

# Obesity as an interdisciplinary medical and social problem: Therapeutic opportunities

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## ABSTRACT


**Aim:** This review aimed to summarize current knowledge regarding overweight and obesity as chronic diseases. The health, social, and economic consequences were assessed. Diagnostic and therapeutic possibilities available in primary care practice were presented.

**Materials and Methods:** This work is a narrative review. Literature on the epidemiology, pathophysiology, and treatment of overweight and obesity was analyzed. Current guidelines from scientific societies were considered. Randomized trials, systematic reviews, and meta-analyses were included. Publications with significant clinical relevance were selected.

**Results:** Obesity is a multifactorial disease that leads to metabolic and cardiovascular complications. It increases the risk of type 2 diabetes and malignancies and impairs quality of life. The cornerstone of treatment is lifestyle modification, including caloric reduction and increased physical activity. In selected cases, pharmacotherapy or surgical intervention may be indicated. Acupuncture may serve as an adjunctive therapy.

**Conclusions:** Obesity management requires a comprehensive and individualized approach. Long-term monitoring of treatment outcomes is essential. Primary care physicians play a pivotal role in the diagnosis and management of this condition.

**KEY WORDS:** body mass Index, weight loss, primary health care, lifestyle, acupuncture therapy

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## INTRODUCTION

Obesity, previously considered merely a risk factor for health, has recently been recognized as a disease [1]. Individuals affected by obesity typically present with a range of metabolic disturbances that warrant clinical attention. Excess body weight also negatively impacts social functioning, employment, and overall quality of life, ultimately extending beyond direct health care costs [2].

Both direct and indirect consequences of overweight and obesity require attention at individual and population levels [3]. The economic burden associated with these conditions has increased substantially over recent years, potentially threatening the sustainability of health care systems worldwide [3, 20]. Social intolerance toward individuals with overweight or obesity further exacerbates negative psychological outcomes [4].

Overweight and obesity can significantly limit functional capacity and reduce quality of life [2]. Cardiovascular health generally inversely correlates with body mass, particularly regarding the development of

hypertension [3]. Pulmonary function is also impaired in individuals with excess weight [5]. Type 2 diabetes development, often reversible with normalization of body mass index (BMI), is directly associated with obesity [4,3]. Consequences also extend to the gastrointestinal system, including non-alcoholic fatty liver disease (NAFLD) [6].

Obesity is linked to malignancies [3], as well as degenerative joint disease, particularly in the knees and lumbar spine [7]. Weight normalization improves clinical status, reduces symptoms, and may partially reverse degenerative changes in knee menisci [7].

## AIM

The purpose of this review is to summarize current knowledge on overweight and obesity as chronic diseases and discuss their health, social, and economic consequences. Additionally, diagnostic and therapeutic strategies available in primary care are presented, emphasizing nonpharmacologic, pharmacologic,

surgical, and adjunctive interventions, including effective co-treatment with acupuncture.

## MATERIALS AND METHODS

This is a narrative review. Scientific literature on the epidemiology, pathophysiology, health consequences, and treatment strategies for overweight and obesity was analyzed. Current international society guidelines, randomized trials, systematic reviews, and meta-analyses were considered. Literature selection prioritized clinical relevance and applicability to daily primary care practice.

## REVIEW AND DISCUSSION

### OVERWEIGHT AND OBESITY IN PRIMARY CARE: OPPORTUNITIES FOR INTERVENTION

Obesity is a multifactorial disease involving genetic, environmental, hormonal, and behavioural determinants [1, 8]. Diagnostic evaluation should exclude secondary causes, such as endocrine disorders, including hypothyroidism or Cushing syndrome [8]. Given the high prevalence of overweight and obesity in family practice [9, 18], primary care physicians represent a critical point of intervention in both Poland and other developed countries [3],

As a chronic disease with multiple, often uncontrollable determinants, obesity presents a challenge, particularly in environments unfavourable to weight reduction [7]. It is frequently stigmatized, inducing feelings of guilt in affected individuals [4]. Clinically overlooked, treatable causes of obesity warrant attention [8]. Waist circumference assessment as an indicator of visceral obesity and cardiovascular risk is helpful in primary care [3]. Diagnostic evaluation should identify metabolic complications, such as insulin resistance or prediabetes [3]. Individualized diagnostic approaches enhance the effectiveness of subsequent therapeutic interventions [8]. Repeated weight-loss attempts, initially successful but ultimately failing, may erode patient trust and hinder communication with the physician [8].

### DETERMINING THE CAUSE OF OBESITY

BMI-based diagnosis is a fundamental step in obesity management [1]. Individualized assessment allows for more targeted therapy. Comorbid conditions, particularly cardiovascular disease and type 2 diabetes, must be considered when planning treatment. Medication review is essential, as certain drugs may promote weight gain [8]. Assessment of lifestyle, including diet, physical activity, and psychosocial factors, is crucial [7].

## THERAPEUTIC STRATEGIES

Obesity management should be comprehensive and long-term, incorporating lifestyle modification, pharmacotherapy, and, in selected cases, surgical intervention [1,8]. Lifestyle change remains the cornerstone, emphasizing lasting dietary modification and increased physical activity [8,10]. Behavioural support aimed at maintaining patient motivation is critical [8]. Therapy should be tailored to obesity severity and comorbidities [3].

Lifestyle interventions are key to successful treatment, focusing on caloric restriction and structured physical activity [10]. Long-term collaboration with a multidisciplinary team is essential. Effective interventions can achieve approximately 9% weight reduction within the first year.[8] Recurrence is common [1], and insufficient response at the primary care level should prompt referral to specialized obesity treatment centres [8]. Escalation of therapy according to current guidelines should be considered when conservative measures fail [8]. Because obesity is relapsing, monitoring and early response to weight gain are necessary [1]. Successful management requires an interdisciplinary team approach [8].

## DIETARY RECOMMENDATIONS

Weight reduction requires a negative energy balance achieved through caloric restriction [10]. Diet should be individualized according to age, sex, physical activity, and clinical status [10]. Various dietary models can be effective, provided a caloric deficit is maintained [10]. Food quality is important, including limiting highly processed foods and simple sugars [7]. Increased intake of vegetables, dietary fibre, and low-glycaemic-index foods is recommended [10]. Long-term adherence is critical for sustained effectiveness [2]. Nutritional education in primary care can significantly improve therapy outcomes [8].

## PHYSICAL ACTIVITY

Regular physical activity is a cornerstone of obesity prevention and treatment [10]. It positively affects metabolic parameters, even with moderate weight reduction [3]. Aerobic exercise promotes fat loss, while resistance training preserves lean mass [10]. Regular activity reduces the risk of type 2 diabetes and hypertension [3]. Gradual progression is advised to minimize injury risk in obese individuals [10]. Physical activity alone rarely results in significant weight loss without caloric restriction, but it is essential for metabolic health and maintaining treatment effects [10]. International

guidelines recommend moderate-intensity exercise at least 5 days per week, with muscle-strengthening exercises twice weekly [10]. Physical activity is particularly important in preventing weight regain after initial loss [1]. Primary care physicians should support patients in choosing safe and realistic activity forms [8].

### PHARMACOLOGIC SUPPORT FOR OBESITY

Pharmacotherapy is indicated for patients meeting BMI criteria and should follow current guidelines [8]. It complements lifestyle interventions for patients with BMI  $\geq 30$  kg/m<sup>2</sup> or  $\geq 27$  kg/m<sup>2</sup> with comorbidities [8]. Anti-obesity medications act by reducing appetite, increasing satiety, or affecting nutrient absorption.[8] Drug selection should consider patient clinical profile and potential adverse effects [8]. Pharmacotherapy is more effective when combined with lifestyle modification [8]. Regular monitoring allows treatment adjustment or discontinuation [8]. Evidence indicates effective pharmacotherapy can significantly reduce metabolic complications [3]. Long-term monitoring of safety and efficacy is required [8].

### SURGICAL MANAGEMENT OF OBESITY

Bariatric surgery is indicated for patients with morbid obesity or significant metabolic complications [3, 8]. Common procedures include restrictive and malabsorptive operations, leading to sustained weight loss [8]. Surgery improves glycaemic control and can induce remission of type 2 diabetes [3]. Reduced cardiovascular risk and all-cause mortality have been observed following bariatric procedures [3]. Patients require long-term specialist follow-up and selected nutrient supplementation [8]. Candidate selection should assess psychological readiness and willingness to adopt lifestyle changes [8]. Numerous studies demonstrate efficacy in reducing the risk of type 2 diabetes, malignancy, and all-cause mortality [3].

### ACUPUNCTURE IN OBESITY MANAGEMENT

Acupuncture is a complementary medicine method used adjunctively in obesity treatment [11]. Proposed mechanisms include appetite modulation and neuro-hormonal regulation [12, 17]. Interest in acupuncture as an adjunctive obesity therapy has increased in recent decades [11]. Meta-analyses of randomized trials suggest potential efficacy in weight reduction compared with placebo or lifestyle modification alone [12-16, 19]. Authors caution that results should be interpreted carefully due to study heterogeneity [11]. Acupuncture may be considered as part of a combined approach with diet and exercise [12, 16]. Reports also suggest beneficial effects on metabolic parameters, including glucose and lipid levels [12]. Further high-quality randomized trials are needed to definitively assess efficacy [11].

### CONCLUSIONS

Obesity is a chronic disease with substantial health and social consequences. It is relapsing and progressive. It leads to numerous metabolic and cardiovascular complications, increases the risk of type 2 diabetes and malignancy, and impairs quality of life and social functioning. Effective management requires early diagnosis, comprehensive evaluation, and individualized therapeutic strategies. Diagnosis should be based on BMI assessment and identification of complications, including environmental and behavioural factors. Treatment must be comprehensive and long-term, with lifestyle modification as the foundation. Pharmacotherapy may be indicated in selected cases, and surgery remains the most effective intervention for morbid obesity. Primary care physicians play a central role throughout management, and adjunctive methods, including acupuncture, can safely support standard therapy. Success depends on collaboration between the patient and the care team, and early intervention can limit complications and improve prognosis.

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