Effectiveness and Impact of Diabetic Medications for Weight Loss vs. Traditional Methods

Research Proposal

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Research Statement: Are diabetic medications more effective and safer than current traditional methods of diet and exercise for weight loss?

Background:

The rise of obesity has driven a shift in medical approaches, with a surprising development: medications originally intended for diabetes management are now being used as powerful tools for weight loss. The sudden increase of research on diabetic medication suggests that there may be a significant departure from traditional methods that rely on diet, exercise, and behavioral therapy. All this research is done for one purpose: to reduce the global crises of obesity in the modern age. As of 2023, More than 70 percent of U.S. classify as either overweight or obese (Yamaoka, Nemoto, & Tango, 2019).

Historically, there have been many trends about the topic of weight loss, however, all these trends have shared the common idea that lifestyle modifications and structured diets is the most surefire way to permanently lose visceral body fat. In today's age, the mantra "eat less and move more" has proven ineffective – and even counterproductive – for patients battling chronic weight problems and medical complications of obesity (Almandoz, 2023). While commercial weight-loss programs can offer short-term gains, maintaining those results remains challenging for many participants (Gudzune et al., 2015). The allure of diabetic medications lies in their dual efficacy—addressing both metabolic control and weight reduction—leading to a surge in off-label use as weight management solutions (Almandoz, 2023). Diabetic medications, initially approved to treat diabetes, is closing the gap between the two ends of the obesity treatment spectrum and is slowly winning over public opinion to become accepted as a valid method to effectively manage and achieve weight loss, even among people suffering from obesity who do not have diabetes. For people without diabetes, the official criteria for prescribing the drugs are the same as for all other anti-obesity drugs: a body mass index (BMI) of 30 or higher, or a BMI of 27 or higher and at least one weight-related health problem, such as high blood pressure or high cholesterol (Corliss, 2023).

Anti-obesity drugs and diabetic medications, particularly GLP-1 receptor agonists, are pharmacological treatments that aim to aid in weight management and blood sugar regulation. GLP-1, or glucagon-like peptide-1, is a hormone naturally produced in the intestines that plays a crucial role in regulating appetite and insulin secretion. Through research, GLP-1 receptor agonists are found to aid in weight management in two ways: making the stomach empty slower thus feel satisfied with smaller amounts of food and signaling the brain there is food in the stomach, decreasing appetite and cravings. These two processes ensure that the patient is in a state of a caloric deficit, which is defined as the action of ingesting less calories than what is exerted, causing the loss of body weight. In general, an individual who is willing to undergo weight loss must aim to eat below their basal metabolic rate (BMR). In simplified terms, BMR is the is the number of calories you burn as your body performs basic (basal) life-sustaining function. The larger the deficit, the more weight a patient can usually expect to lose. On average, individuals who take these medications for a year can anticipate a reduction in total body weight ranging from 3% to 12%, which is significantly greater than the weight loss typically achieved through lifestyle changes alone (Mayo Foundation for Medical Education and Research, 2022).

Despite the benefits, there are small associated risks and limitations with anti-obesity drugs and diabetic medications. Mild side effects, such as nausea, constipation and diarrhea, are common upon administration of the drug, although they may lessen over time. Rarely, serious side effects can happen (Mayo Foundation for Medical Education and Research, 2022). There are significant limitations that may prevent an individual from taking anti-obesity drugs. Weight-loss drugs are expensive and aren't always paid for by insurance, thus one under financial burden are less likely to use anti-obesity drug medication. Secondly, many individuals tend to regain some of the weight lost once they discontinue weight-loss medications, primarily due to the absence of lasting changes in lifestyle habits. Although this can be minimized by combining anti-obesity drugs with consistent dietary and exercise habits, it remains more common for individuals using these medications to maintain lifestyle changes diligently.

The focus of this investigation is to determine whether diabetic medications offer a more effective and safer solution for weight loss compared to traditional methods of diet and exercise.

Methodology:

The methodology for this investigation will primarily rely on secondary research. The research will focus on the following topics: the effectiveness and safety of diabetic medications, specifically GLP-1 receptor agonists, for weight loss; traditional weight loss methods (such as diet and exercise); the side effects and risks associated with both medication-based drugs and lifestyle interventions; and the broader connections of using diabetic medications for weight loss on healthcare access and accessibility.

To examine the effectiveness of diabetic medications, academic journals in medical and pharmaceutical sciences/companies will be prioritized. These sources are expected to provide detailed and structured evidence on the efficiency of GLP-1 receptor agonists in weight loss, including results from clinical trials. Sources such as the *Mayo Clinic*, *Harvard Health*, and other reputable healthcare organizations will provide accessible information on the safety profiles and side effects of these medications, as well as statistical comparisons to traditional weight loss methods.

Finally for traditional weight loss methods, books and articles on nutrition, fitness, and behavioral science, such as *Nutrition for Health, Fitness, and Sport* (Williams, Branch, & Rawson, 2017) and comprehensive reviews of popular commercial weight-loss programs (Gudzune et al., 2015), will be used to obtain information on how lifestyle changes in habits compare to anti-obesity drugs and diabetic medications in terms of effectiveness and lasting effects.

Works Cited

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