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Evaluating the Effectiveness of a Face-to-Face Weight Management Intervention in Maidstone, United Kingdom: A Real-World Evaluation

Charlotte Summers, Alisdair Taylor, Arjun Panesar, Amit Kaura

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Charlotte Summers[1, 2] BSc; Alisdair Taylor[3] PhD, BSc; Arjun Panesar[1, 2] MEng; Amit Kaura[1, 4, 5] PhD

[1]DDM Health Coventry GB
[2]Warwick Medical School, University of Warwick Coventry GB
[3]University of Brighton Brighton GB
[4]Imperial College London London GB
[5]Imperial College Healthcare NHS Trust London GB

Corresponding Author:
Amit Kaura PhD
Imperial College Healthcare NHS Trust
Praed Street
London
GB

Abstract

Background: Obesity remains a critical global public health issue, contributing to severe health conditions such as type 2 diabetes and cardiovascular diseases. In Maidstone, United Kingdom the obesity rate stands at 16.3% higher than the national average of 15.8%.

Objective: This study evaluates the demographics and outcomes of a face-to-face weight management program implemented in Maidstone, a region with varying levels of deprivation, who self-referred to a Tier 2 Weight Management program.

Methods: This study employed a single-arm intervention design, where adults who were overweight or obese self-referred to an in-person weight management service. The service focuses on accessible behavior change self-management through weekly evidence-based structured education, guided behavioral change activities, and community support. Participant characteristics and health data were collected at baseline, 12 and 26-weeks.

Results: A total of 50 participants self-referred and completed the initial registration process, all of whom (100%) were deemed eligible for the program. The first 40 participants (80%) enrolled in the face-to-face weight management service, and of these, 15 (38%) also downloaded an app for additional support. The average age of participants was 42.4 years, with mean BMI of 35.7 kg/m², predominantly female (68%) and 73% identified as white.
At the 26-week follow-up, 75% of participants reported outcomes, with an average weight loss of 3.46% ± 4.2% (from 98.3 ± 23.0 kg at Week 0 to 94.9 ± 21.7 kg at Week 26) and an average BMI reduction of 3.34% ± 3.9 kg/m² (from 35.7 ± 8.7 kg/m² at Week 0 to 34.5 ± 8.3 kg/m² at Week 26). Participants expressed high levels of engagement and acceptance of the service, and those who utilized the digital app experienced greater weight loss.

Conclusions: The face-to-face service was well-received and facilitated significant weight loss. Integration of digital technology contributed to greater weight reduction among participants.

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Charlotte Summers1,2

Arjun Panesar1,2

Alasdair Taylor3

Amit Kaura1,4,5*

1. DDM Health, Coventry, United Kingdom.
2. Warwick Medical School, University of Warwick, Coventry, United Kingdom.
3. Independent Researcher, London, United Kingdom
4. Imperial College Healthcare NHS Trust, London, United Kingdom.
5. Imperial College London, London, United Kingdom

*Correspondence:
Charlotte Summers. Warwick Medical School, University of Warwick, Coventry, United Kingdom.

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A total of 50 participants self-referred and completed the initial registration process, all of whom (100%) were deemed eligible for the program. The first 40 participants (80%) enrolled in the face-to-face weight management service, and of these, 15 (38%) also downloaded an app for additional support. The average age of participants was 42.4 years, with mean BMI of 35.7 kg/m², predominantly female (68%) and 73% identified as white.

At the 26-week follow-up, 75% of participants reported outcomes, with an average weight loss of 3.46% ± 4.2% (from 98.3 ± 23.0 kg at Week 0 to 94.9 ± 21.7 kg at Week 26) and an average BMI reduction of 3.34% ± 3.9 kg/m² (from 35.7 ± 8.7 kg/m² at Week 0 to 34.5 ± 8.3 kg/m² at Week 26). Participants expressed high levels of engagement and acceptance of the service, and those who utilized the digital app experienced greater weight loss.

Conclusions

The face-to-face service was well-received and facilitated significant weight loss. Integration of digital technology contributed to greater weight reduction among participants.

Introduction

Obesity has emerged as a critical global health challenge, significantly contributing to the prevalence of chronic diseases such as type 2 diabetes, cardiovascular disorders, and certain cancers.[1,2] The escalating rates of obesity highlight the pressing need for effective weight management strategies to address these health risks and enhance overall public health.[3] In the United Kingdom (UK), the situation is particularly concerning, with

approximately one in four adults classified as obese, underscoring the urgent need for targeted and effective interventions.[4]

Maidstone, a prominent town in Kent, epitomizes the broader health challenges faced by many regions. Recent health surveys indicate that about 63% of adults in Maidstone are either overweight or obese.[5] This situation is compounded by the presence of several neighborhoods within the town experiencing significant levels of deprivation, which contribute to pronounced health inequalities.[6] These factors necessitate the provision of accessible and affordable healthcare solutions, especially in the realm of weight management.

In response to the obesity crisis, the UK government has integrated weight management services into its health strategy through the National Health Service (NHS). The NHS employs a tiered framework for obesity management, with Tier 2 services specifically targeting community-based interventions for individuals with a Body Mass Index (BMI) of 30 or higher who are at increased risk of obesity-related health issues.[7]

Tier 2 services are typically delivered in the community and provide comprehensive support, including dietary advice, physical activity guidance, and behavioral therapy, all aimed at achieving sustainable weight loss and improving overall health outcomes. Evidence suggests that these interventions can result in an average weight loss of 5-10%, alongside improvements in cardiometabolic risk factors such as blood pressure and cholesterol levels.[8,9] Digital interventions are also available, but efficacy varies.[10]

Despite the availability of these services, accessibility remains a significant concern in Maidstone. Tier 2 weight management services are designed to be accessible, convenient, and cost-effective, utilizing various delivery methods including in-person sessions, online platforms, coaching, and telehealth consultations.[11] The rise of digital technologies has led to increased interest in their use for delivering weight management services due to their scalability and ability to offer evidence-based interventions tailored to individual needs, preferences, and lifestyles. However, issues such as digital exclusion and digital poverty can affect both accessibility and outcomes.[12-14]

There is limited research on the effectiveness of Tier 2 weight management services in the UK. Therefore, this study aims to examine the demographics and clinical characteristics of Maidstone residents who self-referred to a Tier 2 weight management program, specifically "Gro Health." Additionally, the study seeks to evaluate the effectiveness and acceptability of this program in facilitating weight reduction among participants.

Methods

Research Design

This study employed a 26-week, single-arm pre-post intervention design to evaluate the effectiveness of the program. Participants were not compensated for their involvement and were given free access to the program. Informed consent was obtained for the use of anonymized data for research, analysis, and publication purposes, so no direct consent was required from each participant for this specific analysis. The local hospital research and development department was contacted and confirmed that no registration was necessary.

This was an analysis of data that users consented to sharing for research purposes.

Participants

Participants were referred to the Gro Health program via the Maidstone Council website and social media platforms between September 1, 2023, and October 1, 2023. They accessed a Gro Health landing page where they provided basic details (age, gender, address, ethnicity, weight, height, email) to self-determine eligibility for the tier 2 weight management program. Eligibility criteria included being at least 18 years old, having a BMI >25 kg/m², residing in Maidstone County, and not being pregnant.

Potentially eligible participants were contacted by a Gro Health advisor who confirmed they were not on a frailty register, pregnant, diagnosed with an eating disorder, managing significant unmanaged comorbidities, or had bariatric surgery in the past two years—criteria that would exclude them from participation. The program was available to the first 40 eligible participants. Once eligibility was confirmed, participants received a QR code to verify attendance at each in-person session. During the first session, participants were assisted in measuring their weight and height and had the option to sign up for the Gro Health app. Ineligible individuals were directed to other local resources. A total of 40 participants enrolled in the program and were followed for 26 weeks (see Figure 1 - CONSORT flow diagram).

Intervention

Gro Health is a comprehensive weight management and behavioral change program designed to help patients self-manage their health conditions and achieve personalized health goals. The in-person program offers precision health support tailored to the specific needs and treatment pathways of participants, mirroring the features of its NICE-accredited, NHS DTAC-certified, and #1-Orcha-rated digital platform, which provides tier 2 and 3 multi-disiciplinary weight management services. [15,16] The intervention has been shown in peer-reviewed studies to support reduction in symptoms of pain, stress, anxiety, and depression, improve quality of life, and facilitate weight loss and reduction in HbA1c.[17-19]

The face-to-face Gro Health service includes a 13-session education program (12 weekly sessions and a follow-up session at 26 weeks) delivered over 26 weeks, focusing on four key therapeutic areas: mental wellbeing, sleep, activity, and nutrition. To tailor the service to Maidstone residents, focus groups and feedback sessions were conducted with local residents to understand their needs for a weight management service including the co-selection of accessible and familiar locations.

Participants engaged in evidence-based nutrition education and behavioral change resources to support mental wellbeing, sleep and physical activity, with health coaches facilitating weekly group sessions to provide support and build a community environment. The program is based on the COM-B model of behavior change, which emphasizes capability, opportunity, and motivation as essential factors for sustained behavior change. This holistic approach ensures comprehensive support for participants' physical, mental, and emotional health needs.

To accommodate diverse needs, the program integrates elements from the digital platform, such as personalised health recommendations delivered via SMS, ensuring the in-person

program maintains precision. The service also includes tools for paper-based health tracking and progress monitoring, helping participants understand their journey and outcomes.

Each weekly 90-minute group session served up to 20 participants, with sessions held at 2 accessible venues (Fusion Leisure Centre, YMCA Maidstone). Two cohorts attended the service. At baseline, week 12 and week 26, participants created a Personalised Care Plan with their facilitator which encompassed their SMART goals and strategies to achieve them.

To support sustainable behavior change and accommodate participants' diverse needs, the Gro Health face-to-face service is available in multiple languages and tailored to meet the preferences and lifestyles of different ethnic groups. This inclusive approach ensures that all participants can benefit from the program's comprehensive support.

The Gro Health app was optionally offered to participants to provide support between sessions. The app is available on various platforms, including web-based (responsive), iOS, Android, smart TVs, and virtual assistants like Google Hub and Amazon Alexa. A service dashboard enabled approved Council representatives to remotely monitor program engagement. Anonymized participant data were aggregated into the Community Services Data Set (CSDS) and reported monthly. [20]

Outcome Measures

At baseline, participants recorded their weight, height, age, gender, ethnicity, and the presence of comorbid chronic illnesses on the landing page to determine eligibility. Body weight and BMI were measured at baseline, Week 12, and Week 26 in-person sessions using Class III medical weight scales by the program facilitator. BMI was calculated by dividing weight in kilograms by height in meters squared. These data were used to characterize the demographics and clinical status of the study population.

At the 26-week follow-up session, participants completed a feedback form regarding their experience with Gro Health. The form included an open-ended question about reasons for discontinuation and a yes/no question asking, "Would you recommend the service to a friend?". These data were used to assess program accessibility. Participants who downloaded the app were classified as "app users," and app engagement was defined as logging into the app within the past 30 days.

Statistical Analysis

Data was analysed using IBM SPSS (version 28). The 40-participant sample size limit was deter-mined by a pre-established community health service contract and an a priori power analysis was not performed to establish a clinically relevant threshold. Anyone with missing data had their last value brought forward (denoted by N in completed). Baseline demographic characteristics are reported in Table 1.

To assess changes overtime in average weight and BMI, two linear mixed models (LMM), with time recoded into three discreet categories (Baseline, Week 12, Week 26) entered as a fixed factor, participant ID entered as the random effects variable and gender (male, female), ethnicity (Caucasian, all other) age, app access (Yes, No) or completion status (Yes, No) as covariates were conducted.

This analysis was chosen for several reasons. First, it afforded subject ID to be included as a random intercept to account for individual differences with multiple observations per subject (baseline, Week 12, Week 26 for Weight/BMI). Second, it enabled the inclusion of several potential covariates/confounding variables to be taken into account when interpreting the main effect of time on weight change. Thirdly, LMM analysis stands up to violations of normality and sphericity, found in an earlier Anova analysis. Finally, this analysis is robust to dealing with missing data and outliers, relative to Anova.

The contribution of the random effect of participant ID was estimated using the restricted maximum likelihood estimation, which uses a mathematical tech-nique to make the estimates for the variance parameters independent of the estimates for the fixed effects. This method produces less biased estimates of the variance components compared to other estimation methods (Gałecki & Burzykowski, 2013). [21] Satterthwaite approximation was utilised for degrees of freedom, ideal for small sample sizes. Estimation of the effect size for fixed effects is reported as ηp2.

Where significant main effects or covariate effects occurred, post-hoc paired t-tests were used to compare differences in estimated marginal means of weight and BMI. Benjamini-Hochberg false discovery rate adjustments were applied for multiple post-hoc comparisons, in or-der to balance potential issues with Type I and Type II errors. This adjustment procedure is preferred to the Bonferroni technique, which can inflate Type II error rate (Thissen et al., 2002). [22] Statis-tical significance was set at $P<0.05$, unless adjusted for multiple comparison analysis. The frequency of changes in BMI category membership across the duration of the study is reported in Table 2.

Finally, weight change and BMI changes across time are illustrated in Figures 2 and 3 respectively. Weight change across time, as a function of BMI categories recorded at baseline is plotted in Figure 4.

Results

Participant Demographics

Out of the 50 participants who self-referred and completed the landing page form, all 50 (100%) were deemed eligible. Of these, 40 participants (80%) were enrolled into the program on a first-come, first-served basis and attended at least one session. Among the 40 enrolled, 15 participants (37.5%) downloaded the Gro Health digital app and created an account.

The baseline characteristics of the participants are summarized in Table 1. The average age of the participants was 42.4 years, with a mean BMI of 35.7 kg/m². The majority were female (68%) and identified as white (Caucasian) ethnicity (73%). Nearly half of the participants were employed (47.5%). There were no significant differences in weight, BMI, or prevalence of comorbidities between participants of white Caucasian and non-Caucasian ethnicities. Of the 40 participants who were eligible and activated their referral, 29 participants (72.5%) reported their weight at 12 weeks, and 25 participants (62.5%) at 26 weeks. A total of 24 participants (60%) completed the program, defined as attending at least 8 of the 12 sessions and providing follow-up data at 26 weeks. Among the 15 participants

who downloaded the app, 11 (73%) remained engaged with it at 26 weeks, as indicated by logging into the app within the past 30 days.

For the 11 participants (27.5%) who were follow-up (defined as attending fewer than three face-to-face sessions), the last recorded data point was carried forward to maintain a conservative evaluation of the real-world effectiveness.

Intervention

At Week 26, most participants had experienced some degree of weight loss (27/40, 68%), with an average weight loss percentage of 3.46 ± 4.2 and average reduction in BMI percentage of 3.34 ± 3.9 kg/$m^{2.}$

The LMM indicated a significant main effect of time on weight (Baseline: 97.7 ± 27.8 kg, Week 12: 95.8 ± 27.8 kg, Week 26: 94.2 ± 27.8 kg; P<.001) and BMI (Baseline: 35.1 ± 10.8 kg/m^2, Week 12: 34.45 ± 10.8 kg/m^2, Week 26: 33.9 ± 10.8 kg/m^2; P<.001)**,** with a large effect size (ηp^2 =.38 and .38, respectively). Benjamini-Hochberg false discovery rate adjusted post-hoc comparisons tests revealed that weight and BMI significantly decreased from baseline to week 12 (weight -1.83 kg ± 2.5, P=.013, BMI -.65 ± .9 kg/m^2, P = .013) and from baseline to week 26 (weight -3.46 kg ± 3.2, P=.013, BMI -1.22 ± 1.1 kg/m2, P=.013), and from week 12 to week 26 (weight -1.63 kg ± 2.5, P=.025, BMI -.57 ± .9 kg/m2, P=.025), (see Table 2).

The random effects analysis revealed an intercept variance of 440.4 and 63.7 and a standard error of 107.22 and 15.5 for weight and BMI respectively, reflecting considerable variability in weight and BMI across individuals.

No significant effects of age, gender, ethnicity, app access or completion status were observed for weight change. The same pattern occurred for BMI, with the exception of ethnicity where a significant difference in BMI was documented when comparing Caucasian to all other ethnicities (P=.045, ηp^2=.11). Benjamini-Hochberg false discovery rate adjusted post-hoc comparisons tests showed that Caucasian users experienced a greater reduction in BMI compared to other ethnicities, from baseline to week 12 (Caucasian: MD = -.70 ± .98, P=.025 and All others: MD = -.53 ± .63, P=.042) and from baseline to week 26 (Caucasian: MD = -1.34 ± 1.61, P=.025 and All others: MD = -.89 ± .93, P=.033), and between week 12 week 26 (Caucasian: MD = .65 ± .92, P=.025 and All others: MD = .36 ± .70, P=.05).

No adverse events related to the intervention were reported, and no participants discontinued due to adverse effects.

Participant Feedback

Anonymized feedback was requested from all participants and received from 33 participants (82.5%) who began the intervention. Reported reasons for discontinuation included difficulty finding time to attend sessions (5/40, 12.5%). Additionally, 90% (36/40) of respondents indicated they would recommend the service to a friend. The most cited benefits were the supportive group environment (23/30; 76%), practical advice provided (20/30; 66%), and the motivation derived from regular meetings (3/33; 11%).

Discussion

This study represents the first evaluation of a Tier 2 weight management service in Maidstone, the largest town in Kent, England. The findings underscore the feasibility and effectiveness of the Gro Health Tier 2 weight management service in facilitating clinically significant weight loss among participants, many of whom face considerable health challenges and socioeconomic disadvantages.

Despite minimal promotional efforts, relying largely on social media outreach, the program saw impressive engagement levels. The fact that 100% of eligible participants completed the sign-up process, coupled with high completion rates (60%), and retention at both 12 weeks (72.5%) and 26 weeks (62.5%), highlights the program's strong appeal and acceptability among its target population. Notably, 60% of participants completed the program, defined as attending at least 8 out of 12 sessions and providing follow-up data at 26 weeks.

The low dropout rate observed in this study is particularly noteworthy when compared to previous research on weight management interventions, which often report high attrition and poor completion rates. For example, a meta-analysis of weight management programs reported dropout rates as high as 53% in community-based programs and between 43% to 72% in digital interventions targeting chronic diseases.[23,24] The 60% completion rate observed in our study exceeds these benchmarks, as well as the 39.8% completion rate reported by Everitt et al. for similar community-delivered programs.[25] The reasons for the high adherence observed in this study are not entirely clear, but several factors may have contributed, including the program’s promotional strategies, which incorporated social proof by showcasing positive outcomes, and the ongoing group support provided, which has been shown to enhance adherence in other settings.[26] Additionally, participants self-selected for the programme by engaging on social media posts. Furthermore, the face-to-face format likely fostered a sense of accountability and community among participants, which are critical factors in sustaining long-term behavior change.

Interestingly, the majority of participants who did drop out of the program were either students or unemployed and seeking work suggesting that time availability and economic pressures might have played a significant role in their ability to remain engaged with the in-person program, pointing to the need for more flexible program offerings or additional support for these groups.

Demographically, while Maidstone has a relatively low proportion of ethnic minority residents (less than 11% compared to 14% across England), 27.5% of the participants in this study identified as non-Caucasian.[27] This over-representation is significant, as it indicates that the program’s culturally tailored approach—offered in nine languages and adapted to include culturally diverse cuisines—likely enhanced its appeal to ethnic minority groups. This finding aligns with existing research showing that culturally tailored interventions can significantly improve patient engagement, satisfaction, and clinical outcomes, particularly among ethnic minorities. The success of this approach in the current study suggests that weight management programs addressing key social determinants of health, such as ethnicity and income, by providing personalized care plans and culturally relevant content, can be highly effective for diverse populations. This is particularly important for groups like South Asians and Black African-Caribbeans, who are at higher risk for obesity and related chronic diseases, including type 2 diabetes.

In terms of outcomes, participants experienced a mean weight loss of 3.46% after the 26-week intervention period, which is comparable to results from commercial weight loss programs that involve one-on-one consultations with trained consultants, including telehealth and email support. Although a 5% weight loss is generally considered clinically significant for reducing the risk of obesity-related conditions like type 2 diabetes and cardiovascular disease, even modest weight losses of 2-5% can lead to significant reductions in cardiovascular risk factors.[28] Greater weight loss is associated with further improvements in obesity-related comorbidities, and weight losses exceeding 10% are linked to a reduction in mortality risk.[29]

In this study, 23% of participants achieved at least a 5% weight loss, and 5% achieved a weight loss of 10% or more. If these results are sustained, they could translate into substantial reductions in obesity-related health risks. Alongside weight loss, there was also a notable reduction in the proportion of participants classified as obese or morbidly obese, from 75% at baseline to 67.5% at the end of the program. This shift is significant given the well-established link between high BMI and increased mortality risk, with the BMI range of 18.5 to <25 kg/m² generally associated with the lowest mortality risk, and risk increasing as BMI rises across the overweight, obese, and morbidly obese categories.

Strengths and Limitations

This study has several strengths that enhance its contribution to the literature on weight management interventions. One of the key strengths is the high level of participant engagement and retention, which is particularly noteworthy given that similar interventions often report much higher dropout rates. The program's culturally tailored approach is another significant strength. By marketing and offering the program in multiple languages and incorporating culturally diverse content, the intervention likely enhanced its appeal to ethnic minority participants. This is reflected in the over-representation of non-Caucasian participants in the study, despite their lower proportion in the general Maidstone population. This finding is consistent with existing research that underscores the importance of culturally relevant healthcare solutions in improving engagement and outcomes among minority groups.[30]

The program's holistic support, which covered mental wellbeing, sleep, physical activity, and nutrition, ensured a comprehensive approach to weight management. Addressing these various factors is crucial for promoting sustained behavior change and overall health improvement. The use of the COM-B model of behavior change, which focuses on capability, opportunity, and motivation, provided a strong theoretical foundation for the intervention, likely enhancing its effectiveness in facilitating sustained behavior change.

The community-based delivery of the program, utilizing accessible venues and an assets-based community development approach, ensured that the intervention was well-integrated within the local context. This likely contributed to the higher participation and retention rates observed, as it made the program more accessible and relevant to the local population. Personalization and precision health were also key strengths of the program. By providing tailored health recommendations, the program met individual needs more effectively, likely contributing to the high engagement levels observed.

Another important strength of the study is the rigorous data collection process. All weight measurements were taken by trained health coaches, ensuring the accuracy and reliability

of the data. This approach eliminates potential biases associated with self-reported data, thereby strengthening the validity of the study's findings.

However, the study also has several limitations that should be considered when interpreting the results. The small sample size of 40 participants limits the generalizability of the findings. While the results are promising, a larger sample would provide more robust data and help confirm the applicability of the findings to a broader population. The small sample size was a constraint of the service contract, highlighting the need for future studies with larger cohorts to validate these results.

Another limitation is the self-selection of participants, which may introduce selection bias. Those who chose to participate in the program might be more motivated or have different characteristics compared to the general population, which could influence the outcomes. Additionally, the lack of a control group is a significant limitation, as it prevents the ability to attribute the observed changes specifically to the intervention. A randomized controlled trial design would provide stronger evidence of the program's effectiveness.

The study's short duration and lack of long-term follow-up also limit the understanding of the sustainability of the weight loss and other health benefits achieved. While the 26-week follow-up provides valuable insights into the program's short-term effectiveness, long-term studies are needed to evaluate the durability of these outcomes over time.

While digital exclusion was not a significant issue due to the face-to-face nature of the program, the integration of app-based support showed a greater weight loss among app users compared to those who only participated in face-to-face sessions. This finding indicates the potential added value of digital support tools in enhancing the effectiveness of weight management interventions. However, further research is needed to explore the role of digital tools in combination with face-to-face interventions.

Lastly, the study did not collect detailed data on dropout reasons, which limits the ability to investigate the factors that contributed to participant disengagement. Understanding why participants drop out is crucial for refining the program and improving retention rates in future iterations.

Conclusions

The face-to-face group intervention in Maidstone was effective in achieving significant weight loss and high participant satisfaction, demonstrating the potential of such programs in community settings. The high levels of engagement, retention, and completion observed in this study suggest that culturally tailored, community-based weight management programs can be highly effective in diverse populations, particularly when they address key social determinants of health.

These findings support the continued use and potential expansion of face-to-face weight management programs in similar settings. Future research should aim to validate these results in larger and more diverse populations to strengthen the evidence base for such interventions. Additionally, exploring the integration of digital tools with face-to-face programs could enhance the effectiveness and reach of weight management services, particularly in populations at high risk for obesity and related chronic diseases.

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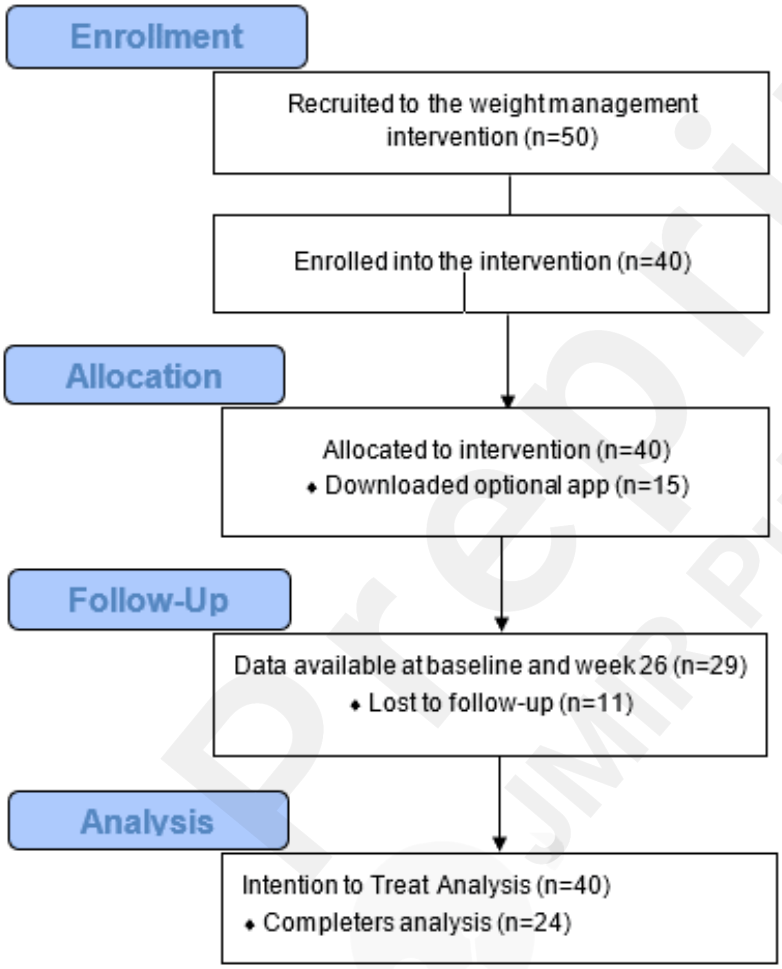
Table 1. Participant Demographics

Characteristic (N=360)	All Participants (N=40)	Completers (N=24)
Age	42.4 ± 12.9 yrs	48.2 ± 9.7 yrs
Weight	96.57 ± 22.3 kg	101.34 ± 24.9 kg
Body Mass Index (kg/m2)		
Overweight (25.0 - 29.9)	10 (25%)	7 (29.2%)
Obese (30.0 - 34.5)	20 (50%)	8 (33.3%)
Morbid obese (≥40)	10 (25%)	9 (37.5%)
Gender n (n%)		
Male	13 (32.5)	7 (29.2)
Female	27 (67.5)	17 (70.8)
Ethnicity, n (n%)		
White (Caucasian): British	29 (72.5)	17 (70.8)
Mixed: Any other mixed background	3 (7.5)	1 (4.2)
Asian or Asian British	1 (2.5)	1 (4.2)
Black or Black British	6 (15)	4 (16.7)
Any other ethnic group	1 (2.5)	1 (4.2)
Comorbidities, n (n%)		
No medical diagnosis	32 (80)	18 (75)
Hypertension	1 (2.5)	1 (4.2)
Mental health disorder	1 (2.5)	3 (12.5)
Cardiac disease	1 (2.5)	1 (4.2)
Employment status, n (n%)		
Employed	19 (47.5)	16 (66.7)
Unemployed and seeking work	6 (15)	0 (0)
Student	5 (12.5)	0 (0)
Long-term sick or disabled	3 (7.5)	3 (12.5)
Homemaker	5 (12.5)	4 (16.7)
Retired	2 (5)	1 (4.2)

Table 2. Frequency of Body Mass Index (BMI) categories as a function of time of the Gro Health program

BMI (kg/m²)	Normal (18.5-24.9)	Overweight (25-29.9)	Obese (30-39.9)	Morbid Obese (≥ 40)
Baseline	0 (0%)	10 (25%)	20 (50%)	10 (25%)
Week 12	0 (0%)	10 (25%)	20 (50%)	10 (25%)
Week 26	0 (0%)	13 (32.5%)	18 (45%)	9 (22.5%)

Figure 1. Participant flow (CONSORT)



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Figure 2. Weight (kg) changes from baseline to week 12 and week 26. Error bars represent 95% confidence intervals.

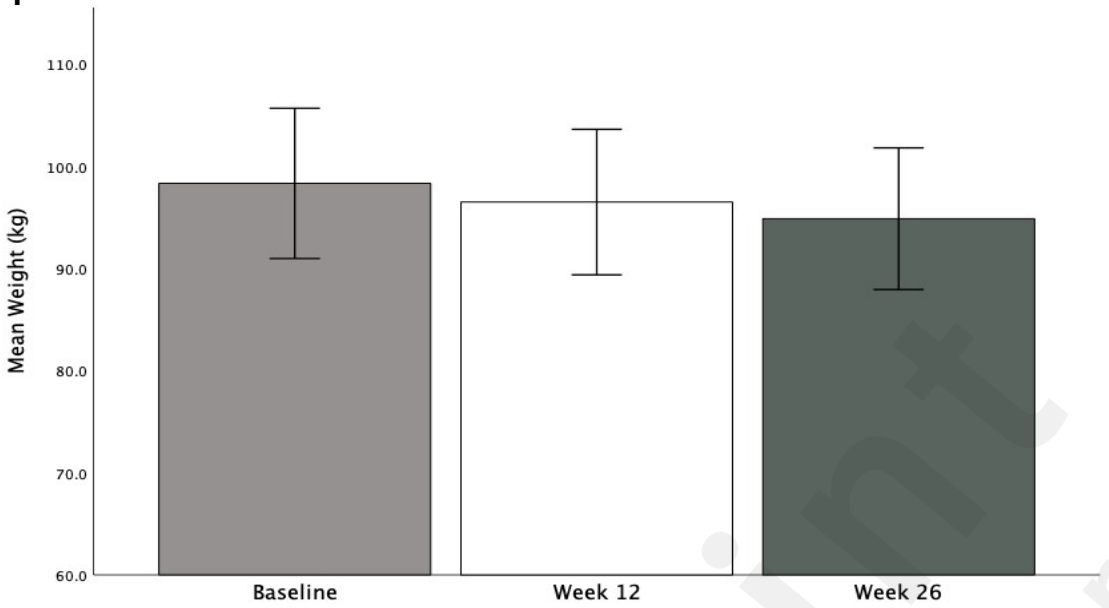
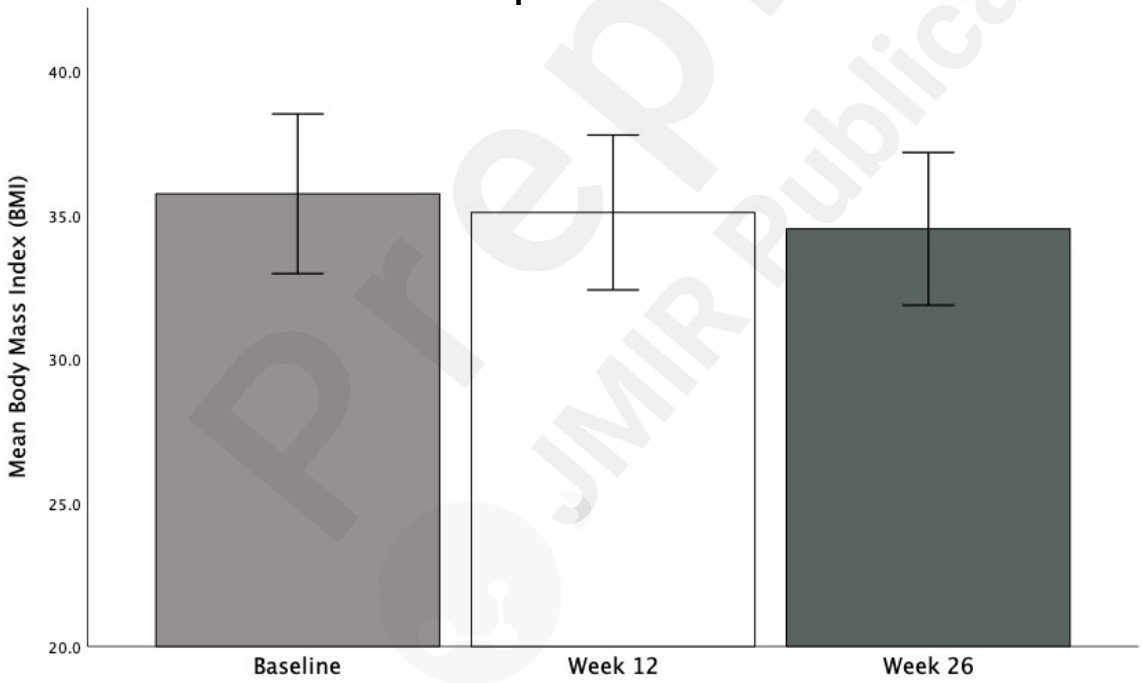
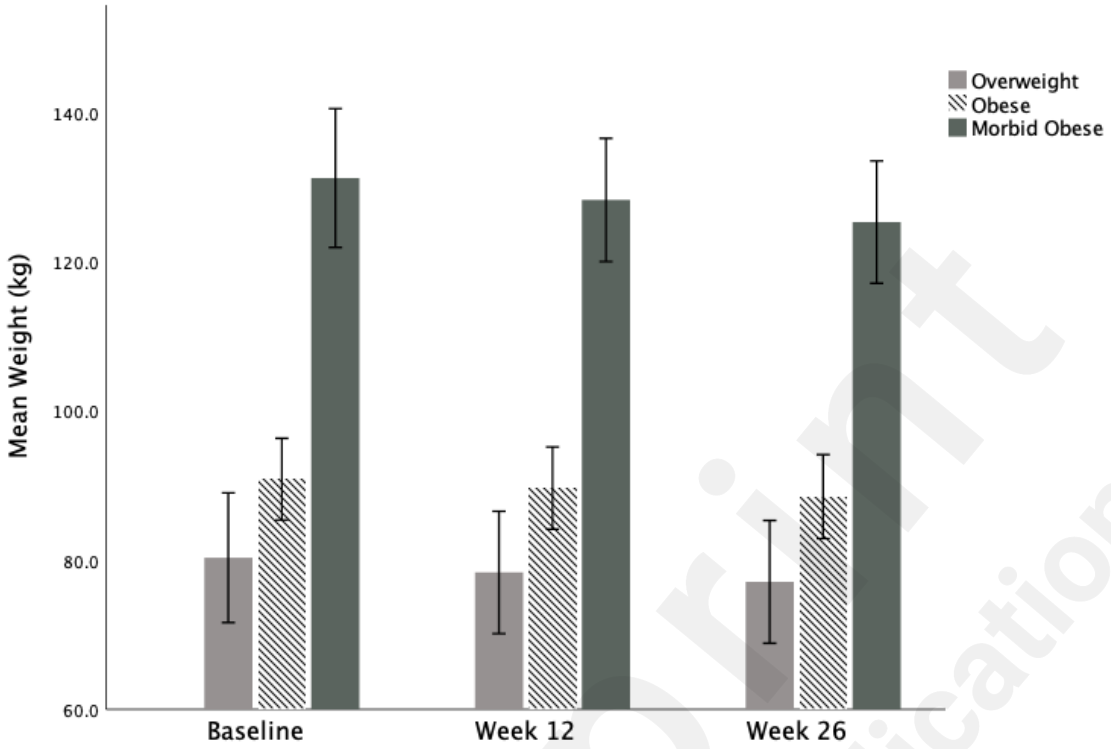


Figure 3. Body mass index (BMI) kg/m² changes from baseline to week 12 and week 26. Error bars represent 95% confidence intervals.



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Figure 4. Weight (kg) changes from baseline to week 12 and week 26 for different Body mass index



Note: (BMI) groups categorised at baseline. Error bars represent 95% confidence intervals. Zero participants were categorised as normal according to NHS criteria

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Facilitator delivering Gro Health weight management session.

