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Analysis of eating behavior and biopsychosocial aspects in working men

Análise do comportamento alimentar e aspectos biopsicossociais de homens trabalhadores

Abstract

Introduction: Individuals spend a large portion of their day engaged in work activities. Pressure and stress are common in the workplace, and these factors may impact health and eating behavior. **Objective:** To analyze the eating behavior of working men and its possible association with stress, nutritional status, socioeconomic status, and physical activity level. **Methods:** A cross-sectional study was conducted with 104 working men who completed questionnaires on sociodemographic characteristics, eating behavior using the Three-Factor Eating Questionnaire-21 (TFEQ-21), perceived stress using the Perceived Stress Scale (PSS-4), and physical activity using the International Physical Activity Questionnaire (IPAQ). **Results:** The median age of participants was 31 years (IQR 27.0–40.8), and 51 (49%) were classified as overweight. Most participants were considered physically active according to the IPAQ. The median PSS-4 score was 6.0 (IQR 4.0–9.0), suggesting low levels of perceived stress. In the TFEQ-21, the median score was 38.9 (27.8–55.6), with higher values observed in the cognitive restraint dimension compared with the other dimensions. Emotional eating showed a significant positive correlation with uncontrolled eating ($r = 0.60$, $p < 0.001$) and perceived stress ($r = 0.365$, $p < 0.001$). Additional analyses revealed significant differences between groups who had followed a diet ($p < 0.001$) or received nutritional counseling ($p = 0.005$) and the cognitive restraint dimension. A significant difference was also observed between more physically active groups ($p < 0.001$) regarding cognitive restraint. **Conclusions:** Working men who reported emotional eating presented higher levels of stress and uncontrolled eating. Furthermore, those who had followed a diet or received nutritional counseling showed higher scores in the cognitive restraint dimension.

Keywords: Eating Behavior. Occupational Health Surveillance. Mental Health. Emotional Eating. Men.

Resumo

Introdução: Os indivíduos passam a maior parte do seu dia na atividade laboral. Pressão e estresse são comuns no ambiente de trabalho, e esses fatores podem impactar a saúde e o comportamento alimentar. **Objetivo:** Analisar o comportamento alimentar de homens trabalhadores e sua possível associação com o estresse, estado nutricional, estrato socioeconômico e nível

de atividade física. **Método:** Estudo transversal realizado com 104 homens trabalhadores, que responderam a questionários com dados sociodemográficos, comportamento alimentar - Three-Factor Eating Questionnaire-21 (TFEQ-21), escala de estresse percebido (PSS-4) e questionário internacional de atividade física (IPAQ). **Resultados:** A mediana de idade dos participantes foi de 31 anos (IQR 27,0-40,8) e 51 (49%) apresentaram sobrepeso. A maioria foi considerada ativa de acordo com o IPAQ. Na escala do PSS-4, a mediana foi de 6,0 (IQR 4,0-9,0), sugerindo baixo nível de estresse. No TFEQ-21, observou-se uma mediana 38,9 (27,8-55,6), maior na dimensão da restrição cognitiva em comparação com as outras dimensões. O comer emocional teve correlação significativa positiva com o descontrole alimentar ($r=0,60$, $p=0,000$) e com a escala de estresse percebido ($r=0,365$, $p=0,000$). Em análises adicionais, observou-se diferença significativa entre grupos que haviam realizado dieta ($p=0,000$) ou acompanhamento nutricional ($p=0,005$) e a dimensão de restrição alimentar. Também houve diferença significativa entre grupos mais ativos ($p=0,000$) em relação à restrição alimentar. **Conclusões:** Homens trabalhadores que relataram comer emocional apresentaram níveis mais altos de estresse e descontrole alimentar. Além disso, aqueles que fizeram dieta ou acompanhamento nutricional tiveram pontuações mais elevadas na dimensão de restrição cognitiva.

Palavras-chave: Comportamento alimentar. Vigilância em saúde do trabalhador. Saúde mental. Alimentação emocional. Homens.

INTRODUCTION

Individuals spend a large portion of their day engaged in work activities, which require a satisfactory and harmonious environment, as this directly influences workers' behavior and development.^{1,2} In this context, understanding the social, cultural, and moral factors that influence the physical and mental health of working men becomes essential for promoting quality of life and work performance. This approach is fundamental for the development of more effective health policies that address the specific needs of men.^{1,3,4}

Pressure and stress are common problems in the workplace and, when persistent, may compromise workers' physical and emotional health.^{4,5} It is noteworthy that men, compared with women, tend to show greater resistance to seeking medical care or professional support related to their own health.⁶

Stress is a physiological response of the body to certain stimuli, triggering a cascade of reactions, including the release of hormones that act on the central nervous system and may contribute to the development of several diseases.^{7,8} Among the impacts of stress, its effects on eating behavior and the risk of obesity stand out. Health indicators show that although obesity is more frequent among men with higher income, its incidence has been increasing across all socioeconomic strata.⁹

Symptoms such as anxiety and depression, often associated with stress, may lead to excessive consumption of high-calorie foods, affecting well-being and contributing to changes in eating behavior.¹⁰⁻¹² This behavior is influenced by intrinsic and extrinsic factors and is shaped by the environment in which individuals are embedded.^{13,14}

An individual's behavior is directly related to the environment in which they live, which influences food choices through both intrinsic and extrinsic factors.^{12,13} Decisions such as when and where to eat, the type and amount of food consumed, as well as the moment of stopping food intake, are all components of what is defined as eating behavior.

Hunger, satiety, and energy balance are regulated by a neuroendocrine system located in the hypothalamus, which operates through both homeostatic and hedonic mechanisms. Homeostatic regulation maintains the body's energy balance by adjusting appetite according to physiological needs, whereas hedonic regulation is guided by sensory stimuli such as smell, taste, and appearance, taking into account environmental context, social relationships, and other interactions surrounding individuals. Therefore, environmental, cognitive, and biological factors are integral components of human eating behavior.¹⁵

Individuals with obesity may present alterations in eating behavior, often influenced by factors such as weight stigma, body image, and psychological issues. Changes in these patterns require understanding the influences and motivations that drive these choices and identifying potential modifications according to the individualized context of each person.^{14,16,17} However, changes in dietary habits and lifestyle may become more difficult in the presence of factors such as stress, which can lead to negative health consequences.¹⁸

One such behavior is cognitive restraint, characterized by defining certain foods as forbidden and imposing rigid rules to maintain or reduce body weight. However, in situations of stress, exposure to restricted foods, or negative emotional stimuli, individuals often experience episodes of overeating.¹⁵

Another example is emotional eating, which refers to a response to experienced emotions—whether negative or positive—using food as a strategy to cope with them. This process may disrupt the hormonal mechanisms regulating hunger and satiety, potentially leading to a positive energy balance.¹⁸⁻²⁰ In this context, stress may act as a trigger for this type of behavior.¹⁵

Loss of control over eating may also occur when individuals consume excessive amounts of food even in the absence of hunger, driven by sensory stimuli or the mere presence of certain foods, which may contribute to increased body weight.¹⁵

In this context, it is hypothesized that stress may be associated with changes in the eating behavior of men with obesity. To better understand these possible relationships, it is essential to explore the psychological aspects involved in eating behavior, since it is influenced by cognitive, affective, and behavioral factors.²¹⁻²³ Thus, the present study aimed to analyze the association between eating behavior in men and factors such as stress, nutritional status, socioeconomic status, and physical activity level.

METHODS

Study design and sample

This was a cross-sectional study conducted with 104 adult male participants aged ≥ 18 years who were engaged in regular employment and provided written informed consent (Free and Informed Consent Form – FICF).

A non-probabilistic convenience sampling approach was used, as participation was voluntary and participants were included according to their adherence to the study invitation. The recruitment strategy consisted of disseminating the study through social media platforms (Instagram, WhatsApp, and Facebook) and through institutional and professional email invitations obtained via prior contact with companies, public and private institutions, as well as academic and professional networks in the fields of health and education.

Participants worked in different occupational sectors, including administrative services, education, healthcare, logistics, and commerce, performing roles such as technicians, teachers, administrative assistants, health agents, among others.

The inclusion criteria were: being male, aged 18 years or older, currently engaged in regular employment at the time of data collection, agreeing to participate in the study by signing the informed consent form, and completing the entire questionnaire. Individuals were excluded if their questionnaires contained incomplete responses, inconsistent information, or substantial errors that could compromise the validity of the data provided.

Data Collection

Data collection took place between December 2022 and February 2023, exclusively online, through the REDCap® platform. This platform offers a high standard of security, access control, and confidentiality, meeting the requirements for the protection of sensitive data. The use of a virtual environment followed the recommendations of Circular Letter No. 1/2021 issued by the Brazilian National Research Ethics Commission (CONEP), which provides guidance on research involving remote data collection. Anonymity, confidentiality of the information, and the possibility of withdrawing from the study at any time were guaranteed, as established in the electronic Informed Consent Form.

The questionnaire consisted of sociodemographic characterization data (age, education level, income, and state of residence). Anthropometric data on body weight and height were self-reported by the participants. Based on these data, body mass index (BMI) was calculated using the formula $\text{weight}/\text{height}^2$ and classified according to the criteria of the World Health Organization (WHO).²³ Data related to occupational

characteristics (occupation and working hours) were also collected, as well as information related to health conditions (diagnosis of psychiatric disorders, nutritional counseling, and dieting).

Eating behavior dimensions were assessed using the Three-Factor Eating Questionnaire (TFEQ-R21),¹⁵ a version translated, adapted, and validated for the Brazilian population. The questionnaire is divided into three domains: cognitive restraint (characterized by a reduction in food intake through the imposition of dietary rules and restrictions aimed at weight loss), emotional eating (characterized by the influence of emotions on food choice and consumption), and uncontrolled eating (characterized by excessive food consumption with or without the presence of hunger). Questions 1 to 20 have response options ranging up to 4 points, while question 21 ranges up to 8 points. The mean score for each dimension was calculated and transformed into a scale ranging from 0 to 100 points.

The Perceived Stress Scale (PSS-4),²⁴ known as the Perceived Stress Scale, was used to measure the degree to which individuals perceive everyday situations as stressful. Although the original questionnaire²⁵ consists of 14 items, this study used the reduced and validated version composed of four items.²⁴ These items were answered using a five-point Likert scale ranging from 0 (never) to 4 (always), resulting in a final score between 0 and 16 points. Following the proposal of the original version, the items were divided into positive aspects (items 6 and 7) and negative aspects (items 2 and 14). Higher scores indicate higher levels of perceived stress among individuals.

Data regarding physical activity and sedentary time were collected using the short version validated for Brazil of the International Physical Activity Questionnaire (IPAQ).²⁶ This questionnaire consists of questions covering the frequency and duration of physical activities performed during the week, including weekends. Participants were stratified into five categories: "very active," "active," "irregularly active A," "irregularly active B," and "sedentary," according to the time dedicated to physical activity. This stratification allows a more precise analysis of participants' physical activity levels and their classification according to the standards established by the IPAQ questionnaire.

Statistical analysis

The sample size was calculated to detect correlations between perceived stress and emotional eating behavior ($r = 0.37$), and between cognitive restraint behavior and body weight ($r = 0.37$), as reported by Penaforte et al.²⁷ With a significance level of 5%, statistical power of 80%, and an additional 20% added for multivariate analyses, the estimated sample size was 62 participants. The calculation was performed using the G*Power® software version 3.1.9.2.

Data normality was assessed using the Kolmogorov–Smirnov test. As none of the variables showed a normal distribution, the Mann–Whitney test and the Kruskal–Wallis test with Bonferroni correction for multiple comparisons were used for group comparisons. Correlations between quantitative variables were assessed using the Spearman correlation coefficient test. The level of significance adopted was 0.05 ($p < 0.05$). Statistical analyses were performed using the SPSS statistical software (IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.).

Ethical aspects

The study was conducted in accordance with the recommendations of the international guidelines for Good Clinical Practice (GCP), the document *Buenas Prácticas Clínicas: Documento de las Américas*, as well as

the updated version of the Declaration of Helsinki. It also complied with the current Brazilian regulations, particularly National Health Council Resolution No. 466/2012 and its complementary provisions. The project was approved by the Research Ethics Committee of the Federal University of Health Sciences of Porto Alegre (CEP/UFCSPA) under CAAE No. 61966222.1.0000.5345. All participants were duly informed about the objectives, risks, and benefits of the study and signed the Free and Informed Consent Form (FICF).

RESULTS

The study initially included 161 men; however, 57 participants were excluded from the sample due to incorrect or incomplete responses. Therefore, the final study sample consisted of 104 participants.

Regarding participants' characteristics, the median age was 31 years (interquartile range 27.0–40.8), and most of the sample, 82.7% (n = 86), were from the state of Rio Grande do Sul. The predominant profile consisted of participants with a completed higher education degree, working daytime schedules, and a workload of 40 to 44 hours per week. At the time of data collection, 87.5% (n = 91) of the participants were not receiving nutritional counseling; however, 51% (n = 53) reported having followed some type of diet, as shown in Table 1.

Table 1. Sociodemographic and health characteristics of working men (N = 104). Brazil, December 2022 to February 2023.

Variables	Statistical description
Age (years)	31,0 (27,0-40,8) ^a
Per capita income (R\$)	5.000 (3.350-10.000) ^a
Education level – n (%)	
Completed high school	6 (5,8%)
Incomplete higher education	14 (13,4%)
Completed higher education	63 (60,6%)
Master's and PhD degree	21 (20,2%)
Work shift – n (%)	
Morning	3 (2,9%)
Afternoon	4 (3,8%)
Night	3 (2,9%)
Morning/afternoon	86 (82,7%)
Afternoon/night	8 (7,7%)
Weekly workload– n (%)	
20 to 30 hours per week	13 (12,5%)
40 to 44 hours per week	81 (77,9%)
More than 44 hours per week	10 (9,6%)
More than one job – n (%)	
No	83 (79,8%)
Yes	21 (20,2%)
Diagnosis of a psychiatric disorder - n (%)	
No	86 (82,7%)
Yes	18 (17,3%)
Psychological counseling - n (%)	
Yes	21 (20,2%)
No	83 (79,8%)

Table 1. Sociodemographic and health characteristics of working men (N = 104). Brazil, December 2022 to February 2023.

Variables	Statistical description
Nutritional counseling- n (%)	
Yes	13 (12,5%)
No	91 (87,5%)
Previous dietin- n (%)	
Yes	53 (51,0%)
No	51 (49,0%)

Note: ^a Data are presented as median and interquartile range; counts are presented with frequencies. R\$ = Brazilian Real (BRL), the official currency of Brazil.

The prevalence of overweight was 49% (n = 51) in the studied sample, and most individuals, 37.5% (n = 39), presented higher levels of physical activity, being classified as active, as shown in Table 2.

Table 2. Quantitative variables of weight, height, and BMI and the dimensions of eating behavior, perceived stress, and physical activity level among working men (N = 104). Brazil, December 2022 to February 2023.

Variables	Statistical description
Weight (kg)	82,0 (73,3-92,8) ^a
Height (cm)	177,0 (171,0-180,0) ^a
BMI (kg/m ²) – n (%)	
Normal weight	33 (31,7%)
Overweight	51 (49%)
Obesity	20 (19,2%)
Eating behavior (TFEQ-R21)	
Emotional eating	27,8 (5,6-54,2) ^{ab}
Cognitive restraint	38,9 (27,8-55,6) ^{ab}
Uncontrolled eating	29,60 (18,5-50,9) ^{ab}
Perceived stress (PSS-4)	6,0 (4,0-9,0) ^{ac}
Physical activity level (IPAQ) – n (%)	
Very active	33 (31,7%)
Active	39 (37,5%)
Irregularly active A	12 (11,5%)
Irregularly active B	15 (14,4%)
Sedentary	5 (4,8%)

Note:^a Data presented as median and interquartile range; counts presented as frequencies.

^b TFEQ-R21 = Three-Factor Eating Questionnaire, scores ranging from 0 to 100 points.

^c PSS-4 = Perceived Stress Scale, scores ranging from 0 to 16 points.

BMI = Body Mass Index; IPAQ = International Physical Activity Questionnaire.

In the analysis of the PSS-4, a median score of 6.0 (interquartile range 4.0–9.0) was observed, suggesting a low level of stress, as shown in Table 2. This questionnaire uses a scale ranging from 0 to 16 points, in which scores closer to 16 indicate higher levels of stress.

Regarding the TFEQ-21 (Three-Factor Eating Questionnaire – 21 items), it was observed that men presented a higher median score in the cognitive restraint dimension compared with the other dimensions. The median value was 38.9 (interquartile range 27.8–55.6) on a scale ranging from 0 to 100 points (Table 2).

As shown in Table 3, emotional eating presented a significant positive correlation with uncontrolled eating ($r = 0.60$, $p < 0.01$) and with perceived stress ($r = 0.365$, $p < 0.01$), indicating that higher scores in emotional eating were associated with higher scores in uncontrolled eating and perceived stress. In addition, an inverse correlation was observed between income and stress ($r = -0.259$, $p < 0.01$), indicating that higher income was associated with lower stress scores.

Table 3. Association between social variables, nutritional status, eating behavior dimensions, and perceived stress among working men (N = 104). Brazil, December 2022 to February 2023.

	Emotional Eating (ρ ; p)	Cognitive Restrain (ρ ; p)	Uncontrolled Eating (ρ ; p)	PSS-4 (ρ ; p)
Age	-0,077; 0,440	0,098; 0,323	-0,036; 0,720	-0,052; 0,597
BMI	0,157; 0,111	0,182; 0,065	0,173; 0,078	-0,103; 0,296
<i>Per capita</i> income	-0,084; 0,398	0,188; 0,056	-0,090; 0,363	-0,259; 0,008^a
Emotional eating	-	0,165; 0,094	0,600; 0,000^a	0,365; 0,000^a
Cognitive restraint	-	-	-0,013; 0,897	-0,039; 0,695
Uncontrolled eating	-	-	-	0,171; 0,083

Note:^a p-value < 0.05 was considered statistically significant according to the Spearman correlation coefficient test. ρ = Spearman's rank correlation coefficient; BMI = Body Mass Index; PSS-4 = Perceived Stress Scale.

In Table 4, which presents the multiple comparison analyses, a significant difference was observed between the group receiving nutritional counseling ($p = 0.005$) and the group that had previously followed some type of diet ($p < 0.01$) in relation to the cognitive restraint dimension. This finding indicates that both individuals currently receiving nutritional counseling and those who had previously followed a diet tend to present higher cognitive restraint scores.

Considering the levels of physical activity, a significant difference ($p < 0.01$) was observed between the more active group and cognitive restraint, indicating that the more active the individual, the higher the level of cognitive restraint. Likewise, a significant difference ($p = 0.033$) was observed between physical activity and stress; however, it was not possible to determine in which physical activity classification this difference occurs.

Table 4. Multiple comparisons between health and social variables and physical activity level with eating behavior dimensions and perceived stress among working men (N = 104).
Brazil, December 2022 to February 2023.

		Emotional Eating - Median (IQR)	P- value	Cognitive Restraint- Median (IQR)	P- value	Uncontrolled Eating - Median (IQR)	P- value	PSS-4 - Median (IQR)	P- value
BMI	Normal weight	22,22 (5,56-38,89)	0,332	33,33 (16,67-50,00)	0,199	29,63 (18,52-48,15)	0,106	8 (5,00-10,00)	0,103
	Overweight	27,78 (5,56-55,56)		44,44 (27,78-55,56)		29,63 (18,52-48,15)		6 (4,00-8,00)	
	Obesity	38,89 (8,33-61,11)		38,89 (33,33-55,56)		43,06 (29,63-55,56)		6,5 (5,00-8,00)	
Psychiatric disorder	Yes	25 (11,11-44,44)	0,704	41,67 (27,78-50,00)	0,512	33,33 (22,22-48,15)	0,976	8 (6,00-9,00)	0,088
	No	27,78 (5,56-55,56)		38,89 (27,78-55,56)		29,63 (18,52-51,85)		6 (4,00-8,00)	
Psychological counseling	Yes	38,89 (11,11-61,11)	0,061	44,44 (38,89-55,56)	0,11	29,63 (22,22-40,74)	0,758	7 (4,00-9,00)	0,312
	No	22,22 (5,56-44,44)		33,33 (27,78-55,56)		29,63 (18,52-51,85)		6 (4,00-9,00)	
Nutritional counseling	Yes	44,44 (27,78-60,00)	0,087	50 (44,44-66,67)	0,005 ^a	40,74 (25,93-44,44)	0,615	6 (4,00-7,00)	0,411
	No	22,22 (5,56-44,44)		33,33 (27,78-55,56)		29,63 (18,52-51,85)		6 (4,00-9,00)	
History of dieting	Yes	33,33 (11,11-61,11)	0,094	50 (33,33-61,11)	0,000 ^a	37,04 (18,52-48,15)	0,472	6 (5,00-8,00)	0,743
	No	22,22 (5,56-44,44)		33,33 (16,67-44,44)		29,63 (22,22-51,85)		6 (4,00-9,00)	
Physical activity level (IPAQ)	Very active	16,67 (5,56-38,89)	0,113	55,56 (44,44-61,11)	0,000 ^a	29,63 (18,52-44,44)	0,324	6 (4,00-8,00)	0,033 ^a
	Active	38,89 (11,11-61,11)		44,44 (33,33-55,56)		29,63 (22,22-51,85)		8 (5,00-9,00)	
	Irregularly active A	33,33 (22,22-66,67)		19,44 (11,11-41,67)		48,15 (27,78-57,41)		7,5 (5,50-10,50)	
	Irregularly active B	22,22 (5,56-38,89)		33,33 (16,67-38,89)		29,63 (22,22-44,44)		6 (4,00-7,00)	
	Sedentary	5,56 (5,56-38,89)		22,22 (11,11-22,22)		44,44 (18,52-70,37)		6 (4,00-6,00)	

Note: Data are presented as median and interquartile range; ^ap-value < 0.05 was considered statistically significant according to the Mann–Whitney test and the Kruskal–Wallis test with Bonferroni correction; BMI = Body Mass Index.; PSS-4 = *Perceived Stress*.

DISCUSSION

The present study aimed to investigate the eating behavior of working men by analyzing the dimensions of emotional eating, uncontrolled eating, and cognitive restraint, as well as their possible association with stress, nutritional status, socioeconomic status, and physical activity level. The results showed a significant correlation between emotional eating, uncontrolled eating, and the perceived stress scale, highlighting a relationship between these factors in the context of the eating behavior of the working men studied. These findings are consistent with previous studies that also identified these associations,²⁸⁻³¹ demonstrating that higher scores in emotional eating are associated with greater uncontrolled eating and higher perceived stress. Thus, the results of this study add important information for a better understanding of the eating behavior of working men, contributing both to the body of knowledge in the field of eating behavior and to the implementation of actions addressing this topic within the workplace environment. These findings suggest the importance of measures aimed at promoting healthier practices in the workplace, with the goal of improving workers' well-being and health.

This connection can be explained by the fact that emotional eating often occurs as a way of coping with emotional stress, which may lead to less healthy food choices and uncontrolled eating.³² It is important to emphasize that deficits in emotional regulation skills have been identified as major predictors of the onset and maintenance of emotional eating.³³ Food craving represents a form of reward seeking for pleasure and mood improvement, regulated by appetite. Within this system, motivations arise to seek rewards, and external stimuli such as stress may contribute to triggering these motivations.³⁴

Individuals often use emotional eating to cope with stress, resulting in less healthy eating patterns and consequently weight gain. This occurs because individuals under stress tend to have lower ability to make appropriate food choices, which in turn compromises diet quality and leads to excessive food consumption.^{32,35,36} In a study conducted by Barcin-Güzeldere³⁷ during the COVID-19 pandemic, weight gain was found to be associated with emotional eating behavior, although such an association was not identified in the present study. In addition, it is noteworthy that no direct association between body weight and stress was found, which is also consistent with the findings observed in the present study.

According to the findings of Tan et al.,³⁰ eating dysregulation, which refers to an individual's inability to adequately recognize internal signals of hunger and satiety, may act as a mediator in the relationship between stress and emotional eating. The higher the level of stress, the lower the individual's ability to differentiate between emotional arousal and hunger signals. The search for specific foods as a way to regulate emotions and find comfort may become an automatic eating behavior over time. This pattern may contribute to the development of eating disorders and may eventually lead to weight gain and obesity.^{23,30,34} These data suggest the importance of directing attention to health promotion and specific interventions for working men, with emphasis on mental health as an integral part of strategies to promote healthier eating habits.

Furthermore, in the present study, an inverse correlation was observed between income and perceived stress. As participants' income increased, a reduction in perceived stress scores was observed. This relationship may be attributed to socioeconomic factors, such as access to resources and working conditions, which may influence the perception of stress. Individuals with higher income often experience greater financial stability, better working conditions, and access to resources that facilitate coping with stressful situations more effectively, which is reflected in lower scores on the stress scale.³⁸⁻⁴⁰ These findings suggest the relevance of considering socioeconomic aspects when addressing issues related to stress and highlight the importance of interventions aimed at improving living and working conditions in the general population.

Regarding levels of physical activity, it was observed that more active individuals presented higher scores in the cognitive restraint dimension of the TFEQ-21, indicating a tendency toward greater dietary restraint. Supporting our findings, other studies have also identified higher mean scores in the dietary restraint dimension associated with regular physical activity, in which physically active individuals presented higher scores in the cognitive restraint domain.^{18,35} In a study involving individuals using weight-related self-monitoring applications focused on physical activity and diet, a greater propensity for the development of disordered weight control behaviors was observed,⁴¹ demonstrating that cognitive restraint is part of this context of disordered weight control. However, in the relationship between physical activity and stress, although a significant difference was identified, it was not possible to determine in which category of physical activity this difference occurred.

The score in the cognitive restraint dimension was higher in the group of individuals receiving nutritional counseling and in those who had previously followed some type of diet. This indicates that seeking nutritional guidance and prior experience with dieting may be associated with greater cognitive restraint in eating behavior. With regard to cognitive restraint, it is known that restrictive diets are often imposed with the intention of weight loss as a strategy for body weight reduction,^{42,43} leading to reduced energy intake to control body weight or even to improve body image perception, which corroborates our findings regarding the significant difference between dieting and nutritional counseling in relation to cognitive restraint.

However, this state of restriction may often lead to loss of control over eating and alternation between periods of restriction and episodes of uncontrolled eating, connecting the three dimensions of eating behavior.³⁵ This may explain our findings that although more than half of the sample reported following some type of diet, they were still classified as overweight.

It is important to emphasize that a balanced diet under the guidance of a qualified nutrition professional, prioritizing healthy and individualized dietary patterns while considering the patient's habits, is essential for achieving and maintaining adequate weight, as it facilitates adherence to treatment. This differs from restrictive diets that promise rapid weight loss without considering the individual characteristics of the patient.¹⁵

Among the limitations of this study, it is important to consider that this is a cross-sectional study, which prevents the assessment of cause-and-effect relationships. Furthermore, another aspect to consider is that the questionnaires were self-reported by the participants and administered online. However, measures were taken to ensure security and minimize bias in the methodological procedures, such as the use of the STROBE guidelines.⁴⁴ In addition, the scarcity of studies that have specifically investigated eating behavior among the male population suggests the need for future research in this area.

CONCLUSION

These findings reveal that working men with higher levels of stress present a greater propensity for emotional eating and uncontrolled eating. In addition, it was observed that those who had previously followed some type of diet or received guidance from a nutritionist showed higher scores in the cognitive restraint dimension.

These findings highlight the need to direct attention to the health of working men, with the aim of preventing potential future problems such as eating disorders and obesity. Interventions aimed at promoting healthy eating practices and stress management are important both in the workplace and in broader

contexts, in order to improve workers' well-being and health and to reduce costs associated with health problems related to diet and stress.

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Contributors

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