ISSN: 2572-4010

Johnson. J Obes Weight-Loss Medic 2022, 8:043
DOI: 10.23937/2572-4010.1510043
Volume 8 | Issue 1
Open Access

Journal of
Obesity and Weight-loss Medication

COMPARATIVE STUDY

Comparing Two Medications Used in Primary Care Management of Obesity

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Abstract

The article aims to compare phentermine and liraglutide for weight loss management in the primary care setting. The article will examine current research regarding these two medications in order to provide relevant information pertaining to prescribing and providing education to patients interested in these medications.

Introduction

Obesity is a killer. Being overweight leads to numerous health problems, including hypertension, elevated cholesterol levels, and diabetes. As primary care practitioners, we learn that prevention is critical. A nurse practitioner's responsibility is to help patients understand the importance of not becoming overweight and help obese patients take the weight off to decrease the risk of comorbidities. According to Bragg and Crannage [1], "Obesity is recognized as a chronic disease requiring evaluation and treatment by most organizations, including the National Institutes of Health (NIH), American Medical Association (AMA), the U.S. Center for Medicare and Medicaid Services (CMS), and the World Health Organization (WHO)," (p.107). There are many ways to help patients with weight loss. Son and Kim [2] state, "As it is difficult to achieve and sustain successful long-term weight loss in most patients with obesity through lifestyle modifications (e.g., diet, exercise, and behavioral therapy), pharmacological approaches to the treatment of obesity should be considered as an adjunct therapy" (p.802). Medications can help with weight loss but should be in conjunction with education on appropriate diet choices and changes to help the medication work most effectively. There are times where people make those dietary and lifestyle changes and still cannot lose weight. Golden [3] asserts, "Obesity pharmacotherapy should be considered if intensive lifestyle interventions cannot meet or maintain weight-loss goals in those with a BMI of greater or equal to 30, or those with a BMI greater than or equal to 27 who have at least one obesity-related comorbidity" (p.544).

Discussion

Many factors go into deciding which medication to prescribe for a patient to assist with weight loss. When evaluating patients needing to use medications to assist with weight loss, the practitioner needs to look at the whole patient to include allergies to medications, what medications patients are on, and any potential adverse interactions between the current medications and the medication for weight loss. Practitioners need to look at contraindications, interactions with other drugs, adverse effects, and if the intended pharmaceutical effect of the medication helps the patient in other ways [4]. Contraindications to taking certain medications are an essential part of deciding which medicines to prescribe. Uncontrolled hypertension, history of stroke, coronary artery disease, and heart arrhythmias are listed as contraindications for prescribing phentermine [5]. An example of prescribing a medication with a known contraindication would be prescribing phentermine to a patient with a heart arrhythmia and having a stroke after taking this medication. Interactions with other medications are also critical to watch for when prescribing. According to Mehta, et al. [6], "Liraglutide is also contraindicated in pregnancy

Citation: Johnson R (2022) Comparing Two Medications Used in Primary Care Management of Obesity. J Obes Weight-Loss Medic 8:043. doi.org/10.23937/2572-4010.1510043

Accepted: February 22, 2022: **Published:** February 24, 2022

and is not recommended in nursing mothers, children, patients taking insulin, or other GLP-1 agonists" (p.11). This article does not recommend patients who take insulin using a glucagon-like-peptide-1 (GLP-1) due to an interaction. Although these medications can and may be prescribed together, taking them together can cause severe hypoglycemic episodes in patients with diabetes. This interaction would need to be monitored closely.

The cost-effectiveness of medications also needs to be strongly considered. Finkelstein, et al. (2009), along with Cawley and Meyerhoefer's work (2012) (as cited in [7]), states, "The cost of medical care as related to obesity in adults is estimated at $87.5 billion in the United States but could be as much as $209.7 billion" (p.163). All medication is priced differently depending on where you get the medicine from and if it is a generic form or brand name. A person's copay could also vary between insurance companies and plans. Currently, according to GoodRx, the cash price for thirty days of phentermine ranges between $11.31-$17, depending on what store. The cash price for thirty days of liraglutide (saxenda) ranges between $1335-$1406.

Phentermine

Phentermine, a central nervous system stimulant, was put on the market in 1959. Due to its stimulating effects, it suppresses the hunger feelings and the need to eat. When intaking fewer calories per day than expending, a person will lose weight. According to Bersoux, et al. [8], "In a pooled analysis of 6 trials lasting 2 to 24 weeks completed between 1975 and 1999, phentermine-treated patients lost an average of 3.6 kg (7.9 lbs) more weight than placebo recipients" (p.954). Due to it being a stimulant, it is considered a schedule IV-controlled substance by the DEA [9]. So, prescribers will have limitations on this medication, usually only writing a thirty-day prescription at a time. Phentermine is also the only "short-term" weight loss medication currently being used. The FDA has only approved use for up to a 6-month course. Generally, practitioners will see a plateau of weight loss with patients after using the phentermine for around six months. However, some practitioners let their patients use this medication for more extended periods to maintain weight. According to Patel [9], "It is contraindicated in patients with a history of cardiovascular disease, hyperthyroidism, history of drug abuse, pregnancy, and those taking MAOIs" (p. 122). Also, the drug is not recommended in patients with high blood pressure as a possible side effect of the medication is elevated blood pressure. However, after further inspection of available information, only a slight increase in blood pressure is possible with no factual information of specific systolic or diastolic numbered differences [10]. Many practitioners will prescribe phentermine to patients diagnosed with hypertension if the hypertension is well controlled by medication and monitored closely.

Knowing who this medication can be prescribed to is invaluable information. Also, knowing that it is one of the cheapest medications will assist with decision-making. Phentermine is so inexpensive that many insurance plans will not pay for it. A patient only needs to pay cash at a pharmacy for it. Thomas, et al., in conjunction with Hampp, et al. (as cited in [10]), report, "Despite the availability of five medications for chronic weight management, since 1999, phentermine, approved in 1959 for short-term weight loss remains the most commonly used anti-obesity drug in the U.S., accounting for 74%-89% of all prescriptions" (p.119).

Liraglutide

Liraglutide (Saxenda), a GLP-1 receptor agonist and antidiabetic agent, was introduced in 2014. Originally, liraglutide is, at a lower dose, manufactured as a medication called Victoza, which is a treatment for type 2 diabetes. Liraglutide regulates blood glucose levels, makes one feel full, induces satiety, slows gut motility, and decreases appetite [11]. Liraglutide is a shot given daily without regard to the time of day. This medication is approved for long-term use. After a 56-week study, those patients taking liraglutide lost an average of 8.4 kg (18.5 lbs) over the placebo at 2.8 kg (6.2 lbs) [12]. According to Tak and Lee [11], "Early achievement of weight loss greater than or equal to four percent with Liraglutide 3 mg (at 16 weeks) was associated with greater weight reduction at the study's termination" (p.214). These findings also make a positive statement for the longevity of using this medication and losing weight.

Unfortunately, there are potential adverse effects seen that are associated with decreased gut motility and increased satiety. Nausea and constipation are two significant factors that ultimately stop people from using this medication. According to several studies, nausea was reported in 26-48% of the patients, and constipation was reported in 11-20% [6]. However, it is widely reported to help improve cardiovascular numbers and cholesterol. Isaacs, et al. [12] write, "Liraglutide therapy was also associated with significant improvements in cardiovascular risk biomarkers such as HgbA1C, fasting glucose, systolic and diastolic blood pressure, total cholesterol, and triglyceride levels" (p.1498). A couple of downfalls to this medication are the expense and insurance companies that do not cover anti-obesity medications (AOMs). While looking at national government-funded health plans, Gomez and Stanford [13] state, "Among 136 marketplace health insurance plans, 11% had some coverage for the specified drugs in only nine states. Medicare policy strictly excludes drug therapy for obesity. Only seven state Medicaid programs have drug coverage" (p.495). Liraglutide being classified as an anti-obesity medication means that most insurance will not cover this prescription. Unfortunately, the cost puts many people out of financial range to use this medication.

Conclusion

Weight loss is a multifactorial and life-long issue that patients have to maintain. It appears that if a patient wants assistance with weight loss and their cardiovascular risks are low, phentermine would be an excellent place to start. Following up with the patient at monthly return visits and obtaining weights at each visit allows the nurse practitioner and the patient to see progress. If not, that would be an excellent time for more discussion on what the patient may need to change or fix about eating foods or lack of movement during the day. If phentermine does not appear to be working, and the patient is prepared to give themselves an injection every day, the practitioner should educate their patient about liraglutide.

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