ORIGINAL PAPER
ORYGINALNY ARTYKUŁ NAUKOWY

Health Prob Civil. 2018, Volume 12, Issue 3
ISSN 2353-6942

QUALITY OF LIFE IN OBESITY AT PERIMENOPAUSAL AGE IN OBESE WOMEN AND WOMEN WITH PROPER BODY MASS INDEX

JAKOŚĆ ŻYCIA W WIEKU OKOŁOMENOPAUZALNYM W GRUPIE KOBIET Z OTYŁOŚCIĄ ORAZ Z PRAWIDŁOWĄ MASĄ CIAŁA

Małgorzata Obara-Gołębiowska[1(A,B,C,D,E,F,G)]

[1]Department of Psychology of Development and Education, University of Warmia and Mazury in Olsztyn, Poland

Authors' contribution
Wkład autorów:
A. Study design/planning
zaplanowanie badań
B. Data collection/entry
zebranie danych
C. Data analysis/statistics
dane – analiza i statystyki
D. Data interpretation
interpretacja danych
E. Preparation of manuscript
przygotowanie artykułu
F. Literature analysis/search
wyszukiwanie i analiza literatury
G. Funds collection
zebranie funduszy

Summary

Background. Obesity is a global-scale epidemic of the 21st century, leading to numerous psychophysical complications. The objective of this paper is to analyse the quality of life at perimenopausal age in the group of obese women, and to compare the findings with those obtained in the group of women with proper body mass.
Material and methods. There were two equal research groups included in the study. In the first group there were 50 obese women BMI (m) = 36.5, patients of the Obesity Treatment Ward. In the other group, there were 50 normal-weight women BMI (m) = 24.1, primary care patients from Warminsko-Mazurskie Province. The research tool used in the study was The World Health Organization Quality-of-Life Scale – WHOQL-BREF.
Results. Differences between the group of obese women and the one with healthy body mass turned out to be statistically significant $p<0.05$ in the general quality of life t(sd) = -3.21(98), general quality of health t(sd) =-3.96(98), physical health t(sd) = -3.11(98), psychological health t(sd) = -3.67(98), social relationship t(sd) = -2.76(98) and environment t(sd) = -2.86(98).
Conclusions. Results of the study showed significantly lower quality of life in all measured domains in obese women in comparison to those with proper body mass.

Keywords: obesity, quality of life, WHOQOL-BREF

Streszczenie

Wprowadzenie. Otyłość jest epidemią na skalę globalną XXI wieku, prowadzącą do licznych komplikacji psychofizycznych. Celem pracy jest analiza jakości życia w wieku okołomenopauzalnym w grupie otyłych kobiet oraz porównanie wyników z wynikami uzyskanymi w grupie kobiet z prawidłową masą ciała.
Materiał i metody. W badaniu wzięły udział dwie równoliczne grupy badawcze. W pierwszej grupie było 50 otyłych kobiet BMI (m) = 36,5, pacjentów Oddziału Leczenia Otyłości. W drugiej grupie było 50 kobiet o prawidłowej masie ciała BMI (m) = 24,1, pacjentek podstawowej opieki zdrowotnej z województwa warmińsko-mazurskiego. Narzędziem badawczym zastosowanym w badaniu była Skala Jakości Życia Światowej Organizacji Zdrowia - WHOQL-BREF.
Wyniki. Różnice między grupą otyłych kobiet a grupą kobiet z prawidłową masą ciała okazały się statystycznie istotne $p <0,05$ w ogólnej jakości życia t (sd) = -3,21 (98), ogólnej jakości zdrowia t (sd) = - 3,96 (98), zdrowiu fizycznym t (sd) = -3,11 (98), zdrowiu psychicznym t (sd) = -3,67 (98), związkach społecznych t (sd) = -2,76 (98) i środowisku t (sd) = -2,86 (98).
Wnioski. Wyniki badania wykazały znacznie niższą jakość życia we wszystkich mierzonych domenach u otyłych kobiet w porównaniu do osób o prawidłowej masie ciała.

Słowa kluczowe: otyłość, jakość życia, WHOQOL-BREF

Tables: 2
Figures: 0
References: 30
Submitted: 2016 Nov 24
Accepted: 2017 Feb 14

Introduction

Obesity is a global-scale epidemic of the 21st century [1]. In Poland, every second adult is overweight, and one in six is obese [2]. According to the available research, 16.4% of Polish teenagers and children are overweight or obese [3]. Moreover, the increase in the percentage of child obesity is faster in Poland than in the USA [4]. It is also worth mentioning that the costs of treating obesity poses an additional burden on the Polish budget. According to the assessment by the Food and Nutrition Institute, excessive body weight account for approximately 1.5 million hospitalisations annually. This consumes 21% (approximately 11 million PLN) of the budget allocated to health protection [5].

Obesity may considerably reduce the quality of human life, leading to numerous psychophysical complications [6]. It is recognised as a social-cultural problem within Polish society. This is confirmed among others by research

Obara-Gołębiowska M. Quality of life in obesity at perimenopausal age in obese women and women with proper body mass index. Health Prob Civil. 2018; 12(3): 151-156. https://doi.org/10.5114/hpc.2018.76515

Address for correspondence / Adres korespondencyjny: Małgorzata Obara-Gołębiowska, Department of Psychology of Development and Education, University of Warmia and Mazury in Olsztyn, Poland, Prawocheńskiego 13, 10-447 Olsztyn, Poland, e-mail: malgorzata.obara@gmail.com, phone: +48 886793736

on the stigmatisation of obese Polish women [7]. It is also common knowledge that certain modern psychosocial and educational problems of juveniles result from the stigmatisation of overweight children and teenagers, particularly girls [8]. Research conducted by Sola et al. [9] showed that high body weight in children and youth has a negative effect on the quality of their life related to the state of health with simultaneously the strongest impact of the physical functioning on the psychosocial sphere. In this domain, the problem is particularly evident in the sphere of contact with others. Moreover, the research evidenced that the group of obese children and youth demonstrate health-related quality of life-HRQL comparable to children and youth with cancer [10]. Similar research conducted by Serrano-Aguilar et al. [11] confirmed the impact of body weight on life quality. Patients with average BMI suggesting II degree obesity in comparison to the norm in society reported considerably lower results in eight domains of life quality. Patients with extreme obesity achieved significantly worse results in the physical and social domain, assessed the general state of health worse and experienced pain more intensely than obese persons with a lower BMI value. Obese persons also reported significantly higher disability due to experiencing physical pain than patients with other chronic diseases. The above research showed that obesity has a negative effect on HRQL even in the case of lack of accompanying chronic diseases.

The objective of this paper is to analyse the quality of life at perimenopausal age in the group of obese women at perimenopausal age, and to compare it the one in the group of women with healthy body weight. Due to the physiological changes in the organism and the related psychoemotional problems, women at the perimenopausal age tend to gain body weight [12]. This, in consequence, results in a considerable increase in the frequency of obesity. Finally, targeting the proposed research at women is due to the fact that the problem of overweight and obesity in the social-cultural context predominantly concerns women [13].

Material and methods

The research covered two equal research groups. All participants gave verbal consent to participate and the study was approved by the Bioethics Committee of University of Warmia and Mazury, Olsztyn, Poland. The first research group comprised 50 obese women (table 1) of the Obesity Treatment Ward. The mean age of the patients was 49.8 (range: 39-65 years of age). The mean body mass index amounted to 36.5 (range: 25-51.2). All patients were inhabitants of town. All subjects had been admitted to an obesity management clinic which organises weight loss programmes teaching patients to make healthy lifestyle choices with the assistance of an interdisciplinary team of experts, including a dietician, physician, psychologist, physiotherapists and physical education trainers.

The other research group comprised 50 women (table 2) with proper body mass from the Primary Care Centres in Warminsko-Mazurskie Province. All of them were inhabitants of town. The mean age of the patients was 48.7 (range: 38-60 years of age). The mean body mass index (BMI) amounted to 24.1 (range: 22.3-24.9).

Table 1. Characteristics of the research groups

Variable	Obese women (n, %)	Women with proper body mass (n, %)
Education	Vocational: 4, 8	Vocational: 5, 10
	Secondary: 16, 32	Secondary: 18, 36
	Higher: 30, 60	Higher: 27, 54
Marital status	Single: 5, 10	Single: 4, 8
	Married: 35, 70	Married: 34, 68
	Divorced: 8, 16	Divorced: 9, 18
	Widow: 2, 4	Widow: 3, 6

The applied research tool was The World Health Organization Quality-of-Life Scale – WHOQOL-BREF [14]. The questionnaire comprises 26 items. It measures the following broad domains: physical health, psychological health, social relationship and environment. Individual assessment of the patient covers: in the physical domain: everyday activities, dependency on medicines and treatment, stamina and tiredness, mobility, pain and discomfort, rest and sleep, ability to work; in the psychological domain: outward appearance, negative feelings, positive feelings, self-assessment, spirituality, religion, personal faith, thinking, learning, memory, concentration; in the domain of social relations: personal relationships, social support, sexual activity; in the environment of functioning: financial resources, freedom, physical and psychological safety, accessibility and quality of health care, household environment, possibility to obtain information and skills, possibility to participate in rest and recreation. Moreover, WHOQOL-BREFF includes items analysed separately: question 1: individual general quality of life; question 2: individual general quality of health. Respondents provided their

answers on the 5-degree scale and could score up to 20 points in each domain. The results were presented in the form of the arithmetic mean, standard deviation and percentage calculation. The statistical assessment of the results obtained was performed using SPSS 22 programme on the basis of Student t-test.

Results

General quality of life of obese persons amounted to m=3.25 (0.90) on the 1-5 scale. Among the patients, 13% assessed the quality of their life as very good, 15% good, 19% bad, and 6% very bad. The remaining 47% of persons assessed the quality of their life neutrally – "neither good nor bad". Regarding the assessment of own health in obese persons, 5% were very satisfied, 15% satisfied, 21% dissatisfied, and 14% very dissatisfied. 45% provided a neutral answer "neither good nor bad" to the question concerning own health. In comparison, in the group of persons with proper body weight 18.5>BMI<25, general quality of life amounted to m=3.85 (1.03). Among the patients, 26% assessed the quality of their life as very good, 41.5% good, 38% bad, and 2% very bad. The remaining 42.5% evaluated the quality of their life as "neither good nor bad". As for the assessment of own health in persons with proper body weight, 22.5% were very satisfied, 36% satisfied, 11% dissatisfied, and 2% very dissatisfied. The remaining 29% assessed the quality of their life neutrally, i.e. "neither good nor bad". The differences between the obese group and the one with healthy body weight in the general assessment of the quality of life and own health turned out to be statistically significant in both cases $p<0.05$.

The differences in the quality of life in particular domains (physical, psychological, social, and environmental) between both study groups were presented in Table No. 2.

Table 2. The results obtained in the WHOQOL-BREF test in the group of obese (n=50) and proper body mass women (n=50) at the level of significance of $p < 0.05$

Quality of life domains	Obese women m (sd)	Women with proper body mass m (sd)	Student t-test (df)
General quality of life	3.25 (0.90)	3.85 (1.03)	-3.21 (98)
General quality of health	2.50 (1.02)	3.65 (1.02)	-3.96 (98)
Physical health	13.25 (3.03)	15.31 (3.21)	-3,11 (98)
Psychological health	11.67 (3.21)	14,52 (3,91)	-3,67 (98)
Social relationship	13.14 (3.03)	16,31 (3,21)	-2,76 (98)
Environment	13.48 (3.05)	16,95 (3,71)	-2,86 (98)

m-mean, sd-standard deviation, df-degrees of freedom

Moreover, the statistical data from WHOQOL-BREF showed no correlation between the demographic variables of the studied persons (place of residence, marital status, level of education) and the level of quality of life.

Discussion

The term quality of life has had special prominence in recent years both in psychology and medicine. There has been observed an empowerment of the patient as more attention has been paid not only to their situation, but also the subjective perception of the disease. Clinicians took interest in domains of life related to the state of health and psychological and physical functioning, which is related to the concept of quality of life determined by the state of health – HRQL. Quality of life determined by the state of health has become an important indicator of the ill patient's position. It is a clinicians' response to a higher real prevalence of chronic diseases. The assessment of quality of life is performed subjectively, i.e. by the interested person themselves. It constitutes the most valuable and properly obtained source of information. In the presented research, the general quality of life and health of obese persons, and quality of life in all of the analysed domains (physical, psychological, social, environmental) turned out to be statistically significantly lower than the quality of life of persons with proper body weight. A decrease in the quality of life in the physical sphere probably results from the co-morbidities associated with obesity – numerous diseases and pathologies [6, 15]. As the statistics indicate, obesity in women at post-menopausal age increases, among others, the probability of uterus cancer, oesophageal cancer, kidney cancer, colorectal cancer, and breast cancer. A health-related effect of obesity, which usually resulting from sedentary lifestyle, is type II diabetes [16]. Moreover, a large part of the western society, and particularly persons with excessive body weight, have been determined to suffer from non-alcoholic fatty

liver disease causing damage to the organ [17]. Obesity is also the cause of atrial fibrillation, which considerably increases the risk of heart attack. Extreme obesity may lead to pulmonary thrombosis, deep vein thrombosis, chronic abdominal compartment syndrome, and heart enlargement, often leading to death [6, 16]. The incidence of such diseases may also be largely determined by the so-called metabolic syndrome, often occurring in the obese. Its consequence can be type II diabetes, coronary heart disease, or stroke [6, 16]. A decrease in the quality of life of obese patients in the psychological, social, and environmental sphere can be related to more frequent co-occurrence of obesity with depression-anxiety disorders, eating disorders, and personality disorders [18, 19, 20].

Moreover, the obesity stigma and the resulting discrimination lead to social isolation and contribute to the devalued social identity of the overweight persons. They are discriminated and victimised in many different spheres of life, including education, workplace and health care [21]. They face contempt, verbal or physical abuse and social repression, becoming subject to isolation, neglect, ridicule and gossip [22]. People with BMI>30, in particular women, find it more difficult to enter into romantic relationships [13]. Stress and low self-esteem increase the probability of emotional overeating and adopting a sedentary lifestyle. Those behaviours perpetuate obesity and additionally create a risk of developing somatic disease caused by weight gain [21]. Victims of weight stigma are also more susceptible to psychological disorders such as depression and are more likely to attempt suicide [23].

The obtained results in the presented research are consistent with results of other studies focused on the quality of life of the obese [9, 11]. Among others, the research conducted by Groessl et al. [24] shows that obese persons demonstrate a lower quality of life compared to those with proper body weight. Moreover, a non-linear correlation is observed between the quality of life and BMI value, and in the case of healthy BMI, the quality of life has a positive value. BMI exceeding the normal range generates the risk of deterioration of the state of health [25]. Also among persons at the age of 55-75, the BMI value strongly determines the quality of life [26]. Comparable results were also obtained by the Polish research team who applied the WHOQOL-BREF questionnaire while assessing the quality of life of the obese and those overweight [27]. In the above study, the obese reported a significantly lower assessment of own state of health and quality of life in comparison to the overweight. It was visible in the following general domains: physical health, psychological health, social relationships, and environment.

Research on the quality of life in the population of obese persons provides essential information concerning their subjective perception of self. This has valuable practical implications in the development of therapeutic, prophylactic, and treatment programmes with consideration of the quality of life in chronic disease. As the approach by de Walden-Gałuszko [28] stresses, the quality of life concerns the perception of own life position of a person in a temporal space, emphasising the necessity of doing medical research from two_perspectives, namely objective and subjective, which would simultaneously indicate the correlation between the quality of life and feeling of happiness.

Regarding ways of improvement of the psychophysical welfare of persons with excess weight, research by Prat et al. [29] evidences that body weight reduction programmes involving the cooperation of the patient with the doctor, psychologist, and dietician result in a considerable increase in quality of life of such patients. Also according to other research teams [30], the most efficient methods of improvement of the psychophysical functioning of persons with excess weight include multidisciplinary interventions aimed at facilitating a change of lifestyle. Moreover, the above study evidences that training of self-regulatory skills as an element of organised treatment for obesity results in an improvement of the body image and, therefore, the quality of life in persons with body mass index exceeding 30.

The weak point of the present study is the small size of the research group, which limits the ability to generalise the results. Therefore, the obtained results should be treated with special caution. Future research focusing on the quality of life in obese women should cover a far more significant number of subjects.

Conclusions

Results of the study showed a significantly lower quality of life in all measured domains (general quality of life, general quality of health, physical health, psychological health, social relationship and environment) in obese women compared to those with proper body mass.

Obese persons should receive multidisciplinary support during weight loss treatment programmes due to the level of quality of life and associated psychophysical disorders.

References:

1. Imes C, Burke LE. Health and Community Systems, University of Pittsburgh School of Nursing, Pittsburgh, PA 15261. The Obesity Epidemic: The United States as a Cautionary Tale for the Rest of the World. Curr Epidemiol Rep. 2014; 1(2): 82-88. https://doi.org/10.1007/s40471-014-0012-6
2. GUS (Central Statistical Office), Health Condition of Polish Population in 2009. 2011 [cited 2016 Nov 10]. Available from: www.stat.gov.pl/cps/rde/xbcr/gus/PUBL_ZO_stan_zdrowia_2009.pdf
3. Kulaga Z, Litwin M, Tkaczyk M, Różdżyńska A, Barwicka K, Grajda A. The height-, weight, and BMI-for-age of Polish school-aged children and adolescents relative to international and local growth references. BMC Public Health 2010;10: 109-120. https://doi.org/10.1186/1471-2458-10-109
4. Szymborski J. Health of children and teenagers in Poland. Outline of the diagnosis and directions of the improvement. In: Szymborski J, editor. The public health and the population policy. Warsaw: Government Population Advice 2; 2012. p. 40-64.
5. http://naukawpolsce.pap.pl/aktualnosci/news%2C399541%2Ceksperci-epidemia-otylosci-zagraza-rozwojowi-cywilizacyjnemu.html [cited 2016 Nov 10] (in Polish).
6. Wang J, Freire D, Knable L, Zhao W, Gong B, Mazzola P et al. Childhood and adolescent obesity and long-term cognitive consequences during aging. J Comp Neurol. 2015; 523(5): 757-768. https://doi.org/10.1002/cne.23708
7. Obara-Golebiowska M, Przybylowicz KE. Employment Discrimination against Obese Women in Poland: A Focus Study Involving Patients of an Obesity Management clinic. Iran J Publ Health 2014; 43(5): 1-2.
8. Radoszewska J. Ucieleśnienie. Psychiczne uwarunkowania otyłości u dzieci i osób w wieku dorastania. Warsaw: Scholar; 2011 (in Polish).
9. Sola M, Gajewska E, Manikowski W. Wpływ otyłości na jakość życia związaną ze stanem zdrowia wśród dziewcząt i chłopców. Now Lek. 2012; 81(4): 321–329 (in Polish).
10. Schwimmer JB, Burnwinkle TM, Varni JW. Health- Related Quality of Life of severely obese children and adolescents. J Am Med Assoc. 2003: 1813-1819. https://doi.org/10.1001/jama.289.14.1813
11. Serrano-Aguilar P, Munoz-Navarro SR, Ramallo-Farina Y, Trujillo-Martin MM. Obesity and health related quality of life in the general adult population of the Canary Islands. Qual Life Res. 2009; 18: 171–177. https://doi.org/10.1007/s11136-008-9427-1
12. Myint PK, Luben RN, Wareham NJ, Bingham SA, Khaw KT. Combined effect of health behaviours and risk of first ever stroke in 20,040 men and women over 11 years' follow-up in Norfolk cohort of European Prospective Investigation of Cancer (EPIC Norfolk): prospective population study. BMJ 2009; 338:b14. https://doi.org/10.1136/bmj.b349
13. Fikkan JL, Rothbloom E. Is fat a feminist issue? Exploring the gendered nature of weight bias. Sex Roles. 2012; 66: 575–592. https://doi.org/10.1007/s11199-011-0022-5
14. Wołowicka L. Przegląd badań nad jakością życia chorych po intensywnej terapii dorosłych. In: Wołowicka L., editor. Jakość życia w naukach medycznych. Poznań; 2001. p. 193 – 201 (in Polish).
15. Kryska S. The relationship between obesity and the incidence of infertility in women. Health Problems of Civilization. 2014; 3(8): 25-28. https://doi.org/10.5114/hpc.2014.57082
16. Barnes AS Obesity and sedentary lifestyles: risk for cardiovascular disease in women. Tex Heart Inst J. 2012; 39(2): 224–227.
17. Borrell LN, Samuel L. Body mass index categories and mortality risk in US adults: the effect of overweight and obesity on advancing death. Am J Publ Health. 2014, 104(3): 512–519. https://doi.org/10.2105/AJPH.2013.301597
18. Mannan M, Mamun A, Doi S, Clavarino A. Prospective Associations between Depression and Obesity for Adolescent Males and Females- A Systematic Review and Meta-Analysis of Longitudinal Studies. PLoS ONE. 2016;11(6): e0157240. https://doi.org/10.1371/journal.pone.0157240
19. Hemmingsson E. A new model of the role of psychological and emotional distress in promoting obesity: conceptual review with implications for treatment and prevention. Obes Rev. 2014; 15(9): 769-779. https://doi.org/10.1111/obr.12197
20. Izydorczyk B. A psychological typology of females diagnosed with anorexia nervosa, bulimia nervosa or binge eating disorder. Health Psychol Rep. 2015; 3(4): 312–325. https://doi.org/10.5114/hpr.2015.55169
21. Puhl RM, Brownell KD. Psychosocial origins of obesity stigma: toward changing a powerful and pervasive bias. Obes Rev. 2003; 4: 213–227. https://doi.org/10.1046/j.1467-789X.2003.00122.x
22. Hussin M, Frazier S, Thompson JK. Fat stigmatization on YouTube: A content analysis. Body Image. Int J Res. 2011; 8, 90–92.

23. Neumark-Sztainer D. Weight teasing among adolescents. Correlations with weight status and disordered eating behaviors. Int J Obes. 2002; 26: 123-131. https://doi.org/10.1038/sj.ijo.0801853
24. Groessl EJ, Kaplan RM, Barrett-Connor E. Body mass index and quality of well-being in a community of older adults. Am J Prev Med. 2004; 26: 126-129. https://doi.org/10.1016/j.amepre.2003.10.007
25. Damush TM, Stump T, Clark DO. Body-mass index and 4-year change in health-related quality of life. J Aging Health 2002; 14: 195-210. https://doi.org/10.1177/089826430201400202
26. Bogus K, Borowiak E, Kostka T. Otyłość i niska aktywność ruchowa jako ważne czynniki determinujące jakość życia osób starszych. Geriatria 2008; 2: 116-120 (in Polish).
27. Gnacińska-Szymańska M, Dardzińska JA, Majkowicz M, Małgorzewicz S. The assessment of quality of life in patients with excessive body mass using WHOQOL-BREF form. Endokrynologia, Otyłość i Zaburzenia Przemiany Materii 2012; 8(4): 136-142 (in Polish).
28. De Walden-Gałuszko K. Ocena jakości życia uwarunkowana stanem zdrowia. In: J. Meyza J, editor. Jakość życia w chorobie nowotworowej. Wybrane zagadnienia, Warszawa: Centrum Onkologii Instytutu im. Marii Skłodowskiej – Curie; 1997. p. 77 – 84 (in Polish).
29. Pratt KJ, Lazorick S, Lamson AL, Ivanescu A, Collier DN. Quality of life and BMI changes in youth participating in an integrated pediatric obesity treatment program. Health Qual Life Out 2013; 11(1): 1-9. https://doi.org/10.1186/1477-7525-11-116
30. Powell LH, Calvin III JE, Calvin Jr. JE. Effective Obesity Treatments. Am Psychol 2007; 62(3): 234-246. https://doi.org/10.1037/0003-066X.62.3.234