# How do the obese persons perceive their overall health?

Blanca P. Ríos-Martínez,[a] Gabriela Rangel-Rodríguez,[b]
Luis G. Pedraza-Moctezuma[c]

**Background:** the purpose was to investigate how the obese person perceives their health in different areas of their life.
**Methods:** the SF-36 instrument, which measures various dimensions (social and physical functioning, mental and physical health, bodily pain, limitations due to physical and/or emotional problems, vitality and general health), was applied to 224 patients. It was analyzed whether there were differences between gender, which were channeled to the treatment (surgical and nonsurgical) and the degree of obesity (overweight, obesity and morbid obesity). A descriptive analysis, Student *t* test, Anova and Turkey *t* test was realized.
**Results:** significant differences ($p < 0.05$) were found in some dimensions, like tendency to feel tired, exhausted and feeling that their health has been and will continue to deterioration. Women had a worse social and emotional functioning than men; patients with gastric bypass reported more fatigue than patients with gastric band; in regards to the degree of obesity, those who had morbid obesity showed less physical functioning, more pain and worse overall health than those who were just obese.
**Conclusions:** the perception of the obese patients was that their health was deteriorated. Women are most affected in social and emotional functioning than men.

**Key words**
obesity
overweight
gastric bypass

Obesity has been ranked as one of the public health problems with high priority in our country and around the world.[1] Among the elements associated with this problem are the meal consumption patterns, life styles,[2] the physical and chemical characteristics of food that affect specific brain areas,[3] the reduced space for housing and few places to do physical activity,[4] family structure background,[5,6] the environmental where the individual lives,[7] and finally, the knowledge about the complex etiology of obesity composed of environmental, behavior factors, biology and the interaction between them.[2]

We must not forget the consequences on health that obesity produce, like fatigue, obstructive sleep apnea,[8] diabetes mellitus, cardiovascular disease, malignant tumors and the difficulty to treat the overweight and obesity.[1] Studies on people who suffer from obesity, showed characteristics such as high incidence in the female population,[9] a trend to have a sedentary life, to be unemployed, less educated level, little emotional support, a poor self-concept regarding their health and a low internal locus of control (feeling of having little influence over their own health and their behavior).[1,10] It should be noted that the sensation of little influence on the image is a major source of stress, frustration, compulsive eating and weight gain in these patients.[11]

Similarly, it has been shown that obesity is usually accompanied by depression.[12-14] The depression in obesity is slightly higher in women than in men.[14,15] In addition, it has been shown that obesity is related to discrimination and social isolation.[16] On the other hand, it has been found that there are important differences between the rates of obesity,[17] including morbid obesity (body mass index [BMI] > 35) which showed a worse physical function, social role, as well as a poorer perception of general health and more bodily pain unlike the overweight (BMI between 25.1 and 30) and obesity (BMI between 30.1 and 35).

The aim was to assess different own perception dimensions of the obese patient with the goal not only to report on the feelings, perceptions, emotions and functions that the patient has, but to contribute and create systems to lessen this problem. Other objective is to learn about the social and physical functions, bodily pain and its impact on general health, role limitations due to health and/or emotional problems, mental health, energy and/or fatigue that obese patients have, through the RAND Health Survey.[18]

## Methods

A non-experimental design of cross kind study was carried out. We evaluated adult patients (ages ranging from 18 to 79 years) who attended the Integral Care Clinic of

**¿Cómo perciben las personas obesas su salud general?**

## Resumen

**Objetivo:** conocer cómo la persona con obesidad percibe su salud en diferentes áreas de su vida.
**Métodos:** a 224 pacientes con obesidad, se les aplicó el cuestionario SF-36, el cual mide funcionamiento social y físico, salud mental y física, dolor corporal, limitaciones de roles debido a problemas físicos o emocionales, vitalidad y salud general. Se analizaron las diferencias entre los sexos, el tratamiento y el grado de obesidad. Se realizó análisis descriptivo y se aplicó *t* de Student, Anova y prueba de Turkey
**Resultados:** Las mujeres tuvieron peor funcionamiento social y emocional que los hombres; en cuanto al tipo de tratamiento, los pacientes con derivación gástrica indicaron mayor cansancio que aquellos con banda gástrica y los que tuvieron obesidad mórbida mostraron menor funcionamiento físico, mayor dolor y peor salud general que quienes tenían obesidad.
**Conclusiones:** la mayoría de los pacientes analizados tendió a sentirse cansada, exhausta y con la sensación de que su salud ha sido y seguirá deteriorándose.

**Palabras clave**
obesidad
sobrepeso
derivación gástrica

the Obese Patient at the *Hospital Ángeles del Pedregal*, Mexico City. Marital status, occupation and schooling were studied. All patients had a multidisciplinary evaluation pre-surgical (psychological, physical training, nutritional and medical). We evaluated the type of obesity (overweight obesity, morbid obesity) and we determine the type of surgery: bariatric surgery (gastric band and gastric bypass) and non-surgical treatment, this was decided by the BMI and co-morbilities. We applied the Health Survey SF-36, it explores eight dimensions (subscales) of health status (table I).[19-22]

In addition to the eight dimensions, the scale includes the general concept of changing the perception of the current health status and that of the previous year (reported health transition, 1 item). The subscales are quantified from 0 to 100, high scores indicating better health or performance.

### Statistical analysis

The student *t* test for the comparison of independent groups was conducted. The type of treatment and grade of overweight and obesity were analyze through an analysis of variance, then resorting to a Tukey's *t* test to recognize the differences between treatments.

## Results

The sample was integrated with 224 patients, being 54.5 % married ($n$ = 122), 37.1 % single ($n$ = 83), divorced 4.5% ($n$ = 10), 2.2 % in consensual union ($n$ = 5), 1.3 % widowed ($n$ = 3) and only one person (4 %) did not answer this question. In relation to its occupation, it was found that 71.4 % were employed

**Table I** Scales of the Health Survey SF-36 and explanation of its contents

| Subscales | No. of items | Contents |
|---|---|---|
| 1. Physical functioning | 10 | Examines the degree to which health limits physical activities such as self care, walking, lean, moderate and intense efforts, among others |
| 2. Bodily pain | 2 | Shows the intensity of pain and its effect at work |
| 3. Role limitations due to health problems (physical role) | 4 | Measures that the physical health limits or interferes with daily activities and at work |
| 4. Role limitations due to personal or emotional problems (emotional role) | 3 | Expresses the degree to which emotional problems can interfere with daily activities and at work |
| 5. Emotional well-being (mental health) | 5 | Includes sense of nervousness, depression, anxiety compared to the feeling of control of the conduct, peace, happiness and calm in general |
| 6. Social functioning | 2 | Measures how much physical or emotional health problems interfere in normal social activities |
| 7. Concept of energy-fatigue (vitality) | 4 | Examines the feeling of energy and vitality against the feeling of tiredness and exhaustion in general |
| 8. General health | 5 | Includes an assessment by health personnel in terms of current health, outlook on the future and resistance to disease |

**Table II** Results of the sample of Health Survey SF-36

| | $\bar{x}$* | SD |
|---|---|---|
| 1. Physical functioning | 64.05 | 23.01 |
| 2. Pain | 73.90 | 23.42 |
| 3. Role limitations due to physical health | 67.24 | 35.99 |
| 4. Role limitations due to emotional problems | 70.60 | 35.99 |
| 5. Emotional well-being/ mental health | 62.38 | 17.31 |
| 6. Social functioning | 72.53 | 25.00 |
| 7. Energy/fatigue | 54.78 | 19.26 |
| 8. General health | 55.18 | 20.13 |
| Notified health transition | 44.73 | 21.16 |

*Being the score: 0-100, higher scores indicating better health
SD = standard deviation

or own a business ($n$ = 160), 16.1 % are home-dedicated ($n$ = 36), 4.9 % students ($n$ = 11) and 1.8 % are unemployed or retired ($n$ = 4), 5.8 % did not answer the question. The answers given by the whole sample (table II) showed that the scores are slightly lower: Health notified transition ($\bar{x}$ = 44.73), energy / fatigue or vitality ($\bar{x}$ = 54.79) and general health ($\bar{x}$ = 55.18). When applying the student $t$ test for sex comparison on the 8 dimensions of the survey, significant differences were found in only two subscales, which are emotional or mental health (F = 59.57, M = 67.33, $p$ = 0.001) and social functioning (F = 69.69, M = 77.53, $p$ = 0.026). It means that women are slightly worse than men in terms of emotional and social function (figure 1). Unlike the rest of the subscales, we did not found significant levels ($p$ > 0.05).

In making this comparison through the Student $t$ test, we found no significant differences ($p$ > 0.05) on the scale that measures the survey among patients channeled only to multidisciplinary treatment ($n$ = 180) with the channeled surgery ($n$ = 44).

However, by applying an analysis of variance and the Turkey's $t$ test between groups: no surgical ($n$ = 180), gastric bypass ($n$ = 33) and gastric band placement surgery ($n$ = 11) were similar in the dimension of energy/ fatigue (vitality) only among surgical groups (gastric bypass = 51.97, gastric band placement surgery = 68.5, $p$ = 0.045). This indicated that the patients channeled to gastric bypass feel slightly tired and exhausted than the ones channeled to gastric band placement.

When making comparisons between overweight, obesity and morbid obesity, we found no significant differences (table III). It was only noted that there are three subscales between obesity and morbid obesity (overweight was not found in significant levels), these being: physical functioning (obesity $\bar{x}$ = 70.64, morbid obesity $\bar{x}$ = 61.83, $p$ = 0.047), bodily pain (obesity $\bar{x}$ = 81.37, morbid obesity $\bar{x}$ = 70.87, $p$ = 0.018) and general health (obesity $\bar{x}$ = 61.39, morbid obesity $\bar{x}$ = 51.98, $p$ = 0.009). Which means that patients with morbid obesity (BMI > 35.1) have lower overall health status compared with patients who are obese (BMI = 30.1 to 35), on the scales below (figure 2).

## Discussion

Obesity is one of the health problems that affected mostly patients, from the physical to the cognitive, emotional and social; one of them was measured by the health survey, agreeing with previous studies, it was concluded that most obese patients tend to feel tired, exhausted and feeling that their health has been and will continue to deteriorate.[8]

Despite having found no significant differences between all the dimensions and the groups that were compared, it seems necessary to recognize that there was a pattern among some areas; obese women tend to be nervous and depressed.[14,15] which proved the existence of a slight interference in their social activities because of physical and emotional problems caused by obesity, being higher in women than in men. The latter may be for the social consequences (discrimination and social isolation) that lead to obesity.[16]

On the other hand, significant differences between the level of vitality and types of surgical treatment were found, showing that the ones channeled to gastric band placement surgery are less exhausted than the ones channeled to gastric bypass. However, the

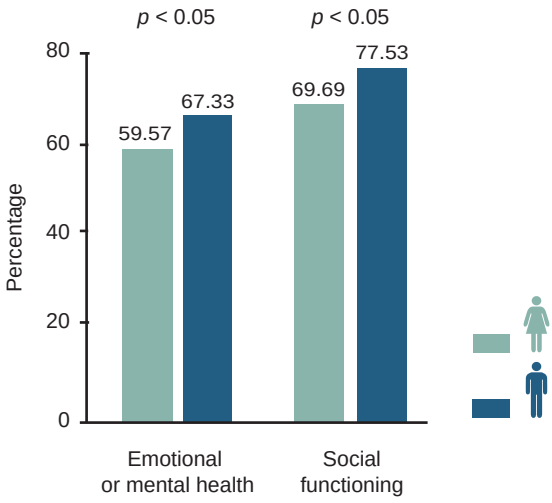


**Figure 1** Compared by sex on the significant dimensions of the Health Survey SF-36

**Table III** Descriptive analysis of the degrees of obesity and the dimensions of the Health Survey SF-36

| | | $\bar{x}$* | SD |
|---|---|---|---|
| Physical functioning | | | |
| | Overweight | 63.896 | 23.696 |
| | Obesity | 70.637 | 20.838 |
| | Morbid obesity | 61.832 | 22.782 |
| Role limitations due to physical health | | | |
| | Overweight | 68.382 | 32.162 |
| | Obesity | 75.472 | 34.141 |
| | Morbid obesity | 63.374 | 37.310 |
| Role limitations due to emotional health | | | |
| | Overweight | 66.667 | 35.770 |
| | Obesity | 75.641 | 33.081 |
| | Morbid obesity | 69.241 | 37.086 |
| Energy/fatigue | | | |
| | Overweight | 52 | 18.198 |
| | Obesity | 56.887 | 21.264 |
| | Morbid obesity | 54.945 | 18.952 |
| Emotinal well-being | | | |
| | Overweight | 57.229 | 18.765 |
| | Obesity | 61.736 | 17.863 |
| | Morbid obesity | 64.066 | 16.408 |
| Social functioning | | | |
| | Overweight | 71.786 | 25.427 |
| | Obesity | 77.359 | 23.393 |
| | Morbid obesity | 69.980 | 25.342 |
| Pain | | | |
| | Overweight | 73.529 | 21.925 |
| | Obesity | 81.368 | 23.208 |
| | Morbid obesity | 70.868 | 23.628 |
| General health | | | |
| | Overweight | 58.857 | 18.244 |
| | Obesity | 61.386 | 18.845 |
| | Morbid obesity | 51.984 | 20.160 |
| Notified transitional health | | | |
| | Overweight | 45.714 | 21.425 |
| | Obesity | 47.222 | 19.826 |
| | Morbid obesity | 42.857 | 21.414 |

*Being the score: 0-100, higher scores indicating better health
SD = standard deviation

sample was small, therefore, we recommend to conduct a research on the subject, and suggest expanding the sample and also conducting a post-test.

It also showed that patients with morbid obesity —unlike obesity—, had greater difficulty walking, to make moderate or intense efforts, to take care of themselves, perceived their health as deteriorated[10] and showed greater complaints about bodily pain. Some of these assertions were consistent with the study of Fontaine,[17] while others, such as the social area, did not coincided with our results, as it did not find any difference in this dimension between degrees of obesity. It seems that there is a kind of vicious circle that surrounded the obese patient, because, as many authors had mentioned: there is little emotional support and limited social role,[14,16] feeling little influence on its

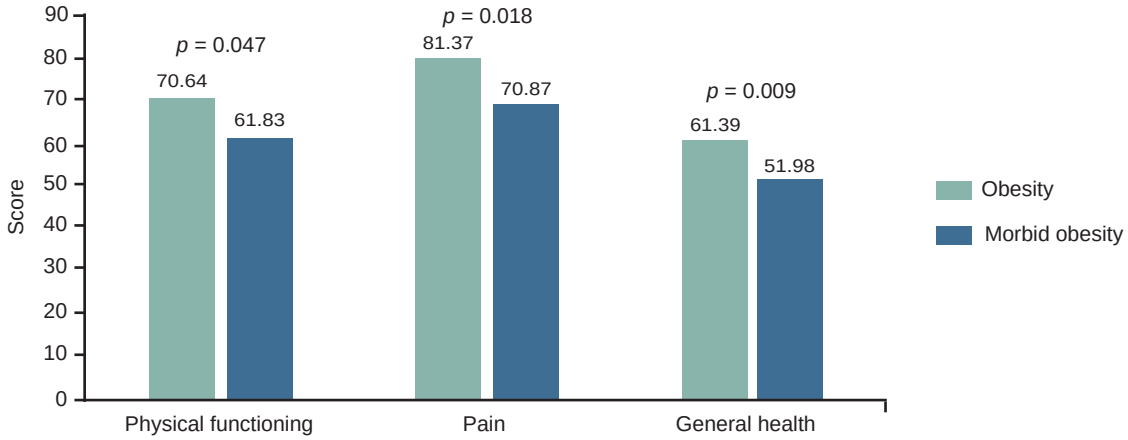


**Figure 2** Comparison between types of obesity on the significant dimensions of the survey of health

health,[10] which can be associated with nervousness, fatigue and mainly, depression,[14,15] which in turn allow that a greater limitations in their functions remain,[8] and preventing the person with obesity to have a better quality of life and feel pleased with himself.[23,24] We must recognize the magnitude of this problem, which does not belong only to the patient, but to those who live with him and reinforce patterns to which society has come to be familiar with this subject and which are not favorable to obesity. It would be important to stress that the results contributed not only to the obesity impact on the individual but also demonstrated that there are no dimensions more or less importance than others, it is necessary to give a treatment in multidisciplinary terms and thus achieve that obesity begins to acquire a different course.[25]

**Conflict of interest disclosure: the** International Committee of Medical Journal Editors form for disclosure of potential conflicts of interest has been completed and delivered by the authors. It hasn't been reported any conflict in regards to this article.

[a]Instituto de Obesidad y Síndrome Metabólico, Hospital Ángeles del Pedregal
[b]Universidad de las Américas
[c]Hospital Ángeles del Pedregal

Distrito Federal, México

Correspondence: Blanca P. Ríos-Martínez
Phone: (55) 5652 4500
E-mail: blanca_rios@hotmail.com

**References**

1. Gómez-Dantés H, Vázquez-Martínez JL, Fernández-Cantón S. Obesidad en adultos derechohabientes del IMSS. Encuesta Nacional de Salud 2000. Rev Med Inst Mex Seguro Soc. 2004;42(3):239-45. Texto libre en http://201.144.108.128/revista_medica/index.php?option=com_multicategories&view=article&id=1539:obesidad-en-adultos-derechohabientes-del-imss-encuesta-nacional-de-salud-2000&catid=560:temas-de-actualidad&Itemid=703
2. Laguna-Camacho A. Determinantes del sobrepeso: biología, psicología y ambiente. Rev Endocrinol Nutr. 2005;13(4):197-202. Texto libre en http://www.medigraphic.com/pdfs/endoc/er-2005/er054e.pdf
3. Brito B, Castro R, Domínguez S, et al. Psicoendocrinoneurología de la obesidad. Rev Esp Obes. 2007; 5:204-25.
4. Fausto J, Valdez RM, Aldrete MG, et al. Antecedentes históricos sociales de la obesidad en México. Inv Salud. 2006;VIII(2):91-94. Texto libre en http://www.medigraphic.com/pdfs/invsal/isg-2006/isg062f.pdf
5. Dong C, Sánchez LE, Price RA. Relationship of obesity to depression: a family-based study. Int J Obes Metab Disord. 2004;28(6):790-5.
6. Ball K, Crawford D. An investigation of psychological, social and environmental correlates of obesity and weight gain in young women. Int J Obes (London). 2006;30(8):1240-9.
7. Levitsky DA. Putting behavior back into feeding behavior: a tribute to George Collier. Appetite. 2002; 38(2):143-8.
8. Ruiz MA, Berrocal C, Valero L. Cambios psicológicos tras cirugía bariátrica en personas con obesidad mórbida. Psicotherma. 2002;14(3):577-82. Texto libre en http://www.psicothema.com/pdf/768.pdf

9. Sánchez-Reyes L, Berber A, Fanghänel G. Incidencia de obesidad en una población mexicana. Rev Endocrinol Nutr. 2001;9(2):60-6. Texto libre en http://www.medigraphic.com/pdfs/endoc/er-2001/er012d.pdf
10. Ali SM, Linström M. Socioeconomic, psychosocial, behavioral, and psychological determinants of BMI among young women: differing patterns for underweight and overweight/obesity. Eur J Public Health. 2005;16(3):324-30. Texto libre en http://eurpub.oxfordjournals.org/cgi/pmidlookup?view=long&pmid=16162598
11. Chiprut R, Castellanos-Urdaibay A, Sánchez-Hernández C, et al. La obesidad en el siglo XXI: avances en la etiopatogenia y tratamiento. Gac Med Mex. 2001;137(4):323-34. Texto libre en http://www.medigraphic.com/pdfs/gaceta/gm-2001/gm014e.pdf
12. Herva A, Laitinen J, Miettunen J, et al. Obesity and depression: results from the longitudinal Northern Finland 1966 Birth Cohort Study. Int J Obesity (London). 2006;30(3):520-7.
13. Goodman E, Whitaker RC. A prospective study of the role of depression in the development and persistence of adolescent obesity. Pediatrics. 2002;110 (3):497-504.
14. Ríos-Martínez B, Rangel-Rodríguez G, Álvarez-Cordero R, et al. Ansiedad, depresión y calidad de vida en el paciente obeso. Acta Med Grupo Angeles. 2008;6(4):147-53. Texto libre en http://www.medigraphic.com/pdfs/actmed/am-2008/am084a.pdf
15. Carpenter KM, Hasin DS, Allison DB, et al. Relationships between obesity and DSM-IV major depressive disorder, suicide ideation, and suicide attempts: results from a general population study. Am J Public Health. 2000;90(2):251-7. Texto libre en http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1446144/pdf/10667187.pdf
16. Jáuregui-Lobera I, López-Polo IM, Montaña-González MT, et al. Percepción de la obesidad en jóvenes universitarios y pacientes con trastornos de la conducta alimentaria. Nutr Hosp. 2008;23(3):226-33. Texto libre en http://scielo.isciii.es/pdf/nh/v23n3/original5.pdf
17. Fontaine KR, Cheskin LJ, Barofsky I. Health-related quality of life in obese persons seeking treatment. J Fam Pract. 1996;43(3):265-70.
18. Hays RD, Sherbourne CD, Mazel RM. The RAND 36-Item Health Survey 1.0. Health Economics. 1993; 2:217-27.
19. Zúñiga MA, Carrillo-Jiménez GT, Fos P, et al. Evaluación del estado de salud con la encuesta SF-36: resultados preliminares en México. Salud Publica Mex. 1999;41(2):110-8. Texto libre en http://bvs.insp.mx/rsp/articulos/articulo.php?id=001597
20. Ware JE, Sherbourne CD. The MOS 36-item short form health survey (SF-36) I. Conceptual framework and item selection. Med Care. 1992;30(6):473-83.
21. Alonso J, Prieto L, Antó JM. La versión española del SF-36 Health Survey (Cuestionario de Salud SF-36): un instrumento para la medida de los resultados clínicos. Med Clin (Barc). 1995;104:771-6.
22. Ayuso-Mateos JL, Lasa L, Vázquez-Barquero JL, et al. Measuring health status in psychiatric community surveys: internal and external validity of the Spanish version of the SF-36. Acta Psychiatr Scand. 1999; 99(1):26-32.
23. McDowell I. Measuring health. a guide to rating scales and questionnaires. New York: Oxford University Press; 1996.
24. Weiner S, Sauerland S, Fein M, et al. The Bariatric Quality of Life (BQL) Index: a measure of well-being in obesity surgery patients, Obes Surgery. 2005;15 (4):538-45.
25. Norma Oficial Mexicana NOM-174-SSA1-1998, para el manejo integral de la obesidad. México: Diario Oficial de la Federación del 12 de abril de 2000. Texto libre en http://www.salud.gob.mx/unidades/cdi/nom/174ssa18.html