on the degree of satisfaction with their bodies.

The prior presence of obesity at some point in life was associated with an increase in BMI, aligning with literature suggesting that individuals with a history of excess weight tended to experience a more significant BMI increase during the COVID-19 pandemic (SÁNCHEZ et al., 2021).

The independent variables - age, gender, ethnicity, course, year of study, COVID-19 severity score, nutritional knowledge, and socioeconomic stratification - were not significantly associated with BMI variation. Although they were excluded from the final multivariate analysis, some specific aspects are still worth sharing and briefly discussing.

We investigated nutritional knowledge and observed that most individuals had never attended classes on this subject and were unfamiliar with the Dietary Guidelines for the Brazilian Population elaborated by the Ministry of Health of Brazil. This finding has motivated actions at our university toward strategies to assist public policies, such as the Dietary Guidelines, in reaching a larger number of Brazilians using extensionist projects. The nutritional knowledge score demonstrates good performance in distinguishing macro and

micronutrients, classifying the level of food processing, and categorizing healthy and unhealthy foods. ==It is worth noting that the participants were enrolled in health-related courses, which may have positively influenced their performance on the nutritional knowledge assessment.== According to the literature, the relationship between BMI, nutritional knowledge, and eating habits is complex, as knowledge does not necessarily translate into the adoption of healthy habits, given the high prevalence of eating disorders in health-related academic fields (NASCIMENTO et al., 2020). In children, nutritional knowledge is inversely related to cases of excess weight, as obesity has been associated with lower nutritional knowledge, which was linked to poorer eating practices (TRICHES; REGINA; GIUGLIANI, 2005). Therefore, early educational initiatives can help prevent excessive weight gain.

Considering that the pandemic has generated socioeconomic crises and chronic psychological stress capable of influencing eating behaviors and, consequently, exacerbating cases of overweight and obesity (CLEMMENSEN; PETERSEN; SØRENSEN, 2020), we initially postulated some degree of correlation between socioeconomic class and weight gain. However, in the present study, the statistical analysis did not reveal a significant correlation between BMI variation and socioeconomic class. One possible explanation for our results could be the low representation of classes D/E (0.2%) among university students in our institution. This statistic serves as an alert to the importance of affirmative action and student support programs for low-income university students.

Another noteworthy data point is the prevalence of underweight among university students, especially considering the increased prevalence of body image distortions exacerbated by the pandemic context (TAVOLACCI; LADNER; DÉCHELOTTE, 2021). In our study, 10% of students were identified as underweight. This rate consistently remains lower than that of overweight students, a finding supported by our study (CORAZZINI et al., 2020). While our survey did not specifically aim to investigate the presence of eating disorders or the level of food insecurity that could contribute to being underweight, it highlights an important statistic. This underscores the necessity for additional studies to explore the underlying causes of low weight in university students, including potential eating disorders and/or food insecurity. Such insights would enable various institutional actions to address this issue effectively.

The main results of the present study serve as a starting point for various institutional actions aligned with the United Nations' Sustainable Development Goals, including, at least, health and well-being (SDG-3) and responsible consumption and production (SDG-12). These efforts should encompass increasing awareness of the challenges posed by overweight,

sedentary behavior, and body dissatisfaction among students, along with implementing suitable interventions. As a central environment in the lives of students, the university should actively encourage self-care and the cultivation of healthy lifestyle habits. This involves offering a diverse array of sports and recreational programs, nutritional guidance, and channels for psychosocial support.

CONCLUSIONS

The significant increase in BMI among university students during the pandemic can be partly attributed to reduced physical activity, distorted body image, body dissatisfaction, and pre-existing obesity. This underscores that one of the key allies against obesity is the overall level of physical activity in daily life, including increased mobility in everyday activities, rather than solely focusing on scheduled exercise sessions. Our study emphasizes the importance of diverse educational initiatives at various life stages that promote health as an adjunct to human and professional development.

During the preparation of this work, the authors used ChatGPT 3.5 only to assist in translating specific sections from Portuguese to English. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

Conflict of interest: The authors declare that there is no conflict of interest.

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GANHO DE PESO EM ESTUDANTES UNIVERSITÁRIOS DURANTE A COVID-19: FATORES ENVOLVIDOS E LIÇÕES PARA O PÓS-PANDEMIA

RESUMO

A pandemia de COVID-19 impôs relevantes desafios à saúde pública, impactando de forma particular os hábitos de vida e a saúde de estudantes universitários. Compreender os efeitos desse período, especialmente no que tange ao ganho de peso, é fundamental para subsidiar ações no contexto acadêmico. A transição para o ensino remoto modificou substancialmente os comportamentos dessa população, já vulnerável ao aumento das taxas de obesidade. Este estudo teve como objetivo analisar os fatores associados ao ganho de peso entre universitários durante a pandemia, com ênfase nas alterações de hábitos decorrentes do ensino remoto. Trata-se de estudo longitudinal retrospectivo, conduzido entre 2020 e 2021, com 441 estudantes de uma das maiores universidades públicas brasileiras. Foram avaliadas variações no Índice de Massa Corporal (IMC) e fatores associados, por meio de regressão linear multivariada. Identificou-se prevalência de excesso de peso de 31%, com aumento do IMC entre +0,30 e +14,20 kg/m². A principal variável associada foi a redução da atividade física, independentemente da frequência de exercícios. Obesidade prévia, distorção da imagem corporal e menor satisfação com o corpo também se associaram ao ganho de peso. Os achados evidenciam a necessidade de políticas institucionais voltadas à promoção da atividade física e da saúde integral dos estudantes.
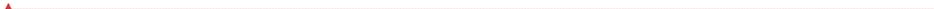
Palavras-chave: Estudante, COVID-19, obesidade, exercício físico, imagem corporal, comportamento sedentário

AUMENTO DE PESO EN ESTUDIANTES UNIVERSITARIOS DURANTE LA COVID-19: FACTORES SUBYACENTES Y LECCIONES PARA EL MOMENTO POST-PANDEMIA

La pandemia de COVID-19 impuso desafíos significativos a la salud pública, afectando especialmente el estilo de vida y la salud de los estudiantes universitarios. Comprender los efectos de este período, en particular en relación con el aumento de peso, es fundamental para orientar acciones en el ámbito académico. La transición al aprendizaje remoto modificó sustancialmente los comportamientos de esta población, ya vulnerable al aumento de las tasas de obesidad. Este estudio tuvo como objetivo analizar los factores asociados al aumento de peso entre estudiantes universitarios durante la pandemia, con énfasis en los cambios de hábitos relacionados con la educación remota. Se realizó un estudio longitudinal retrospectivo entre 2020 y 2021, con la participación de 441 estudiantes de una de las mayores universidades públicas de Brasil. Se analizaron variaciones en el Índice de Masa Corporal (IMC) y factores asociados mediante regresión lineal multivariada. Se identificó una prevalencia de exceso de peso del 31%, con aumentos de IMC entre +0,30 y +14,20 kg/m². El principal factor asociado fue la reducción de la actividad física, independientemente de la frecuencia de ejercicio. La obesidad preexistente, la percepción distorsionada de la imagen corporal y la menor satisfacción corporal también se asociaron con el aumento de peso.

Palabras clave: Estudiantes, COVID-19, Obesidad, Ejercicio Físico, Imagen Corporal, Conducta Sedentaria