

Insatisfacción corporal y calidad de vida: contribución a la ocurrencia de conductas alimentarias anómalas en administrativos hospitalarios

Luis Javier Bernardino-Coronado; Georgina Alvarez-Rayón; María Leticia Bautista-Díaz; Mayaro Ortega-Luyando; Juan Manuel Mancilla-Díaz; Adriana Amaya-Hernández

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Luis Javier Bernardino-Coronado

Universidad Nacional Autónoma de México, Ciudad de México, México
ORCID: <https://orcid.org/0000-0002-6224-5199>

Georgina Alvarez-Rayón

Universidad Nacional Autónoma de México, Ciudad de México, México
ORCID: <https://orcid.org/0000-0001-7106-7032>

María Leticia Bautista-Díaz

Universidad Autónoma del Estado de Hidalgo, Hidalgo, México
ORCID: <https://orcid.org/0000-0003-1154-1737>

Mayaro Ortega-Luyando

Universidad Nacional Autónoma de México, Ciudad de México, México
ORCID: <https://orcid.org/0000-0003-4665-3894>

Juan Manuel Mancilla-Díaz

Universidad Nacional Autónoma de México, Ciudad de México, México
ORCID: <https://orcid.org/0000-0001-7259-3667>

Adriana Amaya-Hernández

Universidad Nacional Autónoma de México, Ciudad de México, México
ORCID: <https://orcid.org/0000-0003-0011-4959>

Resumen

El objetivo del presente estudio consistió en evaluar la capacidad predictiva de variables como el índice de masa corporal (IMC), la imagen corporal, el afecto positivo y negativo, las actitudes hacia la gente obesa y la calidad de vida (CV) sobre las conductas alimentarias anómalas del personal administrativo del sector salud en la Ciudad de México, además de conocer las diferencias entre los sexos y del IMC en las variables de estudio. En total, participaron 181 trabajadores administrativos, divididos según su IMC (normopeso, sobrepeso, obesidad), que completaron una hoja de datos generales y cuestionarios de autorreporte. En general, se encontró que la insatisfacción de la imagen corporal, aunada a la percepción de vitalidad y bienestar físico, podría explicar en parte la presencia del comportamiento alimentario anómalo, el cual favorece a la ganancia excesiva de peso corporal. Adicionalmente, se observaron diferencias significativas entre los sexos en el afecto positivo, además de diferencias entre el grupo con obesidad y el grupo normopeso en insatisfacción corporal, afecto negativo, funcionamiento físico, rol físico y funcionamiento social.

Palabras clave: obesidad, servicios de salud, conducta alimentaria anómala, imagen corporal, calidad de vida.

* Grupo de Investigación en Nutrición, Universidad Nacional Autónoma de México, FES-Iztacala, División de Investigación y Posgrado. Av. de los Barrios #1, Los Reyes Iztacala, Tlalnepantla, C. P.: 54090, México. Tel.: +52 (55) 5623 1333 ext. 39737. aamayah@hotmail.com
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Body dissatisfaction and quality of life: contribution to the occurrence of anomalous eating behaviors in administrative personnel in hospitals

Abstract

The purpose of this study involved assessing the predictive capacity of the body mass index (BMI), body image, positive and negative affect, attitudes toward obese individuals and quality of life (QL) related to the anomalous eating behaviors of administrative personnel of Mexico City's health sector; aside from knowing gender differences and BMI in study variables. A total of 181 administrative employees took part in the study, divided according to their BMI (normal weight, overweight, obese) who filled out a personal data sheet and self-report questionnaires. Findings of this study indicate that body dissatisfaction, along with the perception of vitality and physical well-being may partially explain the presence of the anomalous eating behaviors that promotes excessive weight gain. Additionally, significant differences in positive affect were observed between sexes, aside from differences between the obese and normal weight groups regarding body dissatisfaction, negative affect, physical performance, physical role and social performance.

Key words: obesity, health care services, anomalous eating behaviors, body image, quality of life.

Introduction

Studies conducted in Mexico have assessed different health indicators in professionals who provide their services in the health care sector, such as physicians, nurses, laboratory technicians, among others (Nanguce, Ceballo-León, & Álvarez-Reyes, 2015; Navarro et al., 2005; Nieves-Ruiz, Hernández-Durán, & Aguilar-Martínez, 2011; Palacios-Rodríguez, Munguía-Miranda, & Avila-Leyva, 2006; Pérez & Alvarez, 2014), determining that between 38 and 75% of the participants are overweight or obese. This finding highlights that, one of the health sector's objectives is to support awareness raising campaigns on the health problems caused by excess weight, due to the fact that Mexico is among the countries with the highest adult and childhood obesity rates (Organisation for Economic Co-operation and Development [OECD], 2018).

Worldwide, it is estimated that there are approximately 1,400 million overweight and 500 million obese adults (World Health Organization [WHO], 2014). With regard to Mexico, the Halfway National Health and Nutrition Survey (ENSANUT-MC; Shamah, Cuevas, Rivera, & Hernández, 2016) indicated that the combined prevalence of overweight and obesity in adults over 20 years of age is around 72.5%, which represents an increase of 1.3 percentage points in comparison to the ENSANUT survey in 2012 (71.2%, Gutiérrez et al., 2012).

Among the multiple risk factors associated with overweight and obesity, Guzmán, del Castillo and García (2010) highlight two environmental factors due to their

strong relationship with these health conditions: 1) lack of physical activity, and 2) unhealthy lifestyle habits. According to information of the sport practice and physical exercise module of the National Institute of Statistics and Geography (INEGI, 2016) 58% of the general population in Mexico is sedentary or inactive, and considering gender, a higher percentage is observed among women (63%). In Mexico, a significant percentage of the working population or workforce carry out their activities at a tertiary level (INEGI, 2017a), which means that, due to their sedentary work they only burn 1.4 to 1.8 kilocalories per minute in contrast with agriculture, mining or construction (primary and secondary level activities), that demand up to 10 kilocalories per minute of work (Wanjeck, 2005).

As a consequence of the previous scenario, the second factor mentioned by Guzmán et. al. (2010) is relevant, namely unhealthy lifestyle habits, such as people living in big cities who are not able to go home to eat a healthy meal and therefore, have to go out to eat and choose unhealthy, high-fat, low nutritional value fast foods (García, 2012) which promote constant weight gain. This leads overweight or obese people to try ineffective weight loss methods, such as: restrictive diets and prolonged fasting, among others, causing abnormal eating patterns (Reséndiz, Hernández, Sierra, & Torres, 2015) which promote even more weight gain.

Among the consequences of being overweight or obese are non-communicable diseases (NCDs), change in body shape, poor quality of life, among others. Some obesity-related NCDs are high blood pressure, dyslipidaemia, diabetes

mellitus and the obstructive sleep apnea / hypopnea syndrome (Campos-Nonato, Barquera, & Aguilar, 2012) and, among these, it is important to consider that diabetes is the main cause of death in Mexico (INEGI, 2017b), which represents a high cost for the health care sector. Moreover, body changes –due to weight gain–, cause body dissatisfaction, which has to do with an individual disliking or not accepting his / her body image –which includes perceptual, cognitive, affective and behavioral components– and is associated with engaging in harmful behaviors that threaten health (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999; Thompson & Smolak, 2001). In a study conducted by Casillas-Estrella, Montaña-Castrejón, Reyes-Velázquez, Bacardi-Gascón and Jiménez-Cruz (2006) it was observed that, a higher BMI was related to a greater body dissatisfaction in adults; whereas when comparing obese women vs. normal weight women, the first group reported higher levels of body dissatisfaction (Gilbert-Diamond, Baylin, Mora-Plazas, & Villamor, 2009). Furthermore, Bell & Morgan (2000) emphasize the fact that obesity puts people at a higher risk of suffering discrimination, which contributes to increasing a negative body image, low self-esteem and stigmatization, which affect psychological well-being. Finally, with regard to quality of life, that is defined as an individual's perception of his/her position in life in the context of the culture and value systems in which he/she lives, and in relation to his/her goals, expectations, standards and concerns (WHO, 2017); some studies have argued that overweight and obesity predict a lower quality of life perception, which additionally seems to decrease as body weight increases (de Zwaan et al., 2009; Sarwer, Lavery, & Spitzer, 2012).

Overweight and obesity represent some of the main global health issues, due to their impact on overweight or obese people's daily performance. This condition, has even been reflected in health care institutions' personnel (Nanguce, et al., 2015; Navarro et al., 2005; Nieves-Ruiz, et al., 2011; Palacios-Rodríguez, et al., 2006; Pérez & Alvarez, 2014), who work very long hours that limit their time to follow a healthy diet, which in turn may be negatively affecting the quality of the service they provide to patients. Knowing what causes anomalous eating behaviors in health care institutions' personnel will help create preventive programs to reduce overweight and obesity rates and increase healthy behaviors. Whereby, the objective of this study was to assess the predictive value of BMI, body image, positive and negative affect, attitudes toward obese people and quality of life related to anomalous eating behaviors; aside from knowing the differences between sexes and BMI in the study variables.

Method

Participants

The sample was non-probabilistic and intentional, comprised of 181 workers of the Ministry of Health: 105 women between 17-66 years of age ($M = 39.27$, $SD = 11.31$), and 76 men between 21-72 years of age ($M = 43.43$, $SD = 12.72$). All of the participants live in the Mexico City metropolitan area. More than half the sample reported having a higher education, 48.07% with a Bachelor's Degree and 18.78% with postgraduate degrees (See Table 1).

Instruments

Personal data sheet. The purpose of this sheet was to register socio demographic data (e.g., age, sex, civil status) and general health conditions (e.g., diseases, use of substances harmful to health, physical activity, among others).

Eating Attitudes Test (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982). Assesses characteristic attitudes and behaviors of eating disorders, through 26 items with six Likert scale answer options. In Mexico, Franco, Solorzano, Díaz and Hidalgo-Rasmussen (2016) and Vázquez et al. (2017) assessed its internal consistency, which proved to be good ($\alpha = .91$). In this study's sample, an .83 alpha coefficient was obtained.

Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987). Assesses the body image through 34 items with six Likert scale answer options. It was adapted by Vázquez et al. (2011) for Mexican population, who reported an excellent internal consistency ($\alpha = .98$). In this study's sample a .96 alpha coefficient was obtained.

Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) which assesses the emotional state through a list of 20 adjectives (10 positive affect and 10 negative affect) with five Likert scale answer options. This questionnaire consists of two scales, one to measure the state (last week and today) and the other one to measure the trait (usually). Robles and Páez (2003) assessed the psychometric properties of the PANAS in Mexican population, confirming its two-factor structure, with .85 (state) and .90 (trait) internal consistency coefficients for positive affect and .81 (state) and .85 (trait) for negative affect. In this study's sample a .91 alpha coefficient was obtained for state and trait in positive affectivity, and .87 (state) and .88 (trait) for negative affectivity.

Attitudes Toward Obese Persons Scale (ATOP; Allison, Basile, & Yaker, 1991). Assesses perceptions and attitudes

toward obese persons, through 20 items with six Likert scale answer options. Allison et al. (1991), report an .80 alpha coefficient. In this study's sample a .74 alpha coefficient was obtained.

Health Survey (SF-36; Stewart, Hays, & Ware, 1988). Assesses quality of life related to health. Consists of 36 items, divided in eight subscales: physical performance, physical role, bodily pain, general health perceptions, vitality, social performance, emotional role and mental health; as well as two global indicators: physical and mental quality. In Mexico this survey was adapted by Zúñiga, Carrillo-Jiménez, Fos, Gandek and Medina-Moreno (1999), obtaining appropriate internal consistency coefficients, between .70 and .84. Alpha coefficients between .66 and .89 were obtained in this study's sample.

Body Mass Index (BMI). Calculated through participants weight and height self-reports. This study considered the criteria proposed by the Mexican Social Security Institute (IMSS, 2017) to categorize BMI in: normal weight (18.5 – 24.9), overweight (25 – 29.9), class I obesity (30 – 34.9), class II obesity (35 – 39.9) and class III obesity (≥ 40).

Procedure

Inasmuch as this is a cross-sectional, non experimental research, the research protocol approved by the Ethics Commission of the *Facultad de Estudios Superiores Iztacala-UNAM* (CE/FESI/062018/1256), was submitted to the authorities of eight Administrative Units of the Ministry of Health and once approved, the participants were contacted to explain the purpose of the study to them, they signed the informed consent forms and were given instructions to answer the personal data sheet and the five questionnaires. While administering the questionnaires a researcher was present to clarify any doubts and groups of 5 to 10 people were formed, depending on the space of each Unit and workers' availability. The participants that obtained high scores in one or more questionnaires, or whose BMI was an overweight or obesity indicator were given a brief information talk on the consequences of their health condition and were referred to a psychologist and/or nutritionist.

Data analysis

The SPSS Statistical package (version 20) was used for statistical analyses. A descriptive analysis of the sample was performed, which is presented based on percentages. Subsequently, the Shapiro-Wilk test was performed which proved that the study variables were not normal, except the anomalous eating behaviors, reason why, non-parametric tests were used. For differences between sexes was used the Mann-Whitney U and the Kruskal Wallis tests was used to identify differences in the assessed variables according to the BMI; to obtain the association between variables, the

Spearman r test was used. Finally, to know the variables that explain anomalous eating behaviors, a multiple linear regression analysis was performed. Statistical significance was determined with a p level equal or lower than .05.

Results

Descriptive analysis

In relation to the BMI, two thirds of the sample (67.95%) were overweight or obese, of which almost half (49.72%) were overweight and 18.23% obese (class I or II obesity), and it was men who registered higher percentages than women, however these differences were not statistically significant ($X^2 = 1.79, p > .05$; See Table 1).

As far as the use of substances harmful to human health, 23.20% mentioned they smoke and 41.98% drink alcohol. Of the total sample, 41.98% considered they have eating issues and 51.93% admitted being overweight or obese, in both groups, women reported higher percentages than men. On the other hand, 33.70% mentioned having been overweight and/or obese at some stage of their life, whereas 39.22% mentioned that one or more members of their family are overweight or obese, in both cases men reported higher percentages than women. Finally, 31% of the participants mentioned they practiced a sport, mainly men; and 42% have joined weight loss programs, mainly women (See Table 2).

On the other hand, 40 participants (22%) mentioned they suffer from a chronic disease such as high blood pressure (6.63%) the most reported, followed by diabetes (3.15%) and gastritis (1.66%).

Comparison according to sex and BMI categories

Significant differences were observed between sexes only in positive affect (state), and men obtained the highest scores ($U = 3132.50; p < 0.05$). Differences between the BMI groups were identified in the body dissatisfaction, negative affect (state and trait), physical performance, physical role, social performance and mental health variables. According to the Dunn's (post-hoc) test, in most of the variables differences were found between the obese people's group and the normal weight group (See Table 3).

Association between variables

Significant coefficients were obtained with the analysis of association between variables –from low to high– in the three BMI groups. In the overweight and obese people's groups there was a higher number of significant coefficients, mainly, between SF-36 subscales and those

Table 1
Socio demographic data of the sample

	Women (n = 105)		Men (n = 76)		Total (N = 181)	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
<i>Level of studies</i>						
Junior	11	10.48	0	0	11	6.08
High-school						
Senior High-School	23	21.90	12	15.79	35	19.34
Undergraduate	43	40.95	44	57.89	87	48.07
Posgraduate	20	19.05	14	18.43	34	18.78
No answer	8	7.62	6	7.89	14	7.73
<i>Body Mass Index</i>						
Normal weight	39	37.14	19	25	58	32.05
Overweight	50	47.62	40	52.63	90	49.72
Obesity class I	13	12.38	12	15.79	25	13.81
Obesity class II	3	2.86	5	6.58	8	4.42
<i>Monthly Damily Income</i>						
High Level	7	6.67	10	13.16	17	9.39
Medium-high Level	3	2.86	9	11.84	12	6.64
Tipical medium	22	20.95	20	26.32	42	23.20
Medium-low Level	18	17.14	16	21.05	34	18.78
Low Level	28	26.67	7	9.21	35	19.34
Extreme Low level	18	17.14	10	13.16	28	15.47
No answer	9	8.57	4	5.26	13	7.18

Table 2
Characteristics in relation to eating and health habits in the sample

	Women (n = 105)		Men (n = 76)		Total (N = 181)	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
<i>Substance Use</i>						
Tobacco	22	20.95	20	26.31	42	23.20
Alcohol	41	39.04	35	46.05	76	41.98
Drugs	0	0	0	0	0	0
<i>Problems</i>						
Eating	50	47.61	26	34.21	76	41.98
Overweight/Obesity	59	56.19	35	46.05	94	51.93
<i>History of Overweight/Obesity</i>						
Life-time	35	33.33	26	34.21	61	33.70
Family	40	38.09	31	40.78	71	39.22
<i>Sports practice</i>	37	35.23	40	52.63	77	42.54
<i>Weight reduction programs</i>	41	39.04	15	19.73	56	30.93

of PANAS, ATOP and body dissatisfaction. The high and significant correlations in the three groups were between the instrument subscales; however, the correlation between body dissatisfaction and abnormal eating behaviors can be stressed in the normal weight group ($r = .71$), overweight ($r = .59$) and obesity ($r = .67$; See Table 4).

Prediction of anomalous eating behaviors

Since the Kruskal Wallis test proved that there are no significant differences between BMI groups in the variable of anomalous eating behaviors, a decision was taken to perform the statistical prediction analysis taking the complete sample into consideration. It is worth noting that data met the assumptions required by this test: independence of error terms, which was calculated with the Durbin-Watson statistic (1973), homoscedasticity, normality, linearity, no collinearity (1.000 to 1.182) which was calculated with the variance inflation factor (VIF) and in accordance with the case diagnosis, six cases that exceeded the three typical deviations were eliminated.

The multiple linear regression model explained 49.6% of the variance of anomalous eating behaviors, based on body

dissatisfaction and quality of life, specifically considering physical performance, physical role and vitality (See Table 5).

Discussion

The purpose of this study was to assess the predictive capacity of the BMI, body image, positive and negative affect, attitudes toward obese people and quality of life related to anomalous eating behaviors; aside from knowing the differences between sexes and BMI in the study variables. Among the different variables that can be associated to becoming or remaining obese is the presence of anomalous eating behaviors, which is consistent with the results of this research that show that body dissatisfaction along with the perception of vitality and physical well-being may explain part of the presence of anomalous eating behaviors, which can become a keeping excess weight vicious cycle. Explanations to this finding are, on one hand, the ideal of beauty set by society, which dictates that a person is beautiful if he/she is slender (Guzmán et al., 2010); and, on the other hand, the problems that a person faces when performing his/her daily activities due to his/her body. The

Table 3. Comparison between sex and groups of BMI in the study variables

	Women (n = 105)	Men (n = 76)	p	d	Normal weight (n = 62)	Overweight (n = 88)	Obesity (n = 31)	p	d
	Average range	Average range			Average range	Average range	Average range		
<i>Anomalous eating behaviors</i>	91.26	90.64	.937	0.01	90.31	84.73	110.18	.066	0.28
<i>Body dissatisfaction</i>	96.24	83.76	.114	0.37	74.98 ^a	93.16 ^{a,b}	116.90 ^b	.001	0.53
<i>Positive affect</i>									
Trait	85.52	98.57	.098	0.25	97.03	86.47	74.98	.172	0.19
State	82.83	102.28	.014	0.37	99.77	88.67	80.08	.196	0.17
<i>Negative affect</i>									
Trait	87.97	95.19	.359	0.14	82.22 ^a	89.65 ^{a,b}	112.39 ^b	.030	0.34
State	86.50	97.21	.174	0.20	85.16 ^a	87.32 ^{a,b}	113.11 ^b	.034	0.33
<i>Attitudes toward obese persons</i>	86.17	97.68	.144	0.22	82.69	93.94	99.27	.271	0.12
<i>SF-36</i>									
PF	87.58	95.72	.281	0.15	104.25 ^a	90.48 ^{a,b}	65.98 ^b	.002	0.49
PR	90.63	91.51	.876	0.02	99.77 ^a	88.95 ^{a,b}	79.27 ^b	.036	0.33
BP	91.89	89.78	.746	0.04	92.66	91.68	85.76	.753	0.18
GHP	90.65	91.48	.916	0.01	96.40	92.38	76.29	.202	0.17
V	86.48	97.24	.170	0.20	94.35	94.98	73.00	.107	0.24
SF	92.47	88.97	.641	0.07	104.82 ^a	89.39 ^{a,b}	67.92 ^b	.003	0.47
ER	88.57	94.36	.292	0.11	98.64	84.39	94.48	.053	0.30
MH	85.31	98.86	.085	0.26	92.44 ^{a,b}	98.35 ^a	67.27 ^b	.017	0.38

Note: Health Survey (SF-36); Physical Functioning (PF); Physical role (PR); Body pain (BP); General health perception (GHP); Vitality (V); Social Functioning (SF); Emotional Role (ER); Mental health (MH). $gI = 2$

Table 4
Correlation coefficients between study variables by BMI group

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Normal weight (<i>n</i> = 62)																
1. AEB	-															
2. BD	.71**	-														
3. PAT	-.12	-.23	-													
4. PAS	-.15	-.34**	.84**	-												
5. NAT	.39**	.45**	-.08	-.12	-											
6. NAS	.26*	.43**	-.02	-.12	.79**	-										
7. ATOP	-.07	.05	.09	-.05	.03	.04	-									
8. PF	.01	-.06	.42**	.44**	.01	.01	-.21	-								
9. PR	-.04	-.08	-.11	-.02	-.12	-.13	-.09	.12	-							
10. BP	.02	.15	.01	-.01	-.03	.05	-.28*	.14	-.01	-						
11. GHP	.03	.13	.23	.27*	-.17	-.01	-.02	.32*	.01	.29*	-					
12. V	.03	-.15	.40**	.38**	-.09	-.13	.28*	.34**	.01	-.17	.27*	-				
13. SF	-.09	-.04	.17	.16	-.17	-.07	-.01	.36**	.06	.36**	.59**	.25	-			
14. ER	-.03	.02	-.02	-.07	-.20	-.17	-.13	-.12	.22	.06	.20	-.11	-.07	-		
15. MH	-.04	-.17	.35**	.40**	-.26*	-.28*	.13	.32*	.12	.11	.33*	.55**	.53**	.01	-	
Overweight (<i>n</i> = 88)																
1. AEB	-															
2. BD	.59**	-														
3. PAT	-.08	-.34**	-													
4. PAS	-.11	-.35**	.83**	-												
5. NAT	.16	.42**	-.23*	-.22*	-											
6. NAS	.22*	.46**	-.17	-.24	.82**	-										
7. ATOP	.27*	.26	-.03	-.04	.14	.23*	-									
8. PF	.10	-.16	.21	.23*	-.09	-.14	-.08	-								
9. PR	.04	.03	.10	.08	.01	.05	-.03	.50**	-							
10. BP	-.04	-.21	.07	-.03	-.15	-.26*	-.14	.07	-.19	-						
11. GHP	.06	-.37*	.28**	.26*	-.39**	-.40*	-.10	.41**	.25*	.12	-					
12. V	-.08	-.45**	.30**	.29**	-.48**	-.45**	-.11	.28**	.09	.22*	.36**	-				
13. SF	-.10	-.27*	.26	.29**	-.47**	-.48**	-.15	.41**	.30**	.15	.51**	.47**	-			
14. ER	-.08	-.17	.16	.24*	-.36**	-.49**	-.13	.31**	.31**	.18	.32**	.43**	.55**	-		
15. MH	-.13	-.48**	.43**	.46**	-.60**	-.60**	-.20	.28**	.14	.13	.44**	.75**	.55**	.46**	-	
Obesity (<i>n</i> = 31)																
1. AEB	-															
2. BD	.67**	-														
3. PAT	-.03	-.22	-													
4. PAS	-.10	-.31	.88**	-												
5. NAT	.16	.39*	-.21	-.25	-											
6. NAS	.28	.49**	-.15	-.29	.88**	-										
7. ATOP	.40*	.40*	-.20	-.29	.30	.44*	-									
8. PF	-.48**	-.55**	.50**	.56**	-.33	-.43*	-.52**	-								
9. PR	-.47**	-.41*	.46*	.37*	-.47**	-.41*	-.22	.64**	-							
10. BP	-.07	.07	.04	-.03	-.04	.01	-.12	-.03	-.20	-						

11. GHP	-.34	-.30	.54**	.54**	-.22	-.26	-.16	.70**	.59**	.01	-				
12. V	-.27	-.36	.54**	.53**	-.54**	-.56**	-.19	.35	.63**	.11	.52**	-			
13. SF	-.60**	-.53**	.21	.28	-.30	-.45*	-.65**	.81**	.45*	.14	.45*	.26	-		
14. ER	-.13	-.24	.26	.42*	-.37*	-.30	-.22	.18	.42*	-.10	.01	.33	.06	-	
15. MH	-.39*	-.45*	.23	.26	-.68**	-.64**	-.31	.49**	.67**	.06	.38*	.60**	.46*	.49**	-

Note. Anomalous eating behaviors (AEB); body dissatisfaction (BD); positive affect trait (PAT); positive affect state (PAS); negative affect trait (NAT); negative affect state (NAS); attitudes toward obese persons (ATOP); physical functioning (PF); physical role (PR); body pain (BP); general health perception (GHP); vitality (V); social functioning (SF); emotional role (ER); mental health (MH). * $p < .05$, ** $p < .01$.

Table 5. Predictors of anomalous eating behaviors in administrative employees of the health sector (N = 175)

	R ²	Δ R ²	adjusted R ²	B	β	t	p
<i>Step 1</i>	.447	.447	.444				
Body dissatisfaction				0.30	0.67	11.82	.000
<i>Step 2</i>	.508	.061	.496				
Body dissatisfaction				0.34	0.76	13.05	.000
Physical functioning				0.54	0.16	2.34	.021
Physical role				-1.52	-0.14	-2.18	.030
Vitality				0.83	0.21	3.53	.001

consequence of both conditions may be body dissatisfaction and the need to fix such situation, which may suggest an apparently easy way out leading to carrying out anomalous eating behaviors, such as a restrictive diet and the subsequent increase in food intake.

Regarding sexes, no differences in body dissatisfaction were observed, in contrast to previous studies (Bully & Elosua, 2011; Mäkinen, Puukko-Viertomies, Lindberg, Siimes, & Aalberg, 2012; Mellor, Fuller-Tyszkiewicz, McCabe, & Ricciardelli, 2010), which have reported a greater body dissatisfaction in women who follow and engage in weight loss or body alteration methods and behaviors (Brechan & Kvaem, 2015; McGuinness & Taylor, 2016). A possible explanation of this finding, as supported by previous research, is that body aesthetics messages have an impact on both sexes, whereas the difference between them lies in the desire of a slender body in women and a fitness body in men (Shaheen, Kumar, Dev, Parkash & Rai, 2016).

In the case of men, they obtained a higher overweight and obesity percentage in this study, however these differences were not statically significant, information that does not match the ENSANUT-MC (Shamah et al., 2016) which mentions that women obtained higher overweight and obesity percentages. Another contradictory finding in this research is that despite the fact a higher percentage of men engages in physical activity, they are more overweight

and obese, due to which the idea that practicing at least a minimum amount of physical activity allows people to keep in shape with a level of optimal health (Bollado, 2014) is refuted; reason why it is suggested to go back to the WHO report (2010) which mentions that physical activity is good for people's health if practiced regularly, i.e. 30 to 60 minutes, five days a week. In addition, this fact emphasizes the importance of healthy eating habits in an individual's lifestyle, since physical activity itself is not enough to maintain a normal body weight if food intake is higher than calorie expenditure in a daily routine and/or exercise. On the other hand, an important percentage of men reported overweight and obesity problems at some stage of their lives and among members of their family, a fact that highlights the role of the family which is also a part of the problem, taking into consideration that the different members of a family can promote a favorable overeating and physical inactivity environment or a healthy lifestyle instead (Guzmán et al., 2010).

The group with obesity reported higher body dissatisfaction, a finding that matches previous studies (Sarwer, Thompson, & Cash, 2005; Weinberger, Kersting, Riedel-Heller, & Luck-Sikorski, 2016; Zawawi, 2014); however, it has also been suggested that not all obese people are dissatisfied with their bodies (Schwartz & Brownell, 2004); therefore in future research it is important to determine what

causes some obese people to develop body dissatisfaction. Likewise, high negative affect scores such as sadness, guilt, fear, among others (Goldschmidt et al., 2014; Pasco, Williams, Jacka, Brennan, & Berk, 2013) were observed in people with obesity. For their part, the group with normal weight was different from the groups with overweight and obesity in physical performance, physical role, social performance and emotional role, which indicates that participants with normal weight are capable of doing any type of physical or social activity without being hindered by their emotions or their physical appearance and consequently have a better quality of life, finding that matches other studies (Busutil et al., 2017; Oliva, 2009; Pimenta, Bertrand, Mograbi, Shinohara, & Landeira-Fernández, 2015). These results reflect that people with overweight or obesity, not only suffer biological conditions, but are also affected psychologically and socially by their body condition.

Another finding in this research was that more than 60% of the participants reported having a higher-university education and likewise, 67.95% of the sample presented overweight or obesity. Regarding these percentages, it can be noted that this data matches the ENSANUT-MC (2016) survey's report that notes that 7 out of 10 Mexican adults presented overweight or obesity; aside from the fact that this sample performs office work, which is considered one of the most sedentary jobs (tertiary energy expenditure level) which is associated with obesity and NCDs (Ramírez & Agredo, 2012; Wanjek, 2005). On the other hand, people with a higher level of education, would be expected to have greater awareness regarding health care, however, this is not reflected in this study. A possible explanation of this finding is that there is no causal relationship between an individual's level of education and health care, due to the fact that there are different factors involved such as availability of healthy foods, recreational areas that promote physical activity, and even environmental quality (air pollution), among others (Villar, 2011).

NCDs are one of the consequences of having overweight or obesity, however, only a low percentage (20%) of the sample, reported suffering from high blood pressure and/or diabetes, this finding attracts attention, considering the fact that almost 70% of the administrative employees in the health sector presented overweight, but less than a fourth of the sample suffers from NCDs. Explanations for this finding are that obesity is not always considered a disease and therefore, people do not go to the doctor for periodic health check-ups, until they have NCD symptoms, or, even if they do not feel well, they do not see a doctor for a medical examination and prefer to self-medicate to eliminate the symptom temporarily, without receiving a

formal diagnosis on their condition. Aside from NCDs, bad eating habits, drinking alcohol, smoking and a lack of physical activity, are findings that match previous studies (Escrivao, Oliveira, Taddei, & López, 2000; Miguel & Niño, 2009; Reséndiz et al., 2015).

This research highlights the urgency of designing and establishing programs that promote a health care culture in Mexico, in other words, promote healthy eating habits and improve work conditions that enhance the quality of life not only of the administrative personnel, but of the population as well, taking into consideration the fact that the annual expenditure invested in Mexico in medical attention for NCDs resulting from obesity is calculated between 78 and 101 billion Mexican pesos and an indirect cost due to loss of productivity between 73 and 101 billion Mexican pesos (Gutierrez et al., 2012), which generates a high maintenance cost for the health departments. Moreover, it is important to take into consideration that the main causes of death in Mexico are obesity-related NCDs (INEGI, 2017b).

The self-report questionnaires were able to limit the accuracy of the data obtained, due to which it is suggested that the participants are interviewed to complete research findings. In addition, the ATOP scale does not have psychometric properties in Mexican population, although the internal consistency in this study sample was good, it is recommended that in future research, its properties are assessed for more accuracy in measurement. On another hand, this study wanted to reflect some of the consequences of obesity in employees of the health sector, however, it is necessary to extend the research to variables that were not addressed, for example, the binge eating disorder, which is known to have a relationship with obesity (Hudson, Hiripi, Pope & Kessler, 2007).

Finally, it is concluded that anomalous eating behaviors can be the consequence of body image dissatisfaction and the perception of bad physical performance and a lack of vitality, in other words, a poor quality of life. In spite of the fact that there are no BMI differences between sexes, a high BMI does affect a person's quality of life. Due to which, this study appeals to the Ministry of Health to start health campaigns among its employees, not only at a nutritional level, but also at a behavioral and/or cognitive level to help reduce the economic burden caused by the treatment of obesity and related pathologies, in the first place, for the person that suffers same and subsequently for the institution, the country and society. Despite the fact that the Ministry of Health has implemented programs such as: "Get stronger challenge", "10,000 steps challenge", and the "1st and 2nd Assessment of the Physical Condition Index", coordinated by the Active Mexican Organization and the Human Resources Department of the Federal Ministry

of Health, no importance has been given whatsoever to the psychological dimension, therefore this study tried to state that psychological variables also contribute to the development and maintenance of overweight and obesity, highlighting the need to incorporate them in the design and application of preventive programs.

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