



## Family Medicine's Strategies for Geriatric Obesity and Its Complications

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### Abstract

The fastest-growing demographic category, older persons, currently has increasing obesity rates, raising concerns about public health. For older persons, a vitally relevant outcome is obesity in later life, which increases the likelihood of reduced physical function, significantly affecting daily life. Patients who are obese and disabled often experience impaired mobility, muscle weakness, and an increased risk of falling. Moreover, sarcopenia and obesity are linked to a lower quality of life and higher mortality among the elderly. There are various approaches used in family medicine practice to lay the groundwork for the development of an organised clinical pathway for the primary care management of overweight and obesity. It is advised to implement a multifaceted, all-encompassing lifestyle strategy that includes calorie restriction, increased physical activity, and interventions to assist behaviour change for a minimum of six to twelve months. Long-term weight maintenance treatments are required after weight loss. Diet, exercise, self-management, and/or combination approaches with different therapy modalities, delivery methods, and dosages are the core emphasis of lifestyle interventions. Early diagnosis and prompt management are crucial for the prevention of complications in this vulnerable cohort; hence, family physicians being the first point of contact are critically important in this regard. Addressing geriatric obesity and its complications with family physicians is crucial for improving the health outcomes, quality of life, and overall well-being of older adults. Pharmacological therapies are also recommended when lifestyle modifications fail to achieve the desired outcome/goal. Through this review paper, we aim to analyze the existing literature regarding diverse strategies employed by family physicians in their practice for the management of geriatric obesity and its associated complications.

**Keywords:** older, obesity, family physician, lifestyle, management

### Introduction

Over the past century, advancements in medical care, the treatment of chronic diseases, and the prevention of infections have all contributed to longer life expectancies. The oldest, or those over 85, are the cohort with the most rapid rate of growth. Recent census data indicates that the average life expectancy for men and women is 82.8 years and 85.3 years, respectively. Distinctive from other comorbidities that may exert influence, the demographic shifts led by aging promote a disability trajectory. Individuals who live to a mature age may experience functional impairments in daily living. These impairments can result in a loss of independence, a decline in quality of life, and institutionalization. Exposure of individuals to longevity may prone them to conditions that increase their likelihood of developing incidental disabilities and comorbidities (1). As the population ages, obesity rates among the elderly are rising. This has resulted in a vast and swiftly evolving burden of disease associated with increased body weight and fat, as well as the primary causes of poor food and inactivity. Sarcopenia, which is a condition in which older adults accumulate body fat but lose muscle mass and functional ability, is sometimes hidden by being overweight, obese, or having a static body mass index (BMI). This condition becomes worse with inactivity (2).

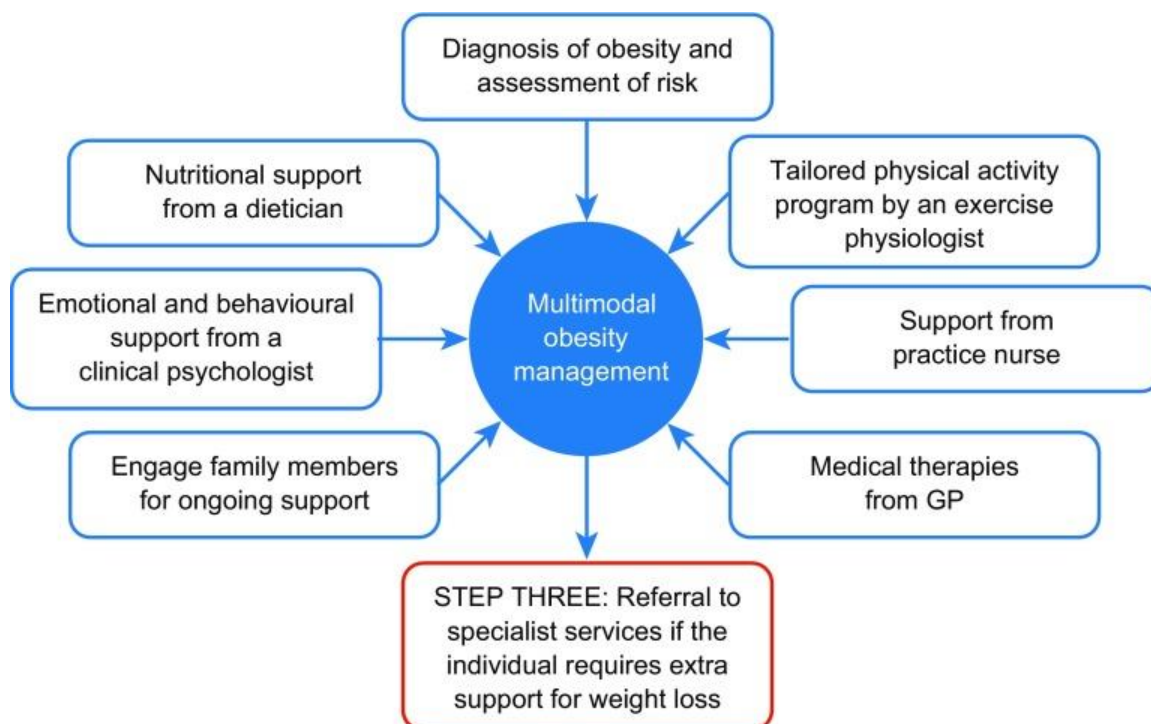
Obesity is the fifth leading cause of death worldwide and is regarded as a major public health concern. One of the key lifestyle diseases that cause further health issues and promote several chronic diseases, such as cancer, diabetes, metabolic syndrome, and cardiovascular diseases, is being overweight or obese. The World Health Organization also projected that by 2030, lifestyle-related diseases will account for 30% of global deaths (3). The obesity pandemic does not only affect people in their middle years or younger. Using BMI, the prevalence of obesity in older persons has been steadily increasing over time. According to recent estimates from the National Health and Nutrition Examination Surveys, the obesity rates among individuals over 60 are over 39.4% for females and over 37.5% for males (1). For older persons, a vitally relevant outcome, obesity in later life increases the likelihood of reduced physical function. Reduced quality of life is mediated by functional limitations. Patients who are obese and disabled often experience impaired mobility, muscle weakness, and an

increased risk of falling. Chronic pain and other age-related diseases, such as arthritis and cognitive decline, add to the physical restrictions, exacerbating the functional deficits. Although they do not have the same risk of morbidity as overweight young and middle-aged individuals, overweight older adults are more likely to develop osteoarthritis, diabetes, and disabilities. In elderly people, there is a correlation between cardiovascular morbidity and some malignancies as BMI increases into the obese range (4).

Obesity is further linked to a multitude of complications, including poorer quality of life, diminished physical function, increased frailty, lung abnormalities, and urine incontinence (5). Being obese is a chronic medical condition that needs to be managed over an extended period. In identifying patients who are obese or at risk for obesity, developing and executing targeted therapies to assist in weight loss or maintenance, and preventing weight gain again, family physicians play a critical role. Access to obesity support services that can offer patients the degree of therapy necessary for the psychological complications associated with obesity may be made easier for patients by family physicians. Using a multidisciplinary team, the development of obesity-focused practice resources such as a network of specialized service referrals, practice resources, and general practices can proactively improve services for these patients and caretakers (6).

Age-related comorbidities associated with obesity are more common; nonetheless, there is no established BMI target in this age range. Improving cardiovascular fitness, balance, and physical function in obese older persons is the primary objective, as is reducing the effects of obesity-related complications and sarcopenia (7). Individuals who are overweight or obese may benefit from a variety of procedures, including bariatric surgery, medication, behavioural therapy, physical activity, and nutritional changes. Multidisciplinary support teams and general practitioners are essential in assisting patients in achieving long-term weight loss (8). **Figure 1** depicts a multimodal obesity management model.

Geriatric obesity increases the risk of developing various chronic conditions. Managing obesity in older adults can help mitigate these risks and improve overall health outcomes. Addressing geriatric obesity and its complications from family physicians is crucial for improving the health outcomes, quality of life, and overall well-being of older adults. By implementing comprehensive strategies for obesity management, including lifestyle modifications, behavioural interventions, and pharmacotherapy when appropriate, family physicians can effectively address this growing public health concern in the geriatric population. Through this review paper, we aim to elaborately study the existing literature regarding diverse strategies employed by family physicians in their practice for the management of geriatric obesity and its associated complications.



**Figure 1: Multimodal obesity management model (6)**

### Methodology

A comprehensive literature search in the PubMed, Science Direct and Cochrane databases utilizing the medical topic headings (MeSH) and relevant keywords such as 'family medicine', 'primary care', 'strategies', 'management', 'guidelines', 'recommendations', 'geriatric obesity', 'complications' and a combination of all available related terms were performed on March 6, 2023. All relevant peer-reviewed articles involving human subjects and those available in the English language were included. Using the reference lists of the previously mentioned studies as a starting point, a manual search for publications was conducted through Google Scholar to avoid missing any potential studies. There were no limitations on date, publication type, or participant age.

## Discussion

The cornerstones of primary care are well-established. They include serving as the initial point of entry into the health system, providing continuous whole-person care and person-centred care, which clarifies comorbidities and social circumstances and preserves the patient's beliefs and values at the centre of management for all health problems in all patients at all stages. Other health system layers may provide some, but not all, of the four pillars. For primary care to fully benefit a patient, each of these ideas must be incorporated into the patient's care (9). Family physicians must comprehend the expertise that different practitioners offer when it pertains to managing obesity, as each will have different strengths and constraints. The Critical Realist Evaluation Methodology, which recognizes the significance of the context of any intervention, serves as an example of how important it is to comprehend the role of the provider (10).

A multidisciplinary team in primary care can provide continuous and coordinated care for an individual's benefit, as they do in all cases of multimorbidity. Health systems are calling for primary care, and family physicians in particular, to recognize and treat obesity as a chronic condition due to the growing number of individuals living with it and associated chronic disorders. Both general practitioner and family physician are terms that are used to refer to family practitioners around the world (9). Family medicine strategies for the management of obesity in the elderly in the domains of lifestyle modifications and pharmacotherapy are briefly discussed below.

## Lifestyle interventions

Han et al. described that although there are numerous factors involved in the medical implications of obesity, they can all be mitigated by modest, attainable weight loss (5–10 kg) combined with an evidence-based maintenance plan. Given that sarcopenic obesity is prevalent in the elderly, the best way to reduce fat mass and maintain muscle mass seems to be a combination of activity and moderate calorie restriction. Reducing polypharmacy is a worthwhile goal for managing weight. Age is not a barrier to weight control strategies that involve moderate activity and calorie restriction. To improve health outcomes and quality of life in later years, obesity, and notably sarcopenic obesity, should be prevented not just from a younger age but also throughout important life transitions, such as retirement (2).

The primary objective of strategies for management should be to maximize elderly people's nutritional status. Elderly people cannot be denied medical therapy for their obesity based on their age alone. Modest weight loss in obese people is the aim of individualized programs that may have both short-term, such as arthritic pain relief and glucose intolerance reduction, and long-term, like cardiovascular risk reduction, health benefits (11). Boateng et al. recommended that if older, overweight people do not receive immediate intervention, the likelihood of developing cardiovascular diseases may gradually increase. For those with stage 1 hypertension, lifestyle measures such as frequent physical activity, consumption of fruits, vegetables, and low-fat dairy products, as well as a reduction in dietary sodium intake, are effective. However, in addition to changing their lifestyle, patients whose blood pressure suggests they may have stage 2 hypertension need to see a family physician often. Delayed interventions may cause hypertension to swiftly advance from stage 1 to stage 2, which has more serious health risks (12).

Moreover, Torbahn et al. narrated that diet, exercise, self-management, and/or combination approaches with different therapy modalities, delivery methods, and dosages are the core emphasis of lifestyle interventions. Diets such as calorie restriction, high-protein diets, exercise including aerobic or resistance training, self-management interventions like relapse prevention or self-monitoring techniques, and combination strategies that differ in treatment modalities, delivery methods such as level of supervision, individual vs. group sessions, in-person vs. technology, and dosage in terms of duration, intensity are the main areas of focus for lifestyle interventions. Since older persons have higher degrees of multimorbidity, frailty, sarcopenia, and nutritional risk, findings from younger people cannot be extrapolated to older people. Furthermore, one must take into account the negative effects of weight-loss therapies, such as decreased bone mineral density and muscle mass (13). Therefore, functional decline, functional restrictions, and the likelihood of unfavourable events like falls and fractures may all be higher in the elderly. Extremely low-calorie diets have the potential to cause malnutrition, another geriatric illness linked to unfavourable health outcomes, by preventing the body from obtaining enough nutrients. Furthermore, the influence of perceived and real impediments on implementing lifestyle changes varies among younger and older persons. Despite these problems, current obesity guidelines still do not adequately address the treatment of obesity in older persons (13).

Findings of a community-based study showed that the sample's median weight loss was 5% compared to their initial body weight. The walking speed improved by +0.04 m/s ( $p < .0001$ ), the duration to complete chair stands by -0.95 s ( $p < .0001$ ), and the total scores on the Short Physical Performance Battery total scores increased by +0.31 units ( $p < .006$ ). A minimum of 5% reduction in weight was linked to an increase of +0.73 in Short Physical Performance Battery scores. Hence, the authors suggested that a potential strategy to lower the risk of disability in older individuals may be to encourage weight management in a community group context (14). Additionally, results of a systematic review of recent times concluded that, compared to younger individuals, older adults who underwent lifestyle interventions experienced similar levels of weight loss effectiveness. These interventions also had positive effects on several pertinent outcomes, such as cardiovascular and physical function (15).

These findings imply that lifestyle interventions are highly effective in the management of geriatric obesity, and family physicians, being the initial point of contact, are in an ideal position to counsel patients for lifestyle modifications and promote healthy behaviours. Family physicians are in an advantageous position to practice lifestyle medicine and spearhead initiatives to lessen the burden of chronic diseases. Additionally, they have special training that enables them to care for individuals and families for the duration of their lives. As they mature, these long-term ties with their patients and their families might support them in adopting and upholding healthy lives. Whole-person, patient-centred care is

already valued by family physicians. Being knowledgeable about using lifestyle modification as the first-line treatment not only broadens the family physician's practice repertoire but also satisfies patient expectations. The tenets of lifestyle modification are in line with the values of family medicine. Although the concepts of lifestyle medicine can be used in any discipline in medicine, family medicine and primary care specializations benefit most from its application. Several studies have demonstrated that family physicians' counselling is successful in assisting their patients in changing behaviours including attempting to reduce weight, boosting their physical activity levels, and initiating dietary improvements (16).

Furthermore, Martinez et al. commented that when discussing potential therapy options for obese older persons, it is critical to evaluate a number of critical factors, including functional status, sarcopenia, cognitive status, and other factors. In this demographic, deliberate weight loss is safe and effective. The greatest weight loss strategies for seniors centre on leading a healthy lifestyle that involves exercising, especially strength training, and eating a Mediterranean-style diet. Further treatment options include the use of weight reduction drugs, specifically new glucose-dependent insulinotropic polypeptide (GIP)/GLP-1 receptor agonists and glucagon-like peptide-1 receptor agonists (GLP-1 RA). Moreover, bariatric surgery may also be taken into consideration for some people (17).

### Pharmacotherapy

The foundation for managing obesity is the adoption of healthy lifestyle choices; however, interventions are needed for many individuals. As an adjuvant to the dietary management of obesity, phentermine, a centrally acting adrenergic agonist, decreases hunger and is licensed for use. Since long-term safety has not yet been shown, phentermine is only approved for use as a short-term therapy. It is advised that a review be conducted after three months. Orlistat inhibits pancreatic and stomach lipases, lowering fat absorption by about 30%. It is available over-the-counter in lesser doses and higher dosages with a prescription. Additionally, Liraglutide 3.0 mg is a once-daily subcutaneous long-term medication for both weight loss and weight maintenance. It is a centrally active agonist of the glucagon-like peptide-1 receptor (6). Some anti-obesity medications, like phentermine, are meant to be used briefly and do not need to provide evidence of clinically significant weight loss i.e.,  $\geq 5\%$ . The FDA has approved five medications so far for long-term weight management: liraglutide, phentermine/topiramate, lorcaserin, naltrexone/bupropion, and orlistat. These medications have demonstrated efficacy in improving cardiometabolic parameters and helping patients lose weight in a way that is clinically relevant. By customising these pharmacotherapies to each patient's needs, comorbidities, and potential risks related to drug safety, physicians can contribute to the reduction of the obesity epidemic (18). However, the evidence for pharmacotherapy in the management of geriatric obesity to date remains scarce and limited.

### Challenges and limitations

Unfortunately, the emergence of the obesity paradox, which characterizes the relative decrease in mortality risk for older persons with a higher BMI, has also led some clinical practitioners to oppose weight loss recommendations for older adults. Both overall mortality and disease-specific mortality, such as heart failure, hypertension, coronary artery disease, stroke, and other conditions, have shown evidence of this pattern. In addition to being a possible protective factor, weight loss in older persons is also predictive of mortality. Moreover, older white men who undergo severe weight reduction of almost 10% of their body weight after the age of 50 are similarly at increased risk of hip fractures, while weight loss in women over the age of 50, regardless of intent, is linked to a 1.8-fold greater risk of such injuries (19). Even though the obesity paradox is supported by several studies, it's crucial to note that this finding does not imply that obesity in older persons is a benign condition. Firstly, an important component of the obesity paradox may stem from older persons' inadvertent weight reduction and the resulting deterioration in health. In this regard, low BMI is linked to failure to thrive, and end-stage chronic illness is linked to high death rates. Although weight loss is linked to mortality in longitudinal studies, the results may be influenced by weight loss occurring in conjunction with significant illness because they do not distinguish between unintentional and deliberate loss (5).

Secondly, it has been proposed that having a higher BMI may not truly protect against obesity; rather, the impact of obesity is hidden by a short life duration, and those who are more vulnerable to its complications tend to die earlier. Even though being overweight may offer some protection, obesity has many repercussions that are linked to decreased function and higher death rates (5). Subsequently, certain instances demonstrate the confines of the paradox's protective elements. For instance, compared to obese adults, those with morbid obesity (BMI  $\geq 40$  kg/m<sup>2</sup>) had a greater risk of death, according to a study on middle-aged patients with heart failure (20) (21).

One of the primary challenges to managing overweight and obesity is continuing weight loss over the long run. Overweight and obesity are complicated diseases. One important consideration in this context is the adoption of a multicomponent and multidisciplinary approach, which is included in almost all guidelines. According to recent studies, comprehensive programs run by multidisciplinary teams are necessary for success. Treatment success may also be influenced by tight interdisciplinary cooperation, understanding of each participant's role in the management process, and ongoing monitoring (22). Our review provides deep insights into the management of geriatric obesity in light of the literature; however, our in-depth analysis of the currently available literature showed a scarcity and dearth of studies defining standardized guidelines specifically for the management of obesity among the elderly, which limits our understanding and findings, subsequently necessitating the need for further research in this cohort to develop standardized guidelines that may aid and guide clinical practice.

## Conclusion

Geriatric obesity is increasing at alarmingly high rates and is associated with significant morbidities and complications. Early diagnosis and prompt management are crucial for the prevention of complications in this vulnerable cohort; hence, family physicians being the first point of contact are critically important in this regard. Management primarily involves effective lifestyle interventions along with pharmacological therapy if needed; however, there is a need for the development of standardized guidelines in clinical practice for which future research involving the elderly population can be beneficial.

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