

Novo Nordisk

Obesity Week 2019 poster book

Contents



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Liraglutide 3.0 mg

Obesity research



Obesity Week 2019
3–7 November
Las Vegas, NV, USA

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Poster presentations

WEDNESDAY 6 NOVEMBER 2019

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Poster presentations

THURSDAY 7 NOVEMBER 2019

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[Outcomes at Week 56 in individuals losing \$\geq 4\%\$ weight at Week 16 on liraglutide 3.0 mg: SCALE insulin](#)

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[Outcomes at Week 56 in individuals losing \$\geq 4\%\$ weight at Week 16 on liraglutide 3.0 mg: SCALE IBT](#)



Poster presentation T-P-3357

Outcomes at Week 56 in individuals losing $\geq 4\%$ weight at Week 16 on liraglutide 3.0 mg: SCALE insulin

D DICKER,¹ AL BIRKENFELD,² WT GARVEY,³ G MINGRONE,⁴ SD PEDERSEN,⁵ A SATYLGANOVA,⁶ D SKOVGAARD,⁶ D SUGIMOTO,⁷ N ZEUTHEN,⁶ O MOSENZON⁸

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Background: The FDA label for liraglutide 3.0 mg defines a stopping rule for individuals achieving $<4\%$ body weight reduction after 16 weeks' treatment. This *post hoc* analysis reports the effect of intervention in liraglutide-treated individuals categorized as early responders (ERs) who lost $\geq 4\%$ body weight at week 16. This subgroup corresponded to individuals considered eligible to continue treatment after 16 weeks in a real-world clinical setting.

Methods: The 56-week SCALE Insulin trial randomized adults with overweight/obesity and T2D (BMI ≥ 27 kg/m²; HbA_{1c} 6–10%) treated with basal insulin and ≤ 2 OADs to liraglutide 3.0 mg or placebo as adjunct to IBT. Data are presented for ERs ($\geq 4\%$ weight loss [WL] at week 16) and early non-responders (ENRs: $<4\%$ WL at week 16) after 56 weeks' treatment. Missing data were imputed using J2R-MI. Data presented for the two subsets are for descriptive purposes only. As data are not placebo-adjusted, any differences in outcomes between ERs and ENRs should be interpreted with caution.

Results: Mean characteristics at randomization (n=198) for liraglutide 3.0 mg-treated individuals: 56y, 55% female, 222 lb, BMI 36 kg/m². At 16 weeks, 62.1% of all randomized individuals had achieved $\geq 4\%$ WL (ERs). At 56 weeks, mean WL in ERs was 8.8%, with 78.8% and 35.8% of this subset achieving WL $\geq 5\%$ and $>10\%$, respectively. Mean WL in ENRs was 1.1%; 10.4% and 1.7% of ENRs achieved $\geq 5\%$ and $>10\%$ WL, respectively. Gastrointestinal adverse events were reported in 66.1% of ERs and 54.2% of ENRs. The proportion of individuals experiencing ≥ 1 hypoglycemic episode was 76.8% for ERs and 66.7% for ENRs.

Conclusion: Over 60% of people with overweight/obesity and insulin-treated T2D receiving liraglutide 3.0 mg as adjunct to IBT were eligible for long-term treatment according to FDA prescribing information. Of these, most continued on therapy to 56 weeks, achieving clinically relevant reductions in body weight.





Poster presentation T-P-3365

Outcomes at Week 56 in individuals losing $\geq 4\%$ weight at Week 16 on liraglutide 3.0 mg: SCALE IBT

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Background: The FDA label for liraglutide 3.0 mg defines a stopping rule for individuals achieving $<4\%$ body weight reduction after 16 weeks' treatment. This *post hoc* analysis explored the effect of intervention in the subgroup of liraglutide-treated individuals categorized as early responders (ERs) who lost $\geq 4\%$ body weight at week 16. This subgroup corresponded to individuals who would have been eligible to continue treatment after 16 weeks in a real-world clinical setting.

Methods: The 56-week SCALE IBT trial randomized adults with obesity (BMI ≥ 30 kg/m²) and without diabetes to liraglutide 3.0 mg or placebo as an adjunct to IBT (physical activity escalating to 250 min/week, 1200–1800 kcal/day hypocaloric diet and 23 behavior counselling sessions). Data are presented for ERs ($\geq 4\%$ weight loss [WL] at week 16) and early non-responders (ENRs: $<4\%$ WL at week 16) after 56 weeks' treatment. Missing data were imputed using J2R-MI. Data presented for the two subsets are for descriptive purposes only. As data are not placebo-adjusted, any differences in outcomes between ERs and ENRs should be interpreted with caution.

Results: Mean characteristics at randomization (n=142) for liraglutide 3.0 mg-treated individuals: 45y, 84% female, BMI 39 kg/m². At 16 weeks, 76.1% of all randomized individuals had achieved $\geq 4\%$ WL (ERs). At 56 weeks, mean WL in ERs was 9.4%, with 72.7%, 38.6% and 22.8% of this subset achieving WL $\geq 5\%$, $>10\%$ and $>15\%$, respectively. Mean WL in ENRs was 0.8%; 24.5%, 0% and 0% of ENRs achieved $\geq 5\%$, $>10\%$ and $>15\%$ WL, respectively. Gastrointestinal adverse events were reported in 75.0% of ERs and 58.8% of ENRs.

Conclusion: Over 75% of people with obesity receiving liraglutide 3.0 mg as an adjunct to IBT were eligible for long-term treatment according to FDA prescribing information. Of these, the majority continued on therapy to 56 weeks, achieving clinically relevant reductions in body weight.





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Late breaking poster presentation T-P-LB-3665

Economic value of weight loss in adults with obesity

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Background: Obesity imposes significant economic tolls on the US, incurring \$1.72 trillion in direct and indirect cost. Although long-term value of weight loss (WL) is well documented, short-term value of WL and sustained WL remains understudied. We aim to assess short-term impact of nonsurgical WL and sustained WL on per-member-per-month (PMPM) healthcare cost in adults with obesity in the US.

Methods: We analyzed the Truven-Explorys Linked Claims-EMR Database (2012-2018). Adults aged 18-64 with a body mass index (BMI) ≥ 30 kg/m² on index date and BMIs measured at 12, 24, and 36 months were classified into weight gain (WG, $\geq 3\%$), weight maintenance (WM, within $\pm 3\%$), and WL (3-5, 5-10, and 10-20% WL respectively) based on change from 1st to 2nd BMI ("baseline period") and sustained WL (WL in baseline and $< 3\%$ WG from 2nd to 3rd BMI). PMPM healthcare costs were calculated for baseline, 1st and 2nd year of follow-up (FU1, FU2). Generalized linear models were used to examine if PMPM cost change (Δ PMPM) from baseline to FU1 in WL groups and that from baseline to FU2 in sustained WL groups differed significantly from WM.

Results: The sample included 20,488 adults: 24.8% WG, 56.6% WM, and 8.2, 7.7, and 2.8% with 3-5, 5-10, and 10-20% WL respectively. Compared to WM, adjusted mean Δ PMPM cost from baseline to FU1 was lower in all WL groups ($-\$57.36$, $-\$135.35$, and $-\$193.54$ for 3-5, 5-10, and 10-20% WL respectively, $p < 0.05$ for the last two), and that from baseline to FU2 was lower in all sustained WL groups ($-\$26.38$, $-\$157.41$, and $-\$185.41$ for 3-5, 5-10, and 10-20% WL respectively, $p < 0.05$ for 5-10% WL). Larger cost reduction was seen in larger magnitude of WL and sustained WL.

Conclusion: Substantial healthcare cost savings were achieved with nonsurgical WL and sustained WL in adults with obesity. Greater magnitude of WL and sustained WL was associated with greater cost savings. Comprehensive solutions to chronic weight management including better access to obesity medications could be of value to employers and payers.





Poster presentation T-P-3358

Three “Ds” – elements for successful weight loss outcomes: role of healthcare professionals

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Background: In people with obesity (PwO), body weight loss of $\geq 5\%$ is generally considered to be clinically meaningful. Some PwO do receive treatment and guidance from healthcare professionals (HCPs), but there remains a substantial unmet medical outcomes and weight maintenance need. To identify aspects that might contribute to a successful weight loss outcome (WLO; $\geq 5\%$ body weight loss maintained for ≥ 1 year), we investigated the characteristics and experience of PwO with and without successful WLOs using data from the ACTION-IO study (NCT03584191).

Methods: An online survey was completed by adults with obesity and HCPs in 11 countries: Australia, Chile, Israel, Italy, Japan, Mexico, Saudi Arabia, South Korea, Spain, UAE and UK. A successful WLO was defined as $\geq 5\%$ body weight loss in the past 3 years maintained for ≥ 1 year.

Results: A total of 14,502 PwO completed the survey. General characteristics were similar between those who had a successful WLO (n=1,559; 11%) vs those who had not (n=12,943; 89%): 53% vs 52% were male; the mean age was 49 vs 48 years; the mean number of comorbidities was 2.0 vs 1.8. The mean number of serious weight loss attempts was 4 for both groups. However, more PwO who had a successful WLO weighed themselves every day (20%) compared with those who had not had a successful WLO (10%). In terms of interactions with HCPs, more PwO who had a successful WLO had discussed weight (58%) with an HCP within the past 5 years than those who did not have a successful WLO (53%). In addition, more PwO who had a successful WLO compared with those who did not had been diagnosed with obesity (42% vs 35%) and had subsequent direction through the scheduling of a follow-up appointment (25% vs 21%).

Conclusions: A 3D approach from HCPs (diagnosis, discussion and direction) appears to be a key element in facilitating a successful WLO. Neither gender, nor age, nor number of weight loss attempts was associated with a successful WLO.





Poster presentation T-P-3397

Misperceptions towards obesity management in people with obesity and healthcare professionals

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Background: Treatment guidelines in obesity typically recommend lifestyle interventions initially, with addition of adjunctive therapy if a clinically meaningful weight loss is not reached and/or maintained, or for severe cases of obesity and those with type 2 diabetes. We present data on the perceptions and attitudes of people with obesity (PwO) and healthcare professionals (HCPs) towards obesity management from the ACTION-IO study (NCT03584191).

Methods: An online survey was completed by PwO and HCPs in 11 countries. Both groups were asked about their attitudes regarding lifestyle interventions, anti-obesity medications and bariatric surgery.

Results: A total of 14,502 PwO and 2,785 HCPs completed the survey. Although most PwO (68%) and HCPs (88%) agreed that obesity is a chronic disease, 72% of PwO stated they preferred to lose weight on their own than use weight loss medication. Both PwO (80%) and HCPs (75%) preferred diet and exercise alone over surgery. Medications and surgery were only viewed as more effective than other treatment options by 41% and 31% of PwO and 30% and 51% of HCPs, respectively. Both groups reported concerns about the side effects of medications (68% PwO, 65% HCPs) and safety of surgery (68% PwO, 70% HCPs). Cost was reported as a barrier for patient use of medications and surgery by 47% and 51% of PwO and 55% and 60% of HCPs, respectively. Almost one third of HCPs (29%) said they don't know enough about prescription weight loss medications to feel comfortable prescribing them.

Conclusions: Both PwO and HCPs favour lifestyle changes alone as the preferred management strategy over lifestyle changes combined with medications and/or surgery, with concern about the efficacy, safety, and cost of both these adjunctive therapies. These data highlight a misalignment between the acknowledgment of obesity as a chronic disease and the attitudes of both PwO and HCPs towards the use of anti-obesity medications and bariatric surgery, which could be barriers to effective obesity management.





Poster presentation T-P-3403

Barriers to weight loss discussions from healthcare professionals: results from ACTION-IO

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Background: There is no international consensus on which healthcare group has prime responsibility for obesity treatment. In addition, education and training vary between countries. To investigate potential barriers to weight loss discussions, we examined the attitudes of healthcare professionals (HCPs) who considered themselves to be obesity experts compared with non-experts using data from the ACTION-IO study (NCT03584191).

Methods: HCPs from 11 countries completed an online survey. HCPs were considered obesity experts if they stated that they worked in an obesity service clinic or if they considered themselves to be an expert in obesity/weight loss management.

Results: The survey was completed by 2,785 HCPs; 1,461 (52%) were obesity experts and 1,324 (48%) were non-experts. Notably, only 63% of obesity experts and 44% of non-experts reported being very or extremely comfortable with having weight discussions with patients. The top reasons for not discussing weight with a patient were similar in both groups and included lack of patient interest (obesity experts 72%; non-experts 70%) or motivation (70%; 67%) for weight loss, more important health issues to discuss (47%; 47%), or absence of weight-related complications (41%; 35%). Fewer obesity experts cited insufficient appointment time as a reason for not discussing weight (48%) than non-experts (61%). Criteria for initiating a weight management conversation included presence of obesity-related complications (73%; 78%), body mass index (75%; 70%), and increased weight (41%; 40%).

Conclusions: Major barriers to initiating weight discussions for both obesity experts and non-experts include discomfort with such conversations, prioritisation of other health issues, attitudes regarding the interest or motivation of patients for weight loss, and insufficient appointment time. These data suggest that both obesity experts and non-experts could benefit from training to challenge their perceptions and attitudes towards people with obesity.





Poster presentation T-P-3437

Gender differences in attitudes towards the management of obesity

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Background: As more females than males attend weight loss programmes and seek medical treatment for obesity, we hypothesised that there are differences in approaches to health care in females and males with obesity. Thus, we investigated the gender differences in attitudes towards the management of obesity using data from the ACTION-IO study (NCT03584191).

Methods: An online survey was completed by adults with obesity in 11 countries: Australia, Chile, Israel, Italy, Japan, Mexico, Saudi Arabia, South Korea, Spain, UAE and UK. We compared attitudes towards prescription anti-obesity medications and bariatric surgery between males and females.

Results: A total of 14,502 people with obesity completed the survey; 7,050 (49%) were female and 7,438 (51%) were male. Both females and males, respectively, would prefer to lose weight themselves rather than utilise medication (69% and 75%) or surgery (77% and 82%), although the attitude was stronger for males. More females (48%) than males (39%) said they would like their healthcare professional to offer a weight loss medication, but more females (71%) were concerned about the side effects of medications than males (65%). Cost was also a barrier to more females than males for both medications (54% vs 40%) and surgery (59% vs 44%). A minority of females and males agreed that there were good options for weight loss medications (41% and 37%) and surgery (44% and 37%) available today. Lastly, 43% of both females and males perceived surgery as the easy way out.

Conclusions: Both genders prefer to lose weight without the use of medications or surgery. Females are slightly more open to the use of anti-obesity medications and surgery than males but have greater concerns about the possible side effects and cost. Many females and males do not think there are good options for anti-obesity medications and surgery available today, highlighting the unmet medical need. Education on the evidence-based efficacy and safety of therapies is required.





Poster presentation T-P-3448

Chicken or the egg: confidence and motivation in people with successful weight loss

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Background: Multiple issues, including genetic, physiological, psychological and environmental factors, influence the development of obesity, and make it difficult for people with obesity (PwO) to reach and/or maintain a clinically significant weight loss. To identify individual factors that may contribute to successful weight loss, we investigated the attitudes of PwO who had a successful weight loss outcome (WLO; $\geq 5\%$ body weight loss maintained for ≥ 1 year) using data from the ACTION-IO study (NCT03584191).

Methods: An online survey was completed by adults with obesity in 11 countries. A successful WLO was defined as $\geq 5\%$ body weight loss in the past 3 years that was maintained for ≥ 1 year.

Results: The survey was completed by 14,502 PwO. Most common weight loss methods tried were general improvements in diet (51%) and exercise (40%). A successful WLO was reported by 1,559 PwO (11%). More PwO who had a successful WLO (compared with those who had not) responded: they know how to lose weight (55% vs 44%); they know how to keep the weight off (48% vs 34%); and if they lost weight it would be easy for them to keep the weight off (31% vs 23%). In addition, more PwO who had a successful WLO stated they were motivated to lose weight than those who had not (57% vs 47%). The top weight loss goal for all PwO was to reduce the risks associated with excess weight or to prevent a health condition (48% and 46%). Fewer PwO who had a successful WLO reported worrying about the impact of their weight on their future health (46%) than PwO who had not had a successful WLO (56%).

Conclusions: A greater proportion of PwO who had a successful WLO appeared to be motivated and confident about their ability to achieve and maintain weight loss. It is unclear if their motivation and confidence is because they had lost weight or if it is the reason they lost weight. These data may suggest that increasing self-efficacy and self-concept could improve WLOs, but more research is needed.





Outcomes at week 56 in individuals losing $\geq 4\%$ weight at week 16 on liraglutide 3.0 mg: SCALE Insulin



qrs.ly/dband14

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Background

- The SCALE Insulin study demonstrated the superiority of liraglutide 3.0 mg for weight reduction versus placebo in individuals with basal insulin-treated type 2 diabetes (T2D) as an adjunct to intensive behavior therapy (IBT) after 56 weeks of treatment (-5.9% vs. -1.5%; estimated treatment difference -4.3% [95% CI: -5.5; -3.2], $p < 0.0001$).¹
- The United States Food and Drug Administration (FDA) prescribing information for liraglutide 3.0 mg defines a stopping rule for individuals achieving $< 4\%$ body weight reduction after 16 weeks' treatment (including 4 weeks of dose escalation).²
- This *post hoc* analysis explored the effect of intervention in the subgroup of liraglutide-treated individuals categorized as early responders (ERs) and their outcomes after 56 weeks of treatment.

Methods

- The 56-week SCALE Insulin trial (ClinicalTrials.gov: NCT02963922) randomized individuals with overweight/obesity (BMI ≥ 27 kg/m²) and T2D (HbA_{1c} 6.0–10.0%) treated with basal insulin and ≤ 2 oral antidiabetic drugs to liraglutide 3.0 mg or placebo, both as an adjunct to IBT.
- IBT consisted of physical activity (escalating up to 250 min/week), reduced caloric intake (1200–1800 kcal/day, based on body weight at randomization) and 23 behavioral counseling visits.
- Data are presented for ERs ($\geq 4\%$ weight loss at week 16) and early non-responders (ENRs; $< 4\%$ weight loss at week 16) after 56 weeks of treatment with liraglutide 3.0 mg.
 - Individuals who withdrew from the trial before 16 weeks, or had a missing weight measurement at week 16, were classified as non-responders.
- Efficacy outcomes are estimated means or proportions from all randomized individuals based on the intention-to-treat principle. Safety outcomes are based on observed data from individuals exposed to the study drug.
- Data presented for the two subsets are for descriptive purposes only. As data are not placebo-adjusted, any differences in outcomes between ERs and ENRs should be interpreted with caution.

Results

Efficacy

- The baseline characteristics of ERs and ENRs for liraglutide 3.0 mg-treated individuals, as well as the subset of individuals who were on-drug at week 56, are presented in Table 1.
- At week 16, 62.1% of randomized individuals had achieved $\geq 4\%$ weight loss and were classified as ERs (Table 1).
- At week 56, mean estimated weight loss from baseline was 8.8% in the ER subgroup and 1.1% in the ENR group (Table 1). Mean observed weight loss over time for ER and ENRs can be seen in Figure 1a.
- At week 56, 78.8% and 35.8% of ERs achieved categorical weight loss of $\geq 5\%$ and $> 10\%$, respectively (Figure 1b).
- In general, clinically meaningful improvements in waist circumference and glycemic parameters were observed in ERs, as was a clinically meaningful reduction in total daily insulin dose (Table 2).
- Change in total daily insulin dose was -5.83U for ERs and +17.66U for ENRs.

Table 1: Baseline demographics and individual disposition

	Liraglutide 3.0 mg (n=198)	
	Early non-responders (n=75)	Early responders (n=123)
N randomised to study drug	75	123
N exposed to study drug	72	123
N completing 56 weeks on-drug [% of exposed]	54 [75.0]	112 [91.1]
Sex, male, n [%]	36 [48.0]	54 [43.9]
Age, years	54.5 (11.8)	56.8 (10.9)
Body weight, lbs	218.5 (45.4)	223.8 (46.1)
BMI, kg/m ²	35.3 (6.6)	36.3 (6.5)
HbA _{1c} , %	8.1 (1.1)	7.8 (1.0)
SBP, mmHg	131 (14)	129 (15)
DBP, mmHg	79 (10)	78 (9)
Duration of diabetes, years	11.1 (6.8)	11.6 (6.9)
Insulin dose, U	39.0 (27.8)	36.6 (26.1)

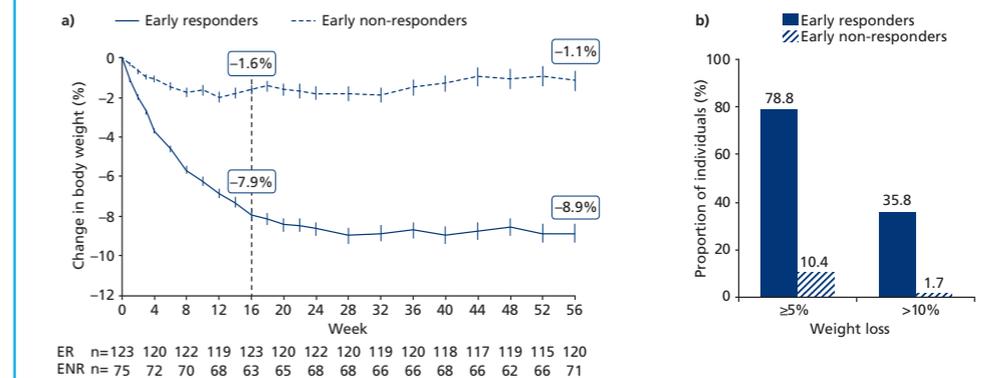
Data are mean (±SD) unless otherwise stated. BMI, body mass index; DBP, diastolic blood pressure; N, number of individuals; SBP, systolic blood pressure; SD, standard deviation; U, units.

Table 2: Estimated primary and secondary efficacy endpoints

	Early non-responders (n=75)	Early responders (n=123)	Early responders on-drug at week 56
Change in weight (%)	-1.09	-8.75	-8.79
Proportion with $\geq 5\%$ weight loss (%)	10.37	78.78	78.84
Proportion with $> 10\%$ weight loss (%)	1.66	35.77	35.52
Change in waist circumference (cm)	-1.40	-7.61	-7.43
Change in HbA _{1c} (% point)	-0.53	-1.40	-1.49
Change in fasting plasma glucose (mg/dL)	2.39	-28.58	-30.77
Change in total daily insulin dose (U)	17.66	-5.83	-6.46
Change in heart rate (beats/min)	2.95	0.71	1.40
Change in systolic blood pressure (mmHg)	-3.09	-6.23	-6.15
Change in diastolic blood pressure (mmHg)	-1.42	-2.97	-2.83
Change in total cholesterol (mg/dL)	-3.11	-5.02	-3.55
Change in LDL cholesterol (mg/dL)	-1.85	-3.35	-1.67
Change in HDL cholesterol (mg/dL)	-0.18	2.93	2.60
Change in VLDL cholesterol (mg/dL)	-0.95	-4.89	-4.66
Change in triglycerides (mg/dL)	-8.39	-26.58	-25.18
Change in free fatty acids (mg/dL)	-3.56	-2.43	-2.31
Change in SF-36 Physical function score	0.81	3.45	3.73
Change in IWQOL-Lite CT Physical function score	2.77	9.69	9.98

Data are estimated means. Analysis of in-trial data with missing observations imputed from the placebo arm based on a jump-to-reference multiple (x100) imputation approach. HDL, high-density lipoprotein; IWQOL-Lite CT, Impact of Weight on Quality of Life-Lite for Clinical Trials; LDL, low-density lipoprotein; SF-36, short form-36; U, units; VLDL, very-low-density lipoprotein.

Figure 1: a) Change in body weight from baseline to week 56; b) Categorical weight loss



Data are observed means ± SEM. ER, early responders; ENR, early non-responders.

Key results

Safety

- The proportion of ERs and ENRs reporting adverse events and serious adverse events was similar to that reported in the overall trial population.

Table 3: Summary of adverse events

	Liraglutide 3.0 mg (n=195)	
	Early non-responders (n=72)	Early responders (n=123)
Total adverse events	63 (87.5)	117 (95.1)
Serious adverse events	4 (5.6)	12 (9.8)
Gastrointestinal adverse events	39 (54.2)	82 (66.7)
Hypoglycemic episodes [†]		
Total	48 (66.7)	92 (74.8)
Severe	1 (1.4)	2 (1.6)
Documented symptomatic	30 (41.7)	62 (50.4)

On-drug adverse events: adverse events with onset date no more than 14 days after any trial product administration. [†]Hypoglycemic episodes are based on American Diabetes Association criteria.³

- The most frequent adverse events were gastrointestinal events, reported for 66.7% of individuals in the ER subset and 54.2% in the ENR subset (Table 3).
- The proportion of individuals experiencing ≥ 1 hypoglycemic event was 74.8% in the ER subset and 66.7% in the ENR subset (Table 3).

Conclusion

- Over 60% of individuals with overweight/obesity and basal insulin-treated T2D receiving liraglutide 3.0 mg as an adjunct to IBT achieved clinically meaningful weight loss of at least 4% at week 16 and were eligible for long-term treatment according to the FDA prescribing information.
- Of these, the majority continued on therapy to 56 weeks, achieving clinically relevant reductions in body weight and other endpoints.

The study was sponsored by Novo Nordisk and is registered with ClinicalTrials.gov (NCT02963922). The authors are grateful to Chloe Harrison, MSc, Watermeadow Medical (supported by Novo Nordisk), for writing assistance. Presented at Obesity Week 2019, November 03–07, 2019, Las Vegas, NV, USA.

References: (1) Garvey et al. European Congress on Obesity (ECO) 2019, oral presentation; (2) Food and Drug Administration, 2014. Saxenda® Prescribing Information. Available at https://www.accessdata.fda.gov/drugsatfda_docs/label/2014/206321Orig1s000001.pdf; (3) Seungjoo et al. Diabetes Care 2013;36:1384–95.



Outcomes at week 56 in individuals losing $\geq 4\%$ weight at week 16 on liraglutide 3.0 mg: SCALE IBT

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Background

- The SCALE IBT trial demonstrated superiority of liraglutide 3.0 mg for weight reduction versus placebo as an adjunct to intensive behavior therapy (IBT) after 56 weeks of treatment (-7.5% vs. -4.0%; estimated treatment difference -3.4% [95% CI: -5.3; -1.6], $p=0.0003$).¹
- The United States Food and Drug Administration (FDA) prescribing information for liraglutide 3.0 mg defines a stopping rule for individuals achieving $<4\%$ body weight reduction after 16 weeks' treatment.²
- This *post hoc* analysis explored the effect of intervention in the subgroup of liraglutide-treated individuals categorized as early responders (ERs).
- » This subgroup corresponded to individuals who would have been eligible to continue treatment after 16 weeks in a real-world clinical setting.

Methods

- The 56-week SCALE IBT trial (ClinicalTrials.gov: NCT02963935) randomized adults with obesity (BMI ≥ 30 kg/m²) and without diabetes to liraglutide 3.0 mg or placebo as an adjunct to a program of IBT, including physical activity (escalating up to 250 min/week), hypocaloric diet (1200-1800 kcal/day) and 23 behavior counseling sessions, delivered on the visit schedule recommended by the Centers for Medicare and Medicaid Services.
- Data are presented for ERs ($\geq 4\%$ weight loss at week 16) and early non-responders (ENRs; $<4\%$ weight loss at week 16) after 56 weeks of treatment with liraglutide 3.0 mg.
- » Individuals who withdrew from the trial before 16 weeks were classified as non-responders.
- Efficacy outcomes are estimated means or proportions based on the intention-to-treat principle (missing values were handled using a jump-to-reference multiple imputation model). Safety outcomes are based on observed data.
- Data presented for the two subsets are for descriptive purposes only. As data are not placebo-adjusted, any differences in outcomes between ERs and ENRs should be interpreted with caution.

Results

Efficacy

- The baseline characteristics of ERs and ENRs for liraglutide 3.0 mg-treated individuals are presented in Table 1.
- At week 16, 76.1% of randomized individuals had achieved $\geq 4\%$ weight loss and were classified as ERs.
- At week 56, mean observed weight loss in the ER subgroup was 9.4% (Figure 1a).
- At week 56, 72.7%, 38.6% and 22.8% of ERs achieved weight loss of $\geq 5\%$, $>10\%$ and $>15\%$, respectively (Figure 1b).
- In general, improvements in waist circumference, glycemic parameters, cardiometabolic markers and patient-reported physical function were observed in ERs (Table 2).

Table 2: Primary and secondary efficacy endpoints at week 56

	Liraglutide 3.0 mg (n=142)		
	Early non-responders (n=34)	Early responders (n=108)	Early responders on-drug (n=94)
Change in weight (%)	-0.8	-9.4	-10.6
Proportion with $\geq 5\%$ weight loss (%)	24.5	72.7	81.5
Proportion with $>10\%$ weight loss (%)	0.0	38.6	43.6
Proportion with $>15\%$ weight loss (%)	0.0	22.8	26.4
Change in waist circumference (cm)	-2.2	-11.4	-12.3
Change in HbA _{1c} (% point)	-0.05	-0.20	-0.24
Change in heart rate (beats/min)	1.87	1.95	2.08
Change in systolic blood pressure (mmHg)	-1.27	-2.51	-4.09
Change in diastolic blood pressure (mmHg)	0.00	-0.80	-1.60
Change in total cholesterol (mg/dl)	-0.08	-0.08	-0.09
Change in LDL cholesterol (mg/dl)	-1.22	0.31	0.63
Change in HDL cholesterol (mg/dl)	0.91	2.74	3.07
Change in VLDL cholesterol (mg/dl)	-0.12	-3.10	-3.76
Change in triglycerides (mg/dl)	-4.36	-20.45	-24.67
Change in free fatty acids (mg/dl)	-1.28	-2.26	-2.68
Change in SF-36 Physical function score	2.00	3.93	4.15
Change in IWQOL-Lite CT Physical function score	12.21	13.57	15.38

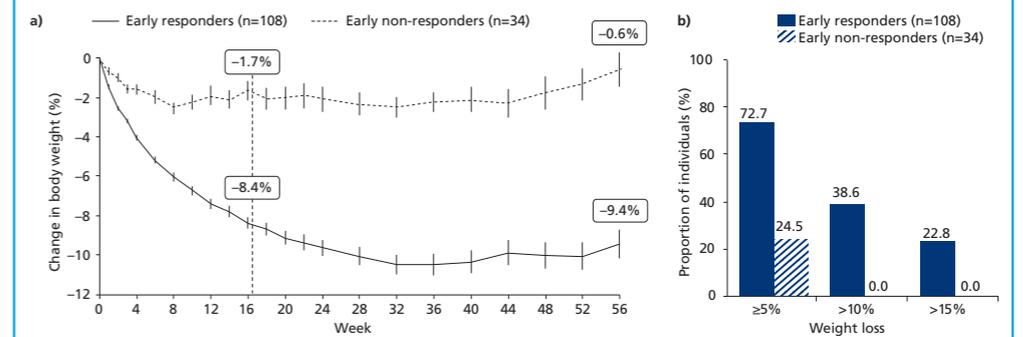
Data are estimated means/proportions; missing values were handled using a jump-to-reference multiple imputation model. HDL, high-density lipoprotein; IWQOL-Lite CT, Impact of Weight on Quality of Life-Lite for Clinical Trials; LDL, low-density lipoprotein; SF-36, short form-36; VLDL, very low-density lipoprotein.

Table 1: Baseline demographics and individual disposition

	Liraglutide 3.0 mg (n=142)	
	Early non-responders (n=34)	Early responders (n=108)
Sex, female, n [%]	27 [79.4]	92 [85.2]
Age, years	41.6 (10.6)	46.7 (11.6)
Body weight, lbs	249.3 (52.2)	236.1 (47.2)
Body weight, kgs	113.1 (23.7)	107.1 (21.4)
BMI, kg/m ²	40.7 (7.9)	38.9 (6.4)
HbA _{1c} , %	5.6 (0.3)	5.5 (0.4)
SBP, mmHg	121 (16)	127 (15)
DBP, mmHg	76 (10)	81 (9)

Data are mean (\pm SD) unless otherwise stated. BMI, body mass index; DBP, diastolic blood pressure; SBP, systolic blood pressure; SD, standard deviation.

Figure 1: a) Change in body weight from baseline to week 56; b) Categorical weight loss at week 56



Data are observed means \pm standard error. ER, early responders; ENR, early non-responders.

Data are estimated proportions; missing values were handled using a jump-to-reference multiple imputation model.

Safety

- The proportion of ERs and ENRs reporting adverse events was similar to that reported in the overall trial population.¹
- The most frequent adverse events were gastrointestinal events, reported by 75.0% in the ER subset and 58.8% in the ENR subset (Table 3).

Table 3: Summary of adverse events

	Liraglutide 3.0 mg (n=142)			
	Early non-responders (n=34)		Early responders (n=108)	
	n	(%)	n	(%)
Total adverse events	32	94.1	104	96.3
Serious adverse events	0	0.0	6	5.6
Gastrointestinal adverse events	20	58.8	81	75.0

Safety analysis set. On-drug adverse events: adverse events with onset date no more than 14 days after any trial product administration.

Conclusion

- More than three quarters of individuals with obesity receiving liraglutide 3.0 mg as an adjunct to IBT were classified as responders at week 16 and were eligible for long-term treatment according to the FDA prescribing information.
- Of these, the great majority continued on therapy to 56 weeks, achieving clinically meaningful reductions in body weight.

The study was sponsored by Novo Nordisk and is registered with ClinicalTrials.gov (NCT02963935). Presenter Pernille Auerbach is an employee of Novo Nordisk. The authors are grateful to Chloe Harrison, MBChB, Watermeadow Medical (supported by Novo Nordisk), for writing assistance. Presented at Obesity Week 2019, November 3-7, 2019, Las Vegas, NV, USA.

References: (1) Wadden et al. ENDO 2019, Poster SAF-099; (2) Food and Drug Administration, 2014. Saxenda® Prescribing information. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2014/206321Orig1s000tbl.pdf



Economic Value of Weight Loss in Adults With Obesity

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T-P-LB-3665



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Introduction

- An estimated 39.8% of adults have obesity in the United States (US), according to 2015–2016 data from the National Health and Nutrition Examination Survey¹
- Obesity imposes a significant economic burden on US society, incurring \$1.72 trillion in both direct and indirect costs annually²
- While there have been studies to explore the economic benefits of weight loss (WL),^{3,4} the short-term cost savings as a result of WL or sustained WL for a defined period of time (eg, 1 year) have not been well described
- Although the efficacy and economic benefits of surgical weight loss have been demonstrated,⁵ the economic impact of nonsurgical WL has not been comprehensively investigated
- Here, we describe the short-term impact of nonsurgical WL and sustained nonsurgical WL on per-patient-per-month (PPM) healthcare costs in adults who have obesity in the US

Objectives

- Objective 1: To assess the impact of nonsurgical WL on PPM healthcare costs 1 year after WL compared to no weight change and how it differs by starting obesity class
- Objective 2: To assess the impact of nonsurgical WL that is sustained over an average of 2 years on PPM healthcare costs compared to no weight change over time, and how it differs by starting obesity class

Methods

- Study Design**
- A retrospective, longitudinal cohort study used the IBM MarketScan Explorys® Claims Electronic Medical Record (EMR) Data Set from January 1, 2012 through June 30, 2018
- Eligibility criteria**
- Inclusion criteria
 - A measurement of body mass index (BMI) ≥ 30 kg/m² on the first instance (index date) of BMI between January 1, 2012 and June 30, 2014
 - Aged 18–64 years on the index date
 - Continuous enrollment during the follow-up period
 - ≥ 1 BMI measurement at 12, 24, and 36 months after the index date (within ± 6 months)
 - Exclusion criteria
 - ≥ 1 diagnosis/procedural code for conditions related to unintentional WL or weight gain (WG) at any time during the study period, including:
 - Acute or chronic pancreatitis, end-stage renal disease, dialysis/renal replacement therapy, feeding difficulty, liver cirrhosis, cancer or malignancy, gestational diabetes, pregnancy, and total pancreatic failure

- ≥ 1 diagnosis/procedural code for bariatric surgery at any time during the study period
- $> 20\%$ WG or WL between consecutive BMI measurements in any year in the study period
- Capitated insurance (ie, healthcare providers receive the same amount per month regardless of individual patient healthcare resource utilization) at any time during the study period

Data Analysis

- The study cohorts were classified based on the difference between index and second BMI measurements (approximately 1 year [± 6 months] after index BMI)
 - WL: ≥ 3 – $\leq 5\%$, > 5 – $\leq 10\%$, or > 10 – $\leq 20\%$
 - WG: $\geq 3\%$
 - No weight change: Within $\pm 3\%$
 - WL: ≥ 3 – $\leq 5\%$, > 5 – $\leq 10\%$, or > 10 – $\leq 20\%$
 - Sustained WL was defined as WL during the baseline period and $< 3\%$ WG from second to third BMI
- PPM healthcare costs were calculated for baseline, and first and second year of follow-up:

$$\text{Per-patient-per-month costs} = \frac{\text{Total healthcare costs}}{\text{Number of months available}}$$

- Generalized linear models were used to examine whether change in PPM healthcare costs from baseline to the first year of follow-up in the WL cohorts (Figure 1) and whether change in PPM healthcare costs from baseline to the second year of follow-up in sustained-WL cohorts (Figure 2) differed significantly from the no-weight-change cohort
 - Covariates with $P < 0.2$ in univariate analyses were included in the final models: age, sex, modified Elixhauser Comorbidity Index score, dyslipidemia, type 2 diabetes, osteoarthritis (knee, hip), gastroesophageal reflux disease, hypertension, and musculoskeletal pain
- Adjusted PPM healthcare costs were further stratified by starting obesity class (class 1: BMI 30– < 35 , class 2: BMI 35– < 40 , class 3: BMI ≥ 40) to assess differential impact by starting obesity class

Figure 1: Objective 1 – Assessment of the Impact of Nonsurgical WL on PPM Healthcare Costs

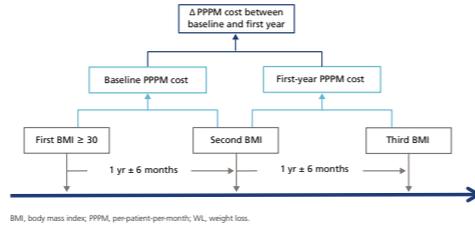
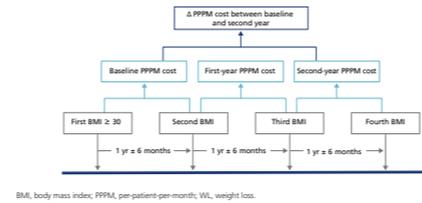


Figure 2: Objective 2 – Assessment of the Impact of Sustained Nonsurgical WL on PPM Healthcare Costs



Results

Overall Study Population

- Overall, the total sample consisted of 20,488 adults aged 18–64 years with obesity, including:
 - 11,588 (56.6%) patients with no weight change
 - 5,072 (24.8%) patients with WG
 - 1,683 (8.2%) patients with ≥ 3 – $\leq 5\%$ WL, 1,576 (7.7%) patients with > 5 – $\leq 10\%$ WL, and 569 (2.8%) patients with > 10 – $\leq 20\%$ WL
- Results are presented for patients with nonsurgical WL and no weight change, given the focus of this study

Objective 1 – Nonsurgical WL vs No Weight Change

- Baseline characteristics for the total sample and by weight change status are shown in Table 1
- Study cohorts were similar with respect to mean age and BMI (mean BMI: 35.3; ie, class 2 obesity) at index
- The > 10 – $\leq 20\%$ WL cohort had a higher proportion of women (65.9%) and a higher prevalence of musculoskeletal pain (42.9%) at baseline relative to other cohorts

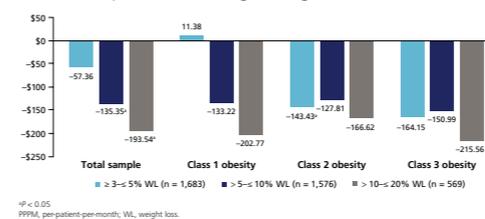
Table 1: Objective 1 – Baseline Characteristics and Comorbidities Included in the Final Model by Weight Change Status

Variable	Total Sample	No Weight Change	≥ 3 – $\leq 5\%$ WL	> 5 – $\leq 10\%$ WL	> 10 – $\leq 20\%$ WL
Sample size, n (%)	20,488 (100)	11,588 (56.6)	1,683 (8.2)	1,576 (7.7)	569 (2.8)
Age, mean (SD) ^a	47.9 (9.9)	48.6 (9.5)	48.7 (9.6)	47.9 (10.4)	46.3 (11.2)
Female, % ^a	53.7	50.7	51.7	55.8	65.9
Index BMI, mean (SD) ^a	35.3 (5.4)	35.3 (5.3)	35.6 (5.6)	35.9 (6.0)	36.5 (6.4)
Elixhauser Comorbidity Index score, mean (SD) ^a	0.9 (1.1)	0.8 (1.1)	0.9 (1.1)	1.0 (1.2)	1.2 (1.5)
Obesity-related comorbidities, n (%)					
Dyslipidemia ^a	8,745 (42.7)	5,078 (43.8)	777 (46.2)	685 (43.5)	225 (39.5)
Type 2 diabetes ^a	3,854 (18.8)	2,139 (18.5)	444 (26.4)	398 (25.3)	107 (18.8)
Osteoarthritis (knee, hip) ^a	860 (4.3)	527 (4.5)	62 (3.7)	65 (4.1)	22 (3.9)
Gastroesophageal reflux disease ^a	2,397 (11.7)	1,284 (11.2)	236 (14.0)	194 (12.3)	76 (13.7)
Hypertension ^a	9,283 (45.3)	5,294 (45.7)	841 (50.0)	701 (44.5)	246 (43.2)
Musculoskeletal pain ^a	7,482 (36.5)	4,112 (35.5)	617 (36.7)	605 (38.4)	244 (42.9)

^aDifferences with $P < 0.05$ based on Chi-square tests. BMI, body mass index; SD, standard deviation; WL, weight loss.

- The largest adjusted PPM healthcare cost reductions (total sample: $-\$193.54$) occurred in the > 10 – $\leq 20\%$ WL cohort (Figure 3), regardless of starting obesity class

Figure 3: Objective 1 – Adjusted ΔPPM Total Healthcare Cost From Baseline to First Year of Follow-up for Nonsurgical WL Compared With No Weight Change



Objective 2 – Sustained Nonsurgical WL vs No Weight Change

- Sustained WL was observed in 2,352 (61.4%) of all 3,828 patients with nonsurgical WL
- Sustained WL was observed in 1,113 (7.3%) patients with ≥ 3 – $\leq 5\%$ WL, 964 (6.3%) patients with > 5 – $\leq 10\%$ WL, and 275 (1.8%) patients with > 10 – $\leq 20\%$ WL
- As in the total sample, the proportion of women (63.3%) and the prevalence of musculoskeletal pain (43.6%) were higher in the > 10 – $\leq 20\%$ sustained-WL cohort than in other cohorts (Table 2)

Table 2: Objective 2 – Baseline Characteristics and Comorbidities Included in the Final Model by Weight Change Status

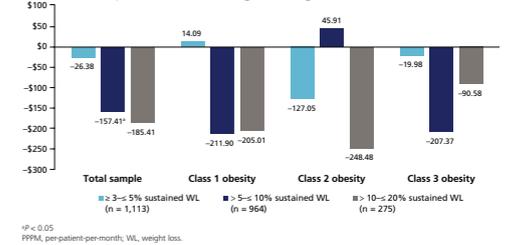
Variable	Total Sample	No Weight Change	≥ 3 – $\leq 5\%$ Sustained WL	> 5 – $\leq 10\%$ Sustained WL	> 10 – $\leq 20\%$ Sustained WL
Sample size, n (%)	15,307 (100)	9,097 (59.4)	1,113 (7.3)	964 (6.3)	275 (1.8)
Age, mean (SD) ^a	48.1 (9.9)	48.6 (9.5)	49.5 (9.2)	49.0 (10.0)	47.6 (11.0)
Female, % ^a	53.10	50.70	49.10	53.90	63.30
Index BMI, mean (SD) ^a	35.3 (5.3)	35.2 (5.2)	35.6 (5.6)	36.1 (6.1)	36.5 (6.3)
Elixhauser comorbidity index score, mean (SD) ^a	0.9 (1.1)	0.8 (1.1)	0.9 (1.1)	1.0 (1.3)	1.4 (1.7)
Obesity-related comorbidities, n (%)					
Dyslipidemia ^a	6,560 (42.9)	3,932 (43.2)	541 (48.6)	444 (46.1)	129 (46.9)
Type 2 diabetes ^a	2,824 (18.4)	1,591 (17.5)	335 (30.1)	285 (29.6)	64 (23.3)
Osteoarthritis (knee, hip) ^a	657 (4.3)	407 (4.5)	45 (4.0)	41 (4.3)	14 (5.1)
Gastroesophageal reflux disease ^a	1,763 (11.5)	988 (11.0)	156 (14.0)	116 (12.0)	39 (14.2)
Hypertension ^a	6,970 (45.5)	4,120 (45.3)	575 (51.7)	454 (47.1)	129 (46.9)
Musculoskeletal pain ^a	5,507 (36.0)	3,174 (34.9)	407 (36.6)	361 (37.4)	120 (43.6)

^aDifferences with $P < 0.05$ based on Chi-square tests. BMI, body mass index; SD, standard deviation; WL, weight loss.

- The largest adjusted PPM healthcare cost reduction (total sample: $-\$185.41$) occurred in the > 10 – $\leq 20\%$ sustained-WL cohort across starting obesity classes (Figure 4)

- For the ≥ 3 – $\leq 5\%$ and > 10 – $\leq 20\%$ sustained-WL cohorts, the largest adjusted PPM healthcare cost reductions ($-\$127.05$ and $-\$248.48$, respectively) were observed among individuals with starting obesity class 2
- For the > 5 – $\leq 10\%$ sustained-WL cohort, the largest adjusted PPM healthcare cost reduction ($-\$211.90$) was observed in individuals with starting obesity class 1

Figure 4: Objective 2 – ΔPPM Total Healthcare Cost From Baseline to Second Year of Follow-up for Sustained Nonsurgical WL Compared With No Weight Change



Limitations

- Weight measurement in the EMR provides very few data points to track weight fluctuations
- Patients in poor health may be more likely to receive diagnoses/procedural codes and have more frequent BMI measurements, potentially leading to selection bias in the analyses
- Stratified analyses were based on small patient counts in each group

Conclusions

- Considerable short-term healthcare cost savings were observed with nonsurgical WL compared with no weight change and sustained nonsurgical WL compared with no weight change 1 year after WL in adults with obesity; this was true in all nonsurgical WL and sustained nonsurgical WL cohorts (≥ 3 – $\leq 5\%$, > 5 – $\leq 10\%$, and > 10 – $\leq 20\%$)
- Overall, greater magnitudes of nonsurgical WL and sustained nonsurgical WL were associated with greater cost savings
- Our study demonstrated that there is substantial economic value of nonsurgical WL in adults with obesity. Improved access to WL medications and strategies should be considered by payers and employers

This study was sponsored by Novo Nordisk Inc. The authors acknowledge the medical writing assistance of Oxford PharmaGenesis, Inc., Newtown, PA, US; this assistance was funded by Novo Nordisk Inc. Presented at ObesityWeek 2019, Las Vegas, NV, November 3–7, 2019.

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Three “Ds” – elements for successful weight loss outcomes: role of healthcare professionals

T-P-3358



grs.ly/wuand11

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Background

- Obesity is a highly prevalent, chronic and relapsing disease.¹
- In people with obesity (PwO), body weight loss of ≥5% is generally considered to be clinically meaningful. Maintenance of weight loss is also one of the important treatment goals in PwO.^{2,3}
- Long-term comprehensive weight loss programmes with regular follow-ups have been shown to improve successful maintenance of weight loss.^{2,4}
- Although some PwO do receive treatment and guidance from healthcare professionals (HCPs), there is substantial unmet medical need for advocating the importance of weight loss maintenance, and prevention of weight regain.
- The 3D approach, including **Discussion**, **Diagnosis** and **Direction**, for the management of PwO is presented.

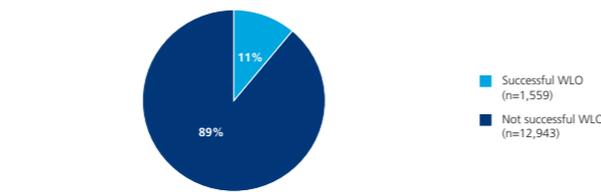
Objective

- To identify factors that may contribute to a successful weight loss outcome (WLO; ≥5% body weight loss maintained for ≥1 year), the characteristics and experience of PwO with and without successful WLOs were examined using data from the ACTION-IO study.⁵

Methods

- The Awareness, Care, and Treatment In Obesity maNagement – International Observation (ACTION-IO) study (NCT03584191) was a cross-sectional, non-interventional, descriptive study that collected data via an online survey among PwO and HCPs across 11 countries: Australia, Chile, Israel, Italy, Japan, Mexico, Saudi Arabia, South Korea, Spain, the UAE and the UK between 4 June 2018 and 15 October 2018.⁵
- The objective of the ACTION-IO study was to identify the perceptions, attitudes and behaviours of PwO and HCPs and to assess the potential barriers to effective obesity care.⁵
- Here we present data from the PwO sample; eligible PwO:
 - Were ≥18 years old
 - Had a body mass index (BMI) of ≥30 kg/m² (≥25 kg/m² in Japan and South Korea), calculated from self-reported height and weight.
- A successful WLO was defined as ≥5% body weight loss in the past 3 years that was maintained for at least 1 year. Failure to either achieve or maintain weight loss was categorised as a not successful WLO.
- Analyses are descriptive and no statistical testing has been applied.

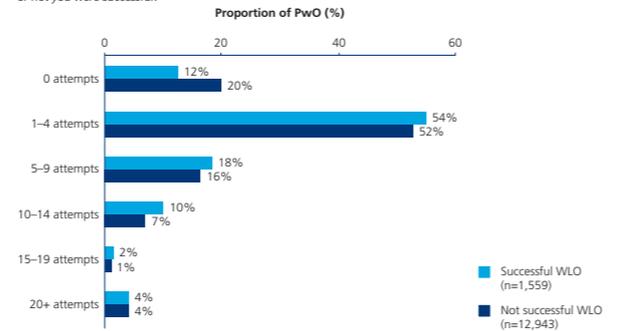
Figure 1: Proportion of PwO who achieved a successful WLO



Successful WLO: ≥5% body weight loss in the past 3 years maintained for at least 1 year. PwO, people with obesity; WLO, weight loss outcome.

Figure 2: Number of serious weight loss attempts

How many times in your adult life (after age 18) have you made a serious weight loss effort (e.g., followed a programme, set goals, put your mind to it, or worked with a qualified healthcare professional), whether or not you were successful?

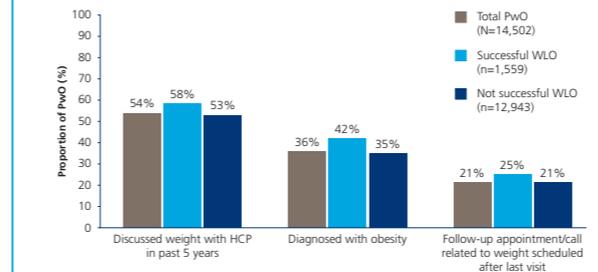


	Successful WLO (n=1,559)	Not successful WLO (n=12,943)
Number of serious weight loss attempts		
Mean	4	4
Median	3	2
IQR	4	4

IQR, interquartile range; PwO, people with obesity; WLO, weight loss outcome.

Figure 3: Proportion of PwO having Discussion, Diagnosis and Direction on weight management

Have you discussed your weight or talked about losing weight with a healthcare provider in the past 5 years? Have you ever been diagnosed with obesity by a medical doctor or qualified healthcare professional? Did your healthcare provider schedule a follow-up appointment or call related to your weight after your last visit?



Successful WLO: ≥5% body weight loss in the past 3 years maintained for at least 1 year. HCP, healthcare professional; PwO, people with obesity; WLO, weight loss outcome.

Table 1: Participant demographics and characteristics

	Successful WLO (n=1,559)	Not successful WLO (n=12,943)
Proportion of total	11%	89%
Male	53%	52%
Mean age, years	49	48
Current mean BMI, kg/m ² *		
Japan and South Korea†	27.4	27.6
Other countries‡	33.9	34.1
Mean number of comorbidities	2.0	1.8
Frequency of self-weighing		
≥1 time in a week	54%	39%
Ever had bariatric surgery, % yes	5%	2%

*Extreme outliers (values >1.5 interquartile ranges above the third quartile) were removed for the mean BMI calculation. †For participants in Japan and South Korea, obesity was defined as a BMI of ≥25 kg/m². ‡For participants in Australia, Chile, Israel, Italy, Mexico, Saudi Arabia, Spain, UK and UAE, obesity was defined as a BMI of ≥30 kg/m². BMI, body mass index; WLO, weight loss outcome.

Results

Participant demographics and characteristics

- A total of 14,502 PwO completed the survey; 11% had a successful WLO (Figure 1).
- Baseline characteristics were generally similar between those who had a successful WLO vs those who did not (Table 1).
- More PwO who had a successful WLO weighed themselves at least once every week (54%) compared with those who did not have a successful WLO (39%; Table 1).

Serious weight loss attempts

- The mean/median number of serious weight loss attempts was similar between WLO groups (Figure 2).

Discussion, Diagnosis and Direction

- A slightly greater proportion of PwO who had a successful WLO, vs those who did not, had:
 - Discussed their weight with an HCP within the past 5 years
 - Received a **Diagnosis** of obesity
 - Received **Direction**; specifically, had a follow-up appointment with an HCP or had a weight-related call scheduled (Figure 3).

Limitations and strengths

- Limitations of the study include reliance on self-reported height and weight measurements for BMI, respondent recall as well as the descriptive and cross-sectional nature.⁵
- Strengths of the study include the large number of respondents, the international nature of the study and the stratified sampling technique used to provide a representative cohort of the general population.⁵

Conclusions

- A large majority (89%) of PwO did not achieve a successful WLO despite multiple serious weight loss attempts.
- Neither gender, nor age, nor number of weight loss attempts was associated with a successful WLO.
- Weekly self-weighing was more prevalent among PwO who had a successful WLO compared with those who did not.
- PwO who had a successful WLO were more likely to have discussed excess weight/losing weight with an HCP, received a diagnosis of obesity and had a follow-up visit scheduled.
- Thus, use of a **3D** approach from HCPs including **Discussion**, **Diagnosis** and **Direction** has been associated with successful WLO in PwO.
- Increased HCP education on the clinical management of obesity is also required to improve WLOs.

This trial was sponsored by Novo Nordisk and is registered with ClinicalTrials.gov (NCT03584191). Presenter D Dicker reports personal (consultancy and speaker) fees from Novo Nordisk during the conduct of the study and personal (consultancy and speaker) fees from Novo Nordisk and Teva Pharmaceutical Industries outside the submitted work. Editorial assistance was provided by Articulate Science Ltd. and was funded by Novo Nordisk. Presented at Obesity Week 2019, 4-8 November 2019, Las Vegas, NV, USA.

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Misperceptions towards obesity management in people with obesity and healthcare professionals

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Background

- The cornerstone of obesity management is multicomponent lifestyle interventions consisting of exercise and diet supported by changes in behaviour.¹⁻⁴
- Many people with obesity (PwO) are unsuccessful in their attempts to reach clinically significant weight loss solely by these approaches.^{5,6}
- Treatment guidelines recommend the use of pharmacotherapy if the response to lifestyle interventions is insufficient to reach or maintain a 5–10% loss in body weight.¹⁻⁴
- Bariatric surgery is an effective treatment recommended for severe obesity and for PwO with poorly controlled type 2 diabetes.¹⁻⁴
- It is currently unclear how PwO and healthcare professionals (HCPs) across the world view the use of prescription weight loss medications and bariatric surgery for the treatment of obesity.

Objective

- The data from the ACTION-IO study were used to identify the attitudes, perceptions and concerns of PwO and HCPs towards the use of medications and surgery to manage obesity.⁷

Methods

- The Awareness, Care, and Treatment In Obesity maNagement – International Observation (ACTION-IO) study (NCT03584191) was a cross-sectional, non-interventional, descriptive study that collected data via an online survey among PwO and HCPs across 11 countries: Australia, Chile, Israel, Italy, Japan, Mexico, Saudi Arabia, South Korea, Spain, the UAE and the UK between 4 June 2018 and 15 October 2018.⁷
- The objective of the ACTION-IO study was to identify the perceptions, attitudes and behaviours of PwO and HCPs and to assess the potential barriers to effective obesity care.⁷
- Eligible PwO:
 - Were ≥18 years old
 - Had a body mass index (BMI) of ≥30 kg/m² (≥25 kg/m² in Japan and South Korea), calculated from self-reported height and weight.
- Eligible HCPs:
 - Were medical practitioners with ≥2 years of clinical experience
 - Had ≥70% of their time involved in direct patient care
 - Had seen ≥100 patients during the past month, with ≥10 of whom having a BMI ≥30 kg/m², or 25 kg/m² in Japan and South Korea.
- HCPs specialising in general, plastic or bariatric surgery were excluded.
- Analyses are descriptive and no statistical testing has been applied.

Results

Participant demographics and characteristics

- The survey was completed by 14,502 PwO and 2,785 HCPs.
- Baseline characteristics for the two groups are presented in **Table 1**.
 - HCPs from both primary care and specialties were equally represented in this study (51% vs 49%).
 - 13% of PwO reported having tried prescription weight loss medication and 3% had weight loss surgery/bariatric surgery.

Table 1: Participant demographics and characteristics

	PwO (N=14,502)	HCPs (N=2,785)
Male	51%	70%
Mean age (range), years	43 (18–88)	48 (26–74)
Mean BMI, kg/m ² *		
Japan and South Korea†	27.6	23.1
Other countries†	34.1	25.4
Participants with obesity		
Japan and South Korea†	100%	22%
Other countries†	100%	8%
PwO who have ever tried weight loss/bariatric surgery	3%	NA
PwO who have ever tried any prescription weight loss medication	13%	NA
HCP category		
Primary care physician	NA	51%
Specialist	NA	49%

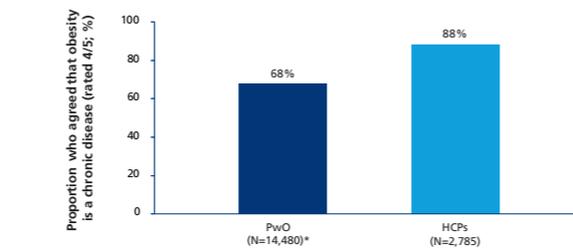
*Extreme outliers (values >1.5 interquartile ranges above the third quartile) were removed for the mean BMI calculation.
 †For participants in Japan and South Korea, obesity was defined as a BMI of ≥25 kg/m².
 ‡For participants in Australia, Chile, Israel, Italy, Mexico, Saudi Arabia, Spain, UK and UAE, obesity was defined as a BMI of ≥30 kg/m².
 BMI, body mass index; HCP, healthcare professional; NA, not applicable; PwO, people with obesity.

Attitudes of PwO and HCPs towards obesity as a chronic disease

- A smaller proportion of PwO (68%) compared with HCPs (88%) agreed with the statement that obesity is a chronic disease (**Figure 1**).

Figure 1: Perception of obesity as a disease

Please indicate how much you agree with the statement 'obesity is a chronic disease' (rated on a scale where 1 = do not agree at all, 5 = completely agree)



*n-size is less than total due to respondents selecting 'not sure' for attributes.
 HCP, healthcare professional; PwO, people with obesity.

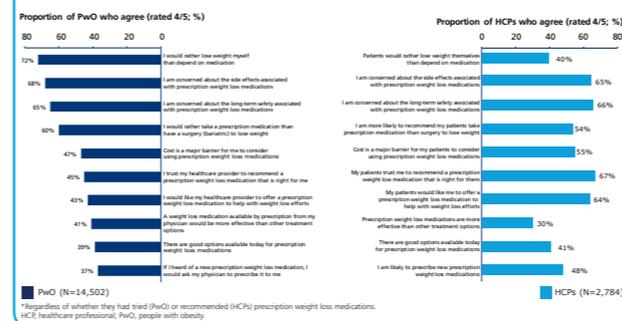
Attitudes of PwO and HCPs towards weight loss medications

- More PwO (72%) preferred to lose weight by themselves than to use prescription weight loss medications (**Figure 2**).

- However, only 40% of HCPs reported that PwO preferred to lose weight by themselves vs using prescription weight loss medications.
 - On average, HCPs recommended the use of prescription weight loss medication for 19% of their patients with obesity (data not shown).
- 60% of PwO would rather take prescription weight loss medication than undergo bariatric surgery.
- A similar proportion of PwO and HCPs were concerned about the side effects of prescription weight loss medications (68% and 65%, respectively) and the long-term safety of such therapies (65% and 66%, respectively).
- Cost was reported as a barrier for prescription weight loss medication usage by 47% of PwO and 55% of HCPs.
- PwO were less likely to trust the prescription choice of HCPs (45%), while more HCPs perceived that patients trust them to select the right prescription medication (67%).
- About one third of HCPs (29%) said they do not know enough about prescription weight loss medications to feel comfortable prescribing them (data not shown).

Figure 2: Attitudes towards prescription weight loss medications

Please indicate how much you agree with the following regarding prescription medications for weight loss* (rated on a scale where 1 = do not agree at all, 5 = completely agree)



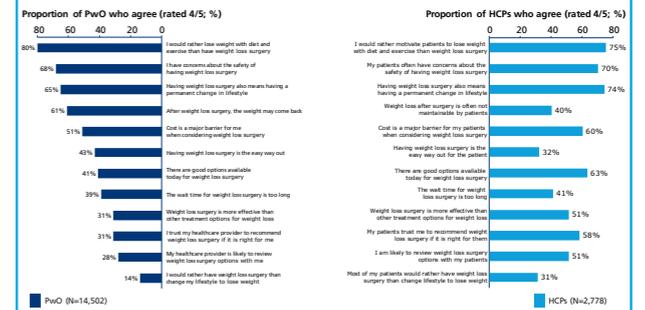
Attitudes of PwO and HCPs towards bariatric (weight loss) surgery

- Both PwO (80%) and HCPs (75%) preferred diet and exercise over bariatric surgery (**Figure 3**).
 - On average, HCPs recommend the use of bariatric surgery for 13% of their patients with obesity (data not shown).

- 68% of PwO were concerned by the safety of bariatric surgery, and 70% of HCPs said their patients often had concerns about the safety of bariatric surgery.
- 31% of PwO trusted their HCPs to recommend bariatric surgery if appropriate.
- 58% of HCPs reported that their patients trust them to recommend bariatric surgery if appropriate.
- Cost was reported as a barrier for bariatric surgery by 51% of PwO and 60% of HCPs.

Figure 3: Attitudes towards weight loss surgery

Please indicate how much you agree with the following regarding weight loss surgery* (rated on a scale where 1 = do not agree at all, 5 = completely agree)



*Regardless of whether they had tried (PwO) or recommended (HCPs) prescription weight loss medications.
 HCP, healthcare professional; PwO, people with obesity.

Conclusions

- While 68% of PwO and 88% of HCPs agreed that obesity is a chronic disease, they both favoured lifestyle changes alone as the preferred management strategy.
 - This suggests that education is required on the science of obesity.
- PwO and HCPs shared concerns of efficacy, safety and cost of prescription weight loss medication and bariatric surgery, which may affect treatment decisions.
- While attitudes towards the use of prescription weight loss medications and bariatric surgery may differ by obesity class, these results indicate a lack of knowledge from both PwO and HCPs of the evidence-based effective treatments, which could be a barrier to effective obesity management.
 - Unlike other chronic diseases,^{8,9} PwO expressed a low level of trust in their HCPs to prescribe the appropriate treatment such as prescription weight loss medications and bariatric surgery if required.
- Further efforts are needed to increase the knowledge about evidence-based effective obesity treatment options.

This trial was sponsored by Novo Nordisk and is registered with ClinicalTrials.gov (NCT03584191).
 Presenter A Cuevas reports personal fees from Abbott, Novo Nordisk, Teva Pharmaceutical Industries and Saval Pharmaceuticals during the conduct of the study. She is a member of the Strategic Centre for Obesity Professional Education (SCOPE) of the World Obesity Federation and a SCOPE International Fellow. Editorial assistance was provided by ArticulateScience Ltd, and was funded by Novo Nordisk.
 Presented at Obesity Week 2019, 4–8 November 2019, Las Vegas, NV, USA.

References: (1) Yumuk V, et al. *Obes Facts* 2015;8:402–24. (2) Jensen MD, et al. *Circulation* 2014;129:S102–38. (3) Garney HT, et al. *Endocr Pract* 2016;22:S42–S4. (4) Wellbourn R, et al. *Obes Rev* 2018;19:14–27. (5) Mann T, et al. *Am Psychol* 2007;62:220–33. (6) Simpson SA, et al. *BMJ* 2011;343:d8042. (7) Caterson ID, et al. *Diabetes Metab* 2019;21:1914–24. (8) Freiburger JK, et al. *Arthritis Rheum* 2003;49:51–8. (9) Bonds DE, et al. *BMC Fam Pract* 2004;5:26.





Barriers to weight loss discussions from healthcare professionals: results from ACTION-IO

T-P-3403



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Background

- Although obesity is increasingly being recognised as a chronic disease, there are many barriers preventing people with obesity (PwO) from receiving the medical care and support needed.¹
- Timely dialogue between PwO and healthcare professionals (HCPs) about weight management is:
 - » A strategy for effective obesity care, and
 - » A cost-effective approach to reduce the complications and economic burden imparted by this disease.²
- There is little understanding of barriers to HCPs initiating such discussions.³⁻⁵

Objective

- To investigate the potential barriers to weight loss discussions with PwO, we examined the perceptions, behaviours and attitudes of HCPs who were self-reported obesity experts compared with non-experts using data from the ACTION-IO study.²

Methods

- The Awareness, Care, and Treatment In Obesity maNagement – International Observation (ACTION-IO) study (NCT03584191) was a cross-sectional, non-interventional, descriptive study that collected data via an online survey among PwO and HCPs across 11 countries: Australia, Chile, Israel, Italy, Japan, Mexico, Saudi Arabia, South Korea, Spain, the UAE and the UK between 4 June 2018 and 15 October 2018.²
- The objective of the ACTION-IO study was to identify the perceptions, attitudes and behaviours of PwO and HCPs and to assess the potential barriers to effective obesity care.²
- Here we report data from the HCP sample; eligible HCPs:
 - » Were medical practitioners with ≥2 years of experience
 - » Had ≥70% of their time involved in direct patient care
 - » Had seen ≥100 patients during the past month, with ≥10 of whom having a body mass index (BMI) ≥30 kg/m², or 25 kg/m² in Japan and South Korea.
- HCPs specialising in general, plastic or bariatric surgery were excluded.
- HCPs were classified as self-reported obesity experts if:
 - » They worked in an obesity service clinic, or
 - » They considered themselves to be an expert in obesity/weight loss management.
- Analyses are descriptive and no statistical testing has been applied.

Results

Participant demographics and characteristics

- The survey was completed by 2,785 HCPs; 1,461 (52%) were self-reported obesity experts (Table 1).
- Self-reported obesity experts reported treating more PwO and were more likely to specialise in endocrinology or diabetology compared with non-experts.
- There was no difference in the perception of obesity as a chronic disease between self-reported obesity experts (88%) and non-experts (87%).

Table 1: Participant demographics and characteristics

	Obesity expert* (n=1,461)	Non-expert* (n=1,324)
Male	70%	71%
Mean age, years	48	49
Mean weight of HCP, kg	70.6	73.1
HCP with obesity	8%	7%
Adult patients seen primarily for obesity (median)	22%	10%
Speciality		
Endocrinology/diabetology	27%	6%
General practice	24%	30%
Internal medicine	19%	19%
Family practice	11%	10%
Cardiology	7%	15%
Gastroenterology	7%	5%
Obstetrics/gynaecology	3%	6%
Other	2%	8%
Nutrition (Italy only)	1%	0%
Bariatrics/obesity medicine	<1%	0%
Hepatology (Australia only)	<1%	<1%
Acknowledge obesity as a chronic disease	88%	87%

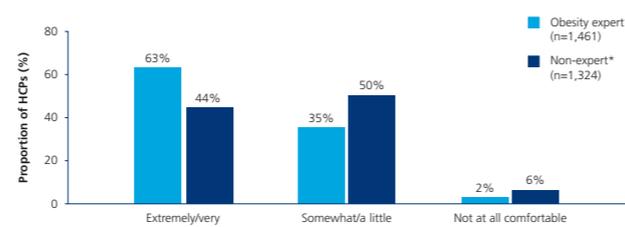
*HCP level of expertise in obesity was self-reported.
HCP, healthcare professional.

Perception of discussions about body weight

- 63% of obesity experts and 44% of non-experts reported being extremely or very comfortable having discussions with their patients about their weight (Figure 1).

Figure 1: Comfort with weight discussions

How comfortable are you in having discussions with your patients about their weight?



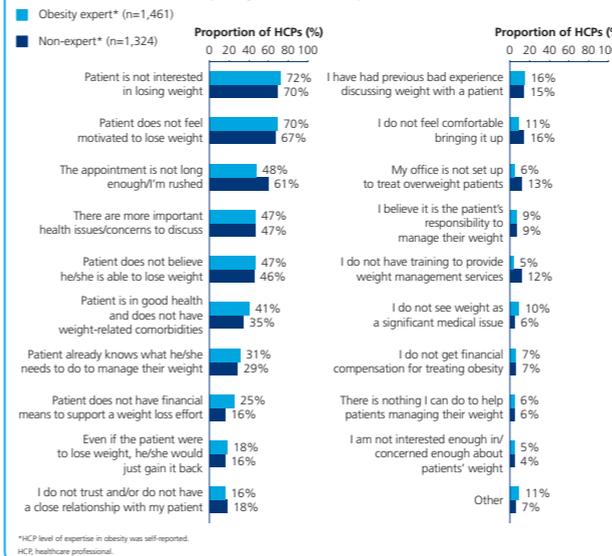
*HCP level of expertise in obesity was self-reported.
HCP, healthcare professional.

Reasons for not discussing body weight with PwO

- Common reasons for not discussing obesity with a patient (Figure 2) were:
 - » The perceived lack of patient interest in losing weight
 - » The perceived lack of motivation among PwO to lose weight
 - » HCP perception that there are more important health issues to discuss.
- Fewer obesity experts compared with non-experts cited insufficient time as a reason (48% and 61%, respectively; Figure 2).

Figure 2: Reasons for not discussing obesity with a patient

What are the top 5 reasons for which you might not discuss obesity with a patient?



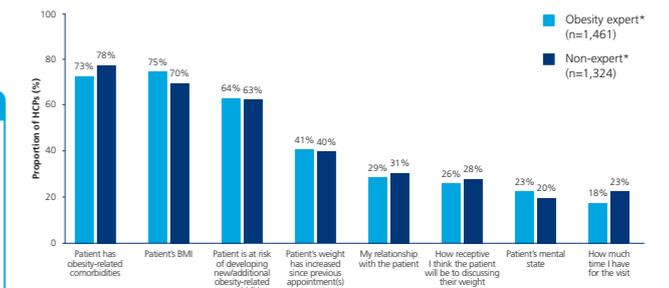
*HCP level of expertise in obesity was self-reported.
HCP, healthcare professional.

Reasons for deciding to initiate a weight management conversation with PwO

- 75% of obesity experts and 70% of non-experts initiated a conversation about weight management based on the patient's BMI (Figure 3).
- A high proportion of both obesity experts and non-experts (73% and 78%, respectively) suggested that weight management discussions should be considered when patients present obesity-related comorbidities.

Figure 3: Most important criteria in deciding to initiate weight management conversation with PwO

What are the top 5 most important criteria that you consider in order to determine whether or not you will initiate a discussion with a patient about obesity?



*HCP level of expertise in obesity was self-reported.
Top 3 answers and other selected results shown.
BMI, body mass index; HCP, healthcare professional.

- A limitation of this study was the reliance on self-reported obesity expert status.

Conclusions

- Potential barriers to initiating weight discussions for both self-reported obesity experts and non-experts included:
 - » Prioritisation of other health issues
 - » Misperception of the interest or motivation of patients for weight loss.
- Insufficient appointment time was a perceived barrier for the majority of non-experts.
- There were minimal differences between obesity experts and non-experts regarding the criteria for initiating a discussion about weight, which were mainly based on BMI and obesity-related comorbidities.
- Self-reported obesity experts frequently chose the patient's BMI as a top criterion for initiating a discussion about weight.
- Non-experts most frequently chose to initiate weight management dialogue when patients had obesity-related comorbidities, which may introduce an unnecessary delay in offering effective treatment.
 - » The management of obesity appears to be in contrast with other chronic diseases such as type 2 diabetes or chronic obstructive pulmonary disease, where the clinical goal is to prevent the onset of complications through active treatment from diagnosis.
- The findings from this study suggest that further training and education targeted to prioritising obesity care and improving comfort with discussions about weight management is necessary for both obesity experts and non-experts.
- A limitation of the study was the criteria used to classify HCPs as experts in obesity.

This trial was sponsored by Novo Nordisk and is registered with ClinicalTrials.gov (NCT03584191).
Presenter C Hughes reports financial support from Novo Nordisk to attend an obesity conference during the conduct of the study, grants from the Roma Marsden Fund at Fakenham Medical Practice and personal fees from Oxeigen Therapeutics. Consultant health, Nestlé and Ethicon outside the submitted work; she was previously a member of the World Obesity education committee, is currently a member of the Association for the Study of Obesity (ASO) and is involved in meetings to facilitate recognition of obesity as a disease in the UK.
Editorial assistance was provided by Articulate Science Ltd. and was funded by Novo Nordisk.
Presented at Obesity Week 2019, 4-8 November 2019, Las Vegas, NV, USA.

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Gender differences in attitudes towards the management of obesity

T-P-3437



qrs.ly/wuand11

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Background

- Weight-related attitudes and behaviour among people who have overweight or obesity have been shown to vary based on gender, race/ethnicity, education and income.¹⁻³
- As more females than males attend weight loss programmes⁴ and are more likely to seek medical attention,⁵ we hypothesised that there would be differences in approaches to healthcare in females and males with obesity.

Objective

- To investigate the gender differences in attitudes towards the management of obesity using data from the ACTION-IO study.⁶

Methods

- The Awareness, Care, and Treatment in Obesity maNagement – International Observation (ACTION-IO) study (NCT03584191) was a cross-sectional, non-interventional, descriptive study that collected data via an online survey among people with obesity (PwO) and healthcare professionals (HCPs) across 11 countries: Australia, Chile, Israel, Italy, Japan, Mexico, Saudi Arabia, South Korea, Spain, the UAE and the UK between 4 June 2018 and 15 October 2018.⁶
- The objective of the ACTION-IO study was to identify the perceptions, attitudes and behaviours of PwO and HCPs and to assess the potential barriers to effective obesity care.⁶
- Here we present data from PwO sample; eligible PwO:
 - Were ≥18 years old
 - Had a current body mass index (BMI) of ≥30 kg/m² (≥25 kg/m² in Japan and South Korea), calculated from self-reported height and weight.
- A stratified sampling approach for PwO was used, whereby recruitment into the study was according to pre-determined demographic targets based on gender, age, income, race/ethnicity (in select countries) and region.
- To reduce PwO sampling bias and ensure that the group was largely representative of the general population, the final PwO sample was also weighted to the representative demographic targets within each country.
 - In the results, percentages were derived from the final weighted sample; the numbers of respondents were unweighted.
- A successful weight loss outcome (WLO) was defined as ≥5% body weight loss in the past 3 years that was maintained for at least 1 year. Inability to either achieve or maintain weight loss was categorised as a not successful WLO.
- Analyses are descriptive and no statistical testing has been applied.

Results

Participant demographics and characteristics

- A total of 14,502 PwO completed the survey; of these, 51% (n=7,438) were male and 49% (n=7,050) were female (Table 1), due to the stratified sampling used in the study.

Table 1: Participant demographics and characteristics

	Male PwO (n=7,438)	Female PwO (n=7,050)
Mean age (range), years	51 (18-88)	45 (18-88)
Current mean BMI, kg/m ² *		
Japan and South Korea [†]	28.6	30.3
Other countries [‡]	35.7	36.7
Mean number of comorbidities	1.8	1.8
Ever had bariatric surgery, % yes	2%	3%
Ever tried prescription weight loss medication, % yes	9%	17%

Participant demographic data (age and BMI) are reported for the final unweighted sample; only those who identified as male or female are included.
 *Japanese and South Korean participants were removed for the mean BMI calculation.
[†]Participants in Japan and South Korea. Obesity was defined as a BMI of ≥25 kg/m².
[‡]Participants in Australia, Chile, Israel, Italy, Mexico, Saudi Arabia, Spain, UK and UAE. Obesity was defined as a BMI of ≥30 kg/m².
 BMI, body mass index; PwO, people with obesity; WLO, weight loss outcome.

Weight loss outcome by gender

- A similar proportion of male and female PwO achieved a successful predetermined WLO of ≥5% body weight loss in the past 3 years that was maintained for at least 1 year (11%; Figure 1).
- Mean number of serious weight loss attempts differed between males and females (Figure 2).

Figure 1: Weight loss outcome

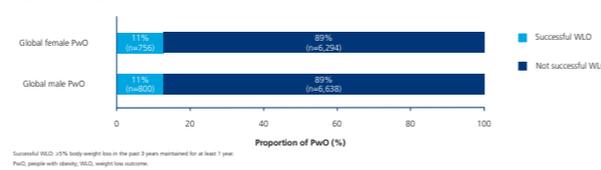
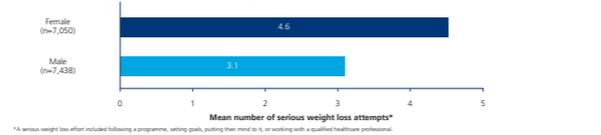


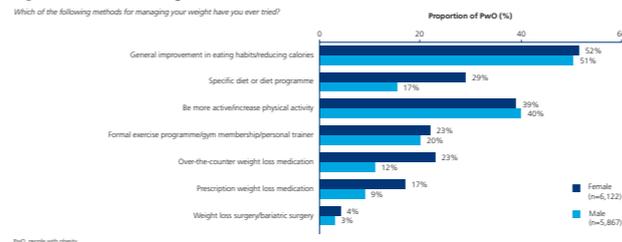
Figure 2: Mean number of serious weight loss attempts



Methods of weight loss

- Diet/healthy eating and exercise were the most common methods of weight loss in both females and males (Figure 3).
- Females were more likely to use a specific diet programme than males.
- Females were more likely to use over-the-counter or prescription weight loss medications than males, but in general, their use was not common.
- For both genders, the percentage of PwO who had undergone bariatric surgery was low (Figure 3).

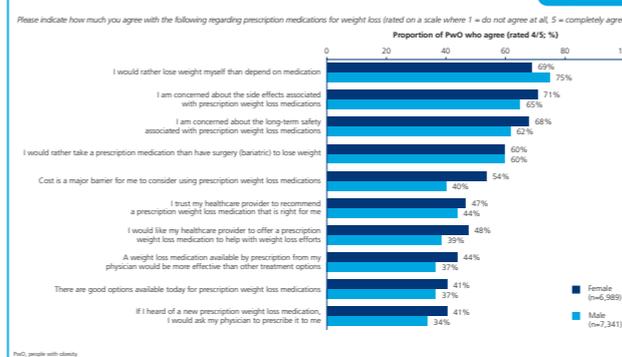
Figure 3: Methods for weight loss ever tried



Attitudes towards prescription weight loss medications

- The majority of both females and males would prefer to lose weight themselves rather than utilise medication (69% and 75%, respectively; Figure 4).
- Cost of weight loss medications was perceived to be a barrier by more females than males (54% vs 40%, respectively).
- More females (48%) than males (39%) said they would like their HCP to offer a weight loss medication; however, females (71%) were more likely to report concerns about the side effects of medications than males (65%).
- A minority of females (41%) and males (37%) agreed that there were good options for weight loss medications available today (Figure 4).

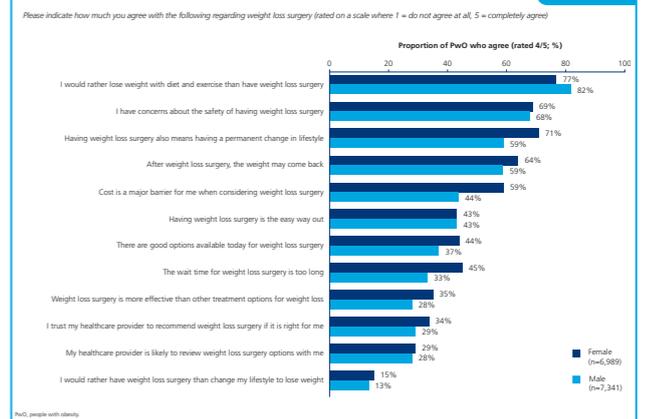
Figure 4: Attitudes towards prescription weight loss medications



Attitudes towards bariatric (weight loss) surgery

- Most female (77%) and male (82%) PwO would rather rely on healthy lifestyle alone than have weight loss surgery to lose weight (Figure 5).
- Cost was perceived to be more of a barrier to surgery for females (59%) than for males (44%); however, females (35%) were more likely to perceive weight loss surgery as effective compared with males (28%).
- 43% of both females and males perceived surgery as the easy way out.
- More females than males believed that the wait time before having weight loss surgery was too long (45% vs 33%; Figure 5).

Figure 5: Attitudes towards weight loss surgery

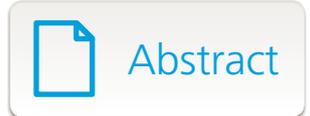


Conclusions

- A similar but very low proportion of both male and female PwO achieved a successful WLO (≥5% body weight loss in the past 3 years that was maintained for at least 1 year).
- A majority of male and female PwO preferred to lose weight without the use of medications or surgery.
- Females were more likely to use weight loss medications (both over-the-counter and prescription) and surgery than males, but were more likely to voice concerns about safety and cost.
- Many male and female PwO do not think there are good options for weight loss medications and surgery available today, highlighting the unmet need of education on the effective evidence-based therapies for the management of obesity.

This trial was sponsored by Novo Nordisk and is registered with ClinicalTrials.gov (NCT03584191).
 Presenter R Nawar reports financial support from Novo Nordisk to attend an obesity conference during the conduct of the study, and personal consultancy and speaker fees from Novo Nordisk outside the submitted work.
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Chicken or the egg: confidence and motivation in people with successful weight loss

T-P-3448



qrs.ly/wuand1i

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Background

- Physiological, genetic, psychological and environmental factors influence the development of obesity and may also prevent people with obesity (PwO) from reaching and maintaining clinically significant weight loss.¹⁻³
- Successful weight loss has been linked to the motivation of PwO.^{4,5}
- There is a lack of real-world evidence examining the perceptions, attitudes and concerns of PwO who were successful in their weight loss effort.⁴⁻⁷

Objective

- To identify the psychological and sociological factors that may contribute to successful weight loss, we investigated the attitudes of PwO who had a successful weight loss outcome (WLO) compared with PwO who were unsuccessful, using data from the ACTION-IO study.⁷

Methods

- The Awareness, Care, and Treatment In Obesity maNagement – International Observation (ACTION-IO) study (NCT03584191) was a cross-sectional, non-interventional, descriptive study that collected data via an online survey among PwO and healthcare professionals (HCPs) across 11 countries: Australia, Chile, Israel, Italy, Japan, Mexico, Saudi Arabia, South Korea, Spain, the UAE and the UK between 4 June 2018 and 15 October 2018.⁷
- The objective of the ACTION-IO study was to identify the perceptions, attitudes and behaviours of PwO and HCPs and to assess the potential barriers to effective obesity care.⁷
- Here we report data from the PwO sample; eligible PwO:
 - Were ≥18 years old
 - Had a body mass index (BMI) of ≥30 kg/m² (≥25 kg/m² in Japan and South Korea), calculated from self-reported height and weight.
- A successful WLO was defined as ≥5% body weight loss in the past 3 years that was maintained for at least 1 year. Failure to either achieve or maintain weight loss was categorised as a not successful WLO.
- Analyses are descriptive and no statistical testing has been applied.

Results

Participant demographics and characteristics

- The survey was completed by 14,502 PwO; 1,559 (11%) reported a successful WLO (Figure 1).
- Baseline characteristics between the two groups were generally similar (Table 1).
- Both groups had a similar number of comorbidities and weight loss attempts.

Figure 1: Proportion of PwO who achieved a successful WLO



Successful WLO: ≥5% body weight loss in the past 3 years maintained for at least 1 year. PwO, people with obesity; WLO, weight loss outcome.

Table 1: Participant demographics and characteristics

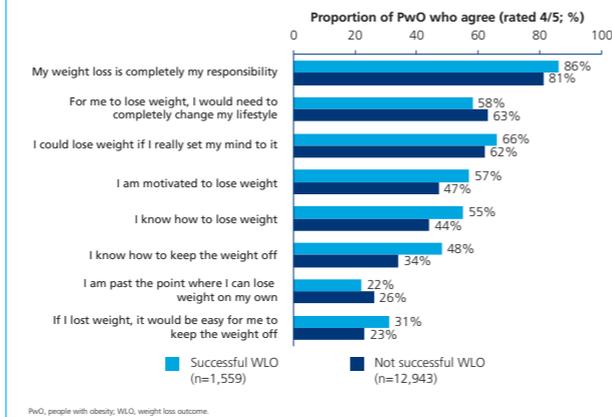
	Successful WLO (n=1,559)	Not successful WLO (n=12,943)
Proportion of total	11%	89%
Male	53%	52%
Mean age, years	49	48
Current mean BMI, kg/m ² *		
Japan and South Korea [†]	27.4	27.6
Other countries [‡]	33.9	34.1
Mean number of comorbidities	2.0	1.8
Mean number of weight loss attempts	4	4

*Extreme outliers (values >1.5 interquartile ranges above the third quartile) were removed for the mean BMI calculation. [†]For participants in Japan and South Korea, obesity was defined as a BMI of ≥25 kg/m². [‡]For participants in Australia, Chile, Israel, Italy, Mexico, Saudi Arabia, Spain, UK and UAE, obesity was defined as a BMI of ≥30 kg/m². BMI, body mass index; WLO, weight loss outcome.

Attitudes of PwO for weight loss

- The majority of PwO agreed that weight loss was completely their responsibility (86% and 81%; Figure 2).
- A greater proportion of PwO who had a successful WLO reported that they:
 - Were motivated to lose weight (57% vs 47%),
 - Knew how to lose weight (55% vs 44%), and
 - Knew how to keep the weight off (48% vs 34%; Figure 2).

Figure 2: PwO attitudes towards weight loss. Please indicate how much you agree with each of the following... (rated on a scale where 1 = do not agree at all, 5 = completely agree)



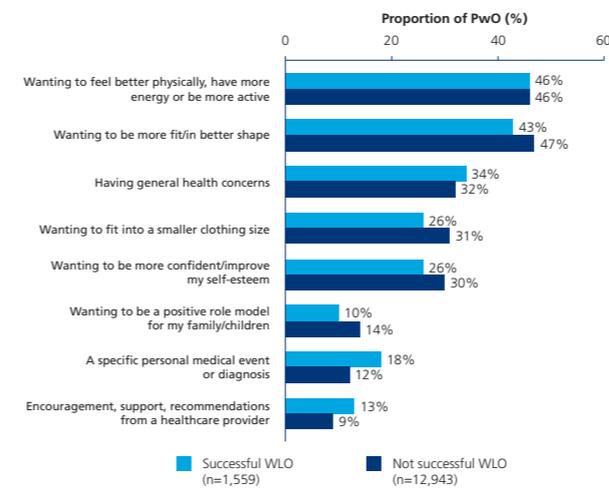
PwO, people with obesity; WLO, weight loss outcome.

Motivators for weight loss

- The top motivators to lose weight for both groups were wanting to feel better physically, have more energy or be more active (Figure 3).
- A larger percentage of PwO who were successful in their WLO reported that motivators for weight loss were:
 - A medical event (18% vs 12%)
 - Encouragement/recommendation from their healthcare provider (13% vs 9%).
- More PwO who were not successful in their WLO reported psychosocial aspects as motivators for weight loss, such as:
 - Wanting to be more fit or in better shape (47% vs 43%)
 - Wanting to be more confident or improve self-esteem (30% vs 26%).

Figure 3: PwO motivators for weight loss

Which of the following, if any, have motivated you the most to lose weight?



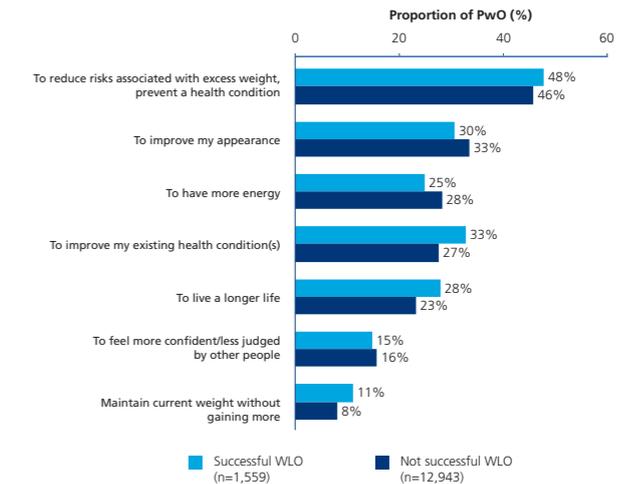
PwO, people with obesity; WLO, weight loss outcome.

Weight loss goals among PwO

- The top weight loss goal for the two groups was to reduce the risks associated with excess weight or to prevent a medical condition (48% and 46%; Figure 4).
- Both groups had similar weight loss goals but achieved different outcomes.

Figure 4: PwO's most important weight management goals

Please select the top 3 most important goals for you to personally achieve as part of your weight management, if any (select top 3).



PwO, people with obesity; WLO, weight loss outcome.

Conclusions

- A greater proportion of PwO who had a successful WLO appeared to be motivated and confident in their ability to achieve and maintain weight loss.
- It is unclear if their motivation and confidence is because they had lost weight or if it contributed to the weight loss.
- The two groups shared similar top weight loss goals/motivators and had a similar number of weight loss attempts, yet few PwO reported a successful WLO.
- More PwO who had a successful WLO reported a medical event or diagnosis as a motivator for weight loss.
 - Psychosocial aspects were a motivator for weight loss for PwO who were not successful in their WLO.
- These results suggest that increasing self-efficacy (including belief in oneself) and self-concept (including positive perceptions of oneself) could improve WLOs, but further research is needed to study the changes in motivation and confidence of PwO during their weight loss journey.

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