

# Open Minds

Internacional Journal

ISSN 2675-5157

vol. 2, n. 4, 2026

## ●●● ARTICLE 11

Acceptance date: 10/03/2026

# OBESITY BEYOND AESTHETICS: MOBILITY, SEXUALITY, AND QUALITY OF LIFE

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**Abstract:** Obesity is a chronic multifactorial condition associated with metabolic, functional, and psychosocial repercussions that go beyond traditional clinical outcomes. This study conducted an integrative review of the literature published between 2005 and 2024, with the aim of critically analyzing the associations between obesity, functional mobility, quality of life, sexual function, and body image, as well as the effects of different intervention modalities. Observational studies, clinical trials, systematic reviews, and meta-analyses indexed in PubMed, Scielo, Web of Science, and Scopus were included. The findings indicate that obesity compromises mobility through biomechanical and inflammatory mechanisms and the presence of sarcopenia, being associated with poorer functional performance and greater dependence in activities of daily living. A consistent impairment in health-related quality of life was observed, especially in the physical domains, with a significant influence of metabolic profile and weight stigma on psychological outcomes. Sexual dysfunction was highly prevalent in obese men and women, mediated by hormonal, endothelial, and psychosocial changes. Weight loss interventions, particularly bariatric surgery, promoted relevant improvements in mobility, quality of life, and sexual function, although some patients maintained residual psychological symptoms. Additional evidence indicates that body contouring procedures contribute to the recovery of self-image and psychosocial well-being after massive weight loss. It is concluded that the impact of obesity is multidimensional and that integrated therapeutic strategies involving physical rehabilitation, psychological support, and long-term follow-up

are essential to restore functionality, sexual health, and quality of life.

**Keywords:** Obesity, Quality of life, Functional mobility, Sexual function

## Introduction

Obesity is recognized as one of the main public health problems of the 21st century, with a growing impact on morbidity and mortality, health costs, and quality of life. In addition to metabolic and cardiovascular conditions, obesity is associated with functional limitations, social stigma, impaired sexual life, and dissatisfaction with body image. The study of these interrelationships is fundamental for the development of more effective interventions (Gonçalves and Moraes, 2004; Westbury et al., 2023).

Obesity alters biomechanical and metabolic mechanisms that, together, reduce an individual's functional capacity. The chronic increase in load on joints and support structures modifies gait patterns and increases osteoarticular wear, while low-grade inflammation and endocrine changes associated with adiposity favor loss of muscle mass and strength (sarcopenia), creating a combination that limits performance in daily activities and increases the risk of reduced mobility and disability. (Forhan and Gill, 2013; Prado et al., 2012; Esposito and Giugliano, 2005).

At the same time, the impacts of obesity on psychosocial dimensions—including the experience of stigma, changes in self-esteem, and difficulties in accepting body image—contribute significantly to a worsening quality of life and to dysfunctions in intimate and relational spheres. Accumulated evidence shows that sexual

problems are more frequent in overweight populations and that gains in body image and sexual satisfaction can occur after weight loss, although they often depend on the management of psychological factors and residual physical consequences (e.g., excess skin) that are not always resolved by weight reduction alone. (Kolotkin et al., 2012; Sarwer et al., 2018; Salari et al., 2023; Song et al., 2006; Meneguzzo et al., 2021).

Given this multifaceted scenario, coping strategies must be integrated and individualized: interventions that combine behavioral approaches, physical rehabilitation aimed at preserving lean body mass, psychological support, and, when indicated, surgical treatments tend to produce the greatest gains in mobility, quality of life, and sexual functioning. Longer follow-up studies and multidisciplinary care programs point to the need for continuous maintenance and monitoring of benefits, as well as policies that increase equitable access to comprehensive care. (Pajecki et al., 2014; Sierzantowicz et al., 2022; Konttinen et al., 2024; Raaijmakers et al., 2017; Major et al., 2020).

This study is justified by the magnitude and complexity of the impacts of obesity beyond metabolic outcomes—in particular on functional mobility, quality of life, sexuality, and body image—areas in which the literature shows consistent but fragmented findings, with methodological heterogeneity and gaps in long-term follow-up and integration between clinical, rehabilitative, and psychosocial approaches.

Given this, the main objective of this study is to conduct an integrative and critical review of the evidence published between 2004 and 2024 on the associations between obesity, mobility, quality of life, se-

xual function, and body image, quantifying, when possible, prevalences and effect magnitudes; Secondary objectives include comparing the results of different intervention modalities (behavioral programs, bariatric surgery, contouring procedures), identifying methodological gaps and understudied subgroups (e.g., rural and elderly populations), and proposing practical recommendations for multidisciplinary clinical care and priorities for future research.

## Theoretical Framework

### Physiopathological Aspects of Obesity and Mobility

Obesity causes a set of biomechanical and functional changes that compromise functional mobility. Increased body weight modifies gait mechanics (reduced stride length, increased energy expenditure), alters support patterns, and accelerates joint overload—factors that, together, contribute to gait limitation and loss of autonomy in daily activities (Forhan and Gill, 2013).

In the field of mobility, the disuse theory suggests that joint overload and pain reduce the level of physical activity, feeding back into the cycle of functional capacity loss. In addition to the mechanical effect, obesity is strongly associated with osteoarthritis and chronic joint pain, conditions that act as mediators of functional capacity reduction. In series of older adults and candidates for bariatric surgery, there is a high prevalence of functional decline related to increased BMI, which reinforces that the degree of adiposity is a direct determinant of physical disability in many clinical settings (Pajecki et al., 2014; Forhan and Gill, 2013).

Body composition—and not just BMI—is critical to understanding loss of function: the presence of sarcopenia or sarcopenic obesity (loss of lean mass concomitant with excess fat) is associated with lower muscle strength, poorer functional performance, and reduced quality of life scores in older women. This indicates that strategies aimed solely at weight loss without preserving lean mass may leave important gaps in functional recovery (Neto et al., 2012).

At the molecular level, chronic metabolic and inflammatory processes—including insulin resistance, increased pro-inflammatory cytokines, and endocrine changes—contribute to muscle frailty and changes in skeletal muscle energy metabolism, impairing the ability to sustain and perform physical tasks. These mechanisms explain part of the link between obesity, metabolic comorbidities, and the decline in mobility observed in longitudinal cohorts. (Esposito and Giugliano, 2005)

From a clinical assessment and rehabilitation perspective, simple and reproducible measures—such as walking speed and chair rise test—have prognostic and diagnostic value: poorer performance on these tests correlates with adverse events and medium/long-term mortality, and they are useful for stratifying risk and monitoring response to rehabilitation interventions. Combined interventions (weight loss + strength/resistance training + functional rehabilitation) demonstrate superior gains in mobility compared to weight loss alone. (Nascimben et al., 2022; Forhan and Gill, 2013).

## Quality of Life and Mental Health in Obesity

Health-related quality of life (HR-QoL) should be understood as a multidimensional construct that integrates physical functions, psychological domains, social relationships, and social participation. Validated instruments used in the literature include the SF-36, the IWQOL-Lite, and specific measures for bariatric populations; reviews and meta-analyses have systematized results using these scales, showing consistent patterns of impairment, especially in physical dimensions (Raaijmakers et al., 2017; Sierzantowicz et al., 2022).

Cohort studies and meta-analyses confirm that surgery and other weight loss interventions produce substantial improvements in physical domains of HRQoL, with more heterogeneous effects in the mental/psychological sphere over time. Many patients experience initial gains in quality of life that tend to partially diminish over the years, especially when there is weight regain or when psychosocial factors are not addressed (Sierzantowicz et al., 2022; Major et al., 2020; Tavares, Nunes, & Santos, 2015).

Weight stigma plays a central role in the deterioration of psychological well-being among people with obesity: the experience of discrimination (in health services, work, school, and the media) and the internalization of this stigma are associated with a higher risk of depression, lower adherence to health care, and maladaptive behaviors that make it difficult to maintain health gains. Recent reviews indicate adverse effects of stigma on health behaviors and psychological outcomes, regardless of BMI itself (Brown, A.; Flint, S. W. & Batterham, 2022; Lee et al., 2022).

Factors such as socioeconomic conditions, access to services, and regional specificities (e.g., rural populations) strongly modulate the relationship between obesity and quality of life. In Brazilian studies, overweight rural elderly people showed a higher prevalence of functional limitations and lower physical QoL, highlighting how local barriers (reduced access to guided physical activity, limited resources) amplify the negative effects of excess weight. (Tavares et al., 2018).

The practical implications are clear: interventions that combine medical treatment (surgical or otherwise), adapted physical activity programs, nutritional support, and psychological interventions to address stigma and expectations tend to produce the best results in HRQoL. In addition, prolonged multidisciplinary follow-up (nutritional, psychosocial, and functional monitoring) is recommended to maintain gains over time. (Raaijmakers et al., 2017; Sierantowicz et al., 2022).

## Sexuality and Body Image

Several theoretical models explain the effects of obesity on functionality and quality of life. The biopsychosocial model (Engel, 1977) proposes that biological (inflammation, insulin resistance, sarcopenia), psychological (self-image, self-esteem), and social (stigma, social support) factors interact dynamically.

The relationship between obesity and sexual functioning stems from multiple physiological (hormonal and vascular) and psychosocial pathways. From a biological point of view, obesity and metabolic syndrome are associated with endothelial dysfunction, changes in hormone production (e.g.,

reduction in free testosterone, changes in SHBG), and chronic inflammation—mechanisms that explain part of the increased risk of sexual dysfunction in both men and women. (Esposito and Giugliano, 2005; Esposito et al., 2008).

Epidemiological literature and recent syntheses show high prevalences of sexual dysfunction in overweight individuals: in women, meta-analyses have reported an approximate prevalence of 40–50% of sexual dysfunction among obese women; in men, estimates also point to a significant increase in the risk of erectile dysfunction compared to individuals of adequate weight. Weight loss studies (behavioral and surgical) often document improvement in sexual domains, although the magnitude and durability vary among the populations evaluated. (Salari et al., 2023; Kolotkin et al., 2012; Sarwer et al., 2018)

Body image is a critical psychological mediator between weight loss and sexual/psychological satisfaction: after massive weight loss, many patients gain self-esteem and body satisfaction, but excess skin and residual morphological changes can limit subjective improvement, leading many to seek body contouring procedures to achieve better integration between appearance and function. Longitudinal reviews show that, although there is initial improvement in self-image, there is variability among individuals, and a subgroup maintains significant concerns that require psychological/aesthetic support. (Song et al., 2006; Ivezaj et al., 2018; Meneguzzo et al., 2021).

In the domain of sexuality, evidence indicates that hormonal dysfunctions, endothelial alterations, and psychosocial factors contribute to a higher prevalence of sexual dysfunction in individuals with obesity.

Obesity has a direct influence on male sexual function through hormonal, metabolic, and, above all, endothelial mechanisms. As described by Esposito and Giugliano (2005), excess adipose tissue promotes a chronic inflammatory state and insulin resistance that reduces the bioavailability of nitric oxide, a central element for penile smooth muscle relaxation and adequate vasodilation. Complementarily, Moon, Park, and Kim (2019) demonstrate that endothelial dysfunction induced by pro-inflammatory adipokines, oxidative stress, and alterations in the testosterone-aromatase axis compromises penile blood flow, substantially increasing the risk of erectile dysfunction. Thus, both authors converge in indicating that obesity not only favors unfavorable hormonal and metabolic changes but also degrades vascular integrity, establishing a robust pathophysiological link between obesity and erectile dysfunction.

Recent literature has consistently shown that significant weight loss resulting from bariatric surgery produces relevant improvements in sexual function and overall sexual health. In women, prospective studies have shown continuous increases in Female Sexual Function Index (FSFI) scores, especially in the domains of desire, arousal, orgasm, and lubrication, accompanied by reductions in depressive and anxiety symptoms (Öktemer; Küçükakça, 2023; Różańska-Wałędziak et al., 2020). In men, improvements in International Index of Erectile Function (IIEF) scores are associated with elevated total and free testosterone levels, reinforcing the hypothesis that weight loss positively modulates the reproductive hormonal axis (Chen et al., 2023). These findings reinforce that substantial BMI reduction not only improves sexual physiology but also has repercussions on the

psychological and relational domains of intimate life.

The convergence of findings from three key studies strongly reinforces that obesity acts on male sexual function through interconnected pathophysiological mechanisms involving endothelial dysfunction, systemic inflammation, and hormonal changes. Corradi et al. (2009) demonstrate that obese men with erectile dysfunction have significantly impaired endothelial function, accompanied by elevated inflammatory markers, suggesting a direct link between metabolic inflammation and vascular damage. Additionally, Corona et al. (2014) propose that obesity-induced androgen deficiency—mediated by changes in the testosterone-SHBG axis and increased aromatase activity in adipose tissue—further aggravates the inability to maintain adequate blood flow in erectile tissue, establishing a joint hormonal-vascular mechanism. Finally, the review by Maiorino Bellastella and Esposito (2015) consolidates these findings by integrating multiple pathways through which metabolic syndrome, often associated with obesity, compromises the endothelial nitric oxide pathway, intensifies oxidative stress, and promotes structural vascular changes, culminating in an increased risk of erectile dysfunction. Together, these studies demonstrate that obesity not only compromises general metabolic parameters but also synergistically deteriorates endothelial and hormonal integrity, offering a robust pathophysiological explanation for the increased prevalence of erectile dysfunction in obese individuals.

In addition to the direct effects of hormonal modulation, there is evidence that bariatric surgery reduces systemic inflammation, improves insulin sensitivity, and resto-

res endothelial function—mechanisms that contribute to the recovery of erectile response and genital perfusion (Chen et al., 2023; Nosrati et al., 2023). Although some studies indicate that not all women achieve complete resolution of sexual dysfunction, even after significant weight loss, it is observed that most experience significant improvements in sexual satisfaction and quality of intimate life (Lopez et al., 2024). These results suggest that sexual recovery is multifactorial, combining metabolic adjustments, structural changes, and emotional changes resulting from weight loss.

In addition to bariatric surgery, post-weight loss body contouring has emerged as an important component in improving self-image and quality of life, factors closely linked to sexual experience. Recent studies show that patients who undergo skin removal surgeries—such as extended abdominoplasty or thigh lifts—experience substantial improvements in self-esteem, body perception, and psychosocial well-being (Dalaei et al., 2024; Vater et al., 2024). These outcomes promote greater confidence, physical comfort, and sexual engagement, indicating that the treatment of obesity, when understood broadly, involves not only the restoration of metabolic parameters but also the reconstruction of body identity and sexual health as essential dimensions of quality of life.

In clinical practice, this implies that sexual and body image assessment should be part of the comprehensive management of patients with obesity: standardized screenings, screening for comorbidities (diabetes, dyslipidemia), clinical/hormonal treatment when indicated, and referral to psychological therapies and reconstructive procedures—always aligning expectations

and offering multidisciplinary follow-up to maximize gains in sexual function and well-being. (Sarwer et al., 2018; Raaijmakers et al., 2017; Song et al., 2006).

## Methodology

This study was conducted as an integrative review based on publications indexed in PubMed, Scielo, Web of Science, and Scopus, published between 2005 and 2024. The inclusion criteria were: original studies or reviews addressing obesity and at least one of the following outcomes: mobility, quality of life, sexual function, or aesthetics. Objectives, study design, population, and main quantitative findings were extracted. The synthesis was performed narratively.

## Results and Discussion

### Physiopathological Aspects of Obesity and Mobility

Adipose tissue functions as an immunometabolic organ: dysfunctional adipocytes release proinflammatory cytokines that recruit macrophages, generating low-grade inflammation and contributing to insulin resistance. Central molecular pathways, such as JNK and IKK/NF- $\kappa$ B activation, in addition to endoplasmic reticulum stress, are key mediators of this inflammatory process (Hotamisligil, 2006; Giugliano, Ceriello, & Esposito, 2006). Thus, evidence suggests a close relationship between chronic inflammation (“meta-inflammation”) and metabolic disorders associated with obesity, such as insulin resistance and type 2 diabetes, demonstrating that the immune and metabolic systems are deeply intertwined.

**Authors Kawai, Autieri, and Scalia (2020)** presented an updated view of the physiological, cellular, and molecular mechanisms of chronic inflammation in the adipose tissue of overweight and obese individuals, and how this inflammation contributes to systemic metabolic dysfunction. Evidence from both preclinical and clinical research, with a special focus on the interactions between hypertrophied adipocytes and immune cells in the adipose vascular stroma, has shown quantitative findings that include data on increased expression of chemokines (e.g., MCP-1), macrophage recruitment (via CCR2), secretion of inflammatory cytokines (IL-6, TNF- $\alpha$ ), and reduction of anti-inflammatory mediators in visceral adipose tissue, as well as the impact of these changes on insulin resistance, glucose metabolism, and other organ dysfunction.

Prado et al. conducted a critical review of the existing literature on **sarcopenic obesity**, i.e., the condition in which sarcopenia coexists with excess fat, and explored how this phenotype affects physical function and cardiometabolic risk. They observed great heterogeneity among studies in the prevalence of sarcopenic obesity, depending on the criteria used; they proposed a “metabolic load/capacity” model based on the ratio of fat mass to fat-free mass to operationalize the concept, and suggested that this model could better explain the variability in disease risks and physical dysfunction among different populations.

The study by Neto et al. (2012) investigated how sarcopenia (low muscle mass) and sarcopenic obesity (coexistence of obesity and sarcopenia) relate to muscle strength and quality of life in elderly women. Sedentary elderly women were assessed for body composition (via DXA), muscle

strength (dynamometry), and quality of life measures. The main quantitative findings showed that those with sarcopenic obesity had a higher percentage of fat and lower fat-free mass, although in some functional tests (such as getting up from a chair or walking) the differences were not as significant as expected. However, muscle strength (such as handgrip strength) correlated positively with functional performance, suggesting that loss of lean mass, rather than just excess fat, contributes to functional impairment.

Forhan and Gill (2013) sought to elucidate how obesity is associated with functional mobility impairment (motor function) and health-related quality of life (HRQoL). The authors compiled data on walking, balance, energy expenditure, and limitations in daily activities in people with obesity. Regarding quantitative findings, Forhan and Gill point out that walking requires up to twice as much energy per kilometer for some obese patients than for people of normal weight, and that changes in gait parameters (e.g., anterior-posterior postural instability) are common and contribute to reduced mobility and decreased participation in activities of daily living. Obesity is associated with slower walking speed and increased risk of falls, and combined weight loss and strength training programs are more effective in restoring functionality.

In the study by Pajeccki et al. (2014), which assessed the presence of functional decline in patients with severe obesity and age > 60 years who underwent functional assessment before bariatric surgery. Dependence on activities of daily living (ADL), time on the *Timed Up and Go* (TUG) test, and other indicators were measured in patients with very high BMI and quantitative findings, observing that almost half of the

patients with morbid obesity and older age had functional decline: patients with a BMI > 46.5 kg/m<sup>2</sup> had a significant association with dependence in instrumental ADLs, and those with a BMI > 51 kg/m<sup>2</sup> had a TUG time above 10 seconds.

## Quality of Life and Mental Health in Obesity

A comprehensive systematic review involving more than 3.9 million participants analyzed how different metabolic profiles modulate the impact of obesity on mental health and quality of life. The results showed that individuals with metabolically unhealthy obesity (MUHO) have a substantially higher risk of mental health problems and poorer quality of life compared to those who are metabolically healthy, highlighting that the metabolic component plays a decisive role in psychosocial vulnerability. While metabolically healthy obesity (MHO) showed only a slight increase in the risk of negative outcomes, the MUHO group exhibited significantly higher odds of anxiety (approximately 1.73 to 1.78) and more pronounced reductions in physical components of the SF-36 (approximately -7 to -9 points), indicating relevant functional impairment. Thus, the synthesis of the findings demonstrates that non-metabolically healthy obesity is strongly associated with impairment in mental health and quality of life, reinforcing that metabolic status determines much of the psychological and functional burden attributed to excess weight (ABIRI et al., 2022).

Bariatric surgery has had a consistently positive psychological impact in the immediate and medium-term postoperative period. A comprehensive analysis of 46 prospective studies, totaling more than 32,000

patients, identified a significant reduction in depressive symptoms up to 24 months after the procedure, with a robust effect size (Hedges'  $g = 0.804$ ) (Woods, 2023). These benefits proved stable over the first two years after surgery, regardless of the technique used, suggesting that substantial weight loss and subsequent metabolic changes have a significant influence on mood improvement.

Law et al (2023) evaluated multiple mental health outcomes after bariatric surgery — including depression, anxiety, and eating disorders — finding evidence of significant improvement in depressive and anxiety symptoms and eating disorders, with a reduction in the prevalence of depression from 34.7% before surgery to 20.4% postoperatively (OR  $\approx 0.49$ ). Reductions in symptom scores were also reported on scales such as HADS, BDI, and PHQ-9. However, the analysis pointed to an increased risk of serious adverse outcomes in subgroups of patients after surgery, such as suicidal ideation and attempts, self-harm, and alcohol use disorder — with the risk of suicide up to approximately 1.9 times higher and increased alcohol use after about three years of follow-up. These findings indicate that, although bariatric surgery often promotes improvements in mental health, it is essential to maintain long-term psychological and psychiatric follow-up to monitor and prevent risky behaviors, considering that benefits and risks may coexist.

Patients with severe obesity who underwent sleeve gastrectomy surgery had an average decrease of 9.14 kg/m<sup>2</sup> in body mass index (BMI) 12 months after surgery (95% CI: -10.76; -7.52). The assessment of weight-related quality of life (assessed by IWQOL-Lite) improved significantly in all domains postoperatively. However, there

was no statistically significant improvement in anxiety and depression symptoms, as assessed by the Hospital Anxiety and Depression Scale (HADS) after 12 months. This finding suggests that although surgery brings remarkable physical and psychosocial gains that translate into improvements in HRQoL, clinically relevant mental health symptoms may persist in some patients, requiring an ongoing psychological approach (Elyasinia et al., 2025). In short, metabolically unhealthy obesity is a stronger predictor of poorer mental health and quality of life.

Bariatric surgery, while a powerful tool for remission of depression and improvement in quality of life, requires careful psychological follow-up to mitigate the risks associated with behaviors such as suicide and substance use, especially since some mental health symptoms may persist despite success in weight loss and quality of life (Abiri et al., 2022; Law et al., 2023). Song et al. (2006) observed significant improvement in body image and well-being after body contouring surgeries, although some patients remained concerned about scarring.

Recent research corroborates that internalization of weight stigma is strongly associated with impaired psychological well-being and self-esteem. For example, in a study of adults in a context of food insecurity, weight bias internalization (WBI) was associated with lower quality of life and poorer psychosocial functioning, evidencing a direct impact on mental health and body self-concept (Cuauero et al., 2023). Another study, conducted with prepubertal adolescents, showed that perceived stigma and weight bias internalization were positively related to internalizing symptoms (anxiety, depression) and disordered eating behavior,

while negatively correlated with self-esteem and body satisfaction—confirming the mediating role of internalization in the link between social stigma and emotional adversity (Zancu and Diaconu-Gherasim, 2024).

## Sexuality and Body Image

Most studies have identified a positive association between obesity and impairment in multiple domains of quality of life. Kolotkin et al. (2012) and Sarwer et al. (2018) reported that sexual dysfunction is more prevalent in individuals with high BMI, with prevalences reaching 50% in women (Salari et al., 2023). Surgical and behavioral interventions improved sexual satisfaction indicators in up to 70% of participants.

In the study published by Nosrati et al. (2023), the objective was to evaluate the effects of surgical weight loss on sexual function and urinary symptoms; It was a prospective observational study conducted with 81 patients (mean age  $39.4 \pm 9.2$  years; mean preoperative BMI  $47.15 \pm 5.4$  kg/m<sup>2</sup>) who completed validated questionnaires before and after surgery. , the authors reported statistically significant improvement in IIEF domains—specifically sexual desire, orgasmic function, and overall satisfaction—while women in the cohort showed no significant changes in FSFI domains. In urological terms, the IPSS score decreased from  $5.83 \pm 3.01$  to  $2.37 \pm 1.66$  after the intervention, indicating improvement in urinary storage; the results support that gains in male sexual function and storage symptoms may arise in the first postoperative months, although sex-differentiated effects were observed.

Another study involving men who underwent LSG or LRYGB (59 completed IIEF; 37 completed postoperative evalua-

tion with a mean follow-up of 23.2 months), the authors evaluated sexual function and hormone levels before and  $\geq 1$  year after surgery. They found negative correlations between BMI/WC and testosterone levels and identified BMI as an independent risk factor for the severity of erectile dysfunction. After surgery, there was a sustained improvement in IIEF scores and an increase in testosterone levels, indicating partial reversibility of the hypogonadotropic condition associated with obesity. Although greater weight loss did not linearly predict improvement in sexual function, a greater reduction in BMI was associated with a more pronounced increase in testosterone, suggesting hormonal and endocrine mechanisms as mediators of post-bariatric sexual gains (Chen et al., 2023).

Aiming to investigate the association between bariatric surgery and female sexual function, the authors conducted a large cross-sectional study with 623 women who underwent surgery between 1999 and 2017; data were obtained through questionnaires containing the FSFI comparing the preoperative period and the time of response. The design allowed for correlating BMI loss with changes in sexual function: there was a significant increase in the total FSFI score and in all subdomains, and the prevalence of low scores ( $< 26.55$ ) fell from 57.5% to 36.3% ( $p < 0.001$ ). There was no change in the percentage of sexually active patients before and after, but the analysis showed a positive correlation between the magnitude of BMI loss and improvement in each domain of the FSFI—suggesting a dose-response relationship between weight reduction and female sexual improvement (Róžańska-Wałęziak et al., 2020).

Öktemer and Küçükakça (2023) obtained similar results with women who underwent bariatric surgery. Participants were followed up postoperatively with validated instruments (FSFI, BDI, BAI, and quality of life scales). The findings showed a statistically significant improvement in the total FSFI score and its domains as early as three months after surgery, along with a reduction in depressive and anxiety symptoms. The short-term prospective design reinforces that psychological and functional gains may precede complete body adjustment, thus demonstrating positive changes in sexual life, improvement in depression, and increased quality of life.

Moraes et al. (2023) conducted a study focused on patients who underwent bariatric surgery and subsequent body contouring surgery. The authors analyzed quality of life and body image using validated questionnaires; the design evaluated pre- and post-contouring measures to map psychosocial gains after excess skin removal. The results indicated consistent improvement in body image perception and in domains related to self-esteem and physical well-being, changes that the authors discuss as indirect mediators of sexual satisfaction (due to increased self-confidence and physical comfort during intimate activity). Although the study has a predominantly psychosocial focus and presents limitations in sample size and follow-up, the data support the role of body contouring as an important complement to restoring quality of life after massive weight loss.

Corroborating this idea, Vater et al. (2024), analyzing 21 patients who underwent thigh lift surgery after massive weight loss, found that after surgery, there was a significant improvement in the Physical Com-

ponent Score (PCS-12) and in the domains of self-acceptance, body contact, sexuality, and self-esteem of the DKB-35. These findings quantify the benefit of contouring in areas that directly interfere with sexual engagement and comfort, suggesting that reconstructive procedures contribute measurably to the recovery of sexual experience in patients with post-bariatric excess skin.

## Conclusions

Obesity comprehensively affects mobility, sex life, self-image, and quality of life. Evidence suggests that integrated interventions involving weight loss, physical rehabilitation, and psychosocial support can promote substantial improvements in physical and psychosocial well-being. Future studies should standardize measurement instruments and consider sociocultural factors to better understand the relationships between obesity and quality of life.

The integrated analysis of the evidence demonstrates that obesity has a profound and multidimensional impact on mobility, quality of life, and mental health, operating through interdependent physiological, psychosocial, and functional pathways. Chronic metabolic and inflammatory changes associated with excess adipose tissue and, in many cases, sarcopenia or sarcopenic obesity, compromise functional capacity, increase fatigue, and reduce physical autonomy. These factors are directly reflected in poorer motor performance, greater limitation in activities of daily living, and consistent decline in the physical components of quality of life, especially when obesity is associated with an unhealthy metabolic profile.

At the same time, psychosocial aspects emerge as central determinants of health out-

comes. Weight stigma—particularly when internalized—has been shown to be strongly associated with reduced self-esteem, poorer body satisfaction, and greater emotional distress, acting as a negative mediator of quality of life regardless of the degree of obesity. This process contributes to social isolation, avoidance of physical activity, and lower adherence to therapeutic strategies, perpetuating a cycle of functional limitation and psychological distress. Thus, obesity cannot be understood solely as a metabolic condition, but as a socially constructed phenomenon that directly impacts individuals' subjective and relational experiences.

In the context of interventions, bariatric surgery stands out as an effective strategy for substantially improving physical and psychosocial parameters, including weight loss, improved mobility, quality of life, and depressive symptoms. However, data also indicate that psychological benefits are neither universal nor automatically sustained in the long term, especially in vulnerable subgroups. The persistence of anxiety, depressive symptoms, changes in body image, and sexual difficulties in some patients reinforces the need for continuous interdisciplinary follow-up, going beyond weight loss success and incorporating systematic psychological assessment and structured psychosocial support.

Finally, the findings converge on the understanding that full recovery of functionality and quality of life in people with obesity—especially after significant weight loss—depends on integrated and individualized approaches. Complementary interventions, such as physical rehabilitation, psychological support, and, when indicated, body contouring surgery, demonstrate the potential to restore aspects of self-image, sel-

f-esteem, and body experience that directly impact mobility, emotional well-being, and sexual life. Thus, health policies and practices should adopt a broadened biopsychosocial and y perspective, recognizing that effective treatment of obesity requires not only weight reduction but also the functional, psychological, and social reconstruction of the individual's bodily experience.

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