CLINICAL NUTRITION
DOI: 10.12957/demetra.2024.76446

DEMETRA
Alimentação, Nutrição & Saúde

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This study originated from the Master's dissertation entitled "The repercussions of social isolation during the COVID-19 pandemic on eating behavior and alcohol consumption in individuals with eating disorders: comparative study," authored by Shauana Rodrigues Silva Soares and supervised by Rosane Pilot Pessa, presented in May 2023 at the Escola de Enfermagem de Ribeirão Preto, Programa de Pós-Graduação Enfermagem em Saúde Pública, Universidade de São Paulo.

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Impacts of Covid-19 on weight change perception and body satisfaction: a comparison between women with and without eating disorders

Repercussões da Covid-19 na percepção de mudanças de peso e satisfação corporal: comparação entre mulheres com e sem transtornos alimentares

Abstract

Introduction: The Covid-19 pandemic led to various consequences for people's mental and physical health. The context of social isolation exacerbated problems related to body image, especially in individuals with eating disorders. Objective: To analyze the repercussions of Covid-19 on anthropometric variables regarding weight perception and body satisfaction, comparing women with eating disorders to those without this condition. Methods: Observational, descriptive, comparative, and cross-sectional study. Women with eating disorders in treatment (EDG) were recruited from five services in the South and Southeast regions of Brazil. The counterpart, the control group (CG), consisted of women without eating disorders recruited online and with a negative score on the EAT-26 test. Online questionnaires were applied between June 2020 and January 2021. Statistical analyses included Pearson's Chi-square or Fisher's Exact test and logistic regressions, performed using the SPSS 23.0 program. Results: Participants were 174 young women (31.94±9.35 years of age), with higher education (71.3%) and with a partner (61.5%), who were in social isolation. The EDG consisted of 58 women, with116 in the CG. The majority (55.2%) of the EDG noticed an increase in body weight while being dissatisfied with body image (81.0%), a statistically different result from the CG. The association between women with eating disorders and low body satisfaction was significant (p=.0010). Those in social isolation and overweight or obese were more likely to perceive weight gain. Conclusion: The Covid-19 pandemic intensified body dissatisfaction, especially among women with eating disorders. Those in isolation who were overweight or obese perceived more weight gain, indicating the need for intervention strategies for these groups.

Keywords: Covid-19. Social Isolation. Feeding and Eating Disorders. Body Dissatisfaction.

Resumo

Introdução: A pandemia da Covid-19 trouxe consequências diversas para a saúde mental e física das pessoas. O contexto de isolamento social potencializou problemas relacionados à imagem corporal, principalmente em pessoas com

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transtornos alimentares. **Objetivo:** *Analisar as repercussões da Covid-19 em variáveis antropométricas em relação a percepção de peso e satisfação corporal, comparando mulheres com transtornos alimentares e aquelas sem essa condição.* **Métodos:** *Estudo observacional, descritivo, comparativo e transversal. Mulheres com transtornos alimentares em tratamento (GTA) foram recrutadas de cinco serviços nas regiões Sul e Sudeste. A contrapartida, o grupo controle (GCO) foi composto por mulheres sem TA, recrutadas on-line e com o escore negativo no teste EAT-26. Questionários on-line foram aplicados entre junho de 2020 e janeiro de 2021. Análises estatísticas incluíram Qui-quadrado de Pearson ou Exato de Fisher e regressões logísticas pelo SPSS 23.0.* **Resultados:** *Participaram 174 mulheres jovens (31,94±9,35 anos), com formação superior (71,3%) e companheiro (61,5%), que estavam em isolamento social. O GTA foi composto por 58 mulheres e GCO, 116. A maioria (55,2%) do GTA notou aumento do peso corporal, enquanto se mostrou pouco satisfeita com a imagem corporal (81%), resultado diferente estatisticamente do GCO. A associação entre mulheres com TA e pouca satisfação corporal foi significativa (p=0,0010). Aquelas em isolamento social e com sobrepeso ou obesidade tiveram maior probabilidade de percepção de aumento de peso.* **Conclusão:** *A pandemia da Covid-19 intensificou a insatisfação corporal, principalmente entre mulheres com transtornos alimentares. Aquelas em isolamento com sobrepeso ou obesidade perceberam mais aumento de peso, apontando a necessidade de estratégias de intervenção para esses grupos.*

Palavras-chave: *Covid-19. Isolamento Social. Transtornos da Alimentação e da Ingestão de Alimentos. Insatisfação Corporal.*

INTRODUCTION

The COVID-19 pandemic can be considered the most significant global public health emergency, with political, economic, and psychosocial repercussions, and with national and international efforts mobilized to contain its expansion.[1-3] As a result of the changes in daily life facing this serious and immediate situation, studies indicate an increase in stress levels and suggest that groups more vulnerable to the effects of the pandemic could suffer greater impacts on overall health, including those with eating disorders (EDs).[4,5]

Eating disorders are psychiatric conditions characterized by dysfunctional alterations related to eating, which can result in the worsening of physical and psychological health. Regarding the clinical presentation, the characteristics are described in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), following criteria established in a scheme of mutually exclusive classification. It is important to note that, despite sharing some psychological and behavioral aspects, EDs have significant differences in terms of clinical course, outcome, and treatment needs.[6]

During social isolation, a study found that 26.5% of participants showed possible signs of EDs, as well as more severe symptoms of depression, anxiety, and lower scores in psychological well-being.[7] The literature suggests that, compared to time points before the pandemic, individuals with EDs experienced an increase in symptom frequency, such as food restriction, compensatory behaviors (self-induced vomiting and excessive exercise), intensified concern about weight and body shape, body image distortion, as well as psychological comorbidities such as anxiety and depression, resulting in increased hospital admissions related to disease complications.[8,9]

Furthermore, it is suggested that young adult individuals, predominantly female and diagnosed with Anorexia Nervosa(AN), Bulimia Nervosa (BN), Eating Disorder Not Otherwise Specified(EDNOS), or Binge Eating Disorder(BED), experienced a significant decrease in BMI when comparing pre and post-home confinement periods,[10] as well as a significant increase in body dissatisfaction during the initial stages of COVID-19 social isolation, compared to the previous period.[11] There was a worsening of quality of life and increased fear of weight gain in patients with AN,[12] as well as for a sample with BN, which reported the development of new symptoms and increased concerns about weight, shape, and body dissatisfaction.[13]

In the general population, body changes were also observed during the same period, and national studies indicate that factors such as younger age, male sex, and being previously overweight were associated with the risk of weight gain or loss.[14] Regarding body image, a study with a sample of adolescents showed that dissatisfaction was reported by 79.7% of participants, with the association between this dissatisfaction and the identification of ED symptoms being significant, especially among women.[15] It is also suggested that schoolchildren with a mean age of 13 years and mostly female, dissatisfied with body image, with physical activity less than 180 minutes per week, and who reported less practice during the pandemic, were more likely to increase body weight during periods of social isolation.[16]

There is no data in Brazil on anthropometric and body image changes that occurred during the pandemic in people with EDs. Therefore, the present study aimed to investigate the repercussions of social isolation caused by the Covid-19 pandemic on anthropometric variables, weight perception, and body satisfaction in individuals with these mental disorders and in the general population. It is hypothesized that the Covid-19 pandemic had a more detrimental impact on individuals with EDs than on those without this diagnosis. Therefore, this study aimed to investigate the perception of weight change and body satisfaction in women with eating disorders and those without this clinical condition.

METHODS

This study is part of a Master's dissertation that aimed to investigate the repercussions of social isolation caused by the COVID-19 pandemic on eating behavior and alcohol consumption in individuals with and without EDs. Two distinct groups were established: the Eating Disorder Group (EDG) and the Control Group (CG). The purpose of the CG was to serve as a comparative parameter, allowing the determination of whether the observed changes are specific characteristics of individuals with EDs or general trends in the population during the pandemic. Quantitative, observational, descriptive, comparative, and cross-sectional methodology was employed.

During the selection and recruitment phase for the EDG, 28 specialized ED services in the country were contacted to seek indications of patients in outpatient treatment during the Covid-19 pandemic. However, only five of these services (17.8%) effectively collaborated: three located in the Southeast Region and two in the South. Candidates for participation in this group were then individually invited via email and WhatsApp, reaching a total of 58 members for the EDG.

For the CG, the recruitment strategy involved promoting the study on social media platforms such as Facebook, Instagram, and WhatsApp, where a link to access the questionnaire was provided. Of these, 1,065 individuals started the questionnaire, however, only 515 (48.4%) completed it in full. Due to the discrepancy in the initial sample size between the two groups, a matching based on gender, age (allowing a difference of up to two years), and body mass index (BMI, with a permitted difference of up to four units) was opted for, established at a ratio of two members of the CG for each member of the EDG, resulting in a total of 116 members for the CG. The 2:1 matching was adopted to optimize sample variability, minimizing the chances of random results.

For the selection of members of the two groups, the inclusion criteria established were: having electronic devices with internet access and being available for participation, regardless of age, gender, nutritional status, and level of education. Individuals who identified themselves as pregnant or having any type of physical and/or cognitive disability were withdrawn. Specifically for the CG, those who scored less than 21 points in the Eating Attitudes Test (EAT-26),[17] used as a screening tool for the identification of possible cases of EDs, were included. Furthermore, in the data collection instrument, the question "Do you have a diagnosis of any eating disorder?" was presented with the response options "yes (specify)", "no", and "don't know", where the CG participants reported not having any ED.

Participants accessed the survey via a link to the Survey Monkey platform. The initial page presented the project, followed by the consent form for reading and acceptance. For minors, access was redirected to request details from parents or guardians. After obtaining their consent, adolescents were directed to the assent form and the complete questionnaires. All participants had the option to download the document signed by the researchers, or if they preferred, could request a printed version sent by mail.

Data collection took place between June 2020 and January 2021, using online questionnaires covering: a) sociodemographic and anthropometric data; b) the social isolation situation; and c) weight perception and body satisfaction. The questionnaires, constructed by the researchers, consisted of closed, multiple-choice questions addressing age, gender, marital status, level of education, origin, occupation, average family income, weight, and height.

Self-perception of weight was assessed through the question "How do you perceive your current weight?", which had four possible responses: "decreased", "increased", "remained the same", and "don't know". Body satisfaction was measured by the question "How satisfied do you feel with your body?". Response options were: "dissatisfied", "satisfied", "very satisfied", "neither satisfied nor dissatisfied", and "don't know". To

assess adherence to social isolation, the participants were asked "Are you in social isolation?", with response options "no" and "yes".

The collection resulted in data organized and processed through the Microsoft Excel 365 platform, translated into values comprising mean, standard deviation, extreme values, simple frequency, and percentage using the SPSS, version 23.0software. Subsequently, associations between variables were analyzed, using Pearson's Chi-Square and Fisher's Exact tests. Following this, logistic regression was chosen because it is suitable for predicting the outcome of a binary categorical variable from independent variables. Accordingly, the variables were inserted into the multinomial model using the hierarchical method, considering the theoretical importance of each element to ensure that the most relevant independent variables for the study were duly considered (EDG and CG group, age, BMI, marital status, education, and social isolation). The efficacy of the proposed adjustment model was evaluated through the adjusted R^2 coefficient, a metric that provides an understanding of the amount of variability, ensuring reliability when incorporating a significant number of predictors.

The variable "education" was categorized into high school and elementary education. Regarding average household income, values established by the Brazilian Association of Research Companies[18] were adopted, consolidating categories C2, D, and E into a single group. Determination of participants' nutritional status was based on BMI, with criteria varying according to age group. For adolescents aged 12 to 17 years, the percentile growth curve was considered.[19] For adults aged 18 to 59 years, the classification proposed by the World Health Organization was adopted.[20] For the older adults aged 60 to 65 years, the criteria established by Lipschitz[21] were applied.

The project was approved by the Ethics Committee for Research with Human Subjects (CAEE number: 33559820.3.0000.5393).

RESULTS

Upon accessing the contacts (email, telephone) of the patients, it was possible to invite the 145 potential members of the EDG, which, after repeated communication attempts, resulted in the full participation of 59 individuals. Additionally, it was necessary to exclude one participant for being the only male, therefore defining 58 women in this sample (EDG).

The participant recruitment procedure, according to the service, shows that the majority of the sample (*n*=36, 62.1%) received treatment for EDs through the Brazilian National Health System (*Sistema Único de Saúde*- SUS), with a mean treatment time of 32.4±34.4 months and wide variation (1 to 180 months). The most frequent diagnoses were AN (*n*=21, 36.2%), BN (*n*=16, 27.6%), EDNOS (*n*=14, 24.1%), and BED (*n*=7, 12.1%).

Regarding sociodemographic characteristics, most participants in both groups (EDG and CG) had a partner, were from the Southeast Region, and had a university education. When examined in detail using Pearson's Chi-Square test, statistically significant associations were found where being a participant in the EDG was associated with the Southern Region (x^2 (1)=13.92); not engaging in paid work (x^2 (1)=3.89); and inclination towards economic classifications grouped as C2, D, and E (x^2(4)=15.00). Regarding adherence to social isolation, most participants in both groups reported being in home confinement (EDG= 86.2%; CG= 87.1%) (Table 1).

Table 1. Sociodemographic and social isolation data for the EDG and CG groups. Ribeirão Preto, SP, 2022.

Variables	EDG (*n*=58) *n* (%)	CG (*n*= 116) *n* (%)	*p*-value
Age (years)[a] Minimum; Maximum	31.28 ± 8.81 14; 52	32.28 ± 9.63 16; 63	.5080
Marital status			*.1230*
Without partner	27 (46.6)	40 (34.5)	
With partner	31 (53.4)	76 (65.5)	
Region			.0010*
Southeast	42 (72.4)	108 (93.1) [b]	
South	16 (27.6) [b]	8 (6.9)	
Education			.2360
Elementary school	2 (3.4)	3 (2.6)	
High school	18 (31.0)	27 (23.3)	
Higher education	38 (65.5)	86 (74.1)	
Occupation			
Student			.6670
Yes	25 (43.1)	54 (46.6)	
No	33 (56.9)	62 (53.4)	
Engaged in a profession			.0490*
Yes	29 (50.0) [b]	76 (65.5)	
No	29 (50.0)	40 (34.5) [b]	
Economic class			.0050*
A	14 (24.1)	16 (13.8)	
B1	8 (13.8)	33 (28.4) [b]	
B2	14 (24.1)	37 (31.9) [b]	
C1	8 (13.8)	21 (18.1)	
C2; D and E	14 (24.1) [b]	9 (7.8)	
Social isolation			.8740
Yes	50 (86.2)	101 (87.1)	
No	8 (13.8)	15 (12.9)	

Source: Prepared by the author (2022).
[a] Mean ± standard deviation; [b] statistically significant residuals; * $p<.05$; EDG: Eating Disorder Group, CG: Control Group.

Considering nutritional status, it was observed that women belonging to the EDG were overweight, with 50% having excess weight (overweight or obesity). A similar situation was identified in the CG, where the mean BMI indicated overweight, and approximately half of the sample had excess weight. Regarding body satisfaction, applying Pearson's Chi-Square test, a statistically significant association was identified in the EDG, with its participants feeling somewhat dissatisfied with their bodies (p=81%; x^2 (3)=34.85) (Table 2).

Table 2. Anthropometric characteristics, perception of weight change, and body satisfaction of the groups (EDG and CG). Ribeirão Preto, SP, 2022

Variables	EDG (*n*=58) *n* (%)	CG (*n*= 116) *n* (%)	*p*-value
BMI (kg/m^2) [a]	26.97 ± 9.11	25.48 ± 6.46	.2267
Underweight	12 (20.7)	14 (12.1)	
Eutrophy	17 (29.3)	45 (38.8)	
Overweight	29 (50.0)	57 (49.1)	
Perception of body weight			.1530
Increased	32 (55.2)	48 (41.4)	
Decreased	06 (10.3)	20 (17.2)	
Remained the same	15 (25.9)	40 (34.5)	
Don't know	06 (8.6)	08 (6.9)	
Body satisfaction			.0010*
Very satisfied	01 (1.7)	07 (6.0)	
Satisfied	04 (6.9)	46 (39.7) [b]	
Neither satisfied nor dissatisfied	06 (10.3)	23 (19.8) [b]	
Dissatisfied	47 (81.0) [b]	40 (34.5)	

Source: Prepared by the author (2022).
[a] Mean ± standard deviation; [b] statistically significant residuals; * *p*< .05; EDG: Eating Disorder Group; CG: Control Group; BMI: Body Mass Index.

From the adjusted multinomial logistic regression model, which compared the variable perception of changes in body weight, and according to its coefficients, it is suggested that participants who were in social isolation (95% CI= 0.08; 2.32) and classified, according to their BMI, as having excess weight (overweight and obesity) (95% CI=0.33; 2.08) had 1.2 times more chances of noticing weight gain than those who were not confined and had normal BMI, (*p*=.0069; *p*=.0355respectively) (Table 3).

Table 3. Adjusted logistic regression model for the question: how do you perceive your current weight? (according to the response category 'remained the same'). Ribeirão Preto, SP, 2022.

Parameters	Beta	SE	*p*-value	OR (95%CI)
(Intercept): increased	-1.3008	0.9315	.1626	
(Intercept): decreased	-1.9292	1.2256	.1155	
EDG: increased	0.6314	0.4209	.1337	0.63 (-0.19; 1.46)
EDG: decreased	-0.1076	0.5819	.8533	-0.11 (-1.25; 1.03)
Age: increased	-0.0070	0.0240	.7698	-0.01 (-0.05; 0.04)
Age: decreased	0.0031	0.0302	.9188	0 (-0.06; 0.06)
BMI_Underweight: increased	-0.8830	0.6253	.1579	-0.88 (-2.11; 0.34)
BMI_Underweight: decreased	-1.1457	0.9004	.2032	-1.15 (-2.91; 0.62)
BMI_Overweight: increased	1.2029	0.4455	.0069*	1.20 (0.33; 2.08)
BMI_Overweight: decreased	0.2531	0.5497	.6452	0.25 (-0.82; 1.33)
Marital status_Without partner: increased	0.4129	0.4531	.3622	0.41 (-0.48; 1.30)
Marital status_Without partner: decreased	0.2614	0.5687	.6458	0.26 (-0.85; 1.38)
Education_High/Elementary: increased	0.2292	0.4930	.6419	0.23 (-0.74; 1.20)
Education_High/Elementary: decreased	-0.1202	0.6465	.8525	-0.12 (-1.39; 1.15)
Social isolation_Yes: increased	1.2027	0.5720	.0355*	1.20 (0.08; 2.32)
Social isolation_Yes: decreased	1.3102	0.8259	.1127	1.31 (-0.31; 2.93)

Source: Prepared by the author (2022).
* *p* < .05; EDG: Eating Disorder Group; BMI: Body Mass Index; SE: standard error; OR: odds ratio; CI: confidence interval.

Furthermore, for the variable "satisfaction with body image," and according to its coefficients, it is suggested that the EDG participants were 4.7 times more likely to report feeling somewhat dissatisfied (95% CI=1.65; 13.21) than the CG participants (*p*=.0037) (Table 4).

Table 4. Adjusted logistic regression model for the question: how satisfied do you feel with your body? (according to the response category 'neither satisfied nor dissatisfied'). Ribeirão Preto, SP, 2022.

Parameters	Beta	SE	*p*-value	OR (95% CI)
(Intercept): little satisfied	-0.8917	1.1638	.4436	
(Intercept): satisfied/ very satisfied	0.2621	1.1653	.8221	
EDG: little satisfied	1.5413	0.5306	.0037*	4.6706 (1.65; 13.21)
EDG: satisfied/ very satisfied	-1.3645	0.6999	.0512	0.2555 (0.06; 1.00)
Age: little satisfied	0.0309	0.0293	.2908	1.0314 (0.97; 1.09)
Age: satisfied/ very satisfied	0.0307	0.0305	.3139	1.0312 (0.97; 1.09)
BMI_Underweight: little satisfied	0.8598	0.9097	.3446	2.3626 (0.39; 14.05)
BMI_Underweight: satisfied/ very satisfied	1.4479	0.8900	.1038	4.2540 (0.74; 24.34)
BMI_Overweight: little satisfied	0.6995	0.5095	.1698	2.0127 (0.74; 5.46)
BMI_Overweight: satisfied/ very satisfied	-0.5358	0.5253	.3077	0.5852 (0.20; 1.63)
Marital status_Without partner: little satisfied	0.4221	0.5237	.4202	1.5252 (0.54; 4.25)
Marital status_Without partner: satisfied/ very satisfied	0.4949	0.5342	.3542	1.6403 (0.57; 4.67)
Education_High/Elementary: little satisfied	-0.3659	0.5604	.5138	0.6935 (0.23; 2.08)
Education_High/Elementary: satisfied/ very satisfied	-0.1255	0.5808	.8289	0.8821 (0.28; 2.75)
Social isolation_Yes: little satisfied	-0.0799	0.7580	.9161	0.9232 (0.20; 4.07)
Social isolation_Yes: satisfied/ very satisfied	-0.5122	0.7562	.4982	0.5992 (1.13; 2.63)

Source: Prepared by the author (2022).
*p< .05; EDG: Eating Disorder Group; BMI: Body Mass Index; SE: standard error; OR: odds ratio; CI: confidence interval.

DISCUSSION

The present study aimed to investigate the repercussions of the Covid-19 pandemic on weight change perception and body satisfaction in individuals with and without EDs and, based on this, to confirm the hypothesis that the sample group diagnosed with EDs (EDG) presented a more significant effect on body dissatisfaction.

In this study, participants from both groups who were in social isolation and had excess weight (overweight and obesity) were more likely to perceive weight gain than those who were not confined and had a normal BMI, corroborating results found in samples with AN and BN.[22] However, it is important to take into account the confidence interval, suggesting that although there was a significant association (*p*-value), the accuracy of

this estimate may vary (95% CI). The fact that the interval is relatively wide indicates that the true magnitude of the association may be more moderate than the point estimate suggests.

Additionally, half of the participants with EDs in this study had excess weight, similar to findings by other authors, who in a longitudinal design found a significant increase in BMI during periods of social isolation.[10,23] It should be highlighted that the distribution of the different BMI categories (underweight, normal weight, and overweight) according to quartiles (Q1: 13.7 kg/m^2, *n*=15, 25.9%; Q2: 20.2 kg/m^2, *n*=14, 24.1%; Q3: 24.8 kg/m^2, *n*=14, 24.1%; Q4: 35.3 kg/m^2, *n*=15, 25.9%) was homogeneous, and that the excess weight in the EDG was likely due to the proportion of individuals diagnosed with BN and BED (51.7%). These are clinical situations characterized by compulsive eating and loss of control over food, which possibly contributed to the greater expression of this classification (overweight) in reporting weight gain during social isolation.

International data are inconsistent in this regard; considering a systematic review and meta-analysis of 35 cross-sectional studies and one cohort study with samples from 32 countries, it was found that a significant portion of individuals experienced weight gain (between 11.1% and 72.4%), while a portion ranging from 7.2% to 51.4% reported weight loss. The analysis showed a significant increase in body weight in the post-lockdown period compared to the previous period, in addition to identifying a significantly higher BMI in individuals before the lockdown period.[24] These results may indicate that the trajectory of nutritional status during Covid-19 possibly depends on many factors to be considered, such as age, socioeconomic classification, living and working conditions during the pandemic, eating habits, physical activity, and alcohol intake.[24,25]

Half of the total sample and the majority (81%) of the EDG reported low body satisfaction, corroborating results from a study with Spanish women who were followed in four semiannual assessment waves during the Covid-19 pandemic. The authors observed that a higher BMI value was associated with greater body dissatisfaction,[26] which was also found by other authors.[27]Schlegl and colleagues[12, 13] described increased body dissatisfaction for more than half of the participants with AN and over 80% for individuals diagnosed with BN. Furthermore, individuals with current or past ED diagnoses were statistically more likely to have greater body image concerns, even when compared to those with other mental disorders, with women being more likely to be dissatisfied compared to men.[28] It should be emphasized that concern, dissatisfaction, and distortion of body image are intrinsic symptoms of EDs,[6] and were possibly exacerbated during the Covid-19 pandemic for the sample of this study, considering its association with the "not satisfied" variable. However, contrary to the trend of these findings, a study conducted in Italy found higher body dissatisfaction in the periods before the pandemic than after social isolation for a sample of young women with AN, BN, EDNOS, and BED.[11]

Considering the above, the results found in this investigation allowed for a broad dialogue with other studies, demonstrating the relevance of conducting this work with valuable implications from this point forward. It was an unprecedented proposal in the national literature exploring an important theme in the current public health scenario and with results that can support the improvement of ED care and the planning of guidance and prevention actions in the community. Data collection through digital media allowed for wider access to participants, without the need for travel or presence in a specific physical space, such as clinics and treatment centers.

However, the study has some limitations. The non-probabilistic and restricted sample recruited from the South and Southeast regions may not be representative of the entire country. Additionally, the use of digital media as the main method of recruitment may have favored the participation of individuals with greater technological familiarity and purchasing power, limiting the diversity of the sample. Recruitment of the EDG faced challenges, particularly in contacting treatment services, resulting in a smaller sample than expected.

At the time of data collection, most of these services were not as present in the media, which may have resulted in a high rate of non-response to contact. Furthermore, for the CG, the use of the EAT-26 instrument included control for AN and BN symptoms, without fully encompassing all ED diagnoses, such as avoidant restrictive food intake disorder (ARFID) and night eating syndrome. Self-report reliability is also an issue, given the impossibility of verifying the truthfulness of the information.

In light of these considerations, it is suggested that future research be conducted using probabilistic samples with the participation of treatment services for EDs from other regions of the country, the use of different means of contact to reach a greater diversity of participants, and methods that allow for greater control of the information obtained.

CONCLUSION

The results of this study highlight that women with EDs perceived an increase in body weight and low body satisfaction, especially those in social isolation and overweight. These repercussions may have led to negative consequences not only in this group but also in different populations, emphasizing the importance of interventions for promoting health and well-being, not only in times of crisis such as that caused by the Covid-19 pandemic.

REFERENCES

1. Wang W, Tang J, Wei F. Updated understanding of the outbreak of 2019 novel coronavirus (2019-nCov) in Wuhan, China. Journal of Medical Virology. 2020 fev; 92(4):441-47. https://doi.org/ 10.1002/jmv.25689.

2. Worobey M. Dissecting the early COVID-19 cases in Wuhan. Science. 2021 nov; 374(6572):1202-04. https://doi.org/10.1126/science.abm4454.

3. World Health Organization. Corona virus disease COVID-2019: Situation report. Safety and Risk of Pharmacotherapy. 2020;8(1):3-8.

4. Pfefferbaum B, North CS. Mental Health and the COVID-19 pandemic. The New England Journal of Medicine. 2020 ago;383(6):510-12. https://doi.org/ 10.1056/nejmp2008017.

5. Reger MA, Stanley IH, Joiner TE. Suicide mortality and coronavirus disease 2019 - A perfectstorm? JAMA Psychiatry. 2020 abr;77(11):1093-94. https://doi.org/ 10.1001/jamapsychiatry.2020.1060.

6. American Psychiatric Association. Manual diagnóstico e estatístico de transtornos mentais: DSM-5. Trad. Maria Inês Corrêa Nascimento, Paulo Henrique Machado, Regina Machado Garcez, Régis Pizzato e Sandra Maria Mallmann da Rosa. 5 ed. Porto alegre: Artmed; 2014.

7. Chan CY, Chiu CY. Disordered eating behaviors and psychological health during the COVID-19 pandemic. Psychol Health Med. 2022;27(1):249-256. https://doi.org/10.1080/13548506.2021.1883687.

8. Devoe DJ, Han A, Anderson A, Katzman DK, Patten SB, Soumbasis A, Flanagan J, et al. The impactofthe COVID-19 pandemiconeatingdisorders: A systematic review. InternationalJournalof Eating Disorders. 2022;56(1):5-25. https://doi.org/10.1002/eat.23704

9. Weissman RS, Hay P. People's lived experience with an eating disorder during the COVID-19 pandemic: A joint virtual issue of research published in leading eating disorder journals. International Journal of Eating Disorders. 2022;55(2):155-60. https://doi.org/10.1002/eat.23653

10. Machado PPP, Pinto-Bastos A, Ramos R, Rodrigues TF, Louro E, Gonçalves S, et al. Impactof COVID-19 lockdown measures on a cohort of eating isorders patients. Journal of Eating Disorders. 2020;8(1):1-8. https://doi.org/10.1186/s40337-020-00340-1.

11. Monteleone AM, Marciello F, Cascino G, Abbate-Daga G, Anselmetti S, Baiano M, et al. The impact of COVID-19 lockdown and of th following "re-opening" period on specific and general psychopathology in people with eating disorders: thee mergent role of internalizing symptoms. Journal of Affective Disorders. 2021;285:77-83. https://doi.org/10.1016/j.jad.2021.02.037.

12. Schlegl S, Maier J, Meule A, Voderholzer U. Eating disorders in times of the COVID-19 pandemic – Results froman online survey of patients with anorexia nervosa. International Journal of Eating Disorders. 2020;53(11):1791-1800. https://doi.org/10.1002/eat.23374.

13. Schlegl S, Meule A, Favreau M, Voderholzer U. Bulimia nervosa in times of the COVID-19 pandemic – Results from an online survey of former in patients. European Eating Disorders Review. 2020;28(6):847-54. https://doi.org/10.1002/erv.2773.

14. Costa CS, Steele EM, Leite MA, Rauber F, Levy RB, Monteiro CA. Mudanças no peso corporal na coorte NutriNet Brasil durante a pandemia de covid-19. Revista de Saúde Pública. 2021;55(1):1-5. https://doi.org/10.11606/s1518-8787.2021055003457.

15. Magalhães ACL de, Baptista GG. Fatores associados à insatisfação com a imagem corporal em estudantes durante a pandemia de COVID-19. Lecturas: Educación Física y Deportes. 2021;26(279):64-79. https://doi.org/10.46642/efd.v26i279.2663.

16. Fonseca AA, Carneiro APV, Batista ACFF, Soares WD, Freitas RF, Reis VMCP. Hábitos de vida de escolares durante a pandemia da COVID-19: Repercussões no peso corporal. Revista Brasileira de Obesidade, Nutrição e Emagrecimento. 2022;16(103):752-61.

17. Biguetti F. Tradução e validação do Eating Attitudes Test (EAT-26) em adolescentes do sexo feminino na cidade de Ribeirão Preto - SP [dissertação]. Ribeirão Preto: Universidade de São Paulo, Escola de Enfermagem de Ribeirão Preto; 2003. https://doi.org/10.11606/D.22.2003.tde-12042004-234230.

18. Associação Brasileira de Empresas de Pesquisa; Critério Brasil [citado 1 jun. 2019]. [Acesso em 07 fev 2020]. Disponível em: https://www.abep.org/criterioBr/01_cceb_2019.pdf

19. World Health Organization. Growth reference data for 5-19 years. Geneva: WHO, 2007.

20. World Health Organization. Physical Status: The use and interpretation of anthropometry. (Reportof a WHO Expert Committee. WHO TechnicalReport Series, n.º 854). Geneva: WHO, 1995.

21. Lipschitz DA. Screening for Nutritional Status in the Elderly. Primary Care. 1994;21(1):55-67.

22. Fernández-Aranda F, Munguía L, Mestre-Bach G, Steward T, Etxandi M, Baenas I, et al. COVID Isolation Eating Scale (CIES): Analysis of the impact of confinement in eating disorders and obesity - A collaborative international study. European Eating Disorders Review. 2020;28(6):871-83. http://dx.doi.org/10.1002/erv.2784.

23. Castellini G, Cassioli E, Rossi E, Innocenti M, Gironi V, Sanfilippo G, et al. The impactof COVID-19 epidemicon eatingdisorders: A longitudinal observationofpre versus post psychopathologicalfeatures in a sample ofpatientswitheatingdisordersand a groupofhealthycontrols. InternationalJournal of Eating Disorders. 2020;53(11):1855-62. http://dx.doi.org/10.1002/eat.23368.

24. Bakaloudi DR, Barazzoni R, Bischoff SC, Breda J, Wickramasinghe K, Chourdakis M. Impactofthefirst COVID-19 lockdown on body weight: A combinedsystematic review and a meta-analysis. Clinical Nutrition. 2021;41(12):3046-3054. http://dx.doi.org/10.1016/j.clnu.2021.04.015.

25. Khan MAB, Menon P, Govender R, Samra AMBA, Allaham KK, Nauman J, et al. Systematic review of the effects of pandemic confinements on body weight and their determinants. British Journal of Nutrition. 2021;127(2):298-317. http://dx.doi.org/10.1017/S0007114521000921.

26. Vall-Roqué H, Andrés A, Saldaña C. The impactof COVID-19 pandemicand lockdown measures on eating disorder isk and emotional distress among adolescents and young people in Spain. Behavioral Psychology/ Psicología Conductual. 2021;29(2):345-364. http://dx.doi.org/10.51668/bp.8321208n.

27. Quittkat HL, Hartmann AS, Düsing R, Buhlmann U, Vocks S. Body dissatisfaction, importance of appearance, and body appreciation in men and women over the life span. Frontiers in Psychiatry. 2019;10:1-12. http://dx.doi.org/10.3389/fpsyt.2019.00864.

28. Robertson M, Duffy F, Newman E, Bravo CP, Ates HH, Sharpe H. Exploring changes in body image, eating and exercise during the COVID-19 lockdown: A UK survey. Appetite. 2021;1(159):105062. http://dx.doi.org/10.1016/j.appet.2020.105062

Contributors

Soares SRS participated in the conception of the study design, data collection, analysis, and interpretation, drafting of the study, and the final revision. Azevedo LDS and Souza APL participated in the conception of the study design. Manochio-Pina MG participated in the final review and approval of the manuscript for submission. Pessa RP participated in the conception of the study design, interpretation of data, final review, and approval of the manuscript for submission.

Conflict of Interest: The authors declare no conflicts of interest.

Received: May 24, 2023
Accepted: January 10, 2024