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Semaglutide's Trail of Success in Weight Loss Management and HbA1c Reduction: A Systematic Review

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Abstract

Introduction: Obesity is a preventable health condition, yet it remains a complex relapsing global health conundrum, triggering an array of comorbidities, including diabetes, dyslipidemia, hypertension, and mental health decline. This review intends to highlight the success of semaglutide for its therapeutic intervention for weight loss management in diabetics and non-diabetics and HbA1c reduction in type 2 diabetics. **Methods:** We searched and systematically reviewed the literature from within the past ten years on semaglutide utilization for weight loss and HbA1c reduction. Databases investigated included PMC, JAMA, Nature Medicine, and The Lancet, resulting in four original research articles that were systematically reviewed. Web consultations with WHO, CDC, and Healthy People 2030 were conducted to ascertain epidemiological obesity and diabetes data. AAFP and USPSTF references were included for obesity management and preventive care guidelines. **Results:** Based on results from systematically reviewing four original research studies, semaglutide can effectively reduce elevated weight and HbA1c, using the once-weekly subcutaneous injection formulation. A composite average percent weight loss of 8.27% (16 - 20 pounds) and an average HbA1c percent reduction rate of 1.07% (3 - 4 points) were attained. There were no major adverse events reported from any of the four original research studies related to

the drug. **Discussion:** With evidence from several studies after its FDA approval, semaglutide delivers a promise for weight loss management and HbA1c reduction for appropriate patient populations. Clinician and patient education on its proper use should be continuously revisited.

Keywords

Preventive Care, Obesity Management, Diabetes Management, Chronic Disease, Adjunct Therapy, Weight Loss Management

1. Introduction

Despite being a preventable health condition, obesity remains a complex, relapsing global health challenge, contributing to various comorbidities, including diabetes, dyslipidemia, hypertension, osteoarthritis, and impacting mental health [1] [2] [3] [4] [5]. It is a chronic malady that has more than tripled in prevalence worldwide since the early 1970s [1] [2]. The health sequelae of obesity not only lead to a decline in mental well-being [3] [4] [5] but also result in significant financial costs for the treatment of associated comorbidities and complications, without evidence-based assurance of long-term success [4] [5]. Despite efforts that include consideration for social determinants of health, there has been little to no discernible reduction in obesity and its related comorbidities [4]. Managing obesity and its consequences remains a complex challenge that warrants attention from researchers [6].

Numerous therapeutics have been marketed for weight loss management, including orlistat, phentermine-topiramate, bupropion-naltrexone, and liraglutide [6], alongside lifestyle modifications and expensive weight loss programs. Clinical guidance for U.S. clinicians is available [6] [7] [8] [9]; however, there is a lack of clarity and consensus regarding recommendations for anti-obesity medications (AOMs). With the increasingly obesogenic environment worldwide, it is critical for clinicians to acknowledge obesity as a chronic disease [7] [8] [9] and consider AOMs as a standard adjunct chronic treatment, approved for weight management [6] [10] [11], to augment the success of lifestyle modifications for a more sustainable reduction and maintenance of weight loss [7] [9] for obesity. Under the brand name Wegovy [11], the Food and Drug Administration (FDA) approved semaglutide in 2014 for weight loss management. Ozempic [10], another brand name for semaglutide, received its approval [10] [12] to reduce cardiovascular risks associated with type 2 diabetes mellitus (DM-2) and to use as an adjunct [12] to diet and exercise for glycemic control in DM-2 patients. Unlike Wegovy, Ozempic has not received FDA approval for weight loss indication [11] [12] but is under clinical trials for the indication. Their dosage formulations also differ from each other [11] [12], with Wegovy's formulation availabilities at 0.25 mg, 0.5 mg, 1 mg, 1.7 mg, or 2.4 mg subcutaneous injection formulation [11] while Ozempic's current formulations are only at 0.25 mg, 0.5 mg,

and 1 mg subcutaneous injection formulation [12]. Nonetheless, both brand names are of the same structural compound that is generically known as semaglutide [11] [12], which is a glucagon-like peptide 1 receptor agonist [GLP-1 RA] that acts to suppress appetite, slow gastric emptying, and increase and prolongs feelings of satiety [13].

In our systematic review, we aim to summarize the results and recommendations of recent original investigative articles that have looked into the efficacy of GLP-1 RA as a therapeutic modality for weight loss in various obese populations, including those with DM-2. We aim to analyze the findings and insights provided by these studies, shedding light on the potential of GLP-1 RA in addressing the complex issue of obesity across different patient groups. Additionally, we aim to ascertain if there is a pressing need for weight loss therapeutic interventions that can augment the success of diet and exercise lifestyle modifications, ultimately maximizing the effectiveness of obesity treatment for individuals to achieve and sustain their ideal body weight, and HbA1c levels for those with DM-2.

2. Methods

2.1. Eligibility Criteria & Selection Process

Only peer-reviewed original investigative articles published by credible journals within the ten years were considered for this systematic review. Inclusion criteria for selecting the literature to review include: 1) Objective assessment of semaglutide's efficacy for weight loss and/or HbA1c reduction; 2) An investigation period of at least 3 months; 3) At least one follow-up encounter with their participants; 4) Comparison of semaglutide to either placebo and/or another therapeutic intervention method for weight loss and/or HbA1c reduction; 5) The study must have excluded participants with confounding factors such as a history of bariatric procedures and concomitantly taking other anti-obesity medications (AOMs); 6) The study presented clear primary endpoint results for weight loss and/or HbA1c reduction.

2.2. Information Sources & Search Strategy

Initially, a Google Scholar search was conducted using the keywords: 1) Semaglutide and weight loss; 2) Semaglutide and HbA1c reduction. Literature published within the last ten years, with publication dates between 2013 and 2023, was considered and had to be an original investigation, either a retrospective or prospective study. High-impact factor publication journals were favored, resulting in four literature pieces from JAMA Network, The Lancet, and Nature Medicine. These four original studies investigated the effects of semaglutide when used as a therapeutic intervention for weight loss management and/or HbA1c reduction, with an investigative period of at least three months. A fifth original research literature from the *Diabetes, Obesity, and Metabolism Journal of Pharmacology and Therapeutics* was selected due to our interest in reviewing the

sustainability of targeted primary endpoints after cessation of semaglutide's therapeutic intervention. Three more articles will be referenced in our review due to their relevance to our topic of interest.

2.3. Collection Process & Data Items

Two collaborating reviewers, working remotely and independently, looked into the four original investigative studies and concisely summarized findings and any clinical practice points deduced from each review. A licensed and board-certified Family Medicine practitioner had oversight of the process throughout. A descriptive table was constructed to highlight summaries (Table 1) of the literature reviewed, including any assessed biases. Reported adverse effects included in each study were also collected for this review. The semaglutide dose used by each reviewed original research literature was also taken into consideration. Primary endpoints analyzed from semaglutide intervention are weight loss in diabetics or non-diabetic patients and/or HbA1c reduction in the type 2 diabetic patient population. In addition, two complimentary literature were selected to be referenced to provide background knowledge of obesity and its management (Table 2). Collected data items included percent loss in weight on at least one follow-up encounter conducted by the study and reduction in HbA1c levels in type 2 diabetic patients. These data items are listed and averaged (Table 3 and Table 4). Standard methods for data comparison include comparison charts and tables, and simple trend analysis of the targeted primary endpoints. These can be visualized in the Results section and the Appendices.

2.4. Study Risk of Bias Assessment

To minimize the inclusion of biased studies, only original investigations with at least one comparative control group were considered in this literature review. Disclosure statements of conflict of interest were sought out from each selected literature. However, original investigations funded by an identified pharmaceutical company were not excluded based on the study's funding because of their transparent funding declaration and clearly outlined protocol for their investigation, which included at least one comparative control group against semaglutide.

2.5. Certainty Assessment

For each of the four selected original investigative studies reviewed, the probability value (p-value) of the study was carefully taken into consideration for assessing the certainty of their results. Any p-value < 0.05 was considered to be a study with results of high statistical significance.

3. Results

3.1. Results of Individual Studies

After a study period of 104 weeks, the Garvey *et al.* investigation reported a weight loss achievement of more than the 5% weight loss benchmark among

Table 1. Brief summary of the systematic literature review.

Literature Title	First Author	Type	Publication Year	Publication Journal	Brief Summary	Clinical Practice Pearl	Reference #
Two-year effects of semaglutide in adults with overweight or obesity: the STEP 5 trial	Garvey	**Original Research**	2022	Nature Medicine	Once-weekly subcutaneous semaglutide enhances weight loss and patient-reported quality of life outcomes in obese patients. Weight loss in the semaglutide group was 11% more than placebo. However, the trial primarily focuses on patient-reported outcomes, necessitating further research to understand broader clinical implications. The mechanism for quality-of-life improvements and the impact of SGLT2 inhibitors require exploration. Larger studies are needed to assess GLP-1 receptor agonists' utility.	Semaglutide was superior to placebo in weight loss in obese patients	11
Weight Loss Outcomes Associated With Semaglutide Treatment for Patients With Overweight or Obesity	Ghusn	**Retrospective Original Research**	2022	JAMA Network	Adult with a BMI of 27+, receiving 3 - 6 months of semaglutide injections, achieved significant weight loss: 6.7 kg (5.9%) at 3 months and 12.3 kg (10.9%) at 6 months. Patients with type 2 diabetes had lower weight loss rates. Strengths include real-world data and a sizable sample. Limitations include the absence of a control group and potential recall bias.	Semaglutide is safe and effective in reducing weight in real-world settings	12
Effect of Subcutaneous Semaglutide vs Placebo as an Adjunct to Intensive Behavioral Therapy on Body Weight in Adults With Overweight or Obesity The STEP 3 Randomized Clinical Trial	Wadden	**Original Research**	2021	JAMA Network	Obese non-diabetic adults received once-weekly subcutaneous semaglutide + intensive behavioral therapy and an initial low-calorie diet achieved significantly greater weight loss over 68 weeks compared to placebo, with a mean body weight change of −16.0% vs. −5.7% in placebo group. Gastrointestinal adverse events were more common with semaglutide, emphasizing the need for long-term sustainability assessment.	Semaglutide + intensive behavioral therapy + initial low-calorie diet leads to weight loss in non-diabetic individuals with overweight or obesity	13

Continued

Efficacy and safety of once-weekly semaglutide versus once-daily sitagliptin as an add-on to metformin, thiazolidinediones, or both, in patients with type 2 diabetes (SUSTAIN 2): a 56-week, double-blind, phase 3a, randomised trial	Ahren	**Original Investigation Original Research**	2017	The Lancet	Once-weekly subcutaneous semaglutide, outperformed sitagliptin in improving glycemic control and reducing body weight among patients with type 2 diabetes inadequately controlled on metformin, thiazolidinediones, or both. Semaglutide demonstrated superior efficacy without significant safety concerns, making it a promising add-on treatment for this patient population.	Semaglutide showed superiority in efficacy over sitagliptin	14

Table 2. Brief summary of complimentary literature pieces reviewed for reference.

Literature Title	First Author	Type	Publication Year	Publication Journal	Brief Summary	Clinical Practice Pearl	Reference #
Weight regain and cardiometabolic effects after withdrawal of semaglutide: The STEP 1 trial extension	Wilding	**Original Research**	2022	Diabetes, Obesity, and Metabolism Journal of Pharmacology and Therapeutics	Cessation of semaglutide as a therapeutic intervention resulted in a return to baseline weight comparable to the weight before starting on semaglutide	Overweight and obesity appear to be a chronic disease that may require ongoing pharmacological intervention to halt its progression and abate its related comorbidities.	18
Influence of semaglutide use on the presence of residual gastric solids on gastric ultrasound: a prospective observational study in volunteers without obesity recently started on semaglutide	Sherwin	**Observational Prospective Study || Original Research**	2023	NIH PMC Pub Med Central	Use of gastric ultrasound to assess fat content in gastric tissue after eight hours since semaglutide dose; there was slowing of gastric emptying in the semaglutide group and higher risk for aspiration if under general anesthesia.	Semaglutid prolongs satiety in patients by slowing gastric emptying; treatment withdrawal may be beneficial prior to undergoing surgery with general anesthesia.	19

34.9% proportion of their participants [14]. The weight loss in their semaglutide group was 11% more than what their placebo group achieved after the study's completion period [14]. At the week 12 follow-up encounter, their semaglutide group achieved a 5.9% drop in percent body weight from baseline. Participants in the semaglutide group achieved a continued exponential drop in HbA1c levels

Table 3. Average percent weight loss attained.

Original Investigation	Publication Year	First Author	# of weeks to first follow-up encounter, at least 3 months (at 12 weeks) since onset of semaglutide dose	Starting dose semaglutide	Estimated Mean Percent Weight Loss (%) at first follow-up encounter	Estimated Mean Percent Weight Loss (%) at second follow-up encounter (if applicable)	Percent Weight Loss (%) at third follow-up encounter (if applicable)	p-value reported
Two-year effects of semaglutide in adults with overweight or obesity: the STEP 5 trial	2022	Garvey	12	2.4 mg	5.90%	12.20%	15.20%	$p < 0.0001$
Weight Loss Outcomes Associated With Semaglutide Treatment for Patients With Overweight or Obesity	2022	Ghusn	12	1.7 mg	5.70%	10.90%	n/a	$p < 0.001$
Effect of Subcutaneous Semaglutide vs Placebo as an Adjunct to Intensive Behavioral Therapy on Body Weight in Adults With Overweight or Obesity The STEP 3 Randomized Clinical Trial	2021	Wadden	68	2.4 mg	16.00%	n/a	n/a	$p < 0.001$
Efficacy and safety of once-weekly semaglutide versus once-daily sitagliptin as an add-on to metformin, thiazolidinediones, or both, in patients with type 2 diabetes (SUSTAIN 2): a 56-week, double-blind, phase 3a, randomised trial	2017	Ahren	56	1.0 mg	5.50%	n/a	n/a	$p < 0.0001$

Continued

Average # of weeks to attain average percent weight loss	37	8.28%	**Average percent weight loss from the four original studies listed**

Table 4. HbA1c percent reduction rate attained.

Original Investigation	Publication Year	First Author	# of weeks to first follow-up encounter, at least 3 months (at 12 weeks) since onset of semaglutide dose	Starting dose semaglutide	HbA1c % reduction at first follow-up encounter	HbA1c % reduction at second follow-up encounter (if applicable)
Two-year effects of semaglutide in adults with overweight or obesity: the STEP 5 trial	2022	Garvey	20	2.4 mg	0.53%	0.55%
Weight Loss Outcomes Associated With Semaglutide Treatment for Patients With Overweight or Obesity	2022	Ghusn	n/a	n/a	n/a	n/a
Effect of Subcutaneous Semaglutide vs Placebo as an Adjunct to Intensive Behavioral Therapy on Body Weight in Adults With Overweight or Obesity The STEP 3 Randomized Clinical Trial	2021	Wadden	n/a	n/a	n/a	n/a
Efficacy and safety of once-weekly semaglutide versus once-daily sitagliptin as an add-on to metformin, thiazolidinediones, or both, in patients with type 2 diabetes (SUSTAIN 2): a 56-week, double-blind, phase 3a, randomised trial	2017	Ahren	56	1.0 mg	1.60%	n/a
				Average percent reduction rate of HbA1c	1.07%	

throughout week 20, with a 0.53% percentage change from baseline [14] before a plateau was observed. Garvey *et al.* also looked into secondary endpoints, which included systolic and diastolic blood pressures, and waist circumference. Results for each of these secondary endpoints showed an exponential drop from their baselines throughout week 20 of their study before a plateau was observed.

After a 14-month retrospective study period, Ghusn *et al.* [15] reported significant weight loss achieved at 3 months (5.9%) and 6 months (10.9%) from among 408 medical records with semaglutide prescriptions. Over 87% of their semaglutide group achieved more than the 5% weight loss benchmark, with 7.8% of them reaching more than 20% weight loss [15].

After a 20-month (or 68-week) investigative period, Wadden *et al.* reported an estimated mean body weight change from baseline of 16% for its semaglutide group and only a 5.7% weight change in its placebo group [16]. Though both groups also had intensive behavioral therapy, their study revealed significantly greater weight loss achieved in the semaglutide group than in the placebo group [16].

The 56-week original investigation by Ahren *et al.* presented evidence of semaglutide's superiority over sitagliptin [17], a dipeptidyl peptidase 4 (DPP-4) inhibitor, whose function is to regulate insulin secretion and fatty acid metabolism [17]. From their 1231 participants, with a diagnosis of DM-2 and insufficient glycemic control despite stable treatment with metformin and/or thiazolidinedione, the semaglutide arms, one at 0.5 mg and another at 1.0 mg showed superior achievements over sitagliptin at both HbA1c reduction (the primary endpoint) and weight loss (the secondary endpoint).

Among the complimentary literature pieces that were reviewed, the prospective observational study by Sherwin *et al.* revealed that gastric emptying was much slower in the semaglutide group than in the placebo group in the supine position, with a p-value < 0.02 [18]. Their study underscores one of semaglutide's mechanisms of action of slowing gastric emptying as a means to suppress appetite [18] [19]. The appetite suppression mechanism of action is one component that makes semaglutide effective in weight loss management. Sherwin *et al.* also presented preliminary evidence [18] that patients taking semaglutide who undergo surgery under general anesthesia may be at higher risk for aspiration than their counterparts. This is due to the physiology of semaglutide's action on gastric emptying. The other prospective study by Wilding *et al.* [19] revealed a return to baseline weight after treatment withdrawal of one year of semaglutide weekly injections among participants without DM-2. Their study reported a 7.3% percent weight loss with semaglutide compared to a 2.0% percent weight loss in the placebo group after 68 weeks of the study period. The semaglutide group regained 11.6 percentage points of lost weight after semaglutide treatment withdrawal [19] and their placebo group regained 1.9 percentage points of lost weight by week 120, resulting in net losses of 5.6% in the semaglutide group and 0.1% in the placebo group [19]. Cardiometabolic improvements that were self-reported at week 68 by participants in the semaglutide group reverted toward

baseline at week 120 for target endpoints [19].

3.2. Study Selection & Characteristics

All four original research studies that were selected for systematic review have clearly presented objectives, methodology, protocols, and results section, making it feasible for a rapid systematic review. For these characteristics, and after meeting the inclusion and exclusion criteria for our review article, these pieces of literature were selected.

The Garvey *et al.* original research [14] was a two-year, phase 3, randomized, double-blind, placebo-controlled study with 304 participants from 41 study sites across five countries, namely, Canada, Italy, Hungary, Spain, and the United States [14].

The Ghusn *et al.* retrospective cohort study [15] had a total of 408 participants with a BMI of 27 or more, with or without DM-2, who were prescribed weekly subcutaneous injections of semaglutide at 1.7 mg or 2.4 mg during the 14-month. The study retrospectively reviewed the electronic medical records (EMRs) of patients in the Mayo Clinic Health System who were prescribed semaglutide [15] and excluded participants with a history of bariatric procedures or those taking other FDA-approved AOMs [15].

The Wadden *et al.* original study [16] was a 68-week, phase 3a, randomized, parallel-group double-blind trial conducted at 41 U.S. sites, whose objective [16] was to ascertain the effects of semaglutide versus placebo group as an adjunct to intensive behavioral therapy. All participants in the Wadden *et al.* study were adult age non-DM-2, either overweight (BMI >/= 27) + one or more comorbidities, or obese (BMI >/= 30). Both the semaglutide and placebo groups were also subjected to intensive behavioral therapy throughout the 68-week study period [16] that included 611 randomized participants.

The Ahren *et al.* study was a 56-week, phase 3a, randomized, double-blind, double-dummy, multinational, multicenter trial, comprising 128 sites at a total of 18 different countries. All participants in the Walden *et al.* study were of legal age in their country, were diagnosed with DM-2, and had insufficient glycemic control despite stable treatment with metformin and/or thiazolidinedione [17].

As for the complimentary literature pieces that were also reviewed, they were selected for references due to their relevance to our topic. The prospective observational study by Sherwin *et al.* [18] was reviewed because of their novel approach to evaluating gastric emptying by comparing a placebo group vs. a semaglutide group. The Wilding *et al.* original investigation [19] was included in the review to look at the evidence of sustainability in weight loss management and HbA1c reduction after complete cessation of semaglutide use.

3.3. Risk of Bias in Studies

All studies disclosed any competing interests and potential for biases. The Garvey *et al.*, Wadden *et al.*, and Ahren *et al.* studies disclosed receiving grants funded by Novo Nordisk, which is a pharmaceutical company that manufactures

FDA-approved semaglutide. Wadden *et al.* are one of the principal investigators leading the clinical trial for semaglutide. The Ghusn *et al.* study disclosed that the principal investigator received funding to conduct their research and is also a consultant for several pharmaceutical companies, and holds stock in another pharmaceutical company.

3.4. Certainty of Evidence

Despite the potential for competing interests and biases, the p-value of each of the original studies that went through our systematic review holds a high statistical significance, p-value < 0.05. All original studies were peer-reviewed and published by highly credible high-impact factor publication journals.

4. Discussion

4.1. Interpretation of the Results

Garvey *et al.* study had a weight loss achievement of more than the 5% weight loss benchmark among 34.9% proportion of their participants [14]. The weight loss in their semaglutide group was 11% more than what their placebo group achieved after the study's completion period [14]. At the week 12 follow-up encounter, their semaglutide group achieved a 5.9% drop in percent body weight from baseline. Participants in the semaglutide group achieved a continued exponential drop in HbA1c levels throughout week 20, with a 0.53% percentage change from baseline [14] before a plateau was observed. Garvey *et al.* also looked into secondary endpoints, which included systolic and diastolic blood pressures, and waist circumference. Results for each of these secondary endpoints showed an exponential drop from their baselines throughout week 20 of their study before a plateau was observed. Their results present a desirable characteristic of semaglutide in the quest for therapeutic intervention for weight loss management in diverse patient populations and HbA1c reduction in DM-2 patient populations. Desirable results can be achieved at week 12 after treatment initiation of semaglutide.

Ghusn *et al.* [15] reported significant weight loss achieved at 3 months (5.9%) and 6 months (10.9%) from among 408 medical records with semaglutide prescriptions. Over 87% of their semaglutide group achieved more than the 5% weight loss benchmark, with 7.8% of them reaching more than 20% weight loss [15]. Similar to the Garvey *et al.* study, desirable results can also be achieved at week 12 after treatment initiation of semaglutide.

Wadden *et al.* [16] reported an estimated mean body weight change from baseline of 16% for its semaglutide group and only a 5.7% weight change in its placebo group after a 68-week investigative period. Though both groups also had intensive behavioral therapy, their study revealed significantly greater weight loss achieved in the semaglutide group than in the placebo group [16]. This underscores the evidence that even with intensive behavioral therapy for weight loss and management, adding a pharmaceutical adjunct boosts the success rate

by doubling the reduction of the target endpoint, which is weight loss.

Ahren *et al.* presented evidence of semaglutide's superiority over sitagliptin in HbA1c reduction among their DM-2 patient participants [17], underscoring that GLP-1 RA is more efficacious than a DPP-4 inhibitor, like sitagliptin. This puts the stage lights on semaglutide for efficacy in treating DM-2 patients by the reduction of elevated HbA1c levels. As for adverse effects, the most common complaints or reasons for leaving the trials were gastrointestinal symptoms, including nausea, vomiting, and diarrhea [14] [15] [16] [17]. The Ahren *et al.* study reported three fatalities in their semaglutide group and three in their sitagliptin group [17], however, the researchers further reported that none of these fatalities were related to either of the two drugs in question [17].

4.2. Limitations of the Evidence

The environment of clinical trials and retrospective reviews can be well-controlled and regulated, which often cannot be mimicked in real-world settings. Hence, the results of studies may not always be reproducible outside of the regulated environment of clinical trials and retrospective studies. Furthermore, the studies conclude at the ending time of the study period and do not capture what happens after semaglutide treatment withdrawal. For that reason, we looked into an original study by Wilding *et al.* [19] that considered the effects of semaglutide treatment withdrawal, which showed a regain of baseline weight after semaglutide treatment withdrawal. This underscores that overweight and obesity appear to be chronic diseases [1] [2] [19] that may require ongoing pharmacological intervention to halt their progression and abate their related comorbidities.

4.3. Limitations of the Review Protocols & Processes

This was a rapid systematic review. Careful attempts to analyze objectives, methods, protocols, results, and discussions were taken into account. However, there were only two reviewers, working independently and collaborating remotely, with oversight from a licensed board-certified Family Medicine with some expertise in weight loss management. Further assistance from expert epidemiologists would have added advanced statistical analysis and reporting.

4.4. Implications for Practice, Policy, and Future Research

There appears a promise that semaglutide brings into the therapeutic world for addressing overweight and obesity, and their comorbidities. The results of the four original studies bring hope for therapeutic intervention into the existing mix of previously approved therapeutics for weight loss and management and HbA1c reduction. Further research on patient outcomes after semaglutide treatment withdrawal is critical at this point. Semaglutide's efficacy [20] in weight loss reduction and management and HbA1c reduction has shown consistent success. However, much remains unknown about what happens after treatment withdrawal. Clearly from one reviewed literature piece [19] in this review,

cessation of semaglutide led to the regain of baseline weight for the participants. The results of that study underscore the fact that obesity is similar to other chronic diseases that require ongoing intervention to abate their progression and comorbidities that come along.

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We want to acknowledge the tremendous work of the researchers who conducted the original investigative studies, providing evidence-based insights for improved clinical practice in the management of weight loss and HbA1c reduction safely and efficaciously. We also want to acknowledge all the participants as well as institutions who contributed evidence to further the work of holistic primary care, igniting more efforts for sustainable preventive care medicine.

Conflicts of Interest

There are no competing interests declared by the authors conducting this review.

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