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CLINICAL IMPACT OF SEMAGLUTIDE ON OBESITY MANAGEMENT AMONG SAUDI ADULTS: A CROSS-SECTIONAL STUDY

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Abstract:

Objective: *To assess the clinical impact of semaglutide on obesity management among Saudi adults.*

Methods: *This study will employ a cross-sectional research design to assess the clinical impact of semaglutide on obesity management among Saudi adults. Cross-sectional studies allow for the collection of data at a single point in time, providing a snapshot of the prevalence and effectiveness of obesity management with semaglutide within the chosen population.*

Results: *The study included 359 participants. The most frequent gender among them was male (n= 216, 60.2%) followed by female (n= 143, 39.8%). The most frequent age among study participants was 29-39 years (n= 100, 27.9%) followed by 18-28 years (n= 97, 27%). Participants were asked if they used any type of semaglutide. There were 70 participants said yes (19.5%), and 289 participants said no (80.5%). The most frequent type of semaglutide the participants used was Ozempic (n= 55, 78.6%) followed by Saxenda (n= 8, 11.4%) and the least was Mounjaro (n= 3, 11.4%). The most frequent height among them was 1.61-1.70 m (n= 28, 40%) followed by 1.71-1.80 m (n= 18, 25.7). Participants were asked about their weight before taking medication and their weight now. The most frequent weight before taking medication was 76-85 kg (n= 76-85, 37.1%), and the most frequent weight now was 66-75 kg (n= 25, 35.7%).*

Conclusion: *Study results showed that most study participants are overweight according to their BMI. Most commonly don't use any type of semaglutide. Most of them don't have type 2 diabetes. In addition, most of study participants had good social connection.*

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INTRODUCTION:

The prevalence of obesity, which is chronic, complex, and relapsing, is projected to rise to 49% by 2030 [2]. Type 2 diabetes, high blood pressure, abnormal lipid levels, high cholesterol, high blood pressure in the coronary arteries, and cancer are only some of the many medical complications associated with obesity [3]. Chronic illnesses related to obesity have been estimated to cost $1.71 trillion in the United States alone [4]. Effective weight control is vital to reduce the medical and financial expenses associated with obesity-related illness and death.

Over the last several decades, many weight reduction therapies have been created. Treatments for obesity range from changes in behavior and lifestyle (such as food and exercise) to pharmaceutical drugs, endoscopic treatments, and even surgery [5]. To reduce obesity and its associated health risks and enhance quality of life, antiobesity drugs have been shown to be beneficial in treating obesity [6,7,8]. The proportion of excess weight lost varies widely across AOMs, from around five percent to about twelve percent in RCTs [9] and ordinary clinical settings [10]. The US Food and Drug Administration (FDA) has only approved five medications for long-term use in people with a body mass index (BMI; weight in kilograms divided by height in meters squared) of 30 or more with no weight-related comorbidities or 27 or more with weight-related comorbidities [11]: orlistat, phentermine plus topiramate, naltrexone plus bupropion, liraglutide, and semaglutide.

Subcutaneous injections of 0.25, 0.5, and 1 mg once weekly of the glucagon-like peptide-1 receptor agonist semaglutide are licensed for the treatment of type 2 diabetes [12], as are oral dosages of 3, 7, and 14 mg once daily [13]. Lower dosages of 1.7 and 2.4 mg once weekly of subcutaneous semaglutide for long-term weight control [14] were authorized by the FDA in June 2021. Semaglutide has been found to be effective in the treatment of obesity in clinical trials (STEP) [16]. Patients using semaglutide 2.4 mg lost an average of 6% of their body weight by week 12 and 12% by week 28 in major randomized controlled trials [16-20].

Obesity has emerged as a global public health crisis, affecting individuals of all ages and ethnic backgrounds. In Saudi Arabia, the prevalence of obesity is alarmingly high, with a significant proportion of adults grappling with its adverse health consequences. As a result, there is a growing need to investigate the clinical impact of novel treatment options for obesity management in this population. One such option is semaglutide, a medication that has shown promise in promoting weight loss and improving metabolic outcomes. However, its efficacy and safety among Saudi adults have not been comprehensively studied. This research problem seeks to address the gap in knowledge regarding the clinical impact of semaglutide on obesity management among Saudi adults by conducting a cross-sectional study.

The first aspect of this research problem is to assess the prevalence and characteristics of obesity among Saudi adults to establish a baseline understanding of the problem. Understanding the demographics, comorbidities, and sociodemographic factors associated with obesity will provide essential context for assessing the clinical impact of semaglutide. The second aspect involves investigating the effectiveness of semaglutide in terms of weight loss, improvements in metabolic parameters, and its safety profile within the Saudi adult population. This cross-sectional study will help determine whether semaglutide can be a viable therapeutic option for addressing the obesity epidemic in Saudi Arabia, potentially leading to more tailored and effective interventions in clinical practice. By exploring the clinical impact of semaglutide on obesity management among Saudi adults, this research problem addresses a critical issue in public health, providing insights that can inform healthcare policies and interventions aimed at reducing the burden of obesity in the Kingdom of Saudi Arabia. The findings from this study could have significant implications for

both clinical practice and public health policy by shedding light on the efficacy and safety of semaglutide as a potential treatment for obesity in this specific population.

The significance of this research lies in its potential to contribute substantially to the field of obesity management, particularly among Saudi adults. The Kingdom of Saudi Arabia is facing an alarming obesity epidemic, with associated health risks, and there is a pressing need to explore effective treatment options that can be tailored to the specific characteristics and needs of this population. By investigating the clinical impact of semaglutide, this research can provide valuable insights into whether this medication can serve as a viable intervention for weight loss and metabolic improvements among Saudi adults. If semaglutide is found to be effective and safe, it may offer healthcare providers and policymakers a valuable tool in combating the obesity crisis in the country.

Furthermore, this study can have a broader impact on the global healthcare community, as obesity is a pervasive issue in many countries. The research outcomes may not only benefit Saudi Arabia but also inform clinical practices and policies in other nations with similar obesity challenges. Understanding the effectiveness of semaglutide in a Saudi context can help guide the development of evidence-based treatment strategies for diverse populations, contributing to the ongoing efforts to combat the worldwide obesity epidemic. Overall, the significance of this research extends beyond its immediate implications for Saudi Arabia and offers potential solutions and insights that can benefit the global public health community in addressing the multifaceted problem of obesity.

METHODS:

Study design

This study will employ a cross-sectional research design to assess the clinical impact of semaglutide on obesity management among Saudi adults. Cross-sectional studies allow for the collection of data at a single point in time, providing a snapshot of the prevalence and effectiveness of obesity management with semaglutide within the chosen population.

Study approach

The research will be conducted in healthcare facilities and clinics across multiple regions in Saudi Arabia, ensuring a diverse and representative sample of Saudi adults with obesity.

Study population

The target population for this study includes Saudi adults (18 years and older) who are using semaglutide drug. The study will encompass both genders and various age groups to represent the broad demographic characteristics of Saudi adults affected by obesity.

Study sample

The sample size will be determined through power calculations to ensure adequate statistical power. A random sampling technique will be used to select participants from different healthcare facilities, ensuring a representative and diverse sample. Informed consent will be obtained from all participants before their inclusion in the study.

Study tool

For the current study, a questionnaire was adopted for data collection, which was also categorized as a study tool.

Data collection

Data will be collected through structured interviews, medical record reviews, and physical examinations. Information on demographics, medical history, and medication use will be gathered. Additionally, anthropometric measurements (weight, height, waist circumference) and relevant clinical parameters (e.g., HbA1c levels, lipid profiles, and blood pressure) will be recorded before and after semaglutide treatment.

Data analysis

Data will be analyzed using appropriate statistical methods, including descriptive statistics to summarize the characteristics of the study population and inferential statistics such as t-tests, chi-square tests, and regression analyses to assess the effectiveness of semaglutide and associations between variables.

Ethical considerations

Ethical approval for this study will be obtained from the relevant institutional review boards and ethics committees in Saudi Arabia. Informed consent will be obtained from all participants, and their privacy and confidentiality will be strictly maintained. The study will adhere to ethical principles, including the Declaration of Helsinki and other national and international guidelines for human research. Any potential conflicts of interest will be disclosed and managed appropriately throughout the research process.

RESULTS:

The study included 359 participants. The most frequent gender among them was male (n= 216,

60.2%) followed by female (n= 143, 39.8%). Figure 1 shows the gender distribution among study participants. The most frequent age among study participants was 29-39 years (n= 100, 27.9%) followed by 18-28 years (n= 97, 27%). Figure 2 shows the age distribution among study participants.

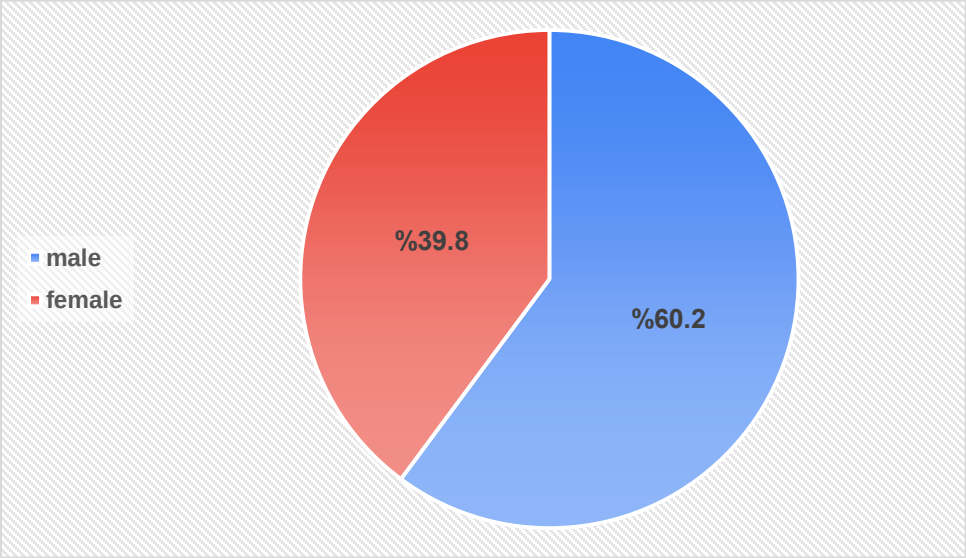

Figure 1: Gender distribution among study participants

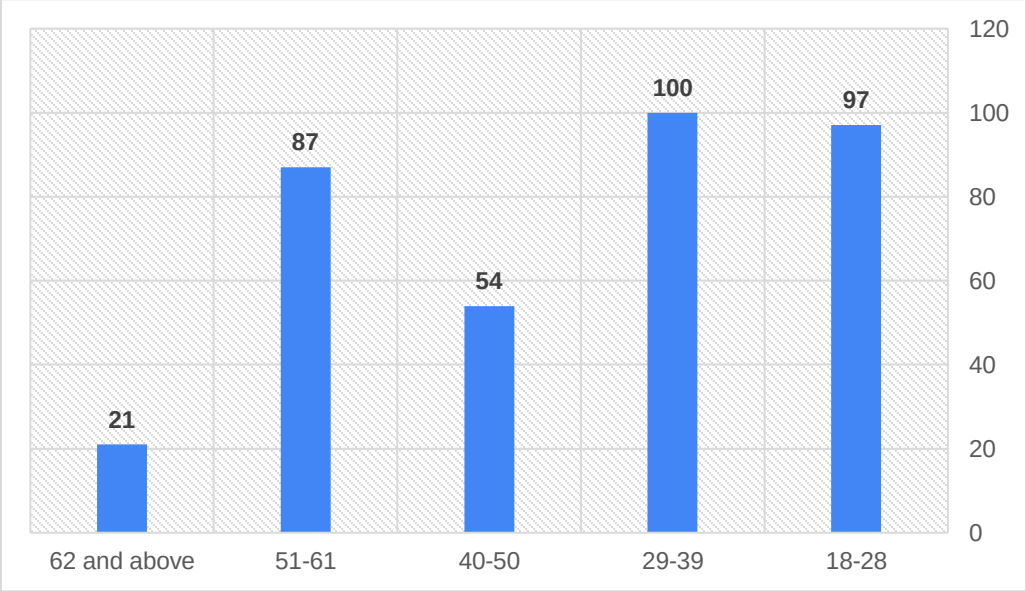

Figure 2: Age distribution among study participants

Participants were asked if they used any type of semaglutide. There were 70 participants said yes (19.5%), and 289 participants said no (80.5%). Their responses and results are presented in Figure 3.

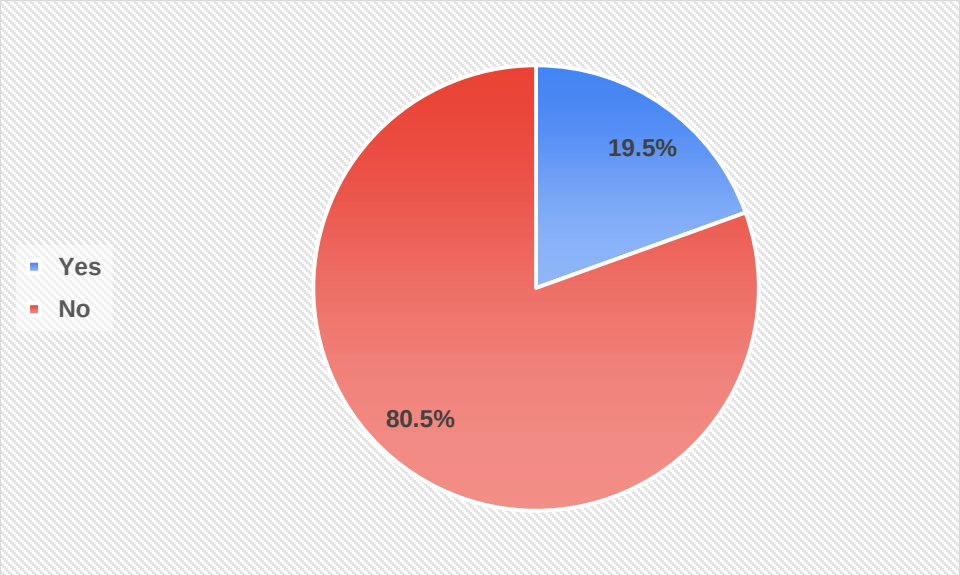

Figure 3: Percentage of participants used semaglutide

The most frequent type of semaglutide the participants used was Ozempic (n= 55, 78.6%) followed by Saxenda (n= 8, 11.4%) and the least was Mounjaro (n= 3, 11.4%). Figure 4 shows the percentage of semaglutide type the participants used.

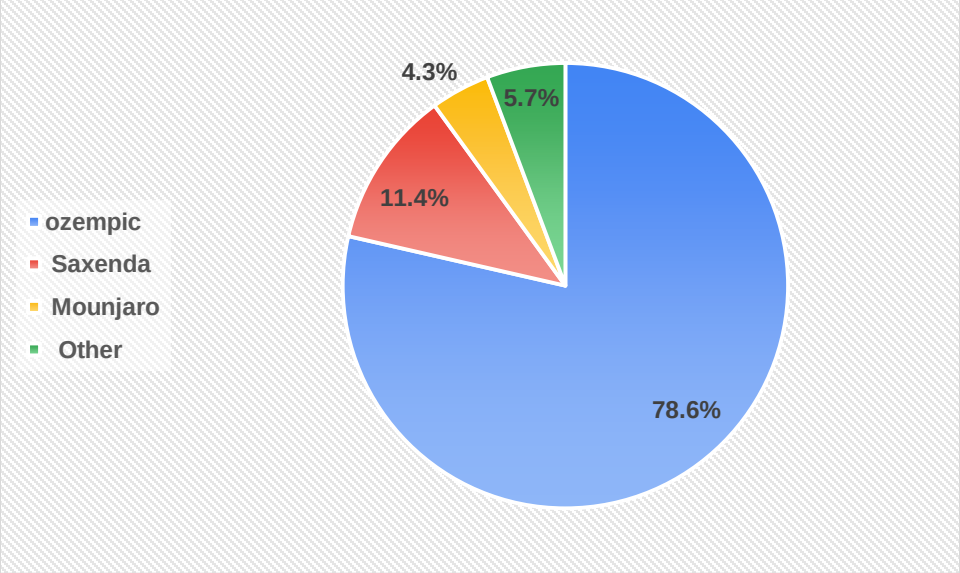

Figure 4: the percentage of semaglutide type the participants used.

The most frequent height among them was 1.61-1.70 m (n= 28, 40%) followed by 1.71-1.80 m (n= 18, 25.7%). Figure 5 shows the height distribution among study participants.

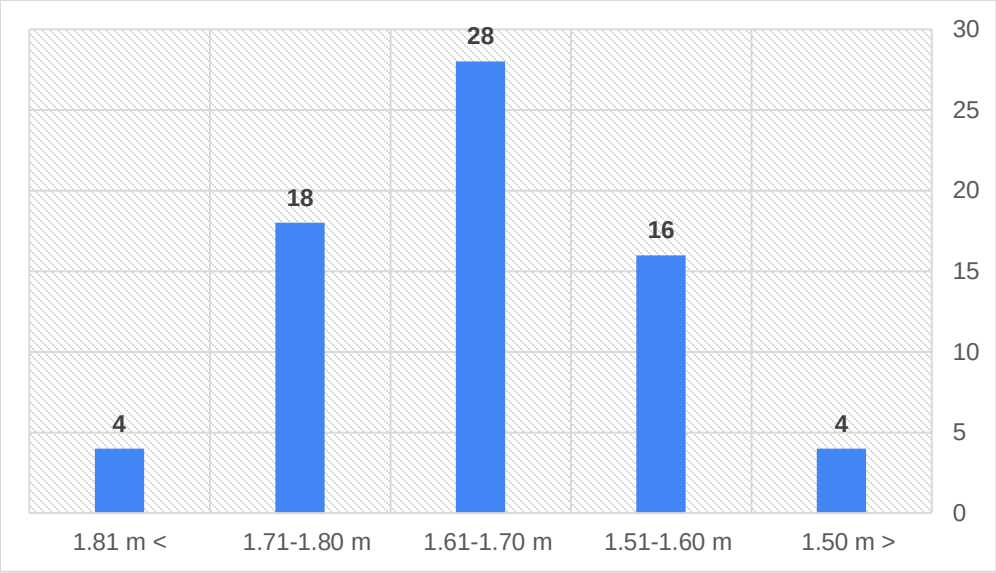

Figure 5: Heigh distribution among study participants

Participants were asked to assess their related to using the Semaglutide. Their responses and results are presented in Table 1 and Tabel 2.

Table 1: Qustions related to users of Semaglutide		
survey item	**Yes**	**No**
Are you currently a smoker?	10	60
	14.3%	85.7%
Do you suffer from high blood fat levels?	25	45
	35.7%	64.3%
Do you suffer from high blood pressure?	10	60
	14.3%	85.7%
Do you suffer from esophageal reflux?	16	54
	22.9%	77.1%
Do you suffer from sleep apnea due to obesity?	11	59
	15.7%	84.3%

Table 2: Qustions related to users of Semaglutide				
survey item	**Natural**	**Abnormal**	**do not remember**	**I didn't measure**
The last measurement of your blood sugar level while you were fasting	53	7	4	6
	75.7%	10.0%	5.7%	8.6%
Measurement of blood sugar store level (HbA1c)	46	10	7	7
	65.7%	14.3%	10.0%	10.0%
Cholesterol level in the blood	37	19	5	9
	52.9%	27.1%	7.1%	12.9%

Participants were asked about their weight before taking medication and their weight now. The most frequent weight before taking medication was 76-85 kg (n= 76-85, 37.1%), and the most frequent weight now was 66-75 kg (n= 25, 35.7%). Figure 6 shows the difference between weight before medication and now.

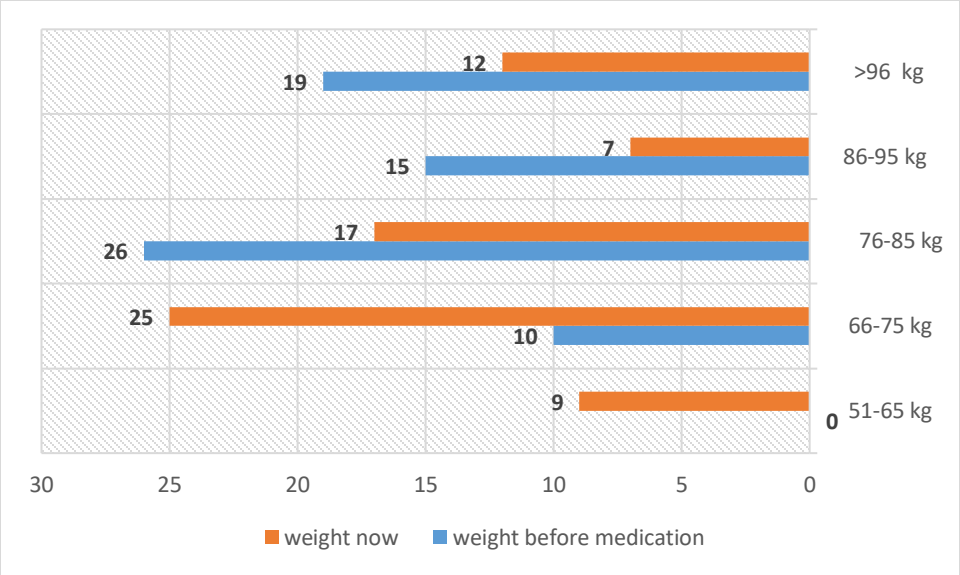

Figure 6: Difference between weight before medication and now.

DISCUSSION:

Obesity has far-reaching effects on people's health, communities, and healthcare systems across the world. Both children and adults are becoming more overweight all over the globe. The prevalence of obesity has tripled since 1975, according to new data from the World Health Organization (WHO) [21]. Obesity, as defined by the World Health Organization (WHO), is "an abnormal or disproportionate accumulation of fat in the human body" with a body mass index (BMI) of 30 or more. When excess fat accumulates, it may lead to high blood pressure, heart failure, ischaemic heart disease, and possibly a stroke [22–25]. Hyperinsulinemia, dyslipidemia, impaired fasting glucose, and hypercholesterolemia are only few of the metabolic abnormalities that may arise as a result of obesity [26–28]. Obesity is a major health problem that becomes worse with time, leading to an increased risk of death from a variety of causes. In addition, the presence of other disorders, such as diabetes, magnifies the detrimental effects of obesity [29-31]. On the other hand, many bodily processes improve as a consequence of weight reduction. For instance, patients with nonalcoholic fatty liver disease saw an improvement in liver histology [32]. Reduced body fat has also been shown to boost heart health [33]. In addition, the metabolic health profile of insulin-resistant obese people will improve as a result of weight reduction, and insulin sensitivity will rise [34, 35]. Weight reduction, according to a meta-analysis paper [36], enhances a variety of psychological manifestations, such as body image, self-esteem, sadness, and health-related quality of life. Weight reduction is also linked to better endothelial function and less inflammation [37].

Maintenance of a healthy body weight and the prevention of obesity-related health problems are paramount. Maintaining a healthy weight may be facilitated by dietary adjustments, behavior modification, and regular exercise [38-40]. In particular, the foundations of a bodyweight control program are a decrease in calorie intake and an increase in physical activity. Alterations to eating habits and medical procedures like bariatric surgery have been developed during the last decade as additional tools in the fight against obesity and the attainment of a healthy body weight [41, 42]. Liraglutide, naltrexone-bupropion, orlistat, phentermine, and phentermine-topiramate are some of the drugs used to treat obesity [39,43-45]. Researchers, medication producers, and medical teams are thinking about existing pharmaceuticals that may help slow the rise in obesity in response to the restricted treatment alternatives. Several medications have been tried and tested for their potential to combat obesity. Biguanide drugs like metformin, which has been used to treat diabetes and obesity, have been demonstrated to reduce body mass index by one unit in individuals who have been given the medicine [46]. Weight loss and a lower body mass index (BMI) are two additional side effects of taking metformin [47]. Metformin has been shown in a recent meta-analysis to have modest but beneficial effects on human body weight and to ameliorate insulin resistance (IR) in obese individuals while maintaining an acceptable safety profile [48]. Metformin, however, does not meet the criteria for an anti-obesity medicine for many

reasons. The FDA has approved Semaglutide for use in the treatment of obesity beginning in 2021. Its anti-obesity effects were shown to be useful. Focusing on the factors that contribute to obesity, this article will examine its function, mode of action, pharmacokinetics, pharmacodynamics, adverse drug reactions, and drug-drug interactions.

Glucagon-Like Peptide 1 (GLP-1)

One of the most well-known incretins is glucagon-like peptide 1 (GLP-1), which is released into the bloodstream from several cells in the gastrointestinal tract and the endocrine system [49–51]. When blood glucose levels are elevated, this hormone from the intestines increases insulin secretion from pancreatic cells [52-54]. As a result of its effects on glucagon secretion, stomach emptying, gastrointestinal fat absorption, and food intake, GLP-1 is also useful for promoting metabolic efficiency, glycemic regulation, and weight reduction [55, 56]. The subsequent improvement in metabolic functions is due, in part, to the enhancement of natriuresis and diuresis [57]. However, much about GLP-1's biological and physiological functions is still unknown.

Glucagon-Like Peptide 1 (GLP-1) Drugs

U.S. regulatory agencies have given their stamp of approval to five different GLP-1 receptor agonists—exenatide, liraglutide, lixisenatide, albiglutide, and dulaglutide—for the management of type 2 diabetes [52]. Reviews have shown that semaglutide is as effective as, if not more so than, other GLP-1s [58].

Pharmacology of Semaglutide

Interest in GLP-1-based approaches has increased as a consequence of completed clinical studies with semaglutide. Sequence-wise, semaglutide is 94% similar to human GLP [59–62], making it a subtype of GFP-1. It acts as a receptor agonist by binding to and activating the GLP-1 receptor. It is well-established that GLP-1 is a physiological hormone with several effects on glucose, mediated by GLP-1 receptors [63]. Semaglutide's lengthy half-life may be explained by its binding to albumin, which reduces renal clearance and protects against metabolic depletion. Unlike other GLP-1 agonists, semaglutide is stable against degradation by the dipeptidyl peptidase-IV enzyme [53]. It lowers blood sugar levels in the fasting and postprandial states by stimulating insulin secretion and inhibiting glucagon secretion in a glucose-dependent manner [64]. Thus, in hyperglycemic circumstances, insulin release is increased while glucagon secretion is decreased. A little pause in stomach drainage during the early postprandial period is also part of the process of reducing blood glucose. Semaglutide, a human GLP-1 receptor agonist, is injected subcutaneously. The fermentation of yeast produces the peptide staple. Semaglutide's hydrophilic spacer and C-18 fatty di-acid make binding to albumin easier. This is the drug's key mechanism. Finally, the enzyme dipeptidyl-peptidase IV (DPP-4) [65] modifies position-8 of Semaglutide to provide balance as opposed to deprivation.

CONCLUSION:

Study results showed that most study participants are overweight according to their BMI. Most commonly don’t use any type of semaglutide. Most of them don’t have type 2 diabetes. In addition, most of t study participants had good social connections.

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ANNEX 1: DATA COLLECTION TOOL

1. How old are you?
    - 18-28
    - 29-39
    - 40-50
    - 51-61
    - 62 and above

2. What is your gender?
    - Male
    - Female

3. What is your educational level?
    - uneducated
    - the school
    - the university

4. Do you have type 2 diabetes?
    - Yes
    - No

5. Do you suffer from obesity?
    - Yes
    - No
    - maybe

6. Have you used any type of semaglutide?
    - yes
    - no

7. The type of semaglutide do you use?
    - ozempic
    - Saxenda
    - Mounjaro
    - Other

8. What is your height?
    - < 1.50 m
    - 1.51-1.60 m
    - 1.61-1.70 m
    - 1.71-1.80 m
    - >1.81 m

9. Weight before starting to take the medication?
    - < 50 kg
    - 51-65 kg
    - 66-75 kg
    - 76-85 kg
    - 86-95 kg
    - > 96 kg

10. Are you currently a smoker?
    - Yes
    - No
11. The last measurement of your blood sugar level while you were fasting
    - Natural
    - Abnormal
    - I do not remember
    - I did not measure while I was fasting

12. Measurement of blood sugar store level (HbA1c)
    - Natural
    - Abnormal
    - I do not remember
    - I didn't measure

13. Cholesterol level in the blood
    - Natural
    - Abnormal
    - I do not remember
    - I didn't measure

14. Do you suffer from high blood fat levels?
    - Yes
    - No

15. Do you suffer from high blood pressure?
    - Yes
    - No

16. Do you suffer from esophageal reflux?
    - Yes
    - No

17. Do you suffer from sleep apnea due to obesity?
    - Yes
    - No
18. Are you suffering from the following side effects of the medication?
    - Nausea and vomiting
    - diarrhea
    - General fatigue
    - Constipation
    - Abdominal pain
    - Headache
    - Esophageal reflux
    - Other
    - none of the above

19. How severe are the side effects?
    - I don't suffer from side effects
    - Light
    - Medium
    - Severe

APPENDIX 2: Participants responses to scale items

variable		Frequency	Percent
Age	18-28	97	27.0%
	29-39	100	27.9%
	40-50	54	15.0%
	51-61	87	24.2%
	62 and above	21	5.8%
Gender	male	216	60.2%
	female	143	39.8%
marital status	uneducated	0	0.0%
	the school	42	11.7%
	the university	317	88.3%

Do you suffer from type 2 diabetes	Frequency	Percent
Yes	35	9.7%
No	324	90.3%

Do you suffer from obesity?	Frequency	Percent
Yes	98	27.3%
No	202	56.3%
maybe	59	16.4%

Have you used any type of semaglutide?	Frequency	Percent
Yes	70	19.5%
No	289	80.5%

The type of semaglutide do you use?	Frequency	Percent
ozempic	55	78.6%
Saxenda	8	11.4%
Mounjaro	3	4.3%
Other	4	5.7%

How severe are the side effects?		
	Frequency	Percent
I don't suffer from side effects	17	24.3%
Light	27	38.6%
Medium	20	28.6%
Severe	6	8.6%

Are you suffering from the following side effects of the medication? (more than one)		
	Frequency	**Percent**
Nausea and vomiting	29	20.9%
diarrhea	10	7.2%
General fatigue	18	12.9%
Constipation	19	13.7%
Abdominal pain	12	8.6%
Headache	19	13.7%
Esophageal reflux	14	10.1%
Other	3	2.2%
none of the above	15	10.8%

variable		**Frequency**	**Percent**
height	1.50 m >	4	5.7%
	1.51-1.60 m	16	22.9%
	1.61-1.70 m	28	40.0%
	1.71-1.80 m	18	25.7%
	1.81 m <	4	5.7%
weight before medication	< 50 kg	0	0.0%
	51-65 kg	0	0.0%
	66-75 kg	10	14.3%
	76-85 kg	26	37.1%
	86-95 kg	15	21.4%
	>96 kg	19	27.1%
weight now	< 50 kg	1	1.4%
	51-65 kg	8	11.4%
	66-75 kg	25	35.7%
	76-85 kg	17	24.3%
	86-95 kg	7	10.0%
	>96 kg	12	17.1%

Table 1: Qustions related to users of Semaglutide		
survey item	**Yes**	**No**
Are you currently a smoker?	10 14.3%	60 85.7%
Do you suffer from high blood fat levels?	25 35.7%	45 64.3%
Do you suffer from high blood pressure?	10 14.3%	60 85.7%
Do you suffer from esophageal reflux?	16 22.9%	54 77.1%
Do you suffer from sleep apnea due to obesity?	11 15.7%	59 84.3%

Table 1: Qustions related to users of Semaglutide				
survey item	**Natural**	**Abnormal**	**do not remember**	**I didn't measure**
The last measurement of your blood sugar level while you were fasting	53 75.7%	7 10.0%	4 5.7%	6 8.6%
Measurement of blood sugar store level (HbA1c)	46 65.7%	10 14.3%	7 10.0%	7 10.0%
Cholesterol level in the blood	37 52.9%	19 27.1%	5 7.1%	9 12.9%

BMI before medication	less than 18.5	2	2.9%
	18.5 - 24.9	1	1.4%
	25-29.9	21	30.0%
	30-34.9	24	34.3%
	more than 35	22	31.4%
BMI now	less than 18.5	3	4.3%
	18.5 - 24.9	14	20.0%
	25-29.9	26	37.1%
	30-34.9	15	21.4%
	more than 35	12	17.1%

Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.493[a]	.243	.099	.113

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.239	11	.022	1.691	.098[b]
	Residual	.746	58	.013		
	Total	.986	69			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.780	.170		4.592	.000
	Type semaglutide	.068	.019	.468	3.673	.001
	Measurement blood sugar.level.fasting	.008	.025	.060	.307	.760
	HbA1c	-.021-	.022	-.180-	-.938-	.352
	Cholesterol level	.014	.019	.119	.703	.485
	high.blood.fat.levels	.003	.030	.011	.090	.928
	high.blood.pressure	.053	.043	.156	1.227	.225
	esophageal.reflux	.014	.036	.050	.399	.691
	sleep.apnea.due.obesity	-.001-	.039	-.004-	-.030-	.976
	Period taking medicine	-.001-	.001	-.088-	-.662-	.511
	side.effects.medication	.007	.005	.219	1.325	.190
	Sever side effects	.002	.024	.014	.079	.937

Chi-square

used.type.semaglutide * type.semaglutide.use

Crosstab

			Type semaglutide use				Total
			ozempic	saxenda	mounjaro	other	
Used type semaglutide	yes	Count	55	8	3	3	69
		% of Total	78.6%	11.4%	4.3%	4.3%	98.6%
	no	Count	0	0	0	1	1
		% of Total	0.0%	0.0%	0.0%	1.4%	1.4%
Total		Count	55	8	3	4	70
		% of Total	78.6%	11.4%	4.3%	5.7%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.739[a]	3	.001
Likelihood Ratio	5.984	3	.112
Linear-by-Linear Association	10.436	1	.001
N of Valid Cases	70		

used. type. semaglutide * smoker

Crosstab

			smoker		Total
			yes	no	
used.type.semaglutide	yes	Count	21	48	69
		% of Total	30.0%	68.6%	98.6%
	no	Count	0	1	1
		% of Total	0.0%	1.4%	1.4%
Total		Count	21	49	70
		% of Total	30.0%	70.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.435[a]	1	.510		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.720	1	.396		
Fisher's Exact Test				1.000	.700
Linear-by-Linear Association	.429	1	.513		
N of Valid Cases	70				

used.type.semaglutide * measurement.blood.sugar.level.fasting

Crosstab

			measurement.blood.sugar.level.fasting				
			natural	abnormal	i do not remamber	i did not measure while i was fasting	Total
used.type.semaglutide	yes	Count	52	7	4	6	69
		% of Total	74.3%	10.0%	5.7%	8.6%	98.6%
	no	Count	1	0	0	0	1
		% of Total	1.4%	0.0%	0.0%	0.0%	1.4%
Total		Count	53	7	4	6	70
		% of Total	75.7%	10.0%	5.7%	8.6%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.325[a]	3	.955
Likelihood Ratio	.561	3	.905
Linear-by-Linear Association	.253	1	.615
N of Valid Cases	70		

used.type.semaglutide * HbA1c

Crosstab

			HbA1c				
			natural	abnormal	i do not remamber	i did not measure	Total
used.type.semaglutide	yes	Count	45	10	7	7	69
		% of Total	64.3%	14.3%	10.0%	10.0%	98.6%
	no	Count	1	0	0	0	1
		% of Total	1.4%	0.0%	0.0%	0.0%	1.4%
Total		Count	46	10	7	7	70
		% of Total	65.7%	14.3%	10.0%	10.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.529[a]	3	.912
Likelihood Ratio	.847	3	.838
Linear-by-Linear Association	.401	1	.526
N of Valid Cases	70		

used.type.semaglutide * Cholesterol. level

Crosstab

			Cholesterol.level				
			natural	abnormal	i do not remamber	i did not measure	Total
used.type.semaglutide	yes	Count	36	19	5	9	69
		% of Total	51.4%	27.1%	7.1%	12.9%	98.6%
	no	Count	1	0	0	0	1
		% of Total	1.4%	0.0%	0.0%	0.0%	1.4%
Total		Count	37	19	5	9	70
		% of Total	52.9%	27.1%	7.1%	12.9%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.905[a]	3	.824
Likelihood Ratio	1.288	3	.732
Linear-by-Linear Association	.596	1	.440
N of Valid Cases	70		

used. type.s emaglutide * high.blood.fat.levels

Crosstab

			high.blood.fat. levels		Total
			yes	no	
used. type. semaglutide	yes	Count	25	44	69
		% of Total	35.7%	62.9%	98.6%
	no	Count	0	1	1
		% of Total	0.0%	1.4%	1.4%
Total		Count	25	45	70
		% of Total	35.7%	64.3%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.564[a]	1	.453		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.892	1	.345		
Fisher's Exact Test				1.000	.643
Linear-by-Linear Association	.556	1	.456		
N of Valid Cases	70				

used.type.semaglutide * high.blood.pressure

Crosstab

			high.blood.pressure		Total
			yes	no	
used.type.semaglutide	yes	Count	10	59	69
		% of Total	14.3%	84.3%	98.6%
	no	Count	0	1	1
		% of Total	0.0%	1.4%	1.4%
Total		Count	10	60	70
		% of Total	14.3%	85.7%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.169[a]	1	.681		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.311	1	.577		
Fisher's Exact Test				1.000	.857
Linear-by-Linear Association	.167	1	.683		
N of Valid Cases	70				

used.type.semaglutide * esophageal.reflux

Crosstab

			esophageal.reflux		Total
			yes	no	
used.type.semaglutide	yes	Count	16	53	69
		% of Total	22.9%	75.7%	98.6%
	no	Count	0	1	1
		% of Total	0.0%	1.4%	1.4%
Total		Count	16	54	70
		% of Total	22.9%	77.1%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.301[a]	1	.584		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.523	1	.469		
Fisher's Exact Test				1.000	.771
Linear-by-Linear Association	.296	1	.586		
N of Valid Cases	70				

used.type.semaglutide * sleep.apnea.due.obesity

Crosstab

			sleep.apnea.due.obesity		Total
			yes	no	
used.type.semaglutide	yes	Count	11	58	69
		% of Total	15.7%	82.9%	98.6%
	no	Count	0	1	1
		% of Total	0.0%	1.4%	1.4%
Total		Count	11	59	70
		% of Total	15.7%	84.3%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.189[a]	1	.664		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.345	1	.557		
Fisher's Exact Test				1.000	.843
Linear-by-Linear Association	.186	1	.666		
N of Valid Cases	70				

used.type.semaglutide * sever.side.effects

Crosstab

			sever.side.effects				
			I don't suffer from side effects	light	medium	sever	Total
used.type.semaglutide	yes	Count	16	27	20	6	69
		% of Total	22.9%	38.6%	28.6%	8.6%	98.6%
	no	Count	1	0	0	0	1
		% of Total	1.4%	0.0%	0.0%	0.0%	1.4%
Total		Count	17	27	20	6	70
		% of Total	24.3%	38.6%	28.6%	8.6%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.163[a]	3	.367
Likelihood Ratio	2.876	3	.411
Linear-by-Linear Association	1.786	1	.181
N of Valid Cases	70		