



Slimming World research portfolio



*Delivering an effective,
evidence-based approach to
healthy weight management*

Slimming World

Welcome

Welcome to Slimming World's Research Portfolio, which summarises the science and evidence base behind our weight management programme. In this portfolio we've collated the key research that's been conducted in relation to Slimming World, published in scientific literature and presented at conferences. This research relates to the efficacy of our programme in terms of our members' weight loss, behaviour change and wider wellbeing, and to how we support public health needs.

Addressing public health needs

Slimming World's multi-component programme is in line with the current UK National Institute for Health and Care Excellence (NICE) obesity guidance.

Slimming World is the only national weight management organisation in the UK to provide healthy lifestyle support to pregnant and breastfeeding mums, working closely with the Royal College of Midwives as Alliance partners since 2012.

Slimming World's nutrition, research and health team

The team at Slimming World is led by Carolyn Pallister, a registered dietitian with 20 years experience in weight management. The team brings together professionals from a range of scientific background including nutrition, dietetic, research, psychology and data analytics. Working together the team ensure that the Slimming World plan develops in line with the latest advances and understanding in nutrition, health and weight management.

Within the wider department we have a dedicated research team who drive forward our active research programme which includes in-house research and research carried out in partnership with university collaborators. As well as commissioning studies, we support externally led research by providing expertise and insights, access to our members, or referral of people taking part in research to our groups or online service.

Meet Slimming World's research team

Carolyn Pallister, BSc (Hons), RD
Head of Nutrition, Research and Health

Dr. Jemma Donovan, PhD
Research Manager

Dr. Amanda Avery, PhD, RD
Health and Research Consultant Dietician

Dr. Sarah Bennett, PhD, RNutr
Senior Research Associate

Laura Holloway, MSc
Research Associate

Dr. Josef Toon, PhD
Research Analyst

Our Scientific Advisors

Slimming World is delighted to work with specialist advisors including

Professor James Stubbs
Professor of Appetite and Energy Balance
School of Psychology, University of Leeds

Professor Ken Fox
Emeritus Professor of Exercise Health Science
University of Bristol

Professor Andrew Hill
Chartered Psychologist and Professor of Medical Psychology
School of Medicine, University of Leeds

Slimming World Overview

Since it was founded in 1969, Slimming World has continued to develop and enhance one of the most advanced behaviour change programmes for effective and sustained weight management. Slimming World's philosophy is based on a deep understanding of how people who want to lose weight feel, coupled with a passionate desire to help them achieve their goals. Our support programme continues to evolve in line with the latest research and guidance on nutrition, physical activity and the psychology of behaviour change. The three pillars of our unique programme are Slimming World's healthy eating plan, active lifestyle programme and support system.

A healthy, satisfying eating plan

Slimming World's healthy eating plan is liberating and takes away the tedium of weighing, measuring and counting the calories in everything that members eat and drink. Based on the science behind energy density and satiety, Slimming World supports members in making a shift from old patterns of high energy dense, less satisfying foods to eating a higher proportion of low energy dense, satisfying and healthy foods. The plan offers members the flexibility to tailor the plan to suit their dietary needs, food preferences and lifestyle, and form long-lasting habits.

Physical activity support programme

Slimming World's active lifestyle programme helps members improve their overall health, fitness and wellbeing.

In line with Government recommendations, Slimming World encourages and supports members to build up to at least 150 minutes of moderate intensity activity each week, at their own pace, deepening habits and routines until being active is an intrinsic part of their lifestyle. It's suitable for everyone, regardless of weight or fitness level.

Support to facilitate behaviour change

Slimming World's support system, focused around mindset and behaviour change, is underpinned by genuine compassion and care. Facilitated by trained and skilled Slimming World Consultants, structured, personalised support – to build lasting psychological and behavioural commitment to change – is provided to members in a warm and friendly group environment.

Slimming World's digital service

Slimming World also provides evidence-based weight management support through a convenient online programme for members who can't get to a group or prefer a digital option. This programme is based upon the same principles and philosophy of our groups, delivered via the Slimming World website and app. Tools to support members include an online community, virtual events hosted by trained Slimming World Consultants, goal setting and weighing in functionalities, a planner to encourage members to think ahead, physical activity videos and a toolkit that helps members develop strategies and self-regulatory skills to overcome any difficulties they might be experiencing.

Changes in health-related behaviours among adults who accessed real-world weight management support: 12-month outcomes

Aim

This study assessed diet and lifestyle behaviours of Slimming World members upon joining, and at 3 and 12 months, and compared them with the general UK population

Summary

- At baseline, mean BMI and age were 34.7 kg/m² and 53.0 ± 12.0 years, respectively
- Mean weight change at 12 months was -7.5%
- Member diet quality score (NDQS) increased from baseline to T1 (11.5 ± 3.2 vs 14.1 ± 2.4, p < 0.001), T2 (14.3 ± 2.7), and T4 (14.1 ± 2.9) (both p < 0.05)
- At T1, T2, and T4, members had higher NDQS, greater levels of physical activity (p < 0.001), and higher mental well-being scores (p < 0.05) than the general population reference group
- At T2, of the 122 members living with a partner, 79.5% reported influencing their partner to eat healthier meals. Among the 47 members living with children, 66.0% reported influencing them to eat healthier meals. The positive influence on partners' and children's eating behaviours observed at T2 remained stable at T4 (both p > 0.05)
- At T2, 40.7% of members reported encouraging others in their household to become more active, and this proportion remained consistent at T4 (40.5%, p > 0.05)
- Findings suggest that Slimming World's behaviour change programme is effective in supporting adults living with obesity to make health-related behaviour changes. Members achieved clinically significant weight loss and improvements in diet quality, physical activity, and mental well-being compared with the general population. These changes were maintained at 12 months, with an additional positive influence reported on family members' lifestyle habits.

Participants

174 adult Slimming World members and representative samples of the general population who were not actively managing their weight with a commercial organisation.

Research team

Slimming World research team.

Reference

Kent, J., Toon, J., Bennett, SE., Holloway, L., Pallister, C., Lavin, J., Donovan, J., Avery, A. (2025). Changes in Health-Related Behaviours Among Adults Who Accessed Real-World Weight Management Support: 12-Month Outcomes. *Cureus*, 17(10): e95035.

Date

2025

Meeting UK dietary recommendations while following a digital weight loss programme: A service evaluation of Slimming World Online member intakes

Aim

This research aims to evaluate the nutrient intakes of members following Slimming World's digital programme, and compare intakes to UK dietary recommendations and current intakes of the general UK population.

Summary

- Adults who had been members of Slimming World Online for at least 4 weeks were invited to complete a short survey and use a validated online dietary assessment tool, myfood24®
- Food and drink intake over a 3-day period (2 weekdays and 1 weekend day) was collected and compared against UK dietary recommendations and mean general population intakes, as reported in the National Diet and Nutrition Survey (NDNS)
- Mean daily energy intake was 1424.0±457.8kcal
- Compared to the UK general population, members were consuming a lower proportion of energy from fat (25.5% vs 34.1%) and saturated fat (8.6% vs 12.3%). Intakes were in line with UK recommendations of <35.0% and <11.0% of total daily energy respectively
- Members were consuming a greater proportion of total daily energy from protein than the general population (25.4% vs 17.0%). Mean protein intake was 90.6±32.0g/day, higher than general population intakes of 76.0g/day
- Members, on average, were consuming 8.4±4.9 portions of vegetables and fruit/day, with 68.9% meeting the '5 a day' recommendation, compared to 33.0% of the general population
- Mean fibre intake was higher than the general population (27.2±12.9g vs 19.7±8.4g/day)
- Salt intake was in line with UK recommendations of <6g/day and lower than the general population (5.3±2.6g vs 8.4±4.1g/day)
- In addition to having a reduced energy intake necessary for weight loss, members of Slimming World's digital programme are consuming a diet which meets current UK dietary guidelines and is of better nutritional quality than that of the general UK population.

Participants

61 Slimming World Online members, 95.1% female, mean age 51.7±10.5 years.

Research team

Slimming World research team

Reference

Clark A, Kent J, Toon J, Pallister C. (2025) Meeting UK dietary recommendations while following a digital weight loss programme: A service evaluation of Slimming World Online member intakes. Proceedings of the Nutrition Society 2025;84(OCE3):E239. Presented at Nutrition Society Winter Conference.

Date

2025

Menopause and weight: a service evaluation analysing weight loss outcomes of Slimming World members

Aim

The aim of this service evaluation was to assess the impact that the menopause can have on weight loss outcomes of Slimming World members.

Summary

- The menopause is defined by twelve consecutive months of amenorrhoea and UK data reports the average age of the menopause as 51 years
- As oestrogen production declines during the perimenopause, body composition changes. Adipose tissue is redistributed centrally, visceral fat may increase, and lean mass and subsequently basal metabolic rate reduce. Certain symptoms such as disturbed sleep, mood changes, muscle aches and joint pain can indirectly influence weight, over time, by causing shifts in dietary and lifestyle behaviours. For many women, there is concern that the menopause will mean inevitable weight gain, or that weight loss will be more difficult
- A secondary analysis of a 2019 audit of over 1 million adults attending Slimming World groups was undertaken to identify the mean percentage weight change of adult female members, according to age category, to assess the impact the menopause may have on weight
- Mean weight change of female Slimming World group members over the average age of the menopause (n = 326,183) was $-5.4 \pm 3.5\%$ at 3-months. Women ≥ 51 years lost significantly more weight than women aged 18-50 at 3-months ($-5.4 \pm 3.5\%$ vs $-4.7 \pm 3.7\%$, $p < 0.001$)
- At 12-months, women ≥ 51 years had lost a mean total of $7.0 \pm 3.5\%$ of their starting bodyweight
- The menopause transition is a time in the life-course where weight gain may occur due to physiological changes and the impact of certain symptoms. Slimming World supports members to change their dietary and lifestyle behaviours, and these results demonstrate it is an effective weight management service for women after the menopause.

Participants

Data from 1,035,304 adult female Slimming World group members, split according to age category.

Research team

Slimming World research team

Reference

Kent, J. and Pallister, C. (2025). Menopause and weight: a service evaluation analysing weight loss outcomes of Slimming World members. *Journal of Human Nutrition and Dietetics*. 2025 Oct;38:e70092. Presented at BDA 2023 meeting.

Date

2025

Supporting young adults (18-34 years) to manage their weight and wellbeing

Aim

To explore the accessibility and support that Slimming World provides to young adults

Summary

- 18–34-year-olds who had been a member for >4 weeks were invited to complete an online survey
- Mean baseline BMI was 37.9 kg/m² with a weight change of -12.4kg (-11.4%) at the time of the survey (median attendance = 32 weeks)
- Respondents reported gaining confidence in changing their eating habits (91%) and felt supported in changing their mindset about physical activity (80%)
- There was a significant shift in confidence to prepare healthier meals from scratch ($p < 0.001$). 96% reported they now felt confident to cook a meal from scratch and 75% are doing so more often
- In terms of alcohol consumption, 27% had reduced the alcohol they drink, 17% had swapped some or all for low-alcohol alternatives, 14% had cut down on binge drinking and 10% had completely stopped drinking alcohol
- 64% of respondents were more active since accessing Slimming World's support
- 77% felt able to challenge negative thoughts about their ability to lose weight, 89% respondents agreed Slimming World helped them develop a better relationship with food and changed the way they think and feel about food in a positive way (87%)
- 58% felt their mental wellbeing had improved with the majority (85%) attributing this to the support they received
- The group support was valued (92%) and relatable to them (90%)
- The data suggests Slimming World promotes young adult members' confidence in their ability to manage their weight, supports positive behavioural changes, with additional health benefits.

Participants

3466 Slimming World members aged 18-34 (3262 group members, 204 online); 93.2% female

Research team

Slimming World research team

Reference

Ayman, A., Holloway, L., Toon, J., Avery, A., Donovan, J., Pallister, C. (2025). Supporting young adults (18-34 years) to manage their weight and wellbeing. *International Journal of Obesity* 49:15. Presented at UK Congress on Obesity (Sept 2025) and British Dietetic Association (December 2025)

Date

2025

Effectiveness of Slimming World's digital weight management service

Aim

The aim of this study was to evaluate the weight loss outcomes amongst individuals referred to Slimming World's digital weight loss service.

Summary

- Data for participants referred to Slimming World's digital programme between 21st July 2021 and 3rd October 2023 were extracted and analysed
- Mean age of 63.5 years and mean joining BMI of 37.2kg/m²
- Mean weight change at the end of 12 weeks was -3.5%, with 50.7% achieving a weight loss equal to or greater than 3% and 30.0% achieving a weight loss equal to or greater 5%
- Mean number of recorded weights during the 12 weeks was 7.0
- Analysis revealed that joining BMI, age and number of recorded weights were significant predictors of weight loss at the end of the 12 weeks
- High engagers (those who recorded weight at least 9 times) showed significantly greater weight losses with an average weight change of -5.1% with 72.6% losing 3% or more and 49.5% losing 5% or more suggesting that increased engagement was associated with greater outcomes
- Referral to Slimming World's digital weight management service supported adults with obesity and a diagnosis of type 2 diabetes and/or high blood pressure to successfully lose weight
- These findings demonstrate the effectiveness of digital lifestyle weight management interventions in supporting people to lose weight and highlight the role of on-demand digital services in tackling increasing obesity rates.

Participants

12,826 (28.1% male) adults, with obesity and a diagnosis of type 2 diabetes and/or high blood pressure.

Research Team

Slimming World research team

Reference

Toon, J., Avery, A., Bennett, S., Donovan, J. and Pallister, C. (2024). Effectiveness of Slimming World's digital weight management service. *Obes Facts* 17(S1):359. Presented at the European Congress on Obesity (ECO). Presented at the European Congress on Obesity.

Date

2024

Meeting UK dietary recommendations: a service evaluation of Slimming World member intakes

Aim

This research evaluates, on a larger scale, nutrient intakes of Slimming World members and compares to UK dietary recommendations.

Summary

- Adults accessing Slimming World's group support programme or digital service for >4 weeks were invited to complete a short survey and report their food intake over 3 days (2 weekdays and 1 weekend day) using myfood24, a validated online dietary assessment tool
- Dietary intakes were compared against UK dietary recommendations and mean general population intakes, as reported in the National Diet and Nutrition Survey (Public Health England, 2020)
- Mean daily energy intake was 1361 ± 350.7 kcal
- Mean percentage of daily energy obtained from carbohydrates, protein and fat were $47.3 \pm 8.0\%$, $26.7 \pm 5.1\%$, and $25.1 \pm 6.0\%$ respectively
- Compared to the UK general population, members were consuming a lower proportion of energy from fat (25.1% vs 34.1%) and saturated fat (8.8% vs 12.3%). Intakes were in line with UK recommendations of <35.0% and <11.0% of total daily energy respectively
- Members were consuming a greater proportion of total daily energy from protein than the general population (26.7% vs 17.0%). Mean protein intake was 89.4 ± 25.5 g/day, higher than general population intakes of 76.0g/day
- Members' mean fruit and vegetable was 8.0 ± 4.2 portions/day, with 75.5% meeting the '5 a day' recommendation, compared to 33.0% of the general population
- Mean fibre intake was 25.6 ± 9.9 g/day, higher than general population intakes of 19.7g/day
- Mean salt intake was 5.0 ± 2.0 g/day, in line with UK recommendations of <6g/day and lower than general population intakes (8.4g/day)
- This analysis of dietary intakes found that despite a reduced energy intake, members are consuming a diet in line with current UK dietary recommendations and of better nutritional quality than the UK population.

Participants

707 group or online Slimming World members, 96.6% female, mean age 53.0 ± 11.2 years.

Research team

Slimming World research team

Reference

Clark, A., Kent, J., Toon, J. and Pallister, C. and Lavin, J (2024). Meeting UK dietary recommendations: a service evaluation of Slimming World member intakes. *Obes Facts* 17(S1):205. Presented at the European Congress on Obesity (ECO).

Date

2024

What happens to people who join a community weight management programme? Long-term outcomes up to seven years after first joining

Aim

The aim of this study was to evaluate outcomes of self-funding adults who first joined Slimming World in 2016 and were still accessing the service at least two years later.

Summary

- This study was a secondary analysis of a dataset of over one million self-funding adults who first joined Slimming World in 2016. Weight records for those attending between January 2018 and January 2023 were extracted and analysed using last observation carried forward
- Mean change in weight and BMI at follow-up (2 to 7 years after joining) was -11.2% and -3.9kg/m², respectively
- Changes in weight by year of last reported weight were as follows; in 2018: -10.9 (7.5)% (n=50,332), 2019: -11.2 (7.9)% (n=20,731), 2020: -11.0 (8.3)% (n=14,407), 2021: -11.5 (8.9)% (n=5,343), 2022: -12.0 (8.4)% (n=3,299) and 2023: -13.6 (8.6)% (n=6,448)
- 18.6% of members were at their personal target weight at follow-up and showed a mean change in weight and BMI of 15.8% and -5.0kg/m², respectively
- 93.7% were matched to an IMD decile with 24.2% (n=22,790) in the lowest three deciles (deciles 1-3) and 35.5% (n=33,345) in the highest three deciles (i.e., deciles 8-10)
- 71% (n=71,614) of this sample who first joined in 2016 achieved a 10% weight loss or more at the end of that year. At their last recorded attendance, two to seven years after first joining, 67.9% of these members had either maintained or achieved further weight loss.

Participants

The aim of this study was to evaluate outcomes of self-funding adults who first joined Slimming World in 2016 and were still accessing the service at least two years later.

Research team

Slimming World research team

Reference

Avery, A., Toon, J., Bennett, S., Holloway, L., Donovan, J. and Pallister, C. (2023) What happens to people who join a community weight management programme? Long-term outcomes up to seven years after first joining. *International Journal of Obesity* 48:45. Presented at the UK Congress on Obesity (UKCO, 2023) and the UK Society of Behavioural Medicine (UKSBM, 2024).

Date

2024

Weight outcomes by socioeconomic status and region for Slimming World's digital weight management service

Aim

The aim of this study was to investigate the effectiveness of referral to Slimming World's digital programme by analysing weight outcomes of by regions within England and by level of deprivation.

Summary

- Data for participants referred Slimming World's digital programme between 21st July 2021 and 3rd October 2023 were analysed
- Overall mean weight change at the end of referral period was -3.5 and across NHS England regions, ranged between -3.3 (London) to -3.6% (North East and Yorkshire; North West; South West)
- Across IMD quintiles weight change ranged from -3.4% (Q2) to -3.7% (Q3)
- After adjusting for joining age and BMI, we found that weight loss outcomes were consistent across most NHS regions. Although the North West region had slightly greater weight losses compared to others, NHS region still explained little overall variance in outcomes
- The model also showed that percentage weight change did not significantly differ by IMD quintile compared to the overall mean
- Referral to Slimming World's digital programme showed significant weight losses which were demonstrated across regions within England and across levels of deprivation
- This analysis demonstrates the effectiveness of digital interventions in helping a diverse range of service users to lose weight with significant outcomes achieved irrespective of socioeconomic status and regions within England.

Participants

12,572 adults, with obesity and a diagnosis of type 2 diabetes and/or high blood pressure.

Research Team

Slimming World research team

Reference

Toon, J., Avery, A., Bennett, S., Donovan, J. and Pallister, C. (2024). Weight Outcomes by Socioeconomic Status and Region for Slimming World's Digital Weight Management Service *Obes Facts* 17(S1):359. Presented at the European Congress on Obesity (ECO).

Date

2024

A service evaluation of more than 27,000 adults referred to a community weight management programme: 24-month outcomes

Aim

A service evaluation of more than 27,000 adults referred to a community weight management programme: 24-month outcomes.

Summary

- Mean start BMI was 37.1 kg/m² and 15.5% were male
- Participants came from 76 schemes across England and were referred for an initial 12-week period. Mean weight change was: -5.6% at 3 months, -7.1% at 6 months, -7.5% at 12 months and -7.3% at 24 months
- 64.5% (n=17,765) continued to attend after their 12-week referral and on average attended a further 16.4 sessions. Of those, 29.2% (n=5191) were high attenders at 12 months (attending ≥41 sessions) and had a mean weight change of -15.3%
- There was no meaningful difference in weight change across BMI or IMD levels
- 5862 (21.2%) completed the post-referral questionnaire. There were significant improvements in self-reported dietary and physical activity changes, which were similar regardless of BMI or IMD quintiles
- The results show that adults with higher BMIs and living on low incomes can benefit from the practical support offered as part of the 12-week referral programme and are thus supported to lose and maintain their weight loss.

Participants

27,560 Slimming World members who joined via Slimming World on Referral. Mean age for women was 47.8 years and for men was 53.1 years.

Research team

Slimming World research team

Reference

Toon J, Bennett SE, Lavin J, Pallister C, Avery A. A service evaluation of more than 27,000 adults referred to a community weight management program: 24-month outcomes. *Journal of Primary Care and Community Health*, 2024;15. doi:10.1177/21501319241291784.

Date

2024

A pregnancy and postnatal RCT among women with gestational diabetes mellitus and overweight/obesity: The PAIGE2 study

Aim

This study examined the influence of a pregnancy and postnatal multicomponent lifestyle intervention for women with gestational diabetes mellitus (GDM) and overweight/obesity from 6 weeks to 12 months postnatal.

Summary

- The lifestyle intervention components included an educational session, activity tracker (Fitbit), monthly phone calls, weekly motivational text messages and a 12-week referral for Slimming World. The control group received routine local maternity care
- At 12 months the intervention group lost more weight than the control group (-2.0kg vs -0.6kg) but this was not statistically significant
- At 12 months the intervention group lost more weight -2.0kg than the control group -0.6kg but this was not statistically significant
- There was no significant difference in BMI, waist circumference and fasting plasma glucose between the two groups
- 41 (33%) of the women in the intervention group took advantage of the 12-week Slimming World referral and these had a mean weight change of -3.1kg (compared to -1.0kg amongst those who didn't take up the referral, but this difference was not statistically significant)
- Those that attended Slimming World showed a mean weight change of -3.1kg compared to those that didn't attend, -1.0kg, but this was not statistically significant
- Of those who responded to a feedback questionnaire, 84.9% said they had made lifestyle changes as a result of taking part in the study
- Focus groups were conducted with 8 women who attended Slimming World. Many stated they enjoyed their experience and the group ethos. Some reported that the timing of the referral may have impacted on their weight loss results. Others mentioned that the Slimming World dietary information contradicted the gestations diabetes dietary advice they'd been given during their pregnancy
- The COVID-19 pandemic began at the start of the PAIGE2 study, which not only impacted recruitment but also likely had an impact on weight outcomes

Participants

235 postnatal women with overweight and previous gestational diabetes mellitus (GDM) were recruited at 32-36 weeks gestation with 124 in the intervention arm and 111 in the control arm.

Research team

Research team at the Centre for Public Health (Queen's University, Belfast).

Reference

Kemp BJ, et al. (2024) A Pregnancy and Postnatal RCT Among Women With Gestational Diabetes Mellitus and Overweight/Obesity: The PAIGE2 Study. *J Endocr Soc.* 8(10):bvae151.

Kemp BJ, et al. (2024) Mothers' experiences of a lifestyle intervention for weight reduction 12 months after gestational diabetes mellitus: Qualitative findings from the PAIGE2 study. *Midwifery.* 129:103911.

McAuley E, et al. (2023) A pragmatic lifestyle intervention for overweight and obese women with gestational diabetes mellitus (PAIGE2): A parallel arm, multicenter randomized controlled trial study protocol. *Front Clin Diabetes Healthc.* 24:4:1118509.

Date

2024

A service evaluation of more than 1 million self-funding adults attending a community weight management programme

Aim

The aim of this service evaluation was to investigate weight loss outcomes of all new self-funding adults joining Slimming World, over the course of 1 year.

Summary

- Mean start BMI was 33 kg/m² and 7.6% (n=83,180) were male. Mean age for women was 42.9 years and mean age for men was 44.6 years
- At 3 months, mean weight change was -5.0%. 64.8% of participants achieved ≥3% weight loss, 44.6% achieved ≥5% weight loss and 10.2% achieved ≥10% weight loss
- 38.6% of participants were classified as high attenders at 3 months (attending ≥11 out of a possible 14 sessions) with a mean weight change of -7.7%. 92.8% of participants achieved ≥3% weight loss, 79.2% achieved ≥5% weight loss and 23.3% achieved ≥10% weight loss
- At 6 months, mean percentage weight change was -5.9%
- 24.0% of participants were classified as high attenders at 6 months (attending ≥22 out of a possible 28 sessions) with a mean weight change of -11.6%. 89.2% achieved ≥5% weight loss and 57.8% achieved ≥10% weight loss
- At 12 months, mean percentage weight change was -6.0%
- 11.0% of participants were classified as high attenders at 12 months (attending ≥41 out of a possible 54 sessions) with a mean weight change of -14.1%. 90.6% achieved ≥5% weight loss and 69.0% achieved ≥10% weight loss
- 8.7% of participants were in decile 1 (living within the 10% most deprived areas) and 10.3% were in decile 10 (living within the 10% least deprived areas). Those in more deprived deciles tended to be younger and had a higher BMI upon joining Slimming World, but were equally successful in achieving weight loss that was maintained at 12 months
- This is the only service evaluation of an open-ended weight management programme, delivered in a real-life setting, that reports weight outcomes for more than 1 million self-funding adults over 1 year
- 83,180 men were included in the data analysis providing evidence that men can be supported by mixed-sex community weight management groups
- With a considerable number of weekly group sessions offered, together with digital support and separate digital programmes available, Slimming World offers a real-life and cost-effective solution for many adults across the UK and Republic of Ireland.

Participants

1,094,676 self-funding adults who joined Slimming World at any time point during 2016.

Research team

Slimming World research team.

Reference

Toon, J., Bennett, SE., Lavin, J., Pallister, C., Avery, A. (2024). A service evaluation of more than 1 million self-funding adults attending a community weight management programme. *Clinical Obesity*. 14(4): e12665.

Date

2024

Long-term weight loss maintenance in females after participation in a community weight management programme – a feasibility study

Aim

The main aim of this pilot study was to investigate the feasibility of contacting individuals who had previously joined Slimming World, to assess longer term weight outcomes and strategies for weight control. Secondary aims were to evaluate long term weight outcomes and lifestyle behaviour changes 2.5 years after joining Slimming World.

Summary

- The responses of 356 females who could be matched to their membership record (to assess weight and attendance outcomes) were analysed
- 50.6% were attending a Slimming World group at the time of the survey (defined as current members); total weight loss was 9.6% for current members and 4.4% for past members
- Most reported cooking more meals using fresh ingredients (93.5% current; 81.3% past), eating more fruit/vegetables (98.2% current; 74.2% past), using SW recipes >weekly (82.4% current; 72.4% past)
- Increases in physical activity (60.5% current; 43.5% past) and decreases in alcohol (48.1% current; 32.2% past) were reported
- Respondents reported family members made positive dietary changes (73.9% current; 48.7% past) and became more active (33.1% current; 26.6% past)
- Health improvements were reported by 83.4% current and 50.3% past
- Despite the challenges of following up people three years after initially joining SW, longer-term weight and sustainable behaviour change outcomes were shown. Both current and past members reduced their weight, reported positive changes to dietary habits and physical activity levels, and improved health and emotional wellbeing. Benefits were also passed on to families showing greater reach and impact.

Participants

6299 individuals in Derbyshire and Nottinghamshire who had joined Slimming World in the preceding 2.5 - 3 years were invited to participate in a survey via email or post.

Research team

Slimming World research team

Reference

Avery, A., Toon, J., Holloway, L., Bennett, S., Lavin, J., Pallister, C. (2023). Long-term weight loss maintenance in females after participation in a community weight management programme – A feasibility study. *Clinical Nutrition Open Science*. 51: 1-14.

Holloway, L., Bennett, S.E., Lavin, J. (2017) Do people attending the Slimming World weight management program keep their weight off in the long term? *Presented at Obesity Week*.

Date

2023

Weight loss outcomes achieved by adults accessing an online programme offered as part of Public Health England's 'Better Health' campaign

Aim

This service evaluation aimed to determine whether adults accessing an online weight management programme via a national campaign are successful in losing weight.

Summary

- Data was analysed for adults registering with Slimming World's online programme using a discounted membership offered as part of Public Health England's 'Better Health' campaign between July and December 2020
- Mean baseline BMI was 33.4kg/m². 29.2% has a BMI between 30 and 34.94kg/m², 18.3% between 35 and 39.9 and 15.1% had a BMI greater than 40 kg/m²
- Mean weight loss at 12 weeks was 2.7kg representing a mean loss of 3% body weight, with 42.3% losing 3% or more and 22.1% losing 5% or more
- Median number of weigh-ins was six
- Men had greater weight losses compared to women as did high engagers (having entered 9 or more weigh-ins) (both $p < 0.001$)
- Absolute weight loss was associated with joining BMI ($r_s = -0.15, p < 0.001$) but for % weight change only small differences were seen (max effect size = 0.03) with no differences in weight change for high engagers between different baseline BMI categories ($p > 0.05$)
- 30.9% were in the lowest two IMD quintiles and absolute and percentage weight change did not differ across deprivation quintiles ($p > 0.05$)
- 34.9% continued to access the online support after the offer period.

Participants

27,248 adults (5.3% males) with mean age 41 years who joined Slimming World Online via Public Health England's 'Better Health' campaign.

Research Team

Slimming World research team

Reference

Toon, J., Geneva, M., Sharpe, P., Lavin, J., Bennett, S. E., Avery, A. (2022). Weight loss outcomes achieved by adults accessing an online programme offered as part of Public Health England's 'Better Health' campaign. *BMC Public Health* 22, 456.

Date

2022

Impact of COVID-19 on health-related behaviours, well-being and weight management

Aim

To assess the impact of Covid-19 on health-related behaviours, well-being and weight management.

Summary

- During a 12-month longitudinal study, a sample of members and representatives from the general population completed a series of surveys examining health-related behaviour changes over time
- One survey (completed six months into the study in April-May 2020) coincided with COVID-19 lockdown restrictions in the UK. Questions were added to the survey to assess how the COVID-19 situation had affected participants weight, health, wellbeing, diet, and lifestyle behaviours
- Between the baseline and 6-month surveys, Slimming World members achieved a mean weight loss of 7.7% and a change in mean BMI of -3.0kg/m²
- More members had increased physical activity at the six-month survey compared to the general population (25.2% vs 17.0%; p <0.05) and members reported eating significantly more portions of fruit and vegetables than the general population (6.2 vs 3.7; p < 0.05)
- Other health-related behaviour changes were made upon joining Slimming World and maintained at six months, including having sugary drinks and fatty foods significantly less often, and cooking from scratch significantly more often than the general population
- 59.3% of members and 64.5% of the general population reported finding managing their weight 'difficult' during COVID-19 lockdown
- Analysis of open-ended survey questions assessing these difficulties highlighted four key themes for members and the general population:
 - 1 Harder to access healthier food options
 - 2 More time at home impacting negatively on food choices
 - 3 Emotional impact of lockdown - negatively affecting food choices or ability to prioritise weight management
 - 4 Changes to physical activity levels – increased for some while decreased for others.



Participants

222 new adult members, who joined Slimming World between 03/10/19 and 07/11/19, and representative samples of non-members from the UK general population who were not actively managing their weight with a commercial organisation.

Research Team

Slimming World research team

Reference

Avery, A., Toon, J., Kent, J., Holloway, L., Lavin, J., Bennett, SE. (2021). Impact of COVID-19 on health-related behaviours, well-being and weight management. BMC Public Health, 21:1152.

Date

2021

Healthy eating and lifestyle in pregnancy (HELP): a cluster randomised trial to evaluate the effectiveness of a weight management intervention for pregnant women with obesity on weight at 12 months postpartum

Aim

To evaluate the effectiveness of Slimming World for pregnant women with obesity.

Summary

- The Slimming World group was hosted within the Maternity Unit and co-delivered by a Slimming World Consultant and a midwife
- The intervention was offered during pregnancy and for the first 6 weeks post-partum
- The primary outcome was weight change at 12 months post-partum
- Healthy eating score was calculated using the Dietary Instrument for Nutrition Education (DINE)
- Alcohol intake was assessed using the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C)
- Despite women in the intervention group having a higher mean BMI at baseline (37.9 vs. 36.5kg/m²), the study found that they were on average an extra 1.5kg lighter at 12 months post-partum but this difference was not statistically significant
- However, a third (32.3%) of the women who had been randomised to the control group attended community SW groups in the post-partum period which may have affected the findings
- The Slimming World group had an improved healthy eating score (3.08, 95% CI 0.16 to 6.00, $p < 0.04$), improved dietary fibre score (3.22, 1.07 to 5.37, $p < 0.01$) and lower levels of risky drinking at 12 months postpartum compared to the control group (OR 0.45, 0.27 to 0.74, $p < 0.002$).

Participants

598 women, between 12- and 20-weeks' gestation and with a BMI ≥ 30 kg/m², from 20 maternity units across England & Wales were randomised to either a bespoke Slimming World group or to standard care.

Research Team

This research was led by the Cardiff Trials Unit and the Principal Investigator, Professor Sharon Simpson. Dr Amanda Avery, on behalf of Slimming World, was part of the Trial Working group. The study was funded by the National Prevention Research Initiative (NPRI).

Reference

Simpson, S.A., Coulman, E., Gallagher, D. *et al.* Healthy eating and lifestyle in pregnancy (HELP): a cluster randomised trial to evaluate the effectiveness of a weight management intervention for pregnant women with obesity on weight at 12 months postpartum. *Int J Obes* 45(8), 1728–1739 (2021). <https://doi.org/10.1038/s41366-021-00835-0>

Date

2021

Free-Living Energy Balance Behaviours Are Associated with Greater Weight Loss During a Weight Loss Program

Aim

To assess whether changes in physical activity and eating behaviours were associated with weight loss.

Summary

- Weight was measured at baseline, and again during weeks 2 and 14 along with body composition
- Level and intensity of physical activity, measured using a SenseWear Armband, and food intake, determined via weighed food diaries, were captured for seven consecutive days at weeks 3 and 12
- Hierarchical multiple regression analyses examined whether early (3week time-point), and late (12week time-point), changes in physical activity and eating behaviours were associated with weight loss
- The differences in behaviour between those who achieved a clinically significant weight loss (CWL; $\geq 5\%$ WL) or non-clinically significant weight loss (NWL; $\leq 3\%$ WL) were compared
- The energy density of food consumed [$\beta = 0.45$, $p < 0.001$] and vigorous physical activity [$\beta = -0.30$, $p < 0.001$] early in the intervention significantly predicted percentage weight change at 14 weeks
- Change in light [$\beta = -0.81$, $p < 0.001$], moderate [$\beta = -1.17$, $p < 0.001$] and vigorous physical activity [$\beta = -0.49$, $p < 0.001$], total energy expenditure [$\beta = 1.84$, $p < 0.001$], and energy density of food consumed [$\beta = 0.27$, $p = 0.01$] (regression model 2) also significantly predicted percentage weight change at 14 weeks.

Participants

80 females (mean age: 42.0 ± 12.4 years) with overweight or obesity (BMI: 34.1 ± 3.62 kg/m²) completed a 14-week weight management programme (Slimming World or NHS Choices).

Research Team

This research was led by the University of Leeds and represents secondary data analysis of the Solutions for Weight through Investigating the Psychology of Satiation and Satiety (SWIPSS) study, funded by Slimming World.

Reference

Myers A, Camidge D, Croden F, Gibbons C, Stubbs RJ, Blundell J, Finlayson G and Buckland N (2021) Free-Living Energy Balance Behaviors Are Associated with Greater Weight Loss During a Weight Loss Program. *Front. Nutr.* 8:688295. doi: 10.3389/fnut.2021.688295.

Date

2021

Evaluation of a weight management service adapted to provide continued support during COVID-19 restrictions

Aim

To provide an evaluation of the effectiveness of the adapted, remotely delivered Slimming World service during the COVID-19 pandemic by monitoring outcomes of members who enrolled into the programme via a 6-week discounted membership offer, as part of a national Public Health England 'Better Health' campaign.

Summary

- 1,733 attended a mixture of in-person and virtual groups and 202 people attended virtual sessions only
- Mean age of 42.6 ± 12.8 years and a joining BMI of 34.6 ± 7.0 kg/m², with 6.6% male
- Mean weight loss of all participants was 3.3 ± 2.4 kg representing a 3.5% weight loss at six weeks
- Men lost slightly more weight than women (3.9% v. 3.5%)
- Participants attending \geq five of six weekly sessions ($n = 1,391$) lost 3.8 ± 2.4 kg or 4.0% body weight
- More than one in four (27%) members lost $\geq 5\%$ body weight in the six weeks
- Weight change was similar across age, BMI categories and socioeconomic status
- Adapting programme delivery to provide continued behaviour change support via remote provision when needed was found to be effective in supporting weight loss, with a number of participants achieving 5% weight loss within their first 6 weeks
- These findings suggest that Slimming World's service adaptation from in-person to virtual delivery, when required, was successful.

Participants

1,935 adults who joined a Slimming World group between 12th October and 17th November 2020, via the 6-week 'Better Health' campaign offer.

Research team

Slimming World research team.

Reference

Avery, A., Toon, J., Bennett, S. E., Lavin, J. (2021) Evaluation of a weight management service adapted to provide continued support during COVID-19 restrictions. *Obes Facts* 2021;16(S1):183

Date

2021

Lifestyle information and commercial weight management groups to support maternal postnatal weight management and positive lifestyle behaviour: the SWAN feasibility randomised controlled trial

Aim

To assess the feasibility of conducting a definitive randomised controlled trial to determine the clinical effectiveness and cost-effectiveness of lifestyle information and access to a commercial weight management group focusing on self-monitoring, goal-setting and motivation to achieve dietary change commencing 8–16 weeks postnatally to achieve and maintain weight management and positive lifestyle behaviour.

Summary

- For this feasibility trial, women were recruited from a maternity unit in London
- Women were eligible for the study if they were classified as having overweight or obesity ($\text{BMI} \geq 25 \text{ kg/m}^2$) at their booking antenatal appointment, or a normal BMI ($18.5\text{-}24.9 \text{ kg/m}^2$) at booking, but gained excessive gestational weight by week 36 of pregnancy
- Women enrolled on the trial were randomised to receive either standard care plus 12 Slimming World sessions commencing 8-16 weeks postnatally ($n=98$), or standard care only ($n=95$)
- Of the 98 women offered a Slimming World referral, 46 (47%) attended one or more Slimming World sessions
- Women who attended 10+ Slimming World sessions (19/46, 41%) had significantly greater weight loss at 12 months than women who attended nine or fewer sessions or those in the control group
- There was no evidence of differences between groups in dietary intake, physical activity, body image, sleep patterns, tobacco smoking, self-esteem or health status (measured using the EQ-5D)
- At 6 months, the women attending Slimming World were significantly more likely to be drinking diet or sugar-free squash, and significantly less likely to be drinking alcohol compared to the women in the control group.

Participants

193 women with overweight or obesity at their booking antenatal appointment or excessive gestational weight gain by week 36 of pregnancy.

Research Team

Collaboration of research teams across University of Warwick, University of Surrey, University of Nottingham, Public Health London Borough of Lambeth, University of London, King's College London and Guy's and St Thomas' NHS Foundation Trust.

Reference

Bick, D., Taylor, C., Bhavnani, V., Healey, A., Seed, P., Roberts, S., Zasada, M., Avery, A., Craig, V., Khazaezadah, N., McMullen, S., O'Connor, S., Oki, B., Ntim, E.O., Poston, L., Ussher, M. (2020) Lifestyle information and commercial weight management groups to support maternal postnatal weight management and positive lifestyle behaviour: the SWAN feasibility randomised controlled trial. *BJOG: An International Journal of Obstetrics & Gynaecology*.

Date

2020

A longitudinal investigation assessing self-reported changes in health-related behaviours and wellbeing of members of Slimming World: 3-month data

Aim

This study assessed diet and lifestyle behaviours of Slimming World members 0-4 weeks after joining (T1) and 3 months after joining (T2) and compared these findings to samples of the general population. At T1, retrospective data was collected to assess member's behaviours before joining Slimming World (T0).

Summary

- From T1 to T2, average weight loss of Slimming World members was 4.7%. In total, 48.2% of members lost a clinically significant amount of weight ($\geq 5\%$ of their starting bodyweight)
- In 3-months, 28.3% of members reported improvements in their general health. Greater weight loss was associated with greater improvements in health
- The mean number of portions of fruit and vegetables members were consuming increased ($p < 0.001$) from before joining to very soon after joining Slimming World (T0: 4.3 vs T1: 6.6) and remained greater ($p < 0.001$) than before joining intakes at 3-months (T2: 6.2)
- The mean number of weekly units of alcohol consumed by members decreased ($p < 0.01$) from T0 (14.3) to T1 (10.6) to T2 (9.4) and was lower than non-members at T1 and T2 ($p < 0.05$)
- Mean weekly sedentary time of members decreased from 19.1 hours per week to 17.9 hours per week in the 3 months between T1 and T2.

Participants

545 new members who joined Slimming World between 03/10/19 and 07/11/19, and representative samples of non-members from the UK general population who were not actively managing their weight with a commercial organisation.

Research Team

Slimming World research team

Reference

Kent, J., Toon, J., Bennett, SE. (2021). A longitudinal investigation assessing self-reported changes in health-related behaviours and wellbeing of members of Slimming World: 3-month data. *Journal of Human Nutrition and Dietetics*, 34(S1):33. Poster also presented at the European and International Congress on Obesity (2020).

Date

2020

Referral to Slimming World in UK Stop Smoking Services (SWISS) versus stop smoking support alone on body weight in quitters: results of a randomised controlled trial

Aim

This study aimed to investigate whether adding in support for weight management, alongside providing cessation support for those wanting to quit smoking would result in decreased weight gain.

Summary

- Weight gain is a common concern and often seen as a negative by-product of stopping smoking
- Change in weight (the primary analysis) was only assessed in long-term abstainers (13 treatment, 14 control)
- Among abstinent participants, there was a steady mean weight gain over time in the control group, whereas weight reduced at each time point in the treatment group. At 4-week follow up there was a -1.2kg difference between intervention and control group; at 12 weeks -2.3kg difference; -3.1kg at 26 weeks
- Looking at overall abstinence levels, at each time point a greater percentage of the treatment group were abstinent
- 12-week referral to Slimming World plus usual stop smoking support achieved significantly less weight gain than usual stop smoking support alone, and in fact supported small weight loss
- These results suggest that referral to Slimming World, at the same time as a quit attempt, can prevent cessation related weight gain without negatively impacting on a quit attempt.

Participants

76 adults, 37 referred to Slimming World and 39 in the control arm. Participants were daily smokers and had a BMI $\geq 23\text{kg/m}^2$.

Research Team

Externally conducted research by D. Lycett, from Coventry University; P. Aveyard, and A. Farmer from the University of Oxford; A. Lewis and M. Munafo from the University of Bristol.

Reference

Lycett, D., Aveyard, P., Farmer, A., Lewis, A. & Munafo, M. (2020) Referral to Slimming World in UK in UK Stop Smoking Services (SWISS) versus stop smoking support alone on body weight in quitters: results of a randomised controlled trial. *BMJ Open* 10:e032271.

Date

2020

Changes in dietary patterns when females engage in a weight management programme and their ability to meet SACN's fibre and sugar recommendations.

Aim

This analysis aimed to explore changes in dietary patterns soon after joining Slimming World, with a particular focus on the ability to meet the Scientific Advisory Committee for Nutrition's (SACN) 2015 fibre and free sugar recommendations.

Summary

- Secondary analysis of Food Frequency Questionnaire data, which collected dietary information at two time points: before (reported retrospectively) and during Slimming World's programme, was analysed. Those included in the principal analysis had a median attendance of 3.3 ± 3.2 weeks
- After engagement with the Slimming World programme:
 - Mean fibre intake significantly increased from $23.4 \pm 19.8\text{g/day}$ to $32.4 \pm 16.5\text{g/day}$
 - Free sugar intake significantly decreased from $12.6 \pm 4.6\%$ to $8.7 \pm 3.6\%$ of total dietary energy
 - Members were consuming significantly more fish, fresh fruit and vegetables and wholegrains and significantly less processed meat, cheese, confectionary, crisps, cakes and biscuits.
 - Looking at dietary patterns and association with weight loss, those with a diet low in high fat, salt and sugar (HFSS) products lost significantly more weight than high HFSS product consumers. These members were also more likely to be consuming breakfast compared to high HFSS product consumers.
- This study supports previous findings demonstrating that Slimming World helps members to increase their fibre intake and reduce their intake of free sugars, in line with current dietary advice.

Participants

325 female Slimming World members (age 42.6 years) who had recently become members of Slimming World

Research Team

Externally conducted by L Strathearn, HK Kacar & A Avery at the University of Nottingham.

Reference

Strathearn, L., Kacar, H.K., & Avery, A. (2020). Changes in dietary patterns when females engage in a weight management programme and their ability to meet Scientific Advisory Committee on Nutrition's fibre and sugar recommendations. *Public Health Nutrition* 23(12):2189-2198.

Date

2020

Ensuring a healthy approach to long-term weight management: Review of the Slimming World programme

Aim

The first aim of this study was to assess whether Slimming World is consistent with current nutrient and food-based recommendations. The second aim was to assess whether Slimming World members are meeting these recommendations in the 'real world'.

Summary

- A three-stage approach included:
 - 1 A review of Slimming World's dietary approach (Food Optimising) resources
 - 2 Nutritional analysis of Slimming World's example menu plans
 - 3 Dietary analysis of 40 7-day weighed food diaries completed by 37 adult female Slimming World members.
- The review found that Slimming World's dietary approach reflects many of the main messages in the UK's Eatwell Guide and generally accepted healthy eating advice
- Nutritional analysis of the example menu plans developed by Slimming World suggests that a Slimming World member following any one of these 7-day menus could meet many of the UK dietary recommendations that were analysed in this review
- Food diary analysis suggests the Slimming World study sample, on average, met dietary recommendations for total fat, saturated fat, calcium, salt, and 5-A-DAY
- The study sample did not meet the recommendations for intakes of fibre and free sugars and oil-rich fish, but these were closer to recommendations than the average UK adult female population. High intakes of red and processed meat and alcohol were observed amongst some of the study sample
- This review helped to inform refinements to the Slimming World dietary approach.

Participants

Food diaries from 37 newly enrolled female Slimming World members with overweight or obesity, aged 18-65 years.

Research Team

Externally conducted review by the British Nutrition Foundation.

Reference

Coe, S., Spiro, A., Lockyer, S., & Stanner, S. (2019). Ensuring a healthy approach to long-term weight management: Review of the Slimming World programme. *Nutrition Bulletin*, 44(3), 267-282.

Date

2019

Evaluating outcomes in commercial weight programs: methodological challenges and pragmatic solutions

Aim

This analysis compared weight loss outcomes from the most recent audit of Slimming World's community weight management program.

Summary

- Weight outcomes at 12, 26 and 52 weeks were examined using different methods including last and baseline observation carried forward, an analysis of those attending 75% of sessions (high attenders) and of those who recorded a measure at the given time point (Time point attenders)
- Both lapsing and intermittent patterns of attendance were observed and of those with missing data at 12-weeks, 34.7% had data recorded at either the week 11 or week 13 time point
- For the whole cohort, 40.1% of participants were classed as "timepoint attenders" and 38.6% were classified as "high attenders" at 12-weeks
- For "high attenders", 15.9% were missing data at the 12-week point but still attended 9 out of the 12 sessions and 24.8% were missing a weight measurement at the 52-week point but still attended 39 sessions within the year
- Weight outcomes at 12, 26 and 52 weeks varied depending on the reporting method used (see Table 1).

Participants

Data from 1,094,676 self-funding members joining in 2016.

Research Team

Slimming World research team

Reference

Toon, J., Bennett, SE., Roberts. KE, Lavin, J. (2019) Evaluating outcomes in commercial weight programs: methodological challenges and pragmatic solutions. *Presented at Obesity Week.*

Date

2019

Table 1: Percentage weight change by analysis method at each time point

	12 Weeks	26 Weeks	52 Weeks
BOCF	-3.8%	-3.3%	-2.1%
LOCF	-5.0%	-5.9%	-6.0%
Time Point Attenders	-6.6%	-9.9%	-12.5%
High Attenders	-7.7%	-13.3%	-14.1%

Levels of engagement: a predictor of long-term weight loss in over 1 million adults attending a community weight management programme

Aim

The aim of this analysis was to investigate the association between attendance and long-term weight outcomes.

Summary

- Mean weight change and number of sessions attended at 3 months was $-5.0 \pm 3.6\%$ and 7.2 ± 3.7 respectively
- At 3 months, a generalised additive model showed greater weight loss as number of sessions attended increased for both men and women
- After adjusting for gender, start BMI and age within the regression model, level of engagement was found to be a predictor of weight loss at 3 months ($F(4,1094671) = 145,600, p < 0.001$), with an adjusted R^2 of 0.46
- Mean weight change at 12 months, was -6% and level of attendance was found to be a significant predictor of weight loss, for example, with those attending 75% of sessions showing a mean weight change of -14.1%
- Overall, men achieved significantly greater weight loss than women, however there was no significant difference between those men and women who attended fewer (between 50-75%) sessions. Furthermore, the effect size for those attending $\geq 75\%$ of sessions was low, suggesting there was little meaningful difference in outcomes by gender ($f^2 < 0.02$)
- Logistic regression showed that the odds of achieving 10% weight loss at 12 months were 1.6 times higher for those who attended at least 50% of weekly sessions in the year.

Participants

Data from 1,094,676 self-funding members who joined Slimming World in 2016.

Research Team

Slimming World research team

Reference

Toon, J., Bennett, S.E., Roberts, K.E., Avery, A., Pallister, C., Lavin, J. (2019) Levels of engagement: a predictor of long-term weight loss in over 1 million adults attending a community weight management programme. *Presented at the European Congress of Obesity.*

Date

2019

Longer term weight outcomes following referral to a lifestyle weight management programme in patients with high BMIs

Aim

The aim of this study was to investigate the weight loss outcomes and changes in dietary behaviour in patients referred to Slimming World across different BMI ranges.

Summary

- 27.0% of patients had a BMI of 40kg/m² or above
- Mean weight change at the end of the 12-week referral period was 5.7% (UCI: -5.6%, LCI: 5.7%). BMI category did not significantly predict weight loss, with the "40+" BMI group showing a mean weight change of -5.5% (UCI: -5.4% LCI: -5.6%)
- 54.2% members continued to attend after the initial referral period
- At 12 months, the 40+ BMI group showed the greatest mean weight change of -7.8% (UCI: -7.6%, LCI: -8.0% all p<0.05)
- Attendance was strongly associated with weight loss and those attending 50%+ sessions were 1.6 times for more likely to achieve 10% weight loss at 12 months
- A follow-up questionnaire was distributed at the end of the 12-week referral period with a 29% response rate. The survey showed all groups showed changes in dietary behaviours including drinking less sugary drinks, eating less processed foods and increasing fruit and vegetable consumption and cooking from scratch. These changes were greater in the higher BMI groups
- This emphasises the importance of encouraging participants to continue engaging with the programme to support them in achieving greater weight loss goals.

Participants

Data from 27,560 patients referred to Slimming World in 2016.

Research Team

Slimming World research team

Reference

Toon, J., Bennett, SE., Avery, A., Lavin, J. (2019) Longer term weight outcomes following referral to a lifestyle weight management programme in patients with high BMIs. *Presented at Obesity Update and European Congress on Obesity.*

Date

2019

Craving control is the strongest psychological predictor of overconsumption in response to high energy density meals in women engaged in weight loss

Aim

This study examined psychological predictors of overconsumption in response to HED meals during a weight loss attempt.

Summary

- Using a parallel design, 96 women newly enrolled in Slimming World or NHS Live Well were recruited for a 14-week trial
- Body weight and composition was measured at 0 and 14 weeks
- After a two-week run-in period, resting metabolic rate (RMR) and psychometric eating behaviour traits were assessed (cognitive restraint, disinhibition, hunger, flexible, rigid, binge eating and craving control).
- On one day during the 14 weeks, participants attended the laboratory and were provided with High Energy Dense (HED) meals. These consisted of a fixed breakfast and lunch providing 50% of estimated individual daily energy requirements [estimated at $1.4 \times$ RMR] followed by *ad libitum* evening meal and snacks (>2.5 kcal/g). The percentage difference between total daily energy intake and estimated daily energy requirements determined level of overconsumption
- On average, participants overconsumed by $33 \pm 5\%$ (550 ± 88 kcal; 95% CI: 375, 725).
- A low craving control was the only psychometric trait that significantly predicted overconsumption ($R^2=0.20$, $P=0.04$)
- Overconsumption on the HED laboratory day ($\beta=0.23$, $P=0.005$) was a significant predictor of percentage weight change at week 14.

Participants

96 females (mean age: 41.9 ± 11.4 years) with a BMI of $\geq 25 \text{ kg/m}^2$ (BMI: $34.1 \pm 3.62 \text{ kg/m}^2$) newly enrolled in Slimming World or NHS Live Well.

Research Team

This research was led by the University of Leeds and represents secondary data analysis from the Solution for Weight: Investigating the Psychology of Satiety and Satiation (SWIPSS) study, funded by Slimming World.

Reference

Buckland, N., Camidge, D., Croden, F., Lavin, J., Stubbs, R.J. & Finlayson, G. (2019). Craving control is the strongest psychological predictor of overconsumption in response to high energy density meals in women engaged in weight loss. *Obesity Abstracts* (2019) 1 P30 | DOI: [10.1530/obabs.01.P30](https://doi.org/10.1530/obabs.01.P30).

Presented as a poster at UKCO 2019.

Date

2019

The benefits of non-surgical weight management on weight and glycaemic control in people with complex type 2 diabetes: A primary care service evaluation of clinical outcomes at 12 months

Aim

This study evaluated weight and health outcomes in patients referred by a diabetes specialist to Slimming World.

Summary

- Patients with type 2 diabetes were referred to a Slimming World group that was created for the purpose of this study and run by an experienced Slimming World Consultant at the GP surgery. The referral ran for an initial 12 weeks, then some patients (n=33) took up the offer of a second referral to attend a group already running in the local community
- At 12 months, patients achieved an average weight loss of 5.5%. BMI reduced from 37.7 to 35.9kg/m²
- On average, at 12 months, HbA1c reduced from 62.8 to 55.0mmol/mol
- Some patients were able to reduce or stop their diabetes medication. Small, but non-significant, changes were seen in blood pressure and cholesterol levels
- Those completing a post intervention questionnaire (n=20) reported healthy behaviour changes to their diet and activity habits
- Despite type 2 diabetes being a chronic, progressive condition, referral to Slimming World was shown to be successful in supporting patients to improve their diet and activity levels, lose a clinically significant amount of weight and improve their glycaemic control, with some also able to reduce their diabetes medication.



Participants

69 patients with type 2 diabetes (47 females, 22 males). Average age 60.5 years.

Research Team

Slimming World research team plus J Griffin and J Stokes from Audley Health Centre, Stoke on Trent.

Reference

Avery A, Griffin J, Stokes J, Coulton R, Pallister C, Lavin J. The benefits of non-surgical weight management on weight and glycaemic control in people with complex type 2 diabetes: A primary care service evaluation of clinical outcomes at 12 months. *Endocrinol Diabetes Metab.* 2019;2(2):e00045. Published 2019 Feb 8. doi:10.1002/edm2.45.

Date

2019

Need for clear guidance on healthy weight management in pregnancy

Aim

This article discusses maternal obesity and excessive weight gain in pregnancy along with the associated risks.

Summary

- It also highlights the lack of standard weight monitoring in pregnancy in the UK and the current lack of clarity around what level of weight gain is optimal during pregnancy
- Views of midwives and women are explored looking at worries about weight during pregnancy, the challenges of discussing weight during pregnancy and how midwives can be better supported in their roles
- In this article we call for more investment to provide midwives with the tools, UK specific guidance, and training they need so they can consistently offer women the best possible support and care. This is especially pressing because of the potentially serious complications that can arise in pregnancy as a result of excess or inadequate weight gain and women being overweight or obese
- There is currently a lack of UK specific guidance on healthy weight management in pregnancy. Weight is an issue that concerns many women during pregnancy and midwives don't always feel confident/able to support women fully with this.

Participants

N/A

Research Team

C Pallister (Slimming World) & H Rogers (Royal College of Midwives).

Reference

Pallister, C. & Rogers, H. (2019). Need for clear guidance on healthy weight management in pregnancy. *Perspectives in Public Health* 139(1).

Date

2019

Women with a low-satiety phenotype show impaired appetite control and greater resistance to weight loss.

Aim

This trial compared weight loss outcomes over 14 weeks in women showing low- or high-satiety responsiveness (low- or high-satiety phenotype (LSP, HSP)) measured by a standardised protocol.

Summary

- This secondary analysis was conducted as part of a controlled trial examining the effects of low energy dense (LED) versus high energy dense (HED) meals on appetite, energy intake and control over eating in the laboratory and during a weight loss programme (Slimming World or standard care [NHS choices])
- This analysis compared weight outcomes over 14 weeks in women characterised as low or high satiety phenotype (LSP or HSP). Food intake, food preferences and appetite control were also compared
- Participants followed Slimming World or standard care for 14 weeks and completed four probe days at the University of Leeds on weeks 3 and 4, and 12 and 13. On probe days, participants consumed a fixed, calorie-matched HED or LED breakfast and lunch, and an ad libitum evening meal and snacks. Women were categorised as LSP or HSP according to satiety quotient scores
- Results showed that the LSP group lost less weight and had smaller reductions in waist circumference compared to the HSP group
- The LSP group showed greater preferences for HED foods and consumed more calories from snacks compared to the HSP group under HED conditions. Under LED conditions, energy intake from snacks did not differ between phenotypes
- The LSP group reported less control over eating and more difficulty with programme adherence.

Participants

96 women with a BMI $\geq 25\text{kg/m}^2$, 49 of whom attended Slimming World during the study period and 47 received standard care.

Research Team

Researchers at the University of Leeds and the Slimming World research team.

Reference

Buckland, N. J., Camidge, D., Croden, F., Myers, A., Lavin, J. H., Stubbs, Blundell, J. E., Finlayson, G. (2018). Women with a low-satiety phenotype show impaired appetite control and greater resistance to weight loss. *British Journal of Nutrition*, 122 (8): 951-959.

Date

2019

Behaviour change and weight outcomes in patients referred to a community weight management programme

Aim

The aim of this analysis was to understand changes in behaviour and weight following referral to Slimming World's community weight management programme.

Summary

- Slimming World on Referral provides patients with a cost-effective lifestyle weight management programme, typically in 12-week blocks. The service also measures lifestyle behaviours during the first and last week of referral
- Data from 21,149 patients who were referred to Slimming World for an initial 12-weeks and completed an evaluation questionnaire at the end of their referral (20.0% response rate) were collated
- Mean BMI and age upon joining was 37.3 ± 6.2 kg/m² and 50.4 ± 13.6 years respectively. 58% of patients had a BMI of 35kg/m² or greater and 27.2% had a BMI of 40 kg/m² or greater
- Mean weight change at the end of the referral period was $-6.6 \pm 3.5\%$, 67.2% of patients achieved a weight loss of $\geq 5\%$ and 15.9% of patients achieved a weight loss of $\geq 10\%$
- A multivariate model explained 45% of the variance in weight loss over the referral period ($F(10,2477)=205.1$, $\text{adj}r^2=0.45$) with number of sessions attended and weight loss within the first week explaining 30% and 10% of the variance in weight loss respectively
- Data collected at the end of the referral period showed an increase in the proportion of patients cooking from scratch (56.7%), eating less takeaways/fast-food (65.7%) and eating less processed foods (62.6%) and the majority of patients also reported that Slimming World improved the way they feel about themselves. The majority of patients also reported that attending Slimming World had improved the way they felt about themselves (95.2%) and 89% of patients reported they were either 'satisfied' or 'very satisfied' with the service Slimming World provided
- Patients were less likely to watch television (54.3%) or avoid moderate activity (49.6%) and were more likely to go out for walks (57.0%)
- Patients were less likely to watch television (54.3%) or avoid moderate activity (49.6%) and were more likely to go out for walks (57.0%)
- Patients referred to Slimming World achieved significant weight loss and reported several positive lifestyle behaviour changes including eating a healthier, balanced diet and increasing physical activity.

Participants

21,149 (14.9% male) patients referred to Slimming World for 12-weeks between 2014 and 2018.

Research Team

Slimming World research team

Reference

Toon, J., Bennett, SE., Roberts, KE, Lavin, J. (2019) Behaviour change and weight outcomes in patients referred to a community weight management programme. *Presented at Association for Study of Obesity and UK Society of Behavioural Medicine.*

Date

2019

Behaviour change and weight outcomes in patients across different socioeconomic backgrounds referred to a community weight management programme in Wales

Aim

To investigate outcomes of patients referred to Slimming World via the Rhondda Primary Care Cluster between 2018 and 2019.

Summary

- Patients attended a mean of 9.3 ± 2.9 (77.5%) sessions over the 12-week referral period and achieved a mean weight change of $-5.3 \pm 3.5\%$. Weight loss was similar for men and women
- Those attending at least 10 of the 12 sessions (61.5%) achieved a mean weight change of $-6.7 \pm 3.3\%$
- There was a difference in the proportion of patients across levels of deprivation ($\chi^2 = 189.75$, $df = 7$, $p < 0.001$) with 38.7% living in the 10% most deprived areas. Weight loss did not differ significantly by level of deprivation ($p > 0.05$) and those living in the 10% most deprived areas showed a mean weight change of -5.2%
- Positive behaviour changes were self-reported via a post-referral questionnaire, and included eating less take aways/fast food and drinking less sugary drinks
- Out of 45 patients reporting on physical activity, 31 (69%) said they had become more active following the referral
- The majority of patients also reported that attending Slimming World had improved the way they felt about themselves (95.2%) and 89% of patients reported they were either 'satisfied' or 'very satisfied' with the service Slimming World provided
- Slimming World on Referral reached adults across different socioeconomic backgrounds in the Rhondda region, supporting them to adopt healthier dietary and physical activity behaviours and to successfully lose weight.

Participants

195 adults (mean age 48.5yrs, mean BMI 43.7 kg/m², 15.4% male) referred to Slimming World from the Rhondda area.

Research Team

Slimming World research team

Reference

Bennett, S.E., Toon, J., Roberts, K., Lavin, J. (2019) Behaviour change and weight outcomes in patients across different socioeconomic backgrounds referred to a community weight management programme in Wales. *Presented at Public Health Wales*

Bennett, S.E., Toon, J., Coulton, R., Sharpe, P., Jacob, C., Lavin, J. (2019) Slimming World on Referral - Rhondda Cluster. *Presented at the National Primary Care Conference.*

Date

2019

Clinically significant weight loss across socio-economic backgrounds for patients referred to a tier-2 weight management programme

Aim

To examine the outcomes of adults referred to Slimming World by level of deprivation using the Index of Multiple Deprivation.

Summary

- Adults were referred from 78 schemes across England with 6.6% and 11.1% of adults living within the most and least deprived areas (decile 1 and 10 respectively)
- Mean weight change was -5.6% (UCI: -5.5%, LCI: -5.7%) and ranged from -5.1% for the most deprived to -5.9% for the least deprived deciles
- 65.4% of patients were classified as high attenders (attending 75% or more sessions), with a mean weight change of -7.1 (UCI: -7.0, LCI: 7.2%) at the end of the referral period
- At 3 months, modelling showed deprivation was a significant predictor of weight loss with those in the most deprived deciles losing slightly less weight, although this only explained less than 1% of the total variance, with attendance explaining 38.3%. At 12 months, deprivation was no longer a significant predictor
- 14,972 patients continued to attend the service after their initial referral and showed a mean weight change of -10.6 ±3.5%
- The odds of attending after the initial referral were slightly higher in the least deprived areas versus the most deprived areas. For example, 47.9% and 51% of those in deciles 1 & 2 continued to attend versus 56.6% and 57.7% for deciles 9 and 10
- A post-intervention questionnaire showed positive changes in dietary behaviour (e.g., eating more fruits and vegetables, cooking meals from scratch more often) were similar across levels of deprivation
- There was no significant association between deprivation and barriers to attending sessions however, a greater proportion of patients in more deprived deciles reported childcare as a barrier ($\chi^2=12.55$, $df=9$, $p<0.05$)
- Referral to Slimming World is effective in supporting patients, traditionally seen as 'hard to reach', to achieve clinically significant weight loss and support individuals to develop healthier lifestyle behaviours.

Participants

Data from 27,560 (15.6% male) adults referred in 2016.

Research Team

Slimming World research team

Reference

Toon, J., Bennett, SE., Roberts, KE., Avery, A., Pallister, C., Lavin, J. (2019) Clinically significant weight loss across socio-economic backgrounds for patients referred to a tier-2 weight management programme. *Presented at British Psychology Society Annual Conference and at UK Congress on Obesity.*

Date

2019

Effect of adding a compassion focused intervention on emotion, eating and weight outcomes in a commercial weight management programme

Aim

This study examined whether adding a compassion-focused light touch digital intervention into a commercial multicomponent weight management programme improved eating behaviour, self-evaluation and weight related outcomes.

Summary

- Participants were allocated to the intervention or control arms on a whole-group basis, depending on the arm to which their Slimming World Consultant was allocated. The control arm received their regular Slimming World support; the intervention arm received the same Slimming World support, but was lead by Consultants who had received 2 days of training on compassion focused exercises – their group discussions were structured around concepts of Compassion Focused Therapy (CFT) and the content of CFT online video exercises that participants accessed throughout the trial
- Questionnaires were completed at baseline, 3, 6 and 12 months
- The compassion intervention significantly reduced binge eating symptomatology and dropout, and improved psychological adjustment and self-evaluation, but did not affect weight outcomes
- Compassion, self-reassurance and reductions in shame and self-criticism mediated the effect of the intervention on reductions of binge eating symptomatology
- Negative self-evaluation, binge eating symptomatology, susceptibility to hunger and eating guilt were significant predictors of dropout
- Findings suggest that compassion-based digital tools may help participants better manage binge eating symptomatology and self-evaluation in weight management interventions.

Participants

974 Slimming World members, aged 18 and above, with a BMI of 20-70kg/m².

Research team

James Stubbs, Cristiana Duarte and Sarah Scott from the University of Leeds; Paul Gilbert, Carol Stalker, Francisca Catarino and Jaskaran Basran from the University of Derby; and Graham Horgan from the Rowett Institute of Nutrition and Health.

Reference

Duarte, C., Gilbert, P., Stalker, C., Catarino, F., Basran, J., Scott, S., Horgan, G., & Stubbs, R. J. (2019). *Effect of adding a compassion-focused intervention on emotion, eating and weight outcomes in a commercial weight management programme*. *Journal of Health Psychology*, 1–16. <https://doi.org/10.1177/1359105319890019>.

Date

2019

Does a confident physical activity facilitator need to be 'sporty'? A survey of Slimming World behaviour change facilitators

Aim

Slimming World Consultants were invited to complete a survey investigating their attitudes towards physical activity/sports, and their feelings about supporting members to increase their own physical activity levels.

Summary

- The majority (79.5%) reported being physically active, but 46.6% of those did not consider themselves 'sporty'
- Most agreed that physical activity is important for their health (96.8%) and improves their mood (93.7%), while 81.2% admitted they could do more to improve their fitness
- Of those who didn't consider themselves 'sporty', most still felt knowledgeable (88.9%), confident (86.1%), motivated (81.6%), proud (81.6%), prepared (77.9%), excited (77.0%), and determined (76.6%) to facilitate increases in physical activity amongst their members
- Despite not being 'sporty', most said they were not embarrassed (86.5%) nor worried (77%) about supporting members with physical activity
- Of the 20.5% who considered themselves inactive, 83.1% still felt confident in facilitating physical activity
- Just over half of respondents (54.5%) felt that confidence in their own physical ability helped them support members with Body Magic. Additional tools that helped included giving out physical activity awards (73.3%) and resources provided by Slimming World (55.8%)
- Findings indicate that many Slimming World Consultants consider themselves physically active, but not sporty, yet are still able to confidently support others in becoming more active
- A 'non-sporty' approach can be a feasible method of facilitating increases in physical activity, particularly for those who find the prospect of physical activity daunting.

Participants

446 Slimming World Consultants (423 female, mean age 44.7 years).

Research Team

Slimming World research team

Reference

Holloway, L., Toon, J., Bennett, S.E., and Lavin, J. (2018). Does a confident physical activity facilitator need to be 'sporty'? A survey of Slimming World behaviour change facilitators. *Presented at the International Society for Physical Activity and Health Congress and Obesity Week.*

Date

2018

Supporting people with a learning disability to access mainstream Weight Management Services

Aim

To develop and pilot Easy Read resources for Slimming World members with a learning disability or difficulty.

Summary

- The resources were launched nationally in March 2019 and included an Easy Read Food Optimising guide, poster, enrolment form and A4-size food diaries
- Packs could be ordered by Slimming World Consultants for their members by phoning Head Office
- A total of 1288 (23.4%) Consultants requested 3380 Easy Read packs for members and 3325 of these requests were granted
- Requests were not granted if the member in question did not have a learning disability or difficulty
- The reasons why Consultants felt their member would benefit from an Easy Read pack were recorded. The most popular answers were: they have a specific condition (55%), they attend with a carer (16%), it's apparent from interacting with the member that they have a learning disability/difficulty (13%), they reside in supported living accommodation (7%), or they can't read or write (7%)
- When asked about the specific condition, the most common answers were; general learning difficulty (26%) or disability (21%), Down's syndrome (12%) and dyslexia (11%)
- Preliminary weight loss analyses were conducted on 2486 members and of these members, 1108 (44.6%) lost more weight in the 5 weeks after receiving the pack (an average of 3.4 lbs) than they did in the 5 weeks before receiving the pack (an average of 0.2 lbs)
- The demand for the Easy Read resources along with the evidence of improved weight losses, demonstrates that there is a need for tailored weight management information for people with learning disabilities or difficulties.

Participants

All Slimming World Consultants across the U.K. and Ireland

Research Team

Slimming World research team plus L Croot from the University of Sheffield.

Reference

Bennett, SE., Croot, L., Lovell, E., Toon, J., Holloway, L., Roberts, K., Lavin, J., (2018) Supporting people with a learning disability to access mainstream weight management services. Presented at Association for the Study of Obesity annual conference.

Date

2018

A low energy-dense diet in the context of a weight-management program affects appetite control in women with overweight and obesity

Aim

This controlled trial examined the effects of low energy dense (LED) versus high energy dense (HED) meals on appetite, energy intake and control overeating in the laboratory and during a weight management programme (Slimming World versus the NHS weight loss program (Standard Care).

Summary

- Participants followed Slimming World or Standard Care for 14 weeks and completed four probe days at the University of Leeds on weeks 3 and 4, and 12 and 13. On probe days participants consumed a fixed, calorie matched HED or LED breakfast and lunch, and an ad libitum evening meal and snacks. The order of conditions (LED vs HED) was counterbalanced on the first two probe days and reversed for the last two
- Primary outcomes included appetite, food preferences, cravings and evening meal energy intake
- During the study period, the Slimming World group lost more weight than the Standard Care group (6.2%, 5.8kg vs 3.9%, 3.3kg)
- LED meals increased sensations of fullness and reduced hunger on probe days. Total-day energy intake was 1057 \pm 73kcal less under LED conditions compared to HED ($p < 0.001$)
- Liking for LED and HED foods and wanting for HED foods were lower before lunch under LED conditions compared to HED, and liking decreased further after consuming the LED lunch
- The Slimming World group reported fewer cravings under LED compared to HED conditions ($p < 0.005$) and reported greater control overeating and more motivation to continue the programme compared to Standard Care
- Low energy dense meals improve appetite control in women attempting weight loss and likely contributed to weight loss in the Slimming World programme.

Participants

6 women with a BMI $\geq 25\text{kg/m}^2$, 49 of whom attended Slimming World during the study period and 47 who received standard care (SC).

Research Team

N J Buckland, D Camidge, F Croden, R J Stubbs, M M Hetherington, J E Blundell, G Finlayson from the University of Leeds and the Slimming World research team.

Reference

Buckland, N. J., Camidge, D., Croden, F., Lavin, J. H., Stubbs, J. R., Hetherington, M. M., Blundell, J. E., Finlayson, G. (2018). A Low Energy–Dense Diet in the Context of a Weight-Management Program Affects Appetite Control in Overweight and Obese Women. *The Journal of Nutrition*, 148: 798-806.

Date

2018

Exploring views on physical activity in Slimming World members: a collaborative survey with England Athletics' RunTogether

Aim

To explore views on physical activity in Slimming World members.

Summary

- Members were invited to take part in an online survey developed by RunTogether, which asked how much they agreed/disagreed with a series of statements relating to their thoughts and attitudes towards exercise/physical activity
- The majority reported that they feel guilty if they do not exercise (80%) and 57% felt they could do more to improve their health
- 43% found it difficult to maintain a fitness routine and 41% admitted they only exercise because they feel they should
- Most indicated a preference for physical activities that are cheap or free (78%), flexible (74%), allow them to socialise (71%) and give them an opportunity to 'zone out' (63%)
- Nearly all participants reported that, by engaging in exercise, they want to improve or maintain their fitness (96%), lose weight or change their body image (95%) and feel good about themselves (94%)
- 58% said they did not need another person to motivate them to engage in physical activity and 33% did not want a competitive element
- Despite 68% stating that they hoped to challenge themselves, 65% did not want activities with a physical challenge
- Results suggest that Slimming World members hope physical activity will help improve their health, fitness, weight control, body shape, and help them feel good. They prefer cheap and flexible activities, allowing them to socialise or have time for themselves, whilst providing a personal challenge without being too physically challenging.

Participants

3359 Slimming World members.

Research Team

Slimming World research team

Reference

Holloway, L., Bennett, S.E., and Lavin, J. (2018). Exploring views on physical activity in Slimming World members: a collaborative survey with England Athletics' RunTogether. Presented at the *International Society for Physical Activity and Health Congress and the UK Society for Behavioural Medicine Congress*.

Date

2018

Postnatal lifestyle intervention for overweight women with previous gestational diabetes: a randomized controlled trial

Aim

To determine the impact of a postnatal lifestyle intervention programme, which included referral to Slimming World for women with a BMI over 25kg/m² with previous gestational diabetes mellitus.

Summary

- This multicentre, controlled trial randomised 60 postnatal women into two groups (29 intervention; 31 control)
- The intervention comprised a 1-hour educational programme (including GDM education, healthy eating and physical activity advice and tips for self-monitoring weight), a free 3-month referral to Slimming World, a pedometer, and structured telephone and text support, in addition to usual care. The control group received usual care only. Those attending Slimming World achieved significantly greater weight loss at 6 months compared to the control group (3.9 ± 7.0 kg vs 0.7 ± 3.8 kg (p = 0.02))
- Blood glucose levels did not significantly differ
- Bodily pain was significantly reduced amongst those attending Slimming World (p = 0.007).

Participants

60 postnatal women with overweight and previous gestational diabetes mellitus (GDM).

Research Team

Research team at the Centre for Public Health (Queen's University, Belfast).

Reference

Holmes, V.A., Draffin, C.R., Patterson, C.C., Francis, L., Irwin, J., McConnell, M., Farrell, B., Brennan, S.F., McSorley, O., Wotherspoon, A.C. and Davies, M., (2018) Postnatal lifestyle intervention for overweight women with previous gestational diabetes: A randomized controlled trial. *The Journal of Clinical Endocrinology & Metabolism*, 103(7): 2478-2487.

Date

2018

Making every contact count: the potential role of healthy living pharmacies in weight management

Aim

To evaluate a Healthy Living Pharmacy (HLP) led Slimming World on Referral (SWoR) programme delivered by pharmacists in Durham County Council and compare outcomes with similar GP-led referral schemes.

Summary

- Pharmacy teams are well placed to help improve the health and wellbeing of their local community providing evidence-based advice and signposting to local services
- 21 HLPs in County Durham had the opportunity to refer patients to a local Slimming World group, at no cost to the patient for 12 weeks
- Between May and October 2016, 1,020 people were referred by their HLP and attended a Slimming World group. During the same period, 5,482 patients were referred to Slimming World via GPs across 12 local authority schemes
- Those referred via HLP lost on average 4.4%, with 40.3% achieving a 5% weight loss in the 12 week period which was comparable to outcomes of those referred by GPs
- This evaluation demonstrates the important role that HLPs can play in referring people with obesity into local weight management groups. Participants who engaged with Slimming World achieved comparable weight losses whether they had been referred via the HLP or the GP route.

Participants

1,020 people referred to Slimming World groups via a Healthy Living Pharmacy (HLP).

Research Team

Slimming World research team plus C. Jones, Public Health Pharmacist, Durham.

Reference

Avery, A., Morris, L., Jones, C. and Pallister, C. (2017). Making every contact count: the potential role of healthy living pharmacies in weight management. *Perspectives in Public Health*. 137 (4), 203-205

Also presented at the UK Congress on Obesity.

Date

2017

Outcomes for Slimming World members referred via HLP and GP from May to October 2016

	HLP referral	GP referral	P value
% male	8.9	13.2	0.000
Age (years)	43.5	48.8	0.000
Starting BMI (kg/m ²)	35.1	37.3	0.000
% weight change	-4.39	-4.74	0.004
BMI change (kg/m ²)	-1.54	-1.63	0.034
% achieving > 5% weight loss	40.3	42.8	0.120
% achieving > 10% weight loss	7.4	11.2	0.000

The impact of self-criticism and self-reassurance on weight related positive and negative affect and wellbeing in participants of a commercial weight management programme

Aim

To examine the impact of self-criticism on wellbeing.

Summary

- Weight stigma can potentially undermine weight management by increasing self-criticism
- 2,175 participants completed an online survey examining measures of self-criticism, self-reassurance, negative and positive affect and wellbeing (which were adapted to specifically address eating behaviour, weight and body shape perceptions)
- Correlation analyses showed that self-criticism was associated with negative affect and wellbeing. Path analysis suggested that self-criticism significantly decreased wellbeing, both directly and indirectly, mediated by increased levels of negative affect about one's weight, and by decreased levels of positive affect about one's weight
- The ability to self-reassure had a higher predictive effect on increased wellbeing by predicting less negative affect and by predicting increased levels of positive affect regarding one's weight. All effects were significant at $p < 0.001$
- Developing self-reassuring competencies in weight management programmes enhances weight related affect and wellbeing.

Participants

2,175 Slimming World members.

Research Team

C. Duarte and M. Matos from the University of Coimbra and G. Gilbert and P. Gilbert from the Compassionate Mind Foundation.

Reference

Duarte, C., Stubbs, R.J., Gouveia, J.P., Matos, M., Gale, C., Morris, L. and Gilbert, P. (2017). The impact of self-criticism and self-reassurance on weight-related affect and wellbeing in participants of a commercial weight management programme. *Obesity Facts*, 10: 65-75

Duarte, C., Matos, M., Gail, C., Morris, L., Stubbs, R.J. and Gilbert P. (2015). The impact of self-criticism and self-reassurance on weight related positive and negative affect and wellbeing in participants of a commercial weight management programme. *Obesity Facts*, 8(1): 183.

Date

2017

Studying the impact on weight and glycaemic control in adults with diabetes attending a group-based commercial weight management programme

Aim

To evaluate weight loss and glycaemic control in people with diabetes attending Slimming World via an online survey.

Summary

- The majority of respondents were female (88%) and the majority had type 2 diabetes (88%). Electronic attendance records indicated that, at the time of survey, participants had a mean weight loss of 10% since joining Slimming World
- After 12 weeks of attendance at Slimming World, 72.5% had lost more than 5% of their body weight; after 24 weeks 58.2% had lost more than 10% body weight
- 157 (28%) respondents reported changes in HbA1c levels since attending Slimming World
- 51.5% had achieved HbA1c of <48mmol/l (6.5%) at the time of survey, compared to just 16.4% who retrospectively reported this before joining Slimming World
- Those with type 2 diabetes (n=547) had a greater reduction in HbA1c (p=0.034) but not weight (p=0.317) compared to those with type 1 diabetes (n=73)
- Those who achieved ≥5% weight reduction were more likely to have their diabetes medication reduced (p=0.028) and improved glycaemic control (p=0.001)
- 72.3% reported increases in physical activity, though this increase was not associated with weight change or improvements in HbA1c
- Weight loss support from Slimming World resulted in clinically significant weight losses and improvements in HbA1c in members with diabetes, with reported reductions in diabetes medication. The mean length of attendance suggests that Slimming World may offer long term support to both long term conditions (diabetes and obesity) and given the infrastructure of commercial weight management organisations, this may offer a scalable solution to the associated public health burden.

Participants

620 Slimming World members with diabetes.

Research Team

Slimming World research team plus R. Nagar, Assistant Professor in Nutrition and Dietetics at the University of Nottingham; S. Hillier, Lecturer in Nutrition at St Mary's University and D. Mellor, Associate Professor at the University of Nottingham.

Reference

Avery, A., Nagar, R., Hillier, S., Pallister, C., Lavin, J. and Mellow, D. (2017). Studying the impact on weight and glycaemic control in adults with diabetes attending a group-based commercial weight management programme. *Practice Nursing*, 28 (2), 60-66.

Date

2017

Exploring physical health and wellbeing amongst members of Slimming World and the general population

Aim

To understand how losing weight with Slimming World impacts physical health and wellbeing, using the UK general population as a comparator.

Summary

- Two online surveys were conducted; one completed by Slimming World members, and one completed by the general population. Results were compared using descriptive statistics
- The Slimming World member survey elicited 1,187 responses (55% male, mean BMI 31.9kg/m², weight 94.1kg, weight loss since joining Slimming World 14.4%) and the general population survey 1,544 responses (56% male, mean BMI 31.2kg/m², weight 92.1kg)
- Fewer Slimming World members felt their health currently limits them in physical activities (12%) compared to before joining Slimming World (39%) and the general population (42%)
- Only 12% of members felt their physical/emotional health currently impacts social activities, compared to 77% before joining Slimming World and 56% of the general population
- Pain was less likely to interfere with work for members now (37%) compared to before Slimming World (62%) and the general population (56%)
- Members' quality of life also improved after joining Slimming World, with more reporting now feeling calm and peaceful and having a lot of energy (30% and 7%, respectively)
- Only 3% of members reported currently feeling downhearted and low compared to 36% before joining Slimming World and 21% of the general population
- The survey shows self-reported improvements in health and wellbeing since losing weight with Slimming World. Despite having a higher BMI, members rated their physical wellbeing higher than the UK general population, suggesting Slimming World can influence overall health and wellbeing.

Participants

1,187 Slimming World members and 1,275 members of the UK population.

Research Team

Slimming World research team

Reference

Holloway, L., Bennett, S. E., Toon, J., and Lavin, J. (2017). Exploring physical health and wellbeing amongst members of Slimming World and the general population. Presented at UK Congress on Obesity.

Date

2017

Slimming World on Referral (SWoR): Impact of a second referral on weight outcomes

Aim

To explore weight outcomes amongst individuals receiving a second referral.

Summary

- The Slimming World on Referral partnership is a well-established solution for weight management in the UK and involves health professionals referring patients to local Slimming World community groups for weekly weight management support. This is free for the patient (funded by the health trust)
- Slimming World referrals run as 12-week packages, with the option to commission further consecutive 12-week referral blocks (or members may pay to continue attending)
- All Slimming World on Referral (SWoR) members who had received two consecutive referrals and joined between September 2010 and May 2017 were included in the analysis, provided the second referral was attended within two weeks of the first
- 19,899 second referrals were issued; 13,393 members (86% women) attended within two weeks of the first referral and were included in the analysis
- By the end of the 2 referral periods, members had lost on average 10.5% (10.4kg), with a mean BMI reduction of 3.8kg/m²
- Pain was less likely to interfere with work for members now (37%) compared to before Slimming World (62%) and the general population (56%)
- Half of members achieved weight losses of 10% or more, while the majority (87%) achieved 5% or more
- Men lost slightly more than women (11.5% vs 10.3%) and had a greater reduction in BMI (4.3kg/m² vs 3.73 kg/m²)
- Findings indicate that provision of further referral periods can enhance weight loss outcomes and support more patients in achieving clinically significant weight loss.

Participants

1,187 Slimming World members and 1,275 members of the UK population.

Research Team

Slimming World research team

Reference

Holloway, L., Bennett, S. E., Pallister, C., Toon, J. and Lavin, J. (2017). Slimming World on Referral (SWoR): Impact of a second referral on weight outcomes. Presented at the UK Congress on Obesity, Cardiff.

Date

2017

Weight and BMI outcomes for those receiving two consecutive referrals

		Referral 1	Referral 2
Weight (kg)	Start	103.5	95.2
	End	95.6	92.6
	Change	-7.9 (7.6%)	-2.6(2.7%)
BMI (kg/m ²)	Start	38.0	35.0
	End	35.1	34.0
	Change	-2.9	-0.9
Sessions attended (maximum 2)		11.5	10.0

The impact of shame, self-criticism and social rank on eating behaviours in overweight and obese women participating in a weight management programme

Aim

To examine associations between social comparison (shame, self-criticism), negative affect and eating behaviours in women attending Slimming World.

Summary

- Participants completed an online survey using measures of shame, self-criticism, social comparison, and weight-related affect
- Correlation analyses showed that shame, self-criticism and social comparison were associated with negative affect. All of these variables were related to eating regulation and weight control ($p < 0.001$)
- Path analysis revealed that the association of shame, hated-self and low self-reassurance on disinhibition and susceptibility to hunger was fully mediated by weight-related negative affect, even when controlling for the effect of depressive symptoms ($p < 0.050$ to $p < 0.010$)
- Feelings of inadequacy and unfavourable social comparisons were associated with higher disinhibition and susceptibility to hunger, partially mediated through weight-related negative affect ($p = 0.001$). These variables were negatively associated with extent of weight loss during programme attendance prior to the survey, while self-reassurance and positive social comparisons were positively associated with the extent of weight loss prior to the survey ($p < 0.050$)
- Shame, self-criticism, and perceptions of inferiority may play a significant role in self-regulation of eating behaviour in overweight people trying to manage their weight.

Participants

2,236 female Slimming World members.

Research Team

C. Duarte, M. Matos and J.P. Gouveia from the University of Coimbra, Portugal; R.J. Stubbs, from the University of Leeds; C. Gale and P. Gilbert from the Mental Health Research Unit, Kingsway Hospital, Derby.

Reference

Duarte, C., Matos, M., Stubbs, R. J., Gale, C., Morris, L., Gouveia, J. P. and Gilbert, P. (2017). The impact of shame, self-criticism and social rank on eating behaviours in overweight and obese women participating in a weight management programme. PLoS ONE, 12(1), e0167571.

Date

2017

Engaging men in weight management: Exploring gender differences in food perceptions and choices in those with overweight or obesity

Aim

To explore gender differences in the way that foods and food terminology are perceived and the types of food that men and women find appealing, to ultimately help understand how to engage more men in weight management programmes.

Summary

- Individuals across the UK who considered themselves to be carrying excess weight were invited to complete an online survey hosted by IPSOS Mori
- Less than half (45%) said they ate a healthy diet, with just 36% eating five portions of fruit/vegetables a day. Over half of men (62%) and women (67%) felt that they ate more food than they should and over a third admitted eating a lot of unhealthy snack foods (33% of men and 40% of women)
- When thinking about food, terms such as healthy, low fat and low calorie were rated as appealing to both men and women, with men also rating high protein as appealing
- Women were more likely than men to choose healthier foods including salad (52% v 31%), yogurt (44% v 26%), baked potato (62% v 42%) and grilled skinless chicken (48% v 39%), while men were more likely than women to choose less healthy foods including a fried English breakfast (43% v 23%), fried chicken (31% vs 16%) and deep fried fish (33% vs 19%)
- Men and women rated cupcakes, wine, Quorn and salad as feminine, and beer, meat pie, fried breakfast and ribs as masculine. Words such as skinny, light and low calorie were considered feminine, while king size, jumbo and supersize were considered masculine
- The results highlighted differences in the types of foods that men and women choose, with men preferring less healthy options. While men found healthy terms such as light and low calorie appealing, they also considered them feminine
- Weight management programs should consider how they use terms such as 'light' and 'low calorie', which may be considered feminine and could disengage men.

Participants

1275 participants (46% male, mean BMI 31.2kg/m²).

Research Team

Slimming World research team

References

Holloway, L., Bennett, S.E., Toon, J., and Lavin, J. (2017) Engaging men in weight management: Exploring gender differences in food perceptions and choices in an overweight population. *Presented at Obesity Week.*

Date

2017

Experiences of Slimming World group Consultants supporting members with a learning disability

Aim

To understand the experiences of Slimming World group Consultants who support members with a learning disability.

Summary

- People with learning disabilities are often less able to access and engage with public health interventions. There is also considerable evidence that people with learning disabilities are more likely to have a raised BMI
- Slimming World hosted a questionnaire online for group Consultants who have had a member with a learning disability, asking about their experiences while supporting these members, including any challenges they have encountered and the possible need for bespoke resources
- 379 Consultants responded to the questionnaire, 97.6% of those had a member attend with a learning disability and almost half of those members (49%) attended with a carer
- Reported challenges included the inability of some members to read or write, which impacted on their comprehension of the Slimming World plan and completion of food diaries
- Consultants often used larger A4 size and audio versions of existing Slimming World resources to support members but indicated a need for more tailored visual and Easy-Read resources
- At the time of presentation, Slimming World were using these findings, and other Slimming World research into this area, to develop Easy-Read resources for members with a learning disability.

Participants

379 Slimming World group Consultants.

Research Team

Slimming World research team

Reference

Bennett, SE., Holloway, L., Pallister, C. and Lavin, J., (2017) Experiences of Slimming World group Consultants supporting members with a learning disability. Presented at Public Health England's annual conference.

Date

2017

It is not how much you crave but what you do with it that counts: behavioural responses to food craving during weight management

Aim

To investigate the frequency and nature of food cravings in people attending a commercial weight management programme

Summary

- Participants who self-reported that they were currently dieting to lose weight had significantly fewer, less intense, and more resisted food cravings than those watching what they ate to avoid weight gain
- Over the seven-week study participants mean weight loss was 2.0kg, a reduction in BMI of 0.74 kg/m²
- Food cravings decreased over the seven-week period, fewer foods were craved and the cravings were less intense, easier to resist and to control
- Eating in response to food cravings was a significant predictor of weight change
- This study suggests it is the behaviour that follows food cravings rather than craving frequency or intensity that contributes to successful weight management.

Participants

2932 Slimming World members (97% female, mean age 43.0 years, mean body mass index 31.6 kg/m²).

Research team

Externally conducted research by E.F. Smithson and A. Hill from the University of Leeds.

Reference

Smithson, E., Hill, A. (2017). It is not how much you crave but what you do with it that counts: behavioural responses to food craving during weight management. *Eur J Clin Nutr.* 71(5): 625-630.

Date

2017

The role of large-scale, eHealth weight management interventions in addressing the global obesity epidemic

Aim

To evaluate outcomes of individuals attending Slimming World Online.

Summary

- eHealth interventions constitute a novel approach for convenient, cost-effective and scalable weight management. Despite the number of eHealth obesity services, there is a lack of published evaluation data
- Initial 3 month (13 week) outcomes were collated for Slimming World Online UK members
- Across enrolled online members, weight loss, percentage weight loss, and BMI reduction at 13 weeks were on average 2.6kg, 2.9% and 0.9kg/m² respectively
- Engaged members (those who joined and entered at least one further weight measurement during the 13 weeks) achieved a mean weight loss of 3kg, a mean percentage weight change of 3.5% and BMI reduction of 1.1kg/m²
- High engagers (those who entered at least 10 weight measurements) had a greater weight loss of 5.2kg, percentage weight change of 5.8% and BMI reduction of 1.9kg/m² (all p<0.0001)
- Mean number of weight measurements for the 13 week period was 6.1. Increased service use was associated with improved outcomes
- Slimming World's online programme had positive effects on weight related outcomes at 13 weeks. In order to sustain outcomes, additional strategies to maintain and improve participants' engagement are being developed
- eHealth interventions could provide an effective method to directly support overweight and obese adults, thereby reducing the burden on the health care system.

Participants

57,654 new Slimming World online members.

Research Team

The Slimming World research team and M. Kolotourou (freelance analyst).

Reference

Sacher, P.M., Kolotourou, M., Morris, L., Dowse, E. and Lavin, J. (2016) The role of large-scale, eHealth weight management interventions in addressing the global obesity epidemic. *Obesity reviews*. 17 (2), 16.

Date

2016

The Government must do more to raise awareness of the links between alcohol and obesity, rather than treating them as separate issues

Aim

This paper explores the links between alcohol and energy intake including the impact on appetite control, total energy intake, disinhibition and food choices. It also looks at the links between alcohol intake and weight and the impact on sleep.

Summary

- Obesity and excessive alcohol consumption are recognised as among the lifestyle factors having the greatest impact on public health in the UK today. While it's clear that alcohol and obesity are both recognised as public health issues in their own right, the link between the two is less discussed
- Findings from a Slimming World commissioned YouGov survey of 2,042 people, which investigated UK drinking habits and how they impact on lifestyle choices, suggest that people have a 'tipping point' - the point when drinking alcohol that they start to make less healthy choices with food, alcohol and physical activity
- The paper calls for the Government to discuss weight and alcohol intake jointly (to raise awareness of the links between the two public health issues) and to do more to ensure the public are adequately informed to help them make healthy food choices when drinking alcohol.

Participants

N/A

Research Team

The Slimming World research team

Reference

Lavin, J., Pallister, C., & Greenwood, L. (2016) The Government must do more to raise awareness of the links between alcohol and obesity, rather than treating them as separate issues. *Perspectives in Public Health*, 136(3). 123-124.

Date

2016

Setting targets leads to greater long-term weight losses and 'unrealistic' targets increase the effect in a large community-based commercial weight management group

Aim

To investigate the effect of number and size of weight-loss targets on long-term weight loss in a large community sample of adults.

Summary

- Setting personal targets is an important behavioural component in weight management programmes. Normal practice is to encourage 'realistic' (5-10%) weight loss but the underpinning evidence base for this is limited and controversial
- In this dataset, weight loss at 12 months was greater for those members who set targets. A mean (SD) BMI change of 36.3kg/m² (5.5) to 31.0kg/m² (5.1) was achieved by the group setting targets compared to 38.8kg/m² (6.4) to 34.7kg/m² (5.6) in the group with no targets reported, a difference of 1.1kg/m² (p<0.001)
- The odds ratio for weight loss ≥10% at 12 months was 10.3 (CI 9.7- 11.1, p<0.001) where targets had been set compared to no targets being set
- Members who set ≥ 4 targets achieved the greatest loss (p<0.001)
- At the highest quintile of target size, the size of the first target explained 47.2% (p<0.001) of the variance in weight loss achieved at 12 months
- The mean BMI reduction in those with a target >25% of their starting weight was 7.6kg/m² (4.0) at 12 months
- Much of the variance in achieved weight loss in this population was explained by the number of targets set and the size of the first target. Clinically significant weight loss was achieved and for some members, what may traditionally be considered 'unrealistic' large weight loss targets actually improved results.

Participants

New members, joining Slimming World between January and March 2012 with a joining BMI ≥30 and with weight data available 12 months after joining (n=24,447).

Research Team

A. Avery, J. Swift and S. Langley-Evans, Division of Nutritional Sciences, University of Nottingham and members of the Slimming World research team.

Reference

Avery, A., Swift, J. and Langley-Evans, S. (2016). Setting targets leads to greater long-term weight losses and 'unrealistic' targets increase the effect in a large community – based commercial weight management group. *Journal of Human Nutrition and Dietetics*. 29(6):687-696.

Date

2016

Does a weight management programme promoting satiation and satiety lead to greater appetite control, weight loss, improved health and weight loss experience compared to a calorie restrictive programme?: The SWIPSS trial

Aim

The aims of this study were to:

- 1 Investigate whether the Slimming World programme which promotes satiation and satiety by encouraging ad libitum intake of low energy dense (LED) foods is more effective in terms of weight loss and body composition than a standard care self-led, calorie restriction programme (NHS Live Well)
- 2 Test the effect of LED meals on appetite sensations and energy intake compared to high energy dense (HED) meals
- 3 Evaluate the experience of following Slimming World compared to self-led calorie restriction.

Summary

- Using a parallel design, 96 women newly enrolled in Slimming World or NHS Live Well were recruited for a 14 week trial
- Body weight and composition was measured at 0 and 14 weeks, and weekly questionnaires assessed views of the programme
- On two days during the trial, participants received LED vs HED fixed-calorie breakfast and lunch meals followed by ad libitum evening dinner and snacks. Appetite sensations and intake from the dinner and snacks were measured
- The Slimming World group lost more weight and more fat mass compared to the standard care group (weight: SW: 5.76kg; SC: 3.36kg; $p = 0.006$) and were more likely to achieve clinical weight loss ($p = 0.007$)
- The Slimming World group rated the programme as more satisfying, more enjoyable and easier adhere to, and felt more in control over eating and were more motivated to continue compared to the standard care group ($p = 0.02$)
- During the test days, hunger was lower and fullness was greater on the LED day compared to the HED day ($p < 0.001$)
- Energy intake from the evening dinner and snacks was lower following the LED breakfast and lunch compared with the HED meals, resulting in a total day energy reduction of 1057 ± 79 kcal
- In supporting behaviour change toward low energy dense choices, Slimming World is an effective strategy to increase satiation and satiety for improved appetite control and long term weight loss. Slimming World was reported as a more positive weight loss experience compared to the standard care calorie reduction programme.

Participants

96 women (age: 41.8 years; BMI: 33.3kg/m²) newly enrolled in Slimming World or NHS Live Well.

Research Team

Externally conducted research by N. Buckland, D. Camidge, F. Croden, M. Hetherington, J. Blundell and G. Finlayson at the University of Leeds.

Reference

Buckland, N.J., Camidge, D., Croden, F., Hetherington, M.M., Blundell, J.E. and Finlayson, G. (2016). Does a weight management programme promoting satiation and satiety lead to greater appetite control, weight loss, improved health and weight loss experience compared to a calorie restrictive programme?: The SWIPSS trial. Presented at UK Congress on Obesity.

Date

2016

Do people attending Slimming World keep their weight off in the longer term?

Aim

A pilot study to investigate the feasibility of contacting previous members of Slimming World (SW) to assess longer term weight outcomes and explore strategies for weight control.

Summary

- 6,299 individuals in Derbyshire and Nottinghamshire who had joined a Slimming World group in the preceding 2.5 - 3 years were invited to participate in a survey via email or post
- 378 people responded; responses of 356 females were analysed
- At the time of survey, those currently attending a Slimming World group had lost on average 9.6% body weight, while those no longer attending were currently 4.4% lighter compared to when they first joined a group
- Reasons for initially joining Slimming World included appearance (83.4%), to improve health (80.6%), to improve fitness (56.2%) and to gain confidence (32.9%)
- Respondents reported behaviours that had helped them lose weight including eating more fruit and vegetables (72.5%), using Slimming World recipes (59.8%), changing the way they cook (55.6%), regularly monitoring weight (53.9%) and increasing activity levels (38.5%)
- Behaviours that hindered weight loss included eating out/socialising (48.3%), complacency about Food Optimising eating plan (35.4%) and being too busy to cook (35.4%)
- The findings demonstrate that Slimming World is effective for long-term weight control. Those no longer attending a group maintained some weight loss, whilst those still engaged achieved greater weight loss outcomes. Changing eating/cooking habits, increasing physical activity and regular weighing were all reported to assist weight control.

Participants

356 females who had joined Slimming World in the preceding 2.5 – 3 years.

Research Team

Slimming World research team

Reference

Holloway, L., Morris, L. and Lavin, J. (2016). Do people attending Slimming World keep their weight off in the longer term? Presented at UK Society of Behavioural Medicine.

Date

2016

Healthy behaviour changes and improved emotional and physical wellbeing in members of a private weight management organisation

Aim

To examine the impact of joining Slimming World on physical and emotional wellbeing and lifestyle behaviours.

Summary

- Slimming World members completed an online survey asking about their health, wellbeing and lifestyle before joining Slimming World (retrospectively) and currently as members
- 80.1% of men and 87.8% of women rated their current health as good, very good or excellent, compared to just 21.6% of men and 32.5% of women before joining Slimming World
- Members were asked how much they agreed with statements about their eating behaviours (0 = "Do not agree" to 4 = "Agree very much"). Since joining Slimming World (compared to before they joined) members reported they were:
 - 1 Less likely to eat unhealthy snacks at home (average decrease in scores for men = 2.6 and women = 2.4)
 - 2 More likely to eat a healthy diet (average increase in scores for men = 2.8 and women = 2.2)
 - 3 More likely to eat five portions of fruit/veg a day (average increase in scores for men = 2.4 and women = 2.4).
- Alcohol consumption decreased for 60.0% of men and 57.8% of women since joining Slimming World
- Both men and women reported an increase in physical activity; 45.6% of men and 46.3% of women currently take brisk long walks, compared to less than 20% before joining Slimming World
- Emotional wellbeing improved, with members feeling calm and peaceful more frequently since joining (increase in scores for men = 1.33 and women = 1.55)
- Slimming World members reported improvements in their general health and emotional wellbeing, as well as increases in physical activity since joining. They were also more likely to now make healthier lifestyle choices, highlighting the wider benefits of losing weight with Slimming World.

Participants

356 females who had joined Slimming World in the preceding 2.5 – 3 years.

Research Team

Slimming World research team

Reference

Bennett, S.E., Holloway, L., Morris, L., Dowse, E., Lavin, J. (2016). Healthy behaviour changes and improved emotional and physical wellbeing in members of a private weight management organisation. Poster presented at Obesity Week.

Date

2016

Modifying mainstream weight management interventions for use with people with intellectual disabilities: A user centred approach

Aim

To identify where modifications to Slimming World resources could provide a more accessible and effective service for people with intellectual disabilities.

Summary

- People with intellectual disabilities have a higher prevalence of overweight and obesity than the general population but are less likely to be able to respond to uniformly delivered interventions
- Eight focus groups (n = 51) and 22 qualitative interviews were conducted with people with intellectual disabilities, Slimming World Consultants, Slimming World members with an intellectual disability and carers
- The interviews indicated four areas which could be further developed to support people with an intellectual disability:
 - 1 Simplify the content of the information given
 - 2 Provide information in a format suited to the literacy skills of the individual
 - 3 Provide guidance and support to personnel to work with people with intellectual disabilities
 - 4 Engage carers throughout.
- Empirically grounded modifications to weight management programmes were recommended according to these principles
- This study identified principles for adapting mainstream weight management programmes for individuals with an intellectual disability in order to improve acceptability and utility and ensure a more equitable service for members with an intellectual disability. The findings contributed towards the development of 'easy read' resources, which were then piloted to assess acceptability.

Participants

73 individuals including those with an intellectual disability, carers, Slimming World group Consultants and Slimming World members with an intellectual disability.

Research Team

Slimming World research team plus L. Croot, M. Rimmer, J. Harris, A. O'cathain and S. Salway from Sheffield University and C. Hatton from the Centre for Disability Research, Lancaster.

Reference

Croot, L. Rimmer, M., Dowse, E., Harris, J., Hatton, C., Hillier, S., Lavin, J., O'cathain, A. and Salway, S. (2016). Modifying mainstream weight management interventions for use with people with intellectual disabilities: A user centred approach. Presented at Public Health England's annual conference.

Date

2016

Factors influencing engagement in postnatal weight management and subsequent weight and wellbeing outcomes

Aim

An online survey to investigate women's motivations to lose weight postnatally, weight loss achieved and the impact on self-esteem.

Summary

- On joining Slimming World, mean BMI was 33.3kg/m² and at time of survey 30.5kg/m², a change of -2.8kg/m² (p <0.01)
- Most women (45.7%) joined the groups between 6-26 weeks postnatal
- After adjustment for length of attendance, women joining 6-12 weeks postnatal, achieved greater weight losses than those who engaged 41-52 weeks or >1 year postnatal (p<0.05)
- The main motivators to lose weight were 'to improve how I feel about my body size and shape' (85.2%) and 'improve self-confidence' (76.6%) although 'to improve health' (65.6%) was the only reason correlating with weight loss (p<0.01). Social pressure (8.6%), media pressure and celebrity culture (3.9%) were reported much less frequently
- Just over half the participants (51.3%) reported that weight gain during pregnancy had affected their self-esteem, rising to 82.3% when retaining weight after pregnancy. More than three-quarters (76.8%) stated they had retained more than one stone
- Improvements in self-confidence (77.6%), self-esteem (78.6%), wellbeing (85.2%) and body size/shape (70.1%) were reported since attending Slimming World
- Women found their group time (83.3%) and location (88.2%) convenient and child (76.6%) and buggy (73.3%) friendly, indicating the programme was accessible
- Women chose to engage in the Slimming World weight management service postnatally to improve self-confidence, feelings about body shape and health. They reported concerns around retention of excess pregnancy weight affecting their self-esteem. However, engagement in the programme resulted in significant weight loss and increases in self-esteem, self-confidence, wellbeing and body image. These results could have significant public health implications for promoting suitable weight management interventions for postnatal women.

Participants

1,015 female Slimming World members who had given birth in the last two years.

Research Team

The Slimming World research team and S. Hillier, lecturer in nutrition at St Mary's University.

Reference

Avery, A., Hillier, S., Pallister, C., Barber, J. and Lavin, J. (2016) Factors influencing engagement in postnatal weight management and subsequent weight and wellbeing outcomes. *British Journal of Midwifery*, 24(11), 806-812.

Date

2016

Does engagement in a weight management programme improve level of fatigue?

Aim

To investigate the impact of attendance at Slimming World groups on level of fatigue.

Summary

- An initial online (baseline) questionnaire was completed by Slimming World members within four weeks of joining (543 respondents) and asked questions about before they joined Slimming World (T0) and currently (T1). A second questionnaire was completed 12 weeks later (75 respondents; T2)
- There were significant differences ($p < 0.001$) over the three time points (T0, T1 and T2) in terms of BMI (T0 = 35.0kg/m², T1 = 34.1kg/m², T2 = 31.0kg/m²) and level of fatigue as measured by the Global Fatigue Index (GFI; T0 = 29.2, T1 = 21.8, T2 = 18.1)
- In terms of fatigue, there was a significant decrease over time, (Wilks' Lambda = 0.46, $F(2,72)=42.19$, $p < 0.001$, multivariate partial eta squared = 0.54). This result suggests a very large effect size according to the guideline proposed by Cohen (1998 - 0.01=small, 0.06=moderate, 0.14=large effect)
- Engagement in the Slimming World weight management programme is associated with a reduced level of fatigue. Further analyses will be undertaken to establish whether there might be a correlation between weight loss and level of fatigue.

Participants

543 non-pregnant women of child-bearing age (19-49) who had recently joined Slimming World.

Research Team

H. Kacar and F. McCullough, University of Nottingham plus the Slimming World research team.

Reference

Kacar, H., Bennett, S.E., Avery, A. and McCullough, F. (2016). Does engagement in a weight management programme improve level of fatigue? Presented at the UK Congress on Obesity.

Date

2016

Screening and brief intervention for obesity in primary care: a parallel, two-arm, randomised trial

Aim

This trial was conducted to establish whether physician brief intervention is acceptable and effective for reducing bodyweight in patients with obesity.

Summary

- Guidelines recommend that physicians offer brief advice to motivate weight loss through referral to behavioural weight loss programmes. However, physicians rarely intervene and no trials have been done on the subject
- The trial involved 137 primary care physicians at 57 practices across the South of England. Patients waiting to see a physician were screened for obesity and those with a BMI of $\geq 30 \text{ kg/m}^2$ (or $\geq 25 \text{ kg/m}^2$ if of Asian ethnicity) were recruited
- At the end of the consultation, the physician randomly assigned participants to one of two 30 second interventions: referral to a commercial weight management programme (support was provided mainly by Slimming World) for 12 weeks or the physician advised the patient that their health would benefit from weight loss, but no support was provided (advice only)
- Of the 940 assigned to the support intervention, 722 agreed to attend, with 379 (40%) actually attending, compared with only 11% of the advice-only population taking action to manage weight
- In the entire study population, mean weight change at 12 months was -2.43 kg in the support intervention and -1.04 kg in the advice intervention, giving an adjusted difference of 1.43 kg (95% CI $0.89-1.97$). In those taking up the referral average weight loss increased to 4.7 kg at 12 months
- At 12 months, 25% of participants in the support group had lost at least 5% of their bodyweight and 12% had lost at least 10% – roughly double those in the advice-only group (14% lost 5% and 6% lost 10%)
- The study also assessed patients' feelings about discussing their weight when they had visited their GP for other reasons. Results indicated patients found the brief intervention highly acceptable with most finding it appropriate and helpful
- A behaviourally-informed, very brief, physician-delivered opportunistic intervention is acceptable to patients and an effective way to reduce weight. Evidence suggests that physicians are concerned about offending patients by discussing weight, but qualitative evidence from patients in this trial shows that they should be less concerned. Patients are likely to welcome the intervention and lose a significant amount of weight. Given that many patients consult their GP at least once a year, this brief intervention has high reach, is practicable, and could be an effective option to reduce population mean weight.

Participants

1,882 participants – 940 referred to a commercial weight management programme and 942 receiving physician advice.

Research Team

Externally conducted research by P. Aveyard, S. Tearne, K. Hood, A. Christian-Brown, R. Begh, A. Nickless, L-M. Yu and S. Jebb from the University of Oxford; A. Lewis from the University of Bristol; P. Adab, K. Jolly, A. Daley and A. Farley from the University of Birmingham; D. Lycett from the University of Coventry and L. Retat, L. Webberand, L. Pimpin from the UK Health Forum, London.

Reference

Aveyard, P., Lewis, A., Tearne, S., Hood, K., Christian-Brown, A., Adab, P., Begh, R., Jolly, K., Daley, A., Farley, A., Lycett, D., Nickless, A., Yu, L-M., Retat, L., Webber, L., Pimpin, L. and Jebb S. A. (2016). Screening and brief intervention for obesity in primary care: a parallel, two-arm, randomised trial. *The Lancet*, 388:2492

Lewis, A., Jolly, K., Adab, P., Daley, A., Farley, A., Jebb S. A. Lycett, D., Clarke, S., Christian, A., Jin, J., Thomson, B. and Aveyard, P. (2013). A brief intervention for weight management in primary care: study protocol for a randomized controlled trial. *Trials*, 14:393.

Date

2016

Understanding difficulties faced by men and women in addressing excess weight

Aim

To examine the difficulties faced by men and women in the UK in addressing excess weight.

Summary

- Members of the general population completed an online survey hosted by Ipsos MORI
- Results indicated that from first realising they were overweight, men delayed seeking weight management support by 6.2 years and women by 2.2 years
- Men were older when they first gained weight (32.6 years) compared to women (28.1 years) and tackled their weight at a much later age (38.8 years) compared to women (30.3 years)
- The most common time for men to gain weight was 'middle age' (27.1%), while women reported gaining weight after having a child (28.3%) or during childhood (16.2%)
- 60.0% of males and 51.0% of females reported not speaking to anyone regarding their weight. The most common reason for men (51.5%) and women (52.1%) was 'I prefer to deal with things myself', followed by 'I didn't feel it was anyone else's problem' for men (31.1%) and 'I was embarrassed to talk to them' for women (29.8%)
- 32.7% of men and 28.4% of women reported speaking to health care professionals regarding their weight
- Both men and women struggle to talk about and address weight, which leads to a delay in taking action, particularly for men. Men and women reported a willingness to speak to a health care professional; therefore early intervention by healthcare professionals may support men in particular in addressing weight earlier, which may help reduce the risk of developing secondary health problems and emotional burdens of excess weight.

Participants

1,544 UK adults (men=855, women = 689) with a BMI > 25kg/m² between ages of 18 and 75.

Research Team

Slimming World research team

Reference

Morris, L., Holloway, L., Dowse, E., Bennett, S.E., Lavin, J. (2016). Understanding difficulties faced by men and women in addressing excess weight. Poster presented at Obesity Week.

Date

2016

Snooze you lose? Views of the relationship between sleep and weight-related problems in people aiming to lose weight

Aim

To understand more about the relationship between sleep and weight in people currently engaged in a weight management programme.

Summary

- 3,156 Slimming World members completed an online survey asking about their sleeping habits, food choices and physical activity levels
- On average members reported needing 7.7 hours of sleep per night, but reported only having 5.5 hours
- Those with a higher BMI reported having fewer hours' sleep and a larger sleep deficit as a result (average deficit in those with a BMI $<25 \text{ kg/m}^2$ = 2 hours; BMI $>40 \text{ kg/m}^2$ = 2.5 hours). They were also more likely to be tired during the day in comparison to those with lower BMIs
- Just one night's poor sleep could affect food choices, with 36.2% being less likely to cook meals from scratch and 31.0% being more likely to eat sugary foods for an energy boost. Those with greater weight losses were less likely to report that their food choices were impacted by poor sleep
- 47.8% said they were less likely to be physically active following one night's poor sleep, although again those with greater weight losses were less likely to report this
- Lack of sleep can impact physical activity and eating behaviours, which can influence weight control success. However, weight loss can positively impact these behaviours. Weight loss interventions should consider including practicable advice around improving sleep to help control unhealthy behaviours, which in turn, may aid weight loss.

Participants

3,156 Slimming World members.

Research Team

Slimming World research team

Reference

Holloway, L., Morris, L., Dowse, E., Bennett, S.E., Lavin, J. (2016) Snooze you lose? Views of the relationship between sleep and weight-related behaviours in people aiming to lose weight. Poster presented at Obesity Week.

Date

2016

Eating habits associated with body weight gain in UK university students

Aim

To examine eating habits and physical activity levels among university students in relation to body weight gain.

Summary

- The first year of university life is a period often associated with weight gain, however, little is known about the reasons for this and therefore how to best support weight control during this time
- Before joining Slimming World, the majority (67%) of students reported to have gained between 3.2kg and 12.7kg during their time at university with 24% reporting to have gained over 12.7kg
- Students reporting greatest weight gain reported most frequent consumption of ready meals, convenience foods, takeaways and fast food and least frequent consumption of fruit and vegetables
- Only 20% ate fruit and vegetables on a daily basis and only 15% reported physical activity levels that met current guidelines.

Participants

247 student Slimming World members who had previously gained weight whilst at university.

Research Team

E.F. Sprake, P. Grabowski and M.E. Barker from the Human Nutrition Unit, J.M. Russell from Corporate Information & Computing Services, the University of Sheffield with support from J. Lavin from Slimming World research team.

Reference

Sprake, E. F., Lavin, J.H, Russel, M., Grabaowski, P. and Barker, M. (2015). Eating habits associated with body weight gain in UK university students. Proceedings of the Nutrition Society, 74: E149.

Date

2015

Satiety in the context of weight management

Aim

To review the current literature on satiety in the context of weight management.

Summary

- In modern society, weight loss is difficult and weight loss maintenance is particularly hard to sustain. Obesity is a chronic relapsing condition. Multi-component weight management programmes should include research to identify effective components that empower citizens to manage satiety, eating behaviour, weight and health
- Feeling hungry and restricted diets are among the most common reasons reported for giving up a weight loss attempt. Being able to satisfy the appetite and avoid going hungry is important for successful weight control
- Evidence suggests there is a hierarchy in the satiating efficiency of the macronutrients, [protein > carbohydrate > fat]. This hierarchy is overridden by low dietary energy density limiting excess energy intake or high energy density promoting passive overconsumption of foods
- It is possible to target specific functional foods to consumers or to help consumers navigate towards generic foods that are more satiating and a low risk for overconsumption
- The signal to noise ratio for specific products is swamped by the variety of ~30,000 available foods to consumers and other market forces. Whole-diet approaches have a higher signal to noise ratio in terms of satiety and weight management and provide a landscape to facilitate targeted product development. Current evidence favours approaches based on diets of low energy density, tolerably high protein and fibre content that are low in fats, sugars and caloric beverages
- Few specific functional product formulations or dietary approaches have yet yielded sufficient evidence to satisfy the requirements of European legislation regarding satiety claims
- Satiety is important for weight management. There are opportunities to address consumer needs for satiating foods in large-scale weight management programmes. These can be supported by evidence from rigorous trials aligned to the EFSA evidence framework for satiety claims, development of reference values indicating the likely satiety value of foods commonly available to diverse populations of consumers and in using consumer feedback to develop products that help prevent lapses in high-risk situations.

Participants

N/A

Research Team

Slimming World research team

Reference

Stubbs, R.J. (2015). Satiety in the context of weight management. Presented at the Association for the Study of Obesity conference 2015. Lavin, J.H. (2015)

Lavin, J.H. (2015). Supporting weight control. Presented at the Food and Drink Innovation Network, Nutrition and Wellness Summit, 2015.

Date

2015

Pilot analysis exploring the impact of deprivation on engagement and weight outcomes in people attending a commercial weight management organisation

Aim

This analysis considered a sample of records from a dataset of 1.36 million self-funding Slimming World members during their first 3 months' attendance, alongside Indices of Multiple Deprivation (IMD) data.

Summary

- Little is known about the effect of deprivation on engagement with commercial weight management programmes, attendance and weight outcomes
- Mean joining BMI ranged from 33.6kg/m² for quintile 1 (most deprived) to 31.6kg/m² for quintile 5 (least deprived). Joining weights ranged from 90.8kg for quintile 1 to 86.1kg for quintile 5
- Over the first three months, BMI changes were the same across all quintiles at 1.4kg/m². Weight changes ranged from -4.0% or -3.7kg for quintile 1 to -4.4% or -3.8kg for quintile 5

Deprivation Centile	SW Members		General Population		Difference
	Count	%	Count	%	
Quintile 1 (Most Deprived)	7,131	17.2%	323,680	24.2%	-7.0%
Quintile 2	7,983	19.3%	295,942	22.1%	-2.8%
Quintile 3	8,394	20.3%	286,444	21.4%	-1.1%
Quintile 4	9,078	21.9%	214,672	16.0%	5.9%
Quintile 5	8,785	21.2%	216,873	16.2%	5.0%

- Slimming World members were slightly under represented in the most deprived quintiles and overrepresented in the least deprived quintiles with members from quintile 1 making up 17.2% of the sample, compared with 21.2% for quintile 5. This was 7% less and 5% more than the general population
- This pilot analysis suggests Slimming World's community-based weight management programme is effective for members in terms of attendance and weight outcomes across all deprivation quintiles.

Participants

41,371 Slimming World members from six postcode areas (Bristol, Derbyshire, Nottinghamshire, Doncaster, Cleveland and Chelmsford).

Research Team

Slimming World research team

Reference

Morris, L., Pallister, C. and Lavin, J.H. (2015). Pilot analysis exploring the impact of deprivation on engagement and weight outcomes in people attending a commercial weight management organisation. *Appetite*, 87:400.

Date
2015

Weight outcomes audit in 1.3 million adults during their first 3 months' attendance in a commercial weight management programme

Aim

This study involved analysis of electronic weekly weight records for self-referred, fee-paying Slimming World members joining a group between January 2010 and April 2012 and reports weight change outcomes in 1,356,105 adult participants during their first 3 months' attendance.

Summary

- Community-based programmes are well placed to provide wide reaching weight management provision, however, there is a lack of data outcomes of people choosing to access community programmes
- On joining, mean (SD) age was 42.3 years (13.6), height 1.65m (0.08) and weight was 88.4kg (18.8). Mean start BMI was 32.6kg/m² (6.3) and 5% of participants were men
- Over the first three months, mean weight change of all participants was -3.9kg (3.6), percent weight change -4.4% (3.8), and BMI change -1.4kg/m² (1.3). Mean attendance was 7.8 sessions (4.3)
- For participants attending at least 75% of possible weekly sessions (n = 478,772), mean BMI change was -2.5 kg/m² (1.3), weight change -6.8kg (3.7) and percent weight change -7.5% (3.5)
- Weight loss was greater in men than women, both in absolute terms (-6.5kg (5.3) vs -3.8kg (3.4)) and as a percentage (5.7% (4.4) vs 4.3% (3.7)), respectively. All comparisons were significant (p < 0.001)
- Level of attendance and percent weight loss in the first week of attendance together accounted for 55% of the variability in weight lost during the study period
- This is the largest ever audit of a lifestyle-based weight management programme, demonstrating that Slimming World has a clinically significant impact on weight outcomes, which on this scale may have an important impact on public health.

Participants

1,356,105 adult, non-pregnant Slimming World members.

Research Team

Slimming World research team plus Graham Horgan from Biomathematics and Statistics, Scotland.

Reference

Stubbs, J., Morris, L., Pallister, C., Avery, A., Horgan, G., Lavin, J. (2015). Weight outcomes audit in 1.3 million adults during their first 3 months' attendance in a commercial weight management programme. *BMC Public Health*, 15; 822

Stubbs, R.J., Morris, L., Pallister, C., Avery, A. and Lavin, J.H. (2013). Weight outcomes in 1.2 million Slimming World members during their initial 3 months' membership. *Obesity Facts*, 6(1):189.

Date

2015

Investigating motivations for weight loss and benefits of attending a commercial weight management organisation post-natally

Aim

To investigate motivations to lose weight post-natally, weight change while attending Slimming World and the impact of weight retention and weight loss following pregnancy on self-esteem.

Summary

- Women joining Slimming World post-natally (up to 2 years after giving birth) were invited to complete a questionnaire
- At the time of survey, 52% of the respondents had been members for <3 months. Mean (SD) BMI had decreased from 33.3kg/m² (5.85) on joining to (at the time of survey) 30.5kg/m² (5.86)
- Main reasons for wanting to lose weight in the post-natal period were 'to improve how I feel about my body size and shape' (85.2%), 'to improve my confidence' (76.6%) and 'to lose weight I gained during my pregnancy' (66.5%)
- Only a combined 12.5% of members cited media/social pressure as a contributor to initiating weight loss
- 82% said retaining weight post-natally had affected their self-esteem. After losing weight with Slimming World 78.6% expressed improvements in self-esteem, 70.1% reported feeling better about their body size/shape since joining and 38% were now lighter than their pre-pregnancy weight
- Attendance at Slimming World resulted in weight loss, improved self-esteem, and improved satisfaction with body size and shape
- Motivation to lose weight appears to be personal, related to feelings about body shape, the impact of weight retention on self-confidence and to improve health. Attendance at Slimming World post-natally results in weight loss alongside improvements in self-esteem.

Participants

1,015 postnatal women attending Slimming World, who had given birth in the last 2 years.

Research Team

Slimming World research team

Reference

Barber, J., Pallister, C., Avery, A. and Lavin, J.H. (2015). Investigating motivations for weight loss and benefits of attending a commercial weight management organisation post-natally. *Appetite*. 87:384.

Date

2015

Evaluating the role of a commercial slimming organisation within type 2 diabetes management

Aim

To investigate the impact of accessing Slimming World's group support in diabetes management.

Summary

- Weight management is highlighted as the principal strategy for managing blood glucose levels in type 2 diabetes
- 551 members (87% female) with type 2 diabetes responded to the survey. Mean (SD) age was 53.1 (11.1) years and joining BMI was 39.6 (8.03) kg/m²
- In addition to questions about medication usage and weight change, change in quality of life (QoL) was measured using the Impact of Weight on QoL questionnaire
- For those members who had attended SW longer than 3 months (mean attendance 12.2 months, n=368), mean weight and BMI fell by 11.7kg (10.9%) and 5.4kg/m² respectively
- Where data were provided (n=221), mean blood glucose and HbA1c fell by 4.8mmol/l and 2.1% respectively (P<0.0001)
- Reductions in diabetes medication, including insulin, were also reported
- Respondents reported significant improvements in aspects of QoL including physical activity levels and physical functionality scores; measures of self-esteem, sexual life, public distress/weight stigma and working experiences
- Slimming World is a practical, effective option for supporting weight management in people with type 2 diabetes in a community setting. Members with type 2 diabetes lost weight whilst also reporting improvement in blood glucose control and reduced medication use.

Participants

551 Slimming World members with type 2 diabetes.

Research Team

Slimming World research team

Reference

Avery, A., Naga, R., Pallister, C., Barber, J., Morris, L. and Lavin, J.H. (2015). Evaluating the role of a commercial slimming organisation within type 2 diabetes management. *Appetite*. 87:383.

Date

2015

Providing weight management via the workplace

Aim

A pilot study to assess the feasibility and benefits of providing weight management support via the workplace at two large regional employers (British Gas and Nottingham University Hospital Trust).

Summary

- The study was conducted as part of the East Midlands Regional Platform for Health and Wellbeing
- Employees chose to attend either a workplace-based Slimming World group (n=118) or an established community-based Slimming World group (n=113) for 12 weeks
- Over the 12 weeks, participants achieved a significant reduction in weight: mean (SD) 3.4kg (3.4), BMI change of $-1.3\text{kg}/\text{m}^2$ (1.3) and a percentage weight change of -3.9% (3.8)
- Members who completed the programme (defined as attending at least once in the final 4 weeks, n = 138) had a greater weight loss of 4.9kg (3.4), BMI change of $-1.8\text{kg}/\text{m}^2$ (1.2), percentage weight change of -5.7% (3.8), with the average attendance of 9.8 (1.8) sessions
- There were no significant differences between workplace and community intervention groups for any outcomes
- Members who completed both baseline and 3 month post-intervention questionnaires (n=97) reported positive changes in dietary and physical activity behaviours (all $p < 0.005$), and psychological health (mental wellbeing, self-worth and self-esteem, all $p < 0.005$)
- These results suggest that Slimming World is an effective option for employers wishing to support their employees in making healthy lifestyle changes to manage their weight, whilst also resulting in positive mental wellbeing outcomes.

Participants

231 employees referred to Slimming World via the workplace.

Research Team

Slimming World research team plus G. Middleton and H. Henderson from the University of Lincoln and R. Keegan from The University of Canberra.

Reference

Barber, J., Hillier, S.E., Middleton, G., Keegan, R., Henderson, H. and Lavin, J.H. (2015). Providing weight management via the workplace. *International Journal of Workplace Health Management*, 8(3):230-243

Lavin, J.H., Barber, J., Middleton, G., Henderson, H. and Keegan, R. (2013). Regional Platform for Health and Wellbeing pilot study: provision of weight management support via the workplace. *Obesity Facts*, 6(1):197.

Date

2015

Regional Platform for Health and Wellbeing pilot study: provision of online weight management support via the workplace

Aim

As part of Slimming World's commitment to the East Midlands Platform for Health and Wellbeing, this pilot study assessed the merits of providing online weight management support via the workplace at a large regional employer.

Summary

- 73 interested Nottingham City Council employees were offered 12 weeks' weight management support with Slimming World's online programme, 57 of whom met study criteria and were included in the analysis
- Weight change was self-reported weekly using Slimming World calibrated scales placed within each worksite
- Over 12 weeks participants achieved a significant ($p < 0.001$) reduction in weight (-3.9%)
- For those participants who submitted at least 1 weight change online in the final 4 weeks (classified as completers, $n=44$), weight reduction was slightly greater at -4.6%
- Participants who completed both baseline and post-intervention questionnaires ($n=43$), reported positive changes in dietary and physical activity behaviours (all $p < 0.001$), and psychological health (mental wellbeing, self-worth and self-esteem, all $p < 0.001$)
- These results suggest that the Slimming World online weight management programme could be a practical option within workplace health and wellbeing programmes to support weight control.

Participants

57 employees from Nottingham City Council referred to Slimming World Online.

Research Team

Slimming World research team plus G. Middleton from the University of Lincoln.

Reference

Lavin, J.H, Barber, J., Hillier, S. and Middleton, G. (2015). Regional Platform for Health and Wellbeing pilot study: provision of online weight management support via the workplace. Presented at Public Health England Annual Conference 2015.

Date

2015

Understanding and addressing common barriers overweight people may face in engaging in physical activity – a partnership project between Sporta’s ‘Make Your Move’ and Slimming World, to support inactive individuals to engage in leisure centre-based activity

Aim

A pilot study to attract and retain individuals who are not physically active to participate in a physical activity scheme at two leisure centres.

Summary

- Physical activity plays an important role in long-term weight management and brings benefits of reduced risk of disease, improved mental wellbeing and physical fitness for those who are overweight. However, there is resistance among people who see themselves as non-sporty to enrol in activity programmes based in leisure centres and overweight people are among those least likely to enrol in such programmes
- Funded by Sport England, Sporta’s ‘Make Your Move’ programme partnered with Slimming World to pilot a study aimed at attracting and retaining individuals who are not physically active to participate in a physical activity scheme at two leisure centres
- Initial insight from Slimming World group Consultants, members and leisure centre staff including attitudes to physical activity, barriers and motivations was gathered and used to develop and promote tailored activities and sessions to support engagement in the leisure centres. Bespoke activities and incentive schemes to support regular participation were developed in line with Slimming World’s physical activity support programme
- On joining the programme, participants’ baseline levels of activity were low, with over 30% of participants engaging in no physical activity and over 50% not participating in any sports
- The main reasons participants gave for previously choosing to not take part in physical activity included: ‘lack of spare time’, ‘cost’ and ‘low self-esteem’
- Participants’ reported motivations for deciding to take part in the current project were to: ‘support weight loss’, ‘improve overall health’, ‘feel better about myself’ and to ‘tone up’
- Quantitative and qualitative data is being collected from Slimming World Consultants, members who participated in the scheme and from the session leaders who delivered and coordinated the scheme to determine which elements supported or inhibited participants’ success, in terms of attendance and changes in activity levels
- Bespoke activity sessions to support engagement in leisure centres have been developed and promoted within Slimming World groups. Data gathered from the collaboration is being used to inform further development to support potential nationwide rollout of similar programmes designed to facilitate overweight individuals engage in local activity services.

Participants

477 Slimming World members across 2 leisure trusts.

Research Team

Slimming World research team plus Professor K. Fox from the University of Bristol and C. Gillingwater from Sporta, London.

Reference

Lavin, J., Dowse, E., Gillingwater, C. and Fox, K., (2015). Understanding and addressing common barriers overweight people may face in engaging in physical activity – a partnership project between Sporta’s ‘Make Your Move’ and Slimming World to support inactive individuals engage in leisure centre-based activity. Presented at Public Health England, Everybody Active, Every Day, National Physical Activity Framework: One Year On Conference 2015.

Date

2015

Emotional and behavioural responses to perceived weight discrimination before and after substantial weight loss

Aim

To examine experience of weight stigma and discrimination in 2,573 people participating in the Slimming World programme.

Summary

- At the time of the survey, had attended for a mean (SD) of 16.6 months (24.7), lost 20.1kg (14.0) in weight
- Participants were questioned about (i) duration of attendance and weight change (ii) their experience of discrimination and stigma before and after losing weight, (iii) their emotional response to this experience, (iv) the impact it had on attempts to control their weight and (v) the impact it had on their ability to manage their weight
- At their heaviest, 40% of participants reported experiencing judgement, criticism or humiliation at least once per week. Incidents of perceived discrimination left recipients feeling ashamed (47%), depressed (41%) and useless (30%)
- In response to weight discrimination, 65% turned to food for comfort while only 2% made long-term lifestyle changes. When asked, 63% of respondents reported gaining weight over time since they were first treated unkindly because of their size
- Respondents said that since losing weight they were now more likely to be acknowledged by strangers with a smile (61%), eye contact (54%), a compliment (49%), a hello (43%) and a conversation (41%)
- In people with significant weight to lose, perceived weight discrimination can cause emotional distress, which undermines weight control behaviours. Reducing stigma may hypothetically facilitate weight management behaviours.

Participants

2,573 Slimming World members.

Research Team

Slimming World research team

Reference

Stubbs, R.J., Greenwood, L., Caven, J. and Morris, L. (2015). Emotional and behavioural responses to perceived weight discrimination before and after substantial weight loss. *Obesity Facts*, 8(1): 118.

Date

2015

Changes in self-esteem in participants associated with weight-loss and maintenance of commercial weight management programme

Aim

To examine associations between weight loss, weight maintenance and self-esteem in 292 Slimming World members.

Summary

- Self-esteem was measured with the Rosenberg self-esteem questionnaire adapted to 5-point Likert scales
- Mean (SD) weight on joining was 89.0kg (20.0). At the time of survey, time taken to reach current weight was 16.3 months (13.5). Mean weight change was -15.6kg (11.4) and BMI change was -5.7kg/m² (4.0) (both $p < 0.001$), maintained for 11.7 months (12.8)
- Participants' initial reports of lack of self-respect, lack of self-pride and sense of failure all decreased (all $p < 0.001$) in association with reaching their current weight. Self-satisfaction, feelings of self-achievement, positive attitudes towards themselves, sense of self-worth and self-efficacy all significantly increased (all $p < 0.001$)
- Multiple regression analysis showed that age, gender, height and start weight accounted for 35.4% of the variance in weight change. Self-esteem components of the model accounted for 50.4% of the variance in weight change
- Successful weight loss and maintenance was associated with significant reported improvements in self-esteem in Slimming World members.

Participants

292 Slimming World members who had lost on average >10% of their weight.

Research Team

Slimming World research team plus Aine McConnon from the University of Dublin.

Reference

Stubbs, J., Hillier, S., Pallister, C., Avery, A., McConnon, A. and Lavin, J. (2015). Changes in Self-esteem in Participants Associated with Weight-loss and Maintenance of Commercial Weight Management Programme. *Obesity & Control Therapies*, 2(1): 1-5

Avery, A., Stubbs, R.J., Pallister, C. and Lavin, J.H. (2013). Changes in self-esteem associated with weight change in longer-term participants of a commercial weight management programme. *Obesity Facts*, 6(1):178.

Date

2015

Twelve month outcomes following initial 12 week referral to Slimming World

Aim

To evaluate longer term weight outcomes in referral members, looking at continued attendance up to 12 months after their initial 12 week referral period.

Summary

- The Slimming World on Referral partnership is a well-established solution for weight management in the UK and involves health professionals referring patients to local Slimming World community groups for weekly weight management support for 12 (or multiples of 12) weekly sessions that are free for the patient (funded by the health trust). To support weight loss, additional referral periods may be offered, or members may pay to continue attending
- Electronic weekly weight records were collated from Slimming World on referral members joining between January 2010 and June 2011
- Members were categorised depending on whether they made at least one fee paying attendance after their initial 12 week referral period (self-funders) or not (non-self-funders)
- 40.2% (11,682) of referral members went on to self-fund after their referral period.
- Self-funders attended a mean of 29.6 sessions (13.8) in their first 12 months, of which 16.5 (7.9) were referred attendances and 13.1 (11.7) were self-fund. This compares to 8.8 (6.6) referral sessions for non-self-funders
- Members who continue to self-fund after referral achieve significantly greater weight losses in their first 12 months, 9.7kg (9.8%) compared with 3.4kg (3.5%) for non-self-funders
- Comparing the two groups, self-funders were older, 49 years (14.2) vs 44.5 years (14.4), slightly heavier, 98.3kg (19.9) vs 97.5kg (19.3) and had slightly higher joining BMIs, 36.4kg/m² (6.3) vs 36.0kg/m² (6.1), than non-self-funders
- These data demonstrate that a substantial proportion (40%) of patients referred to Slimming World go on to self-fund for an average of 13 weeks following their initial referral period, achieving significant weight loss and BMI change (-3.6kg/m²) at 12 months.

Participants

292 Slimming World members who had lost on average >10% of their weight.

Research Team

Slimming World research team

Reference

Morris, L., Pallister, C. and Lavin, J. (2015). Slimming World on Referral: longer term attendance and weight outcomes. Poster presented at the Association for the Study of Obesity conference, 2015.

Date

2015

Comparing weight outcomes in self-referred fee-paying vs primary care referred members of a commercial weight management organisation

Aim

To compare attendance levels and weight outcomes of those initially referred from primary care for 12 weeks with equivalent outcomes of regular self-funding members over the first three months.

Summary

- To address concerns of whether offering a weight management service free of charge would reduce patient motivation or commitment to the service and result in less success, this study compared attendance levels and weight outcomes of those initially referred from primary care for 12 weeks with equivalent outcomes of regular self-funding members over the first three months
- Members referred to Slimming World were on average four years younger (mean (SD) 46.3 years (14.5) vs 42.3 years (13.6)), 9.6kg heavier (98kg (19.7) vs 88.4kg (18.8)) and had higher BMIs (3.9kg/m²) on joining (36.5kg/m² (6.3) vs 32.6 kg/m² (6.3)) than in the self-referred data set. Amongst members referred to Slimming World, 10.5% were male compared with 5% males amongst those who self-referred

	Sessions attended		Weight change		BMI change
	N	%	kg	%	
Referral	8.6 (3.5)	71.7%	-4.5 (3.7)	-4.6% (3.6)	-1.7 (1.3)
Self-funded	7.8 (4.3)	55.4%	-3.9 (3.6)	-4.4% (3.8)	-1.4 (1.3)

- Referral members attended, on average, 0.8 more sessions despite being measured over just 12 possible sessions compared to 14 for self-funding members
- Despite being measured over a shorter time period, referral members achieved slightly greater absolute weight loss (0.6kg), percent weight loss (0.2%) and BMI change than self-funding members (0.3kg/m²)
- This data demonstrates that Slimming World's community-based weight management programme is as effective for members that are referred and funded by primary care in terms of attendance, weight loss and BMI change as it is for self-referred, fee-paying members.

Participants

45,382 Slimming World members referred to Slimming World from primary care compared to 1,356,105 self-funded Slimming World members.

Research Team

Slimming World research team

Reference

Morris, L., Pallister, C., Stubbs, R.J. and Lavin, J.H. (2015). Comparing weight outcomes in self-referred fee-paying vs primary care referred members of a commercial weight management organisation. Presented at the Association for the Study of Obesity conference, 2015 and the Public Health England conference, 2015.

Date
2015

Does sleep affect weight management?

Aim

To review the current literature on the role of sleep in weight management.

Summary

- Studies show that sleep duration and quality can affect body weight as well as dietary choices and physical activity levels
- Shift workers have a greater risk of obesity and metabolic disorders than workers with daytime hours
- Research suggests sleep deprivation can alter levels of appetite regulation hormones and stimulate hedonic 'reward' behaviours in the brain, which results in an increased desire to seek out tempting foods
- Sleeping less also creates more opportunities for eating
- Furthermore, use of multimedia such as TV and computers, especially late at night may contribute to sleep deprivation and increased engagement in sedentary behaviours which are often linked to snacking behaviour and increased calorie intake
- Once people become overweight or obese this can affect the quality of sleep, typically through a condition known as sleep apnoea which causes interruptions to breathing during sleep, leading to regular waking and daytime tiredness
- Thus, lack of sleep may contribute to weight gain, while obesity tends to compound sleeping problems leading to a vicious cycle
- Encouraging people to get more sleep and to reflect on their sleep quality may help regulate body weight.

Participants

N/A

Research Team

Externally conducted literature review by C. Ruxton, Freelance Dietitian, and E. Derbyshire, Freelance Nutritionist. Funded by Slimming World.

Reference

Ruxton, C. and Derbyshire, E. (2015). Does sleep affect weight management? Complete Nutrition, 15(1): 12-14.

Date

2015

Tackling the subject of weight with patients: the difficult conversation

Aim

To explore the barriers many health professionals experience in raising and discussing the issue of body weight with patients.

Summary

- Overweight and stigma is explored alongside the importance of 'making every contact count'
- Practical advice on how to discuss weight in a way that leaves patients feeling open to change is provided
- By recognising that past experiences and struggles with weight and failure to succeed have a profound effect on confidence and commitment, health professionals can begin to have helpful conversations about weight
- A caring, non-judgemental conversation that acknowledges how patients feel about their weight and their understanding of the effect it has can be a significant entry point in helping them begin to make behaviour changes and start them on a journey to better health, mental and emotional wellbeing.

Participants

N/A

Research Team

Slimming World research team

Reference

Lavin, J.H., Pallister, C., Gibson, S. and Caven, J. (2015). Tackling the subject of weight with patients: the difficult conversation. *Journal of Primary Health Care*, 25(2): 18-22.

Date

2015

NoHoW: Evidence-based ICT tools for weight loss maintenance

Aim

To evaluate the most effective information and communication technology (ICT) tools for weight loss maintenance using up-to-date behavioural science research.

Summary

- Research suggests promising evidence-based behaviour change techniques for weight loss maintenance are self-monitoring, goal setting, action control, building self-efficacy and intrinsic motivation and that stress management and emotion regulation skills are key enablers of relapse prevention
- Information and communication technology (ICT) has potential to provide accessible, scalable channels for people to engage with these evidence-based behaviour change techniques
- The NoHoW project is a three-centre randomized controlled trial designed to evaluate the most effective ICT tools for weight loss maintenance using up-to-date behavioural science research
- During the trial, ICT delivery will be facilitated via a suite of tools including networked-wireless tracking technologies, weighing scales and activity sensors, apps, multimedia resources and internet-based support
- Project results will feed into new developments for implementation by Slimming World to provide further weight loss maintenance support to members for long term weight control.

Participants

N/A

Research Team

The Slimming World research team plus B.L. Heitmann from the Institute of Preventive Medicine, Denmark, F.F. Sniehotta from the Institute of Health & Society Faculty of Medical Sciences Newcastle University, UK, P.J. Teixeira from the Faculty of Human Kinetics, University of Lisbon, Portugal, M. Matos from the Cognitive and Behavioural Centre for Research and Intervention, University of Coimbra, Portugal, M. Horgan, Biomathematics & Statistics Scotland, UK, C. Clissman, Pintail Ltd, Dublin, Ireland, L. Lähteenmäki, Department of Business Administration, Aarhus C, Denmark, M. Ermes, Teknologian Tutkimuskeskus, Finland, C. Ladha, Axivity, York, UK, E. Woodward, European Association for the Study of Obesity.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 643309.

Reference

Stubbs, R.J., Heitmann, B.L., Sniehotta, F.F., Teixeira, P.J., Matos, M., Horgan, G., Clissman, C., Lähteenmäki, L., Ermes, M., Ladha, C., Sacher, P.M. and Woodward, E. (2015). NoHoW: Evidence-based ICT tools for weight loss maintenance. *Obesity Facts*, 8 (1): 127.

Date

2015

The impact of shame, self-criticism and social rank on eating psychopathology in overweight and obese members of a commercial weight management programme

Aim

To examine associations between self-criticism, social comparison, external shame, negative affect (emotions) and eating psychopathology in overweight/obese participants attending Slimming World.

Summary

- 2,236 participants completed an online survey with measures of self-criticism, social comparison, external shame and negative affect, adapted to address these aspects in relation to eating behaviour, body weight and shape
- Correlation analyses showed that external shame, self-criticism and social comparison were associated with negative affect and eating psychopathology
- Path analysis showed that when the effect of depressive symptoms was controlled for the impact of external shame, hated self and reassured self on disinhibition and susceptibility to hunger was fully mediated by their effect on weight-related negative affect. In turn, inadequate self and negative social comparison predicted higher disinhibition and susceptibility to hunger directly and partially through weight-related negative affect
- Shame, self-criticism, and perceptions of low social rank significantly predict eating related difficulties in members of the general population participating in popular weight-loss programmes and represent targets for intervention.

Participants

2,236 Slimming World members.

Research Team

C. Duarte and M. Matos from the University of Coimbra and G. Gilbert and P. Gilbert from the Compassionate Mind Foundation.

Reference

Duarte, C., Matos, M., Gail, C., Morris, L., Stubbs, R.J. and Gilbert, P. (2015). The impact of shame, self-criticism and social rank on eating psychopathology in overweight and obese members of a commercial weight management programme. *Obesity Facts*, 8(1).

Date

2015

Which weight-loss programmes are as effective as Weight Watchers? Non-inferiority analysis

Aim

The aim of this study was to examine whether other group-based, commercially available weight loss programmes and an NHS led programme were as effective as Weight Watchers.

Summary

- 3,290 participants who met the eligibility criteria for primary care obesity management treatments were included and referred to a weight management programme for 3 months. Participants were weighed at 3 and 12 months
- At 3 months other commercially available programmes were found not to be inferior to Weight Watchers. However, the NHS group programme was inferior
- At 12 months participants using Slimming World achieved significantly greater weight losses than those using Weight Watchers
- The authors concluded that, in the short term, all commercial weight loss programmes appear to result in similar weight loss. At 12 months Slimming World led to greater weight loss.

Participants

3,290 patients referred to different weight loss programmes by the NHS.

Research Team

Externally conducted research by C. Madigan, A. Daley, and K. Jolly from the University of Birmingham plus A. Lewis and P. Aveyard from the University of Oxford.

Reference

Madigan, C., Daley, A., Lewis, A., Jolly, K., Aveyard, P. (2014). Which weight-loss programmes are as effective as Weight Watchers? Non-inferiority analysis. *British Journal of General Practice*, 64(620): e128-e136.

Date

2014

Weight management in university students

Aim

To assess the feasibility and benefits of supporting students with healthy weight management.

Summary

- Starting university can lead to significant weight gain, with the numbers of overweight students reported to increase by 5% and those with a BMI > 30 kg/m² increasing by 1% in their first semester
- During a special offer period, university students were offered free Slimming World membership for 12 weeks. Weekly attendance, age, gender, weight and height data were collated
- 680 (3.2% male) students, mean (SD) age 21 years (4.7), joined a Slimming World group during this period
- Mean joining weight was 86.8 kg (6.2) and BMI 31.5 kg/m² (6.2)
- During the first 12 weeks, mean attendance was 6.1 weeks (3.8)
- Mean weight loss for all participants was 3.1% (3.1) and BMI change -1.0 kg/m² (1.0)
- Those who were still attending Slimming World six months after the offer (n=140) had lost 6.1% (3.2) body weight on average and reduced their BMI by 1.9 kg/m² (1.0)
- These findings suggest that regular support from Slimming World can prevent weight gain, which is typically common in students, and lead to significant weight loss in those who engage well.

Participants

680 students who joined Slimming World.

Research Team

The Slimming World research team plus C. Cryan from Sheffield Hallam University.

Reference

Barber, J., Avery, A., Cryan, C., Smith, S. (2014). Weight management in university students. Presented at Public Health England (PHE) conference, September 2014.

Date

2014

The healthy eating and lifestyle in pregnancy (HELP) feasibility study

Aim

This study aimed to explore the feasibility of group-based weight management for obese pregnant women.

Summary

- In this pilot study, women with an obese BMI at the start of their pregnancy (mean starting BMI of 37.4kg/m²; range 30 – 58.7 kg/m²), were invited to attend a weekly support group encouraging adoption of healthy eating and activity habits. The group was jointly led by a trained Slimming World Consultant and midwife. Healthy eating and lifestyle behaviour change was encouraged rather than weight loss
- During their pregnancy, 85% (n=126) of the women went to >3 and 65% (n=96) >6 sessions. Mean (SD) attendance was 10 weeks (7.7)
- For the 44 women who attended group within 3 weeks before delivery, a mean gestational weight gain of 4.3kg was reported
- Of the 132 reported births, the mean birth weight was 3.53kg (0.49) and for the 39 women losing weight, 3.59kg (0.35)
- Fewer small and large for gestational age infants were born to the women losing weight (mean 2.5kg) during pregnancy
- 89% (n=115) initiated breastfeeding and 70% were still breastfeeding 28 days post-delivery
- Collaborative working between NHS midwives and Slimming World offers an opportunity to prevent excessive gestational weight gain, improve pregnancy outcomes and improve sustained breast-feeding rates.

Participants

148 obese pregnant women recruited at their booking appointment.

Research Team

Slimming World research team plus Karen Jewell, University of Wales hospital and Dr Sharon Simpson, Cardiff Trials Unit.

Reference

Jewell, K., Avery, A., Barber, J. and Simpson, S. (2014). The healthy eating and lifestyle in pregnancy (HELP) feasibility study. *British Journal of Midwifery*, 22:10.

Date

2014

Healthy eating and lifestyle in pregnancy (HELP): a protocol for a cluster randomised trial to evaluate the effectiveness of a weight management intervention in pregnancy

Aim

This paper describes the design of a randomised trial evaluating the effectiveness of Slimming World's programme during pregnancy on pregnancy and post-natal weight and health.

Summary

- This study involves cluster randomisation of obese pregnant women at booking to either intervention or control groups
- The control group will receive usual care plus two leaflets providing advice on diet and physical activity. The intervention group will receive usual care and the two leaflets, plus one and a half hour weekly healthy lifestyle support groups, delivered by a Slimming World consultant and NHS midwives during pregnancy and up to 6 weeks post-partum
- Participants will be followed up at 36 weeks gestation and at six weeks, six months and 12 months post-partum
- BMI at 12 months is the primary outcome; secondary outcomes include pregnancy weight gain, quality of life, mental health, waist-hip ratio, diet, physical activity levels, pregnancy and birth complications, social support, self-regulation, self-efficacy, child weight centile and admission to neonatal unit
- A cost effectiveness analysis and process evaluation will be conducted
- The study will evaluate the effectiveness of a theory-based intervention developed for obese pregnant women. If successful the intervention will equip women with the necessary knowledge and skills to enable them to make healthier choices for themselves and their unborn child.

Participants

Obese pregnant women, between 12 and 20 weeks gestation, recruited from 20 maternity units across England and Wales.

Research Team

External research conducted by the HELP study research team from the South East Wales Trials Unit at the University of Cardiff.

Reference

John, E., Cassidy, D.M., Playle, R., Jewell, K., Cohen, D., Duncan, D., Newcombe, R.G., Busse, M., Owen-Jones, E., Williams, N., Longo, M., Avery, A. and Simpson, S. (2014). Healthy eating and lifestyle in pregnancy (HELP): A protocol for a cluster randomised trial to evaluate the effectiveness of a weight management intervention in pregnancy. *BMC Public Health*, 14:439.

Date

2014

The cost-effectiveness of primary care referral to a UK commercial weight loss programme

Aim

This research aimed to determine whether a 12 week primary care referral to Slimming World was cost-effective compared with usual care.

Summary

- This independent cost-effectiveness analysis of referral to Slimming World used a large observational dataset and follows National Institute for Health and Care Excellence (NICE) reference case for technology appraisals
- Using a Quality Adjusted Life Year (QALY) measure to consider the impact of the intervention on both quality and length of life, Slimming World on Referral dominated usual care, being both cheaper and more effective at 12 months and over a lifetime horizon
- This is the first long-term economic model of a commercial weight loss programme that extends the analysis beyond type 2 diabetes to include additional health consequences associated with obesity
- Lifetime risk of health conditions such as diabetes, myocardial infarction and stroke were lower following referral to Slimming World than usual care
- An independent economic evaluation shows that primary care referral to Slimming World provides value for money against the standards set by the NICE.

Participants

N/A

Research Team

Externally conducted research by D. Meads, C. Hulme, P. Hall and A. Hill from the University of Leeds.

Reference

Meads, D. M., Hulme, C. T., Hall, P. and Hill, A. J. (2014). The cost-effectiveness of primary care referral to a UK commercial weight loss programme. *Clinical Obesity*, 4: 324–332.

Date

2014

A qualitative study of the understanding and use of 'compassion focused coping strategies' in people who suffer from serious weight difficulties

Aim

To explore the understanding and experiences of compassion in men and women seeking help for weight loss.

Summary

- Semi-structured interviews examined people's understandings of compassion, their recall of experiences of compassion in childhood, their current experiences of receiving compassion from others, being compassionate to others, being self-compassionate, and whether they would be compassionate or self-critical for relapses in overeating
- Participants saw compassion as related to 'caring' and being 'listened to'. However, their recall of earlier experiences of compassion was of primarily practical help rather than emotional engagement. Typically their response to their own relapse and setbacks were self-criticism, self-disgust and even self-hatred rather than self-caring or understanding
- The findings suggest compassion based approaches will help people who are struggling to manage their weight.

Participants

12 people seeking help for weight problems (two men and ten women).

Research Team

The Slimming World research team plus P. Gilbert, C. Gale and J. Gilbert from the Compassionate Mind Foundation and L. Dunk and L. Thomson from the University of Nottingham.

Reference

Gilbert, J., Stubbs, R.J., Gale, C., Gilbert, P., Dunk, L., Thomson, L. A. (2014) qualitative study of the understanding and use of 'compassion focused coping strategies' in people who suffer from serious weight difficulties. *Journal of Compassionate Health Care*, 1:9.

Date

2014

12 month weight outcomes in high-engagers with the Slimming World weight management programme

Aim

This study looked at the weight records of self-funding members of Slimming World groups who attended at least 75% of possible sessions over 12 months of membership.

Summary

- Mean (SD) joining weight was 93.4kg (19.8), age 47 years (13.7), BMI 34.5kg/m² (6.5) and 6.3% of members were men

	Mean	SD
Number of weeks attended	45.4 (85.7% of possible sessions)	3.4
Weight change (kg)	-12.7	8.4
Percent weight change (%)	-13.2	7.4
BMI change (kg/m ²)	-4.7	3

- Percent weight outcomes were similar in men and women
- These data show that those who choose to engage for >75% of possible sessions over a 12 month period achieve clinically significant weight loss exceeding 10%.

Participants

71,989 self-funding Slimming World members.

Research Team

Slimming World research team plus statistical analysis by G. Horgan from Biomathematics and Statistics, Scotland.

Reference

Lavin, J.H., Pallister, C., Morris, L. and Stubbs, R.J. (2013). 12 month weight outcomes in 45,395 high-engagers with the Slimming World weight management programme. *Obesity Facts*, 6(1):189

* Data updated since publication.

Date

2013

The Healthy Eating and Lifestyle in Pregnancy (HELP) study: design, baseline data and qualitative findings

Aim

This cluster RCT was designed to assess whether accessing Slimming World support during pregnancy is effective in reducing obese women's BMI at 12 months of giving birth.

Summary

- The primary outcome was BMI at 1 year postpartum and secondary outcomes included pregnancy weight gain, mental health, quality of life, waist to hip ratio, diet, physical activity, pregnancy and birth complications, social support, self-efficacy and child weight centile
- Baseline results showed that women in both arms of the trial were similar and most were concerned about their weight – having attempted to tackle obesity before becoming pregnant
- If successful this intervention could significantly reduce health risks for pregnant women and NHS costs.

Participants

598 obese pregnant women referred to Slimming World as part of the Healthy Eating in Lifestyle Pregnancy trial.

Research Team

External research conducted by the HELP study research team from the South East Wales Trials Unit at the University of Cardiff.

Reference

Simpson, S.A., John, E., Cohen, D., Newcombe, R., Cassidy, D., Playle, B. and Jewell, K. (2013). The Healthy Eating and Lifestyle in Pregnancy (HELP) study: design, baseline data and qualitative findings. *Obesity Facts*, 6(S1): 196.

Date

2013

Quality of life in longer-term members of a commercial weight loss organisation

Aim

This study investigated the change in quality of life for participants who had been members of Slimming World for ≥ 6 months over a further 6 month period.

Summary

- It was found that heavier participants perceived that they had a lower quality of life than lighter participants
- Weight loss over the six months of the study was associated with improved perceptions of all dimensions of quality of life measured; physical function ($p < 0.001$), self-esteem ($p = 0.009$), sex life ($p < 0.001$), public distress ($p < 0.001$) and work ($p < 0.001$)
- These data suggest that weight status impacts on quality of life, which can be improved by weight loss when attending Slimming World.

Participants

620 self-funding Slimming World members.

Research Team

Slimming World research team plus S. Whybrow independent data analyst from the University of Aberdeen.

Reference

Whybrow, S., Stubbs, R.J., Avery, A., Pallister, C. and Lavin, J.H. (2013). Quality of life in longer-term members of a commercial weight loss organisation. *Obesity Facts*, 6(1):173.

Date

2013

Global self-esteem in longer-term members of Slimming World

Aim

This study investigated changes in self-esteem of 620 members who had attended Slimming World groups for at least six months and lost an average 15.2% weight.

Summary

- Members were then followed up over a subsequent six month study period and split into tertiles depending on whether they had lost weight, maintained or gained weight
- A greater improvement in self-esteem since joining Slimming World was related to greater weight loss (kg) ($R^2=0.018$, $p=0.001$), but not to duration of membership. Members who had lost or maintained weight over the six month study period reported more of an improvement in feelings of self-esteem than those who gained weight ($p<0.001$).

Participants

620 self-funding Slimming World members

Research Team

Slimming World research team plus S. Whybrow independent data analyst from the University of Aberdeen.

Reference

Stubbs, R.J., Whybrow, S., Avery, A., Pallister, C. and Lavin, J.H. (2013). Global self-esteem in longer-term members of Slimming World. *Obesity Facts*, 6(1):175.

Date

2013

Slimming World on Referral: weight management outcomes from a new enhanced service

Aim

This study looked at the weight changes of members attending Slimming World after being referred to a new enhanced service by their healthcare professional, launched in 2011.

Summary

- The enhanced service includes Slimming World assessing the patient's eligibility, readiness to change and explaining the programme to the patient before supporting enrolment in a Slimming World group for 12 weeks
- The study found that patients referred to the enhanced service achieved greater weight loss than patients referred to the regular referral service (-5.3% vs. -4.0% at 12 weeks), and a larger proportion achieved $\geq 5\%$ weight loss in 12 weeks compared to the regular referral service (45.2% vs. 35.8%)
- Slimming World's enhanced referral service is a practical and effective option for NHS weight management strategies and not only provides easy access to a specialist service requiring minimal NHS resource, but improved outcomes in terms of patient attendance and weight loss.

Participants

629 NHS patients referred to Slimming World's enhanced service.

Research Team

Slimming World research team

Reference

Pallister, C., Stubbs, R.J., Morris, L., Avery, A. and Lavin, J.H. (2013). Slimming World on Referral: weight-management outcomes from a new enhanced service. *Obesity Facts*, 6(1): 114.

Date

2013

Service evaluation of weight outcomes as a function of initial BMI in 34,271 adults referred to a primary care/commercial weight management partnership scheme

Aim

To examine weight loss outcomes as a function of initial BMI in 34,271 patients referred by their health care professional to Slimming World for 12 weeks.

Summary

- It is not clear if behaviour change programmes are as effective for weight management in people with a high BMI as for those who are more moderately overweight
- Patients referred to the scheme were categorised by BMI groups <math><30\text{kg}/\text{m}^2</math> (11%), 30-34.9kg/m² (34%), 35-39.9kg/m² (29%) and to $\geq 40\text{kg}/\text{m}^2$ (26%). Mean weight losses after 12 weekly sessions were 2.9, 3.6, 4.1, and 4.8kg for each BMI category respectively
- Regression analysis showed that after adjusting for age and gender, relative to the <math><30\text{kg}/\text{m}^2</math> group, absolute weight losses were 0.8, 1.4 and 2.4kg more for the 30-34.9kg/m², 35-39.9kg/m² and to $\geq 40\text{kg}/\text{m}^2$ groups, respectively (all $p<0.001$). Percent weight loss was similar in each BMI category: 3.7%, 4.0%, 4.0% and 3.9%, respectively ($p<0.001$)
- This service evaluation demonstrates that 12 week referral to Slimming World is as effective for people with high BMIs as for those who are moderately overweight.

Participants

34,271 Slimming World members referred by the NHS.

Research Team

Slimming World research team plus S. Whybrow independent data analyst from the University of Surrey.

Reference

Stubbs, R.J., Brogelli, D., Avery, A., Pallister, C. and Lavin, J.H. (2012). Referral to a commercial organisation is as effective for people with high BMIs as for those who are moderately overweight. *Obesity Facts*, 5(1): 227

Stubbs, R.J., Brogelli, D., Allan, J., Pallister, C., Whybrow, S., Avery, A. and Lavin, J.H. (2013). Service evaluation of weight outcomes as a function of initial BMI in 34,271 adults referred to a primary care/commercial weight management partnership scheme. *BMC Research Notes*, 6:161.

Date

2013

Slimming World in Stop Smoking Services (SWISS): study protocol for a randomised controlled trial

Aim

The objective of this paper is to lay out the protocol for a study which aims to determine whether attending Slimming World from smoking quit date, through referral from NHS Stop Smoking Services, is more effective than usual care at preventing cessation related weight gain.

Summary

- 320 participants will be recruited, with 160 in each arm randomly assigned to either normal cessation care or 12 weeks of Slimming World membership in addition to normal care. The primary outcome is weight change at 12 weeks post randomisation
- If the study demonstrates effectiveness, the study team will seek to determine if weight loss success comes at the expense of a successful quit attempt. Positive results from both trials would provide a potential solution to cessation-related weight gain.

Participants

320 smoking cessation service users, 160 of which will be referred to Slimming World for weight management support.

Research Team

Externally conducted research by D. Lycett from the University of Coventry, P. Aveyard, A. Farmer, A. Lewis from the University of Oxford and M. Munafo from the University of Bristol.

Reference

Lycett, D., Aveyard, P., Farmer, A., Lewis, A. and Munafo, M. (2013) Slimming World in Stop Smoking Services (SWISS): study protocol for a randomised controlled trial. *Trials*, 14:182.

Date

2013

A brief intervention for weight management in primary care: study protocol for a randomised controlled trial

Aim

This paper describes the study protocol for a controlled trial where patients will be randomised into either an assistance intervention, involving referral to a weight management service and follow-up to assess progress (n=912), or an advice orientated intervention, where advice is given to lose weight on medical grounds (n=912).

Summary

- Participants in the referral weight management arm will receive 12 weeks referral to a weight management provider of their choice (Slimming World or Rosemary Connelly) free of charge
- Participants will be contacted at 3 months (post intervention) via telephone to identify actions they have taken to manage their weight
- The primary outcome will be weight change at 12 months, established at appointments with their GP
- If successful, trial results could make the case for brief interventions for obese people consulting their GP and introduce widespread simple treatments akin to the NHS Stop Smoking Service.
- The intervention could be introduced in the Quality and Outcomes Framework and influence practice worldwide.

Participants

1,824 obese adults in England attending their GP for reasons other than weight management.

Research Team

Externally conducted research by A. Lewis from the University of Oxford, K. Jolly, P. Adab, A. Daley, S. Jebb, S. Clarke, A. Christian, J. Jin, B. Thompson and P. Aveyard from the University of Birmingham, A. Farley from the Medical Research Council Human Nutrition Research Unit and D. Lycett from Coventry University.

Reference

Lewis, A., Jolly, K., Adab, P., Daley, A., Farley, A., Jebb, S., Lycett, D., Clarke, S., Christian, A., Jin, J., Thompson, B., Aveyard, P. (2013). A brief intervention for weight management in primary care: study protocol for a randomised controlled trial. *Trials*, 14:393.

Date

2013

Weight outcomes as a function of BMI in 1.2 million members of a commercial weight management programme

Aim

To examine weight outcomes of Slimming World members in different BMI groups during their first three months' attendance.

Summary

- While people with high BMI are often recommended to receive secondary and tertiary care, many may access local community-based weight management services. Using electronic weekly weight records, this study examined weight outcomes of Slimming World members in different BMI groups during their first three months' attendance
- Mean (SD) joining BMI was 32.6kg/m² (6.3) and age 42.5 years (13.6), 5% of members were male

Weight Outcomes at 3 months

	n	% of sample	Mean weight change in kg (SD)	Percent weight change (SD)
<30kg/m ²	499,496	39.5	-3.4 (2.7)	-4.5 (3.6)
30-34.9kg/m ²	390,642	30.9	-4.2 (3.4)	-4.8 (3.8)
35-39.9kg/m ²	219,404	17.4	-4.8 (4.0)	-4.8 (3.8)
≥40kg/m ²	154,749	12.2	-5.7 (4.8)	-4.7 (3.8)

- After adjusting for age and gender, relative to the <30kg/m² group, absolute weight losses were 0.8, 1.4 and 2.3kg more for the 30-34.9kg/m², 35-39.9kg/m² and ≥40kg/m² groups respectively (all p<0.001) resulting in similar percent weight losses across BMI groups

This data highlights how Slimming World's lifestyle programme is effective for people with high BMIs as well as those who are moderately overweight

*Data updated since publication.

Participants

1,211,294 self-funding Slimming World members.

Research Team

Slimming World research team plus statistical analysis by G. Horgan from Biomathematics and Statistics, Scotland.

Reference

Stubbs, R.J., Morris, L., Pallister, C., Avery, A., Horgan, G. and Lavin, J.H. (2013). Weight outcomes as a function of BMI in 1.2 million members of a commercial weight management programme. *Obesity Facts*, 6(1):189.

Date

2013

The challenges of implementing behaviour changes that lead to sustained weight management

Aim

This paper reviews the challenges associated with implementing behaviour change for successful weight management.

Summary

- There are numerous approaches to weight management but they all involve changes in self-management, eating or activity behaviour
- Dietary changes in behaviour appear to be more achievable for weight loss earlier in the weight loss journey, while physical activity becomes an important adjunct to initial dietary changes for weight loss maintenance
- People successfully maintaining significant weight loss tend to self-regulate their eating behaviour, do more physical activity and remain vigilant, to catch slips in behaviour that may lead to weight regain
- To navigate from the journey of weight loss to one of habitual weight loss maintenance requires long-term self-management. Environments and programmes that support, nurture and facilitate long-term behaviour change give people the capability, opportunity and motivation to navigate to a healthy weight.

Participants

N/A

Research Team

Slimming World research team

Reference

Stubbs, R.J. and Lavin, J.H. (2013). The challenges of implementing behaviour changes that lead to sustained weight management. *Nutrition Bulletin*, 38: 5-22.

Date

2013

How well do Slimming World members' food choices meet current healthy eating recommendations?

Aim

To investigate how closely Slimming World members' dietary patterns followed the EatWell Plate recommendations.

Summary

- An online food frequency questionnaire of 2,695 members was used and responses compared with current healthy eating guidelines
- The study found that members reported meeting the EatWell Plate recommendations for high fat/sugar foods, fruit and vegetables as well as a number of other recommendations for fish, red and processed meat
- Slimming World members are choosing a diet that fits well with the EatWell Plate recommendations whilst losing weight.

Participants

Slimming World research team plus P. Sahota and J. Larkin from Leeds Metropolitan University.

Research Team

Slimming World research team

Reference

Barber, J., Pallister, C., Larkin, J., Avery, A., Lavin, J.H. and Sahota, P. (2013). How well do Slimming World members' food choices meet current healthy eating recommendations? *Obesity Facts*, 6(1):161.

Date

2013

Health professionals', 'expert' patients' and dieters' beliefs and attitudes about obesity

Aim

To investigate the attitudes and beliefs of health professionals, Slimming World Consultants ('expert' patients) and overweight and obese dieters, towards obesity.

Summary

- Data were collected using a questionnaire from 287 health professionals, 85 'expert' patients and 116 dieters
- Health professionals, 'expert' patients and dieters had similar perceptions of obesity, identifying the same causes (lifestyle causes), consequences (medical consequences) and treatments (current recommended options) of obesity/overweight
- The concordance of beliefs between patients and treatment providers is an encouraging finding and may have important implications for public health strategies in this area.

Participants

287 health professionals, 85 'expert' patients and 116 dieters.

Research Team

R.J. Stubbs from the Slimming World research team plus A. McConnon, R. Gribble, M. Raats and R. Shepherd from the University of Surrey.

Reference

McConnon, A., Raats, M., Shepherd, R. and Stubbs, R.J. (2008). Healthcare professionals' and dieters' attitudes and perceptions of obesity. *Proceedings of the Nutrition Society*, 67:E287

McConnon, A., Gribble, R., Raats, M., Stubbs, R.J. and Shepherd, R. (2013). Health professionals', expert patients' and dieters' beliefs and attitudes about obesity. *Journal of Human Nutrition and Dietetics*, 26:612-616.

Date

2013

Weight outcomes of 497,777 participants in Slimming World's programme during the first 12 weeks of membership

Aim

This analysis examined weight loss outcomes in 497,777 self-funding participants of Slimming World groups.

Summary

- Participants' sex, height, age and weekly weight measures were collected during the first 12 weeks of attendance
- Mean (SD) percent weight change was -3.9% (3.4) and number of sessions attended was 6.9 (3.6) of 12. For patients who did attend ≥ 10 of 12 sessions, (n=161,663 or 32%), mean (SD) percent weight change was 6.7% (3.2)
- Slimming World achieves large-scale, community-based, clinically safe and effective weight loss while placing minimal health care costs on primary care services.



Participants

497,777 self-funding Slimming World members.

Research Team

Slimming World research team

Reference

Stubbs, R.J., Brogelli, D., Pallister, C., Avery, A. and Lavin, J.H. (2012). Weight outcomes of 497,777 participants in Slimming World's programme during the first 12 weeks of membership. *Obesity Facts*, 5(1): 232.

Date

2012

An initial evaluation of a family-based approach to weight management in adolescents attending a community weight management group

Aim

Slimming World developed a tailored programme supporting younger members to adopt healthier lifestyle behaviours whereby those aged 11-15 years could attend a Slimming World group along with their parent or guardian and with the support of their health care professional. This survey evaluated Slimming World's programme for young people one year after its launch.

Summary

- Slimming World group Consultants supporting more than six young people in their groups were invited to take part. Weight and questionnaire data were collected from 106 young people through 22 Consultants
- At the time of the survey the young members had been attending groups for an average 12.5 weeks with 84% of young members attending with their mother
- Mean weight change was -3.0kg and mean BMI z-score reduced from 2.49 to 2.27
- Over 75% of Slimming World group Consultants reported feeling comfortable welcoming the young members into their groups with the vast majority saying the young members had fitted 'very well' into the group environment.

Participants

106 young Slimming World members, aged 11-15yrs, and 22 Slimming World Consultants.

Research Team

Slimming World research team

Reference

Avery, A., Pallister, C., Allan, J., Stubbs, R.J. and Lavin, J.H. (2012). An initial evaluation of a family-based approach to weight management in adolescents attending a community weight management group. *Journal of Human Nutrition and Dietetics*, 25(5):469-76.

Date

2012

Weight, body mass index and behaviour change in a commercially run lifestyle programme for young people

Aim

Slimming World offers healthy lifestyle support to young members (11-15 yrs) who attend a group with their parent or guardian and have the support from their local health care team. This study assessed the impact of Slimming World group support on body weight, body mass index (BMI) and health related behaviour changes in participating young people.

Summary

- Results showed positive changes in dietary and activity levels with young members consuming more fruit and vegetables, less unhealthy snack foods and spending less time being sedentary
- 67% of participants were above the 99th centile for BMI on joining. At the time of the survey current mean weight change was -5.0 (4.5)kg and mean BMI change was -2.5 (2.0)kg/m² over an average attendance of 23 (19) weeks
- This paper demonstrates that the tailored programme for young people helped implement positive lifestyle behaviour changes associated with reductions in weight and BMI z-score, without compromising growth in height.

Participants

79 young Slimming World members aged 11-15yrs.

Research Team

Slimming World research team

Reference

Lavin, J.H., Pallister, C., Avery, A. and Stubbs, R.J. (2010). Weight, body mass index and behaviour change in young people accessing Slimming World's family affair programme. *Obesity Reviews*, 11(s1): 433

Stubbs, R.J., Pallister, C., Avery, A., Allan, J. and Lavin, J.H. (2012). Weight, body mass index and behaviour change in a commercially run lifestyle programme for young people. *Journal of Human Nutrition and Dietetics*, 25(2): 161-166.

Date

2012

Attendance and weight outcomes in 4,754 adults referred over six months to a primary care/commercial weight management partnership scheme

Aim

Slimming World has an established partnership scheme allowing health professionals to refer patients to local community groups for weight management support in 12 week blocks. This allows health trusts to offer extended referrals to patients they feel would benefit from continued support. This paper investigated the weight loss outcomes of 4,754 adults referred to Slimming World for 24 weekly sessions.

Summary

- Mean average start BMI was 37.9kg/m² (6.7) and 31.5% of the referred population had a starting BMI of 40kg/m²
- Mean BMI change was -3.3kg/m², weight loss 8.9kg (8.6%) and number of sessions attended 21.3 of 24. 74.5% of all patients enrolled achieved at least 5% weight loss and weight gain was prevented in 96.3%
- This study demonstrates that referral to Slimming World is a practical option for longer-term NHS weight management strategies. Local targeting of resources to where will have most beneficial effect in local communities can result in greater weight losses and maximise returns for investments made.

Participants

4,754 Slimming World members referred by the NHS.

Research Team

Slimming World research team plus S. Whybrow independent data analyst from the University of Aberdeen.

Reference

Stubbs, R.J., Brogelli, D., Whybrow, S., Avery, A., Pallister, C. and Lavin, J.H. (2012). 24-week referral to Slimming World from primary care: weight outcomes for 4,754 adults. *Obesity Facts*, 5(1): 215

Stubbs, R.J., Brogelli, D.J., Pallister, C.J., Whybrow, S., Avery, A.J. and Lavin, J.H. (2012). Attendance and weight outcomes in 4,754 adults referred over 6 months to a primary care/commercial weight management partnership scheme. *Clinical Obesity*, 2: 6-14.

Date

2012

Behavioural and motivational factors associated with weight loss and maintenance in a commercial weight management programme

Aim

To examine self-reported behaviour changes associated with weight loss and maintenance in a group of 292 longer-term Slimming World members.

Summary

- At the time of survey, mean duration of membership of the participants was 29.1 months and time taken to reach their current weight was 16.3 months
- Primary factors reported by participants as important in achieving their weight loss included not going hungry by satisfying appetite with low energy density food eaten ad libitum, following a flexible diet, peer-group support and tools to cope with small lapses
- A range of eating and activity behaviours was associated with weight loss maintenance
- This survey suggests it is important to offer consumers flexible solutions which they can adapt to their individual lifestyle needs to support long-term weight control.

Participants

292 self-funding Slimming World members.

Research Team

Slimming World research team plus A. McConnon from the University of Surrey.

Reference

Stubbs, R.J., Pallister, C., Avery, A., Allan, J. and Lavin, J.H. (2010). Behaviour change in a survey of weight loss maintainers using the Slimming World programme. *Obesity Reviews*, 11(s1): 292

Stubbs, R.J., Brogelli, D., Pallister, C., Avery, A., McConnon, A. and Lavin, J.H. (2012). Behavioural and motivational factors associated with weight loss and maintenance in a commercial weight management programme. *The Open Obesity Journal*, 4: 35-43.

Date

2012

The evolutionary inevitability of obesity in modern society: implications for behavioural solutions to weight control in the general population

Aim

To review the current literature on obesity in modern society.

Summary

- Evolution has selected us to optimise resources in uncertain environments, “bank” surplus energy and compensate for energy deficits. But we manipulate the environment to suit these design specifications and so prefer, produce and consume foods that promote weight gain
- The pathways to and from obesity are multiple, heterogeneous and behavioural. For most people weight loss and maintenance requires considerable, sustained effort
- For successful weight maintainers, lapses are normal and they learn to cope with failure. For some, self-criticism and shame are biological mechanisms underpinning weight relapse. Humans are intensely social animals, neither purely rational nor emotive, but a peculiar combination of both
- When making difficult behavioural changes, we are designed to respond inter alia to a care-giving mentality but modern industrial society is success-obsessed, punitive and discriminating towards perceived failure – especially obesity
- These design features of our energy balance and emotive systems undermine our capacity to navigate through our nutritional environment using planned behaviour, towards a healthy lifestyle
- These problems can be countered with socialised behavioural weight-control approaches including self-help support models and guided lifestyle navigation, flexible solutions consumers can choose to meet their individual needs, approaches to counter stigma, shame and self-criticism and development of coping strategies for lapse and relapse.

Participants

N/A

Research Team

R.J. Stubbs from Slimming World research team plus C. Gail and P. Gilbert from Derbyshire NHS Trust and S. Whybrow from the University of Aberdeen.

Reference

Stubbs, R.J., Gail, C., Whybrow, S. and Gilbert, P. (2012). The evolutionary inevitability of obesity in modern society: implications for behavioural solutions to weight control in the general population. In: Martinez MP, Robinson H, eds. Obesity and Weight Management: Challenges, Practices and Health Implications: Novo Publishing.

Date

2012

Comparison of the Slimming World eating plan and DiOGenes intervention diets using a Healthy Diet Index

Aim

To examine diet composition and weight loss maintenance in women consuming low fat, lower energy density ad libitum diets during six months after weight loss.

Summary

- Weighed food records and body weights were compared in 117 Slimming World members with 277 participants in the DiOGenes* study following high/low protein (HP/LP), high/low glycaemic index (HGI/LGI) diets and healthy eating advice. Healthy Diet Indicator (HDI) scores were calculated to estimate diet quality
- Compared to the other diets, the Slimming World diet was lower or similar for percentage energy from fat, and higher or similar for percentage energy from protein and carbohydrate. Energy density was lower, and fruit and vegetable intake was higher (both $P < 0.002$). HDI score was similar to the two LP diets and higher than the other diets ($P < 0.001$). Red meat and total meat consumption was higher than the two low protein diets and similar to the other diets. Mean weight changes, as % initial weight, were -0.53, -0.17, +2.47, -1.73, +0.12 and +1.18 (Slimming World, HPHGI, LPHGI, HPLGI, LPLGI and healthy eating advice respectively, $P = 0.005$)
- The percentage of Slimming World members meeting individual HDI goals generally exceeded other groups, (except for protein compared to the low protein diets). Higher protein diets could be refined by substituting some red and processed meat with other protein sources. The efficacy of the DiOGenes dietary intervention translates into real world effectiveness in the Slimming World programme.

Participants

117 Slimming World members and 277 DiOGenes participants.

Research Team

Slimming World research team plus DiOGenes researchers: S. Whybrow¹, M. Gibbs, M. van Baak, T.M. Larsen, A.K. Lindroos⁴, A. Papadaki, A. Pfeiffer, J.A. Martinez, T. Handjieva-Darlenska, P. Hlavaty, A. Astrup and W.H.M. Saris

The University of Surrey, Guildford, UK; Maastricht University, Maastricht, The Netherlands; The University of Copenhagen, Copenhagen, Denmark; Elsie Widdowson Laboratory, Cambridge, UK; The University of Crete, Heraklion, Crete, Greece; German Institute of Human Nutrition Potsdam-Rehbruecke, Nuthetal, Germany; The University of Navarra, Pamplona, Spain; Medical University National Multiprofile Transport Hospital, Sofia, Bulgaria; and Institute of Endocrinology, Prague, The Czech Republic.

Reference

*EC Framework VI contract No. FP6-513946: diet, obesity and genes (<http://www.diogenes-eu.org/>).

Date

2012

Exercise and management of overweight and obesity

Aim

To review the current literature on exercise and management of overweight and obesity.

Summary

- Exercise and physical activity are beneficial in effectively preventing and treating overweight and obesity. In interventions, overall weight loss depends on the amount of exercise actually completed
- Failure to comply with an exercise prescription is an important reason for the apparent modest effect of exercise in many long-term weight control or weight loss trials
- However, even when compliance is 100%, the potential benefit of the energy expended in exercise can be offset by compensatory responses, mainly driven by increases in hunger and food intake. This is highly variable from person to person and depends on genetic determination of physiological regulatory processes of energy balance. Some over-compensators will need additional help to manage their increased eating in response to exercise, highlighting the need for an energy balance approach to weight control
- Difficulties with integrating new behavioural patterns into longer-term habits are probably among the most important reasons why exercise and physical activity fail to control body weight. Motivation and self-efficacy appear to be important factors that determine the long-term commitment to a physically active lifestyle
- Regardless of whether people compensate energy intake for exercise, increasing physical activity has numerous physical and psychological benefits
- We still need to clarify how exercise fits into the conditions and mechanisms associated with individual success at weight control, which can then be effectively promoted at the clinical, community and population levels.

Participants

N/A

Research Team

R.J. Stubbs from the Slimming World research team plus a multi-national university research team comprising J.P. Teixeira, A.N. King, S. Whybrow and E.J. Blundell.

Reference

Teixeira, P.J., Stubbs, R.J., King, N.A., Whybrow, S. and Blundell, J.E. (2011). Exercise and management of overweight and obesity. In Saxton JM, ed. Exercise and Chronic Disease: An Evidence-Based Approach. Routledge, Oxon, 297-321.

Date

2011

A qualitative study comparing commercial and health service weight loss groups, classes and clubs

Aim

Group based interventions for weight loss are popular. This study aimed to compare and contrast leaders' and attendees' experiences of health service and commercial weight loss groups, through 13 semi-structured group observations and in-depth audio recorded interviews with 11 leaders and 22 attendees.

Summary

- Compared to commercial groups, health service classes tended to offer smaller periodic fixed term groups, involving gatekeeper referral systems. Commercial organisations provide a fixed branded package for members, and most commercial leaders share personal experiences of losing weight. Health service leaders had less opportunity for supervision, peer support or specific training in how to run their groups compared to commercial leaders
- Commercial and health service groups differ in access; attendee and leader autonomy; engagement in group processes; and approaches to leadership and training, which could influence weight loss outcomes
- The paper proposes that if health service groups are to become more prevalent, then attention to leader training, protected time to extend access and a stronger evidence-based theoretical approach to behavioural change in a group setting is required.

Participants

11 leaders and 22 attendees of health service and commercial group based weight loss interventions.

Research Team

External research conducted by K. Allan from Robert Gordon University, Aberdeen with P. Hoddinott and A. Avenell from the University of Aberdeen.

Reference

Allan, K., Hoddinott, P. and Avenell, A. (2011). A qualitative study comparing commercial and health service weight loss groups, classes and clubs. *Journal of Human Nutrition and Dietetics*, 24: 23-31.

Date

2011

Demographic factors do not predict weight loss maintenance in members of a commercial weight loss organisation

Aim

Demographic factors are important correlates of predisposition to obesity but much less is known about how they relate to weight loss and its maintenance. This analysis, examined the demographic predictors of weight loss maintenance in Slimming World members.

Summary

- As part of the DiOGenes* study, this analysis assessed data for 1,428 Slimming World members, who had been members for a mean (SD) of 16 (16) months, had lost $13.8\% \pm 9.2\%$ weight and were trying to maintain, or further, their weight loss during a subsequent six month study period
- There was no association between age, sex, marital status or family structure and subsequent weight loss maintenance. Those with a greater starting weight lost a higher percentage of their weight during the study period than did those with a lower starting weight ($p < 0.001$), presumably because they had more to lose.

Participants

1,428 self-funding Slimming World members.

Research Team

R.J. Stubbs from the Slimming World research team plus A. McConnon, M. Raats and M. Gibbs from the University of Surrey.

Reference

Whybrow, S., McConnon, A., Gibbs, M., Raats, M. and Stubbs, R.J. (2011). Demographic factors do not predict weight loss maintenance in members of a commercial weight loss organisation. Proceedings of the Nutrition Society, 70:E403

*EC Framework VI contract No. FP6-513946: diet, obesity and genes (<http://www.diogenes-eu.org/>).

Date

2011

Dietary restraint and weight loss maintenance in members of a commercial weight loss organisation

Aim

This analysis examined the association between restrained eating behaviour and weight loss maintenance in 1,428 participants of Slimming World as part of the DiOGenes study*.

Summary

- Participants had been members for a mean (SD) 16 (16) months. They had lost 13.8% (9.2) of their initial weight and were trying to maintain, or increase, their weight loss during a subsequent six month study period
- Disinhibition was associated with weight gain during the following six months. This only explained a small proportion of the variance in weight loss maintenance. Cognitive restraint and its components were not strongly associated with weight loss maintenance.

Participants

1,428 self-funding Slimming World members.

Research Team

S. Whybrow, M. Gibbs, M. Raats and A. McConnon from the University of Surrey plus J. Westenhoefer and E. Engel from the University of Hamburg, with support from R.J. Stubbs from the Slimming World research team.

Reference

Whybrow, S., Westenhoefer, J., Engel, E., McConnon, A., Gibbs, M., Raats, M. and Stubbs, R.J. (2011). Dietary restraint and weight loss maintenance in members of a commercial weight loss organisation. *Proceedings of the Nutrition Society*, 70:E402

*EC Framework VI contract No. FP6-513946: diet, obesity and genes (<http://www.diogenes-eu.org/>).

Date

2011

Changes in lifestyle habits and behaviours are associated with weight loss maintenance in members of a commercial weight loss organisation

Aim

To examine the lifestyle correlates of weight loss maintenance in 1,428 participants of Slimming World, as part of the DiOGenes study*.

Summary

- Participants had been members for on average 16 (16) months. They had lost 13.8% (9.2) of their initial weight and were trying to maintain, or increase, their weight loss during a subsequent six month study period
- Regular lunch consumption was associated with further weight loss ($p=0.002$). Borderline evidence suggested snacking between meals was associated with weight regain ($p=0.057$). Dietary habits relating to "eating a healthy diet" or "eating low-fat foods" were related to weight loss maintenance over the six months. The reported strengths of these two habits explained 3.8% and 0.7% of the variance in change in percentage body weight, respectively. When looking at change in habit strength over the six months, people for whom "eating a healthy diet", "eating low fat foods" or "eating fruits and vegetables" had become stronger habits tended to have more successful weight changes. The correlations were significant, but very weak ($R^2 = 0.03, 0.019$ and 0.01 respectively)
- Increased self-reported physical activity correlated with more weight loss ($p=0.013$). All significant effects only explained a small proportion of the variance in weight loss maintenance
- Specific correlates while significant, only explain a small proportion of the variance in weight outcomes for the whole group. This study and other data suggest that the habits of successful weight loss maintainers are heterogeneous because people adopt individual lifestyle behaviour profiles.

Participants

1,428 self-funding Slimming World members.

Research Team

Slimming World research team plus A. McConnon, M. Gibbs, M. Raats and S. Whybrow from the University of Surrey.

Reference

Stubbs, R.J., McConnon, A., Gibbs, M., Raats, M. and Whybrow, S. (2011). Changes in lifestyle habits and behaviours are associated with weight loss maintenance in members of a commercial weight loss organisation. Proceedings of the Nutrition Society, 70:E404

*EC Framework VI contract No. FP6-513946: diet, obesity and genes <http://www.diogenes-eu.org/>.

Date

2011

The financial costs of a healthy eating weight loss diet

Aim

To compare the food purchase costs of Slimming World's healthy eating weight loss programme to habitual diets consumed to approximate energy balance from previous studies.

Summary

- High energy density (ED) processed foods tend to be cheaper than lower ED fresh foods. Therefore, the apparent cost of selecting a low ED, and healthier, diet may be a barrier to long-term weight loss
- The Slimming World healthy eating programme was of lower ED than the habitual diet, whether calculated excluding or including the contribution of drinks
- Slimming World members consumed more food (by weight) than those eating their habitual diet. There was no significant difference between the mean daily costs of the two diets indicating that following a lower ED diet to achieve reduced energy intake is not more expensive than habitual diets
- The study concludes that a healthy eating weight loss diet based on foods of a low ED need not result in a higher purchase cost compared to habitual diets and can promote higher food but lower energy intakes.

Participants

117 self-funding Slimming World members compared with 188 participants from previous studies used as controls.

Research Team

Slimming World research team plus S. Whybrow and M. Gibbs from the University of Surrey.

Reference

Whybrow, S., Pallister, C., Gibbs, M. and Stubbs, R.J. (2011). The financial costs of a healthy eating weight-loss diet. *Proceedings of the Nutrition Society*, 70: E170.

Date

2011

Weight outcomes audit for 34,271 adults referred to a primary care/commercial weight management partnership scheme

Aim

To audit the rate and extent of weight loss in a primary care/commercial organisation partnership scheme.

Summary

- 34,271 patients were referred to a local Slimming World group for 12 weekly support sessions by a health care professional in primary or secondary care
- Mean weight loss overall was 4.0kg (4.0%)
- Mean weight loss of high attenders (those who attended at least 10 sessions) (58.1%) was 5.5kg (5.5%)
- Weight loss was greater in men than women
- This large scale audit demonstrates that referral to Slimming World is a practical option for NHS weight management strategies, which achieves clinically safe and effective weight losses.

Participants

34,271 Slimming World members referred by the NHS.

Research Team

Slimming World research team plus S. Whybrow independent data analyst from the University of Surrey.

Reference

Stubbs, R.J., Pallister, C., Whybrow, S., Avery, A. and Lavin, J.H. (2011). Weight outcomes audit for 34,271 adults referred to a primary care/commercial weight management partnership scheme. *Obesity Facts*, 4(2): 113-120.

Date

2011

Evaluation of Healthy Choices: a commercial weight loss programme commissioned by the NHS

Aim

The aim of this study was to identify factors that influence successful weight loss in an NHS funded commercial weight loss programme.

Summary

- Almost half (44%) of all patients referred achieved > 5% weight loss at 12 weeks
- A statistically significant difference was found in the mean weight loss between completers (6.1kg, SD 3.7) and drop outs (2.2kg, SD 2.5)
- Participants who had successful weight loss were significantly more likely to be older, male and in obese class I. They were also significantly more likely to have attended more meetings
- This study concludes that commercial weight management groups are successful and in fact Slimming World had a greater mean weight loss compared to the other providers (6.4% vs. 5.3%).

Participants

2,456 patients referred to commercial weight management programmes by the NHS.

Research Team

Externally conducted research by A. Lloyd and R. Khan from NHS Dorset.

Reference

Lloyd, A. and Khan, R. (2011). Evaluation of Healthy Choices: a commercial weight loss programme commissioned by the NHS. *Perspectives in Public Health*, 131: 177.

Date

2011

Comparison of a range of commercial or primary care led weight reduction programmes with minimal intervention control for weight loss in obesity: Lighten Up randomised controlled trial

Aim

This research aimed to assess the effectiveness of a range of weight management programmes in terms of weight loss.

Summary

- The controlled trial compared commercial weight management options with group dietetics, one-to-one GP and pharmacy led interventions. All interventions ran for 12 weeks
- All programmes resulted in significant weight loss at 12 weeks, with the commercial options resulting in a significantly greater weight loss than the primary care led options (mean difference 2.3 (1.3 to 3.4) kg)
- All except general practice and pharmacy provision resulted in significant weight loss at one year
- The primary care programmes were the most costly to provide.
- It was concluded that commercially provided weight management services are more effective and cheaper than primary care based services led by specially trained staff, which are ineffective.

Participants

740 obese or overweight patients with co-morbidities identified by GP records.

Research Team

Externally conducted research by K. Jolly, A. Lewis, P. Adab, J.J. Deeks, A. Daley and P. Aveyard from the University of Birmingham, J. Beach from the Nursing and Midwifery Council and J. Denley from NHS South Birmingham.

Reference

Jolly, K., Lewis, A., Beach, J., Denley, J., Adab, P., Deeks, J.J., Daley A. and Aveyard, P. (2011). Comparison of a range of commercial or primary care led weight reduction programmes with minimal intervention control for weight loss in obesity: Lighten Up randomised controlled trial. *British Medical Journal*, 343:d6500.

Date

2011

Working together to manage a programme of weight loss

Aim

To describe how nurses can utilise commercial weight management groups to help them support overweight and obese patients.

Summary

- Nurses play a critical role in primary care, helping people to manage their weight and directing them to local services and providers
- Commercial organisations are well placed to provide regular weight management support that is difficult to achieve with limited NHS resources
- Referral from primary care to local groups was pioneered in 2000 and is now well established with a growing evidence base which provides grounds for health professionals to recommend attending a weight management group that meets NICE best practice standards
- Partnerships like the referral service can benefit nurses and NHS staff by providing clear monitoring and frequent reports of patient progress
- Improved health associated with moderate weight loss can save costs in the long run too because it is often possible to reduce a patients' medication for conditions such as high blood pressure or diabetes
- Partnership working in the NHS is of huge benefit to patients, who value a joined up service where they feel supported by their local practice and receive specialised frequent support and practical solutions.

Participants

N/A

Research Team

Slimming World research team

Reference

Pallister, C. and Lavin, J.H. (2010). Working together to manage a programme of weight loss. *Primary Health Care*, 20(10): 28-32.

Date

2010

Slimming World on Referral in partnership with NHS Bristol: repeated referral up to 48 weeks

Aim

To analyse data collected from participants referred from NHS Bristol between 2005 and 2008.

Summary

- Weight change, BMI change and rates of attendance were analysed using weekly weight records from Slimming World
- The average weight loss for those referred for 12 weeks was 3.4%
- 328 had been given a further 12 weeks referral, achieving a 7.5% weight loss in 24 weeks
- 64 had completed a third referral (36 weeks in total), achieving an average 10.6% weight loss
- 13 patients who were slower at reaching their targets received a fourth referral (48 weeks in total) and lost on average, 8.5%
- Patients may be selected for repeated referral for various reasons, such as motivated individuals with larger amounts of weight to lose, those losing weight at a slower rate or presence of co-morbidities which would be improved by further weight loss. This data suggests that repeated referral can be beneficial for long-term success as initial weight losses are being maintained or increased.

Participants

2,696 Slimming World members referred by NHS Bristol.

Research Team

Slimming World research team plus M. Bird from Bristol Directorate for Public Health.

Reference

Pallister, C., Avery, A., Stubbs, R.J., Lavin, J.H. and Bird, M. (2010). Slimming World on Referral in partnership with NHS Bristol: repeated referral up to 48 weeks. *Obesity Reviews*, 11(s1): 236.

Date

2010

Slimming World on Referral: evaluation of weight management outcomes when working in partnership with a commercial organisation

Aim

To analyse data collected from patients referred from 25 NHS Trusts to Slimming World between May 2004 and February 2008.

Summary

- Weight change, BMI change and attendance were analysed using weekly group records from 4,285 members with complete weight, height, age, and gender data
- Mean start BMI of referred members was 38.1kg/m²
- Mean weight change was -4.1kg and percent weight change -4%. 36% achieved a 5% weight loss
- The mean attendance was 9.2 weeks. For those who attended at least 10 out of 12 sessions the average weight change was -5.3%
- This data suggests that referral to a commercial organisation is a practical option for NHS weight management strategies.

Participants

4,285 Slimming World members referred by the NHS.

Research Team

Slimming World research team

Reference

Pallister, C., Avery, A., Stubbs, R.J. and Lavin, J.H. (2010). Slimming World on Referral: evaluation of weight management outcomes when working in partnership with a commercial organisation. *Obesity Reviews*, 11(s1): 237.

Date

2010

Dietary and lifestyle measures to enhance satiety and weight control

Aim

To review the current literature on dietary and lifestyle measures to enhance satiety and weight control.

Summary

- This review highlights how energy density should be the cornerstone of dietary weight reduction strategies because it allows people to develop lasting eating habits based on more satiating foods. This should be integrated with a package of dietary behaviour changes including reduced fat, energy density, sugars and salt, increased fibre, protein and water content of foods
- The review emphasises how practical approaches to weight management should be focused on combined behavioural weight loss and maintenance strategies, including coping strategies, relapse prevention, social and emotional support, the tools to cope with small lapses and physical activity
- Research shows that people can navigate to a healthy weight if they can access the right tools, continuing care, guidance and social support to achieve sustainable lifestyle change and avoid relapse.

Participants

N/A

Research Team

Slimming World research team plus S Whybrow from the University of Surrey.

Reference

Stubbs, R.J., Whybrow, S. and Lavin, J.H. (2010). Dietary lifestyle measures to enhance satiety and weight control. *Nutrition Bulletin*, 35: 113-125.

Date

2010

Effects of Slimming World's programme on dietary energy density

Aim

To investigate the energy density (ED) of the self-selected diets of Slimming World members while following Slimming World's Food Optimising plan, compared to that of British consumers when following their normal diets, and prescribed intervention diets.

Summary

- 3-day weighed food diaries of Slimming World members (n=117) were compared with those from study participants consuming their habitual diets (control, n=132), and those consuming additional snack foods (n=72); additional fruits and vegetables (F&V, n=60); or while following a low fat weight loss diet (n=156)
- The ED of the Slimming World diet was significantly and quantitatively lower than the other habitual and intervention diets
- Slimming World's programme enables people to self-select a significantly lower ED diet than either fat reduction strategies or by increasing fruit and vegetable intake per se.

Participants

117 self-funding Slimming World members compared with participants from other previously conducted studies.

Research Team

Slimming World research team plus S. Whybrow independent data analyst from the University of Surrey.

Reference

Stubbs, R.J., Whybrow, S., Pallister, C., Allan, J. and Lavin, J.H. (2010). Effects of Slimming World's programme on dietary energy density. *Obesity Reviews*, 11(s1): 438.

Date

2010

Supporting post-natal women to lose weight

Aim

To investigate weight loss, eating and physical activity habits and general wellbeing of women who joined Slimming World up to two years post-natally.

Summary

- A questionnaire was hosted on Slimming World's member website. Respondents reported improvements in eating habits (eg cooking from scratch and eating less unhealthy snacks), physical activity habits and general/mental wellbeing since joining Slimming World
- At the time of the survey, 42.5% of respondents (n=590) said they had reached their pre-pregnancy weight and 41.5% said they are now lighter than before becoming pregnant. Of the respondents, those who had been members for >6months (n=152), 56.5% had reached their pre-pregnancy weight and 55.3% were lighter than before becoming pregnant
- This data suggests that Slimming World support helps post-natal women to adopt healthy lifestyle habits and also to feel better about themselves.

Participants

590 female Slimming World members who were up to two years post-natal.

Research Team

Slimming World research

Reference

Avery, A., Allan, J., Lavin, J.H. and Pallister, C. (2010). Supporting post-natal women to lose weight. *Journal of Human Nutrition and Dietetics*, 23(4): 439.

Date

2010

Changes in wellbeing, diet and activity habits of pregnant women attending a commercial weight management organisation

Aim

To conduct a web-based survey to investigate changes in wellbeing and lifestyle behaviours of women attending Slimming World whilst pregnant.

Summary

- Respondents reported that support from attending Slimming World groups had helped them maintain or increase their activity levels during pregnancy
- Improvements in self-esteem, self-confidence, general wellbeing, and feeling healthier were reported
- Members reported eating less unhealthy snacks and take-aways and being more likely to eat 5-a-day and cook from scratch
- 46.3% of respondents reported becoming more active overall
- 89% of the pregnant members stated that they were planning to breast-feed when the time came
- These results highlight how membership of Slimming World whilst pregnant positively influences lifestyle factors and perceptions of health and wellbeing.

Participants

82 pregnant Slimming World members.

Research Team

Slimming World research team

Reference

Pallister, C., Allan, J., Lavin, J.H. and Avery, A. (2010). Changes in wellbeing, diet and activity habits of pregnant women attending a commercial weight management organisation. *Journal of Human Nutrition and Dietetics*, 23(4): 459.

Date

2010

An investigation into the dietary advice given by health professionals to Slimming World members with diabetes and how members are fitting this advice into Slimming World's eating plan

Aim

To investigate how easily the advice given to Slimming World members who have diabetes by their healthcare teams fits into Slimming World's eating plan, Food Optimising.

Summary

- Results suggested that the advice given by health professionals is very heterogeneous but that members cope well with fitting the dietary advice they have been given into Food Optimising while losing weight
- The findings of the survey indicate Slimming World's Food Optimising plan appears to be flexible enough to cater for the varying dietary advice given to members with diabetes by health professionals
- Attending Slimming World and following Food Optimising was beneficial for both weight loss and diabetes control.

Participants

87 Slimming World members with diabetes.

Research Team

Slimming World research team

Reference

Avery, A., Allan, J., Pallister, C. and Lavin, J.H. (2009). An investigation into the dietary advice given by health professionals to Slimming World members with diabetes and how members are fitting this advice into Slimming World's eating plan. *Journal of Human Nutrition and Dietetics*, 22(6): 582-3.

Date

2009

Influence of Slimming World's lifestyle programme on diet, activity behaviour and health of participants and their families

Aim

To investigate the impact of Slimming World's diet and physical activity guidance on diet, activity levels and health of people accessing Slimming World information and their families.

Summary

- 2,812 representative respondents to a questionnaire hosted on Slimming World's member website and placed in Slimming World magazine were included in the analysis
- Those following Slimming World's dietary plan reported significant changes towards healthier food choices. Respondents also reported increasing physical activity levels after being made aware of Slimming World's activity programme. Over 80% reported an improvement in their health
- Not only did health and physical activity of those directly accessing Slimming World improve, but also that of their partners and children
- Not only did health and physical activity of those directly accessing Slimming World improve, but also that of their partners and children.

Participants

2,812 Slimming World members/magazine readers.

Research Team

Slimming World research team

Reference

Bye, C., Avery, A., Stubbs, R.J. and Lavin, J.H. (2007). Influence of Slimming World's lifestyle programme on the diet, activity behaviour and health of participants and the whole families. *International Journal of Obesity*, 31(s1): S192.

Pallister, C., Avery, A., Stubbs, R.J. and Lavin, J.H. (2009). Influence of Slimming World's lifestyle programme on diet, activity behaviour and health of participants and their families. *Journal of Human Nutrition and Dietetics*, 24(4): 351-358.

Date

2009

Is Slimming World on Referral an effective option to help people with learning difficulties manage their weight?

Aim

To assess whether Slimming World on Referral is an effective option for helping people with learning difficulties to manage their weight.

Summary

- This study involved analysis of a Slimming World on Referral scheme set up specifically for patients with learning difficulties
- Average attendance was 19 out of a possible 24 weeks. Average percentage weight change was -4.4% and 55% of participants lost 5% or more of their body weight within the 24 weeks
- Those attending at least 20 out of 24 sessions (n=12/ 60%) achieved a mean BMI change of -1.9kg/m², weight change of -5.4kg, and percentage weight change of -5.8%
- The results highlight how Slimming World on Referral is an effective option for helping people with learning difficulties to manage their weight.

Participants

20 patients with learning difficulties referred to Slimming World from Berkshire East PCT.

Research Team

Slimming World research team

Reference

Avery, A., Bye, C., Lavin, J.H. and Stubbs, R.J. (2008). Is Slimming World on Referral an effective option to help people with learning difficulties manage their weight? *Journal of Human Nutrition & Dietetics*, 21(4):376-37.

Date

2008

Macronutrients, feeding behaviour, and weight control in humans

Aim

To review the current literature on macronutrients, feeding behaviour, and weight control in humans.

Summary

- The current lack of consensus regarding how macronutrients influence appetite, feeding behaviour and weight control is not primarily due to a lack of evidence. It is largely due to the interpretation of that evidence
- There has been a tendency in the literature for one-or-two factor models to supersede each other, as a means to translate research into user-friendly messages that consumers can digest and assimilate (e.g. low fat messages, low carbohydrate messages). However, the dietary determinants of energy intake and weight control are multifactorial
- Models that embrace this complexity explain more of the variance in energy intake and body weight and give a truer reflection of how diet composition impacts on energy balance
- A key challenge to the scientific community is to develop ways to translate the relatively complicated messages arising from the results of their research into policy messages that consumers can use and trust as a means of navigating through their food environment, towards a healthier body weight.

Participants

N/A

Research Team

R.J. Stubbs from the Slimming World research team plus S. Whybrow from the University of Surrey.

Reference

Stubbs, R.J. and Whybrow, S. (2008). Macronutrients, feeding behaviour, and weight control in humans. In: Harris RBS, Mattes RD, eds. *Appetite and Food Intake: Behavioral and Physiological Considerations*. Boca Ranton: Taylor & Francis Group, 295-322.

Date

2008

Impact of Slimming World on Referral on rate and extent of weight loss

Aim

To summarise the data from the first 1,990 patients referred to Slimming World on Referral from NHS Trusts.

Summary

- The mean weight loss of members was -4.3% in 12 weeks, and for those who attended at least 10 out of the 12 weeks -5.5%
- Overall 39% achieved a 5% weight loss in 12 weeks, raising to 54% for those who attended at least 10 out of 12 weeks
- Patients referred into the Slimming World on Referral service demonstrated clinically safe and effective weight losses. The service was considered more cost effective than drug treatment and less expensive than many in-house options.

Participants

1,990 patients referred to Slimming World by the NHS.

Research Team

Slimming World research team plus statistical analysis support from G. Horgan from Biomathematics and Statistics, Scotland.

Reference

Bye, C., Avery, A., Stubbs, R.J., Horgan, G. and Lavin, J.H. (2008). Impact of Slimming World on Referral on rate and extent of weight loss. Presented at the British Dietetic Association Conference.

Date

2008

Understanding variety: tasting different foods delays satiation

Aim

As part of a research grant funded by Slimming World and the ESRC*, this work investigates whether varying sensory and other characteristics of foods sustains interest in eating and the development of satiation.

Summary

- In a first study, participants attended four lab sessions to eat sweet or salted popcorn. This was consumed either ad libitum (control) or interrupted to rate the food they were eating (same condition SC), or a different food with a shared taste characteristic (congruent condition CC), or a food with a different taste characteristic (incongruent condition IC)
- Participants consumed significantly more in CC and IC than SC
- In a second experiment, food focus or food distraction conditions were investigated in which chocolate intake was interrupted by tasting and rating either chocolate only (food focus) or chocolate and cheese cracker (food distraction)
- Participants were found to eat more in the distraction than the focus condition
- The results indicate that food distraction can cause over eating due to the delay in satiation and that this is pronounced in foods with different taste characteristics.

Participants

Experiment 1: 23 female and 10 male volunteers

Experiment 2: 31 female and 16 male volunteers.

Research Team

Externally conducted research by M. Hetherington, R. Foster, T. Newman, G. Norton from the University of Liverpool and A. Anderson from the University of Dundee

*This research was supported by a LINK award jointly funded by the Economic and Social Research Council (ESRC) and Slimming World (L135251005).

Reference

Hetherington, M.M., Foster, R., Newman, T., Anderson, A.S. and Norton, G. (2006). Understanding variety: tasting different foods delays satiation. *Physiology & Behavior*, 87(2), 263-271.

Date

2006

Preliminary study to investigate what characteristics underlie successful weight loss?

Aim

To examine, through means of questionnaires, food diaries and activity monitors, whether differences exist between “successful” and “less successful” slimmers.

Summary

- The present study also piloted measures to be used in a European study (Diogenes; project contract no. FOOD-CT-2005-513946) aiming to identify psychological and behavioural predictors of weight control
- It found that successful slimmers reported lower daily energy intake and lower percentage intakes of fat. Differences in activity levels were not significant
- It was concluded that more successful slimmers have a higher level of diet pre-occupation, suggesting that they have a greater awareness of the nutritional composition of foods that leads them to make healthier food choices than the less successful slimmers.



Participants

36 self-funding Slimming World members.

Research Team

Slimming World research team plus S. Whybrow from the Rowett Research Institute.

Reference

Bye, C.J., Lavin, J.H., Whybrow, S. and Stubbs, R.J. (2006). Preliminary study to investigate what characteristics underlie successful weight loss? Proceedings of the Nutrition Society, 65: 92.

Date

2006

Feasibility and benefits of implementing a Slimming on Referral service in primary care using a commercial weight management partner

Aim

To assess the feasibility of referring obese patients from primary care to Slimming World groups for support in managing their weight.

Summary

- 107 patients attending general practice for non-obesity reasons in two Derby practices were invited to participate in the new service
- 91 (85%) patients attended a group with 62 completing 12 weeks
- Mean weight change was -5.4kg (-6.4%)
- 47 patients chose to self-fund further attendance at their Slimming World group after the referral period, with 34 completing a further 12 weeks. Mean weight loss over the total 24 weeks was 11.1kg (11.3%)
- At baseline, patients reported low levels of wellbeing compared to the South Derbyshire population, but these had improved significantly by week 12 (calm $P < 0.001$, energy $P < 0.001$, down-hearted $P < 0.05$) and were maintained at 24 weeks (calm $P < 0.05$, energy $P < 0.001$, down-hearted $P < 0.001$)
- The paper concludes that collaboration of this kind, between the NHS and Slimming World, is a feasible weight management option that is similar to, or better than, other options in terms of attrition, efficacy and cost.

Participants

107 NHS patients referred to Slimming World.

Research Team

This study was funded and conducted jointly by the former Southern Derbyshire Health Authority and Slimming World, with additional research support from J. Barth from Leeds General Infirmary, and C. Ruxton, independent nutritionist.

Reference

Avery, A., Lavin, J.H., Rees, E., Whitehead, S.M. and Barth, J.H. (2004). Improvements in mental wellbeing during weight loss on a slimming on referral programme. *Proceedings of the Nutrition Society*, 63: 135A

Avery, A. (2003). Tackling obesity in primary care: assessing the practicalities of working in partnership with the commercial slimming sector. *Journal of Human Nutrition and Dietetics*, 16(5): 370

Lavin, J.H., Avery, A., Whitehead, S.M., Rees, E., Parsons, J., Bagnall, T., Barth, J.H. and Ruxton, C.H.S. (2006). Feasibility and benefits of implementing a Slimming on Referral service in primary care using a commercial weight management partner. *Public Health*, 120(9): 872-881.

Date

2006

Situational effects on meal intake: a comparison of eating alone and eating with others

Aim

As part of a research grant funded by Slimming World and the ESRC* this study aimed to determine if social facilitation of eating occurs in part as a function of distraction which may impair the ability to self-monitor.

Summary

- Participants visited the laboratory on four occasions to consume a buffet-style lunch *ad libitum*
- Participants ate alone (A), alone whilst watching TV (B), ate with two same sex strangers (C), ate with two same sex friends (D)
- Energy intake increased by 18% when eating with friends, and 14% when watching the TV compared to baseline (A)
- Engaging in conversation or watching TV draws attention away from eaten food and can stimulate food intake
- Despite this, eating with strangers shows no significant increase in intake, suggesting that social facilitation effects are not simply due to distraction.

Participants

37 participants (16 female and 21 male).

Research Team

Externally conducted research by M. Hetherington, A. Norton and L. Newson from the University of Liverpool and A. Anderson from the University of Dundee.*This research was supported by a LINK award jointly funded by the Economic and Social Research Council (ESRC) and Slimming World (L135251005).

Reference

Hetherington, M.M., Anderson, A.S., Norton, G.N.M. and Newson, L. (2006) Situational effects on meal intake: a comparison of eating alone and eating with others. *Physiology & Behavior*, 88(4-5), 498-505.

Date

2006

Tackling obesity in men: a preliminary evaluation of men only groups within a commercial slimming organisation

Aim

To evaluate attendance and weight loss of men attending Slimming World men only groups.

Summary

- Slimming World group records were analysed for 67 men who had attended a men only group for at least eight weeks
- At the point of data collection, average BMI had decreased from 35.9kg/m² to 32.5kg/m². In those who had been members for at least 12 weeks prior to data collection, mean weight loss at week 12 was 9.2%
- The majority (91%) of men attending for 12 weeks or more lost a clinically significant amount of weight (at least 5%), with 34% achieving a 10% loss
- In those who had been members for 24 weeks 69% achieved a 10% weight loss
- The data indicates that overweight and obese men attending Slimming World groups are successful at losing weight in this environment and achieving recommended health-related weight loss targets.

Participants

67 members from men only Slimming World groups.

Research Team

Slimming World Research Team

Reference

Bye, C., Avery, A. and Lavin, J.H., (2005). Tackling obesity in men: a preliminary evaluation of men only groups within a commercial slimming organisation. *Journal of Human Nutrition and Dietetics*, 18(5): 391-394.

Date

2005

Short-term effects of two popular dietary interventions for weight loss (versus control group) on lipid peroxidation, LDL oxidation and antioxidant balance

Aim

To investigate the short-term effects of the Atkin's Diet (low carbohydrate) and the Slimming World (low fat conventional diet) eating plan versus a control, habitual diet on oxidant stress/ antioxidant parameters in overweight women.

Summary

- Subjects (age: 40 ± 8 years, BMI: 30 ± 2.9 kg/m²) were randomly assigned to either Atkin's (n = 12), Slimming World (n = 12) or control group (n = 6). All subjects completed a 2-week baseline and 4-week intervention period. Measures included lipid hydroperoxide (LH), LDL oxidation (LDLOx), superoxide dismutase (SOD), erythrocyte glutathione (GSH) and total antioxidant status (TAS)
- LH levels increased on low carbohydrate diet vs baseline. TAS, SOD and GSH were higher at the end of the 4 week low carbohydrate intervention vs baseline measurements
- In comparison to baseline measurements, LDLOx decreased after 2 weeks on low carbohydrate diet. No significant changes in LH, LDLOx, SOD, GSH and TAS were identified following low fat conventional diet or control
- Short-term compliance to the low carbohydrate diet increased oxidant stress, an effect which was not observed following low fat conventional diet. The authors suggest that oxidant/antioxidant status during long-term low carbohydrate diets should be examined to assess the potential risk to cardiovascular health.

Participants

30 participants including 12 Slimming World members.

Research Team

Externally conducted research by L. Brown, C. van Blerk and C. Reavell from De Montfort University; N. Finer from the Wellcome Research Facility Addenbrooke's Hospital and A McEneny from Centre for Clinical and Population Sciences, Queen's University Belfast.

This work was conducted using a research grant from Slimming World.

Reference

Brown, L., van Blerk, C., Finer, N., McEneny, A. and Reavell, C. (2005). Short-term effects of two popular dietary interventions for weight loss (versus control group) on lipid peroxidation, LDL oxidation and antioxidant balance. *Obesity Reviews*, 6(s1): 2.

Date

2005

An innovative partnership to support weight loss in patients with obstructive sleep apnoea

Aim

The aim of this study was to examine the efficacy of enabling patients with obesity and obstructive sleep apnoea to receive weight management support.

Summary

- Obesity is one of the main factors predisposing to obstructive sleep apnoea and weight loss is often encouraged as part of the treatment process
- Patients with obesity and obstructive sleep apnoea were identified by the Chest Clinic at Derriford Hospital, Plymouth and invited to attend a Slimming World group for 12 weekly sessions
- Average weight loss of 7.2kg (6.2) or 6.2% (4.5) loss of baseline weight, and mean BMI decreased from 39.7kg/m² (6.9) at enrolment to 37.3kg/m² (6.8) at the end of the 12 week period
- Epworth Sleepiness Scores fell from 7.0 (4.2) to 5.9 (4.3)
- The study concluded that partnership between Slimming World and a secondary care provider proved successful in supporting this specific patient group with a chronic condition to lose weight, thus improving their medical status.



Participants

32 obese patients with obstructive sleep apnoea from the Chest Clinic at Derriford Hospital.

Research Team

Slimming World research team plus M. Eveleigh and J. Newham from Derriford Hospital, Plymouth Hospital NHS Trust.

Reference

Lavin, J.H., Avery, A., Eveleigh, M. and Newham, J. (2005). An innovative partnership to support weight loss in patients with obstructive sleep apnoea. Presented at NICE Annual Conference, Birmingham ICC.

Date

2005

Overweight and obesity: helping clients to take action

Aim

This paper presents the results of a qualitative research project to explore factors that encourage or discourage overweight people from low income groups to access weight loss services.

Summary

- Focussing on Slimming World views of members and group Consultants, this qualitative paper details experiences, thoughts and emotions that lead a person to the decision to lose weight and also the barriers to taking action
- The paper highlights that there are many factors that affect why someone chooses to lose weight and their barriers to doing so, with self-esteem and confidence being the most affected by being overweight
- The authors conclude that the limitations of the NHS mean that patients may not receive the support they require to move through the stages of change, improve their self-esteem and have a successful weight loss. It is suggested that partnership working with a slimming organisation, such as Slimming World, may help to make more efficient use of NHS resources.

Participants

11 self-funding Slimming World members and 5 group Consultants.

Research Team

Externally conducted research by M. Tod and A. Lacey from the University of Sheffield.

Reference

Tod, A.M. and Lacey, A. (2004). Overweight and obesity: helping clients to take action. *The British Journal of Community Nursing*, 9(2): 59-66.

Date

2004

Factors associated with successful weight loss and attendance at a commercial slimming group

Aim

To examine factors associated with successful weight loss in new members attending Slimming World.

Summary

- Questionnaires were given to new members on joining group (baseline) and after 12 weeks collecting personal details, information on previous weight loss, dieting experience, eating behaviour, self-efficacy and lifestyle. 12 week questionnaires also collected information on experience of the group and behaviour changes
- Weight change and group attendance details were obtained from Slimming World group records
- Mean weight loss over the 12 weeks was 4.8kg (6% weight loss). 54% achieved >5% weight loss, with 15% achieving >10% weight loss
- Weight loss was positively associated with duration of attendance (mean 9.7wks), ease of adherence to the dietary plan, early weight loss and self-efficacy (confidence in adhering to the programme and perceived ability to lose weight). Those who set themselves ambitious but still realistic goals tended to achieve greater weight loss by 12 weeks
- Members were likely to stay in the programme for longer if they were unemployed, homemakers and received support from their family. Other demographic and lifestyle factors were not predictive of success
- This study highlights how targets for 5-10% weight loss for health improvement can be achieved in commercial slimming groups. Compliance to the Slimming World plan coupled with early weight loss success and family support seem to be key elements in achieving success in a community group setting.

Participants

240 new Slimming World members.

Research Team

C. Powell, J. Russell and M. Barker from the Human Nutrition Unit and Corporate Information and Computing Services (CICS), the University of Sheffield with support from J. Lavin from Slimming World research team.

Reference

Powell, C., Lavin, J.H., Russell, J. and Barker, M. (2004). Factors associated with successful weight loss and attendance at a commercial slimming group. *International Journal of Obesity*, 28 (Supplement 1): S144.

Date

2004

Volume and variety: relative effects on food intake

Aim

As part of a research grant funded by Slimming World and the ESRC* this study aimed to determine the relative effects of manipulating the volume of a preload in the context of subsequent lunchtime food intake.

Summary

- Participants attended the lab on four occasions to receive a low or high volume tomato soup preload 30 minutes before a sandwich lunch either with a single or variety of fillings
- Participants reported differences in hunger and fullness ratings as a function of volume
- However, although subjective ratings of fullness were influenced by volume, this did not affect subsequent food intake at lunch
- Variety of sandwich fillings did increase food intake compared with single filling condition across both preload soup volumes
- It was concluded that lowering energy density and increasing volume (by simply adding water) does not reduce food intake at lunch.

Participants

30 participants (15 female and 15 male).

Research Team

Externally conducted research by M. Hetherington from Glasgow Caledonian University, G. Norton from the University of Liverpool and A. Anderson from the University of Dundee

*This research was supported by a LINK award jointly funded by the Economic and Social Research Council (ESRC) and Slimming World (L135251005).

Reference

Norton, G.N.M., Anderson, A.S. and Hetherington, M.M. (2006). Volume and variety: relative effects on food intake. *Physiology & Behavior*, 87(4), 714-722.

Date

2004

Energy density of foods: effects on energy intake

Aim

To critically review the importance of dietary energy density (ED) as a major factor that may influence human appetite and energy intake (EI) and examined whether the effects of diet composition on appetite and EI can be explained in terms of ED.

Summary

- There is clear evidence that dietary macronutrients exert differential effects on energy intake (EI), both in the laboratory and in real life. Under normal conditions where fat contributes disproportionately to ED, protein, carbohydrate and fat exert hierarchical effects on satiety in the order protein > carbohydrate > fat. Alcohol appears to stimulate EI. In human appetite studies, the main effect of controlling ED is to diminish the impact of differences in the satiating effects of fat and carbohydrate
- In short to medium term laboratory studies, increases in ED are more effective at increasing EI than at decreasing food intake. In longer term and cross-sectional studies conducted in naturalistic environments, increased ED appears more effective at decreasing food intake and less effective at elevating EI
- The available evidence suggests that we should be evolving more complex, multifactor models to account for the observations that both macronutrients and ED affect EI rather than substituting one simplistic model with another.

Participants

N/A

Research Team

Externally conducted research by R.J. Stubbs from the Rowett Research Institute plus S. Ferres and G. Horgan from Biomathematics and Statistics, Scotland.

Reference

Stubbs, R.J., Ferres, S. and Horgan, G. (2000). Energy density of foods: effects on energy intake. *Critical Reviews in Food Science and Nutrition*, 40: 481-515.

Date

2000

Covert manipulation of energy density of high carbohydrate diets in 'pseudo free-living' humans

Aim

To examine the effects of varying the energy density (ED) of high carbohydrate (HC) diets on food and energy intake (EI), subjective hunger and body weight in humans.

Summary

- Six men were each studied twice over 14 days, throughout which they had ad libitum access to one of two covertly-manipulated diets comprising 66% energy from carbohydrate and 21-22% fat and energy density of either 357kJ/100g (low ED) or 629kJ/100g (high ED)
- Mean EI was 8.67 and 14.82MJ/d on the low ED and high ED diets, respectively
- Mean body weight significantly decreased on the low ED diet and increased on the high ED diet, giving total weight changes of - 1.41kg and +0.84kg
- This study showed that excess EI is possible on high carbohydrate, high ED diets. Ad libitum intake from a low ED diet however, resulted in a lower energy intake resulting in significant weight loss.

Participants

6 participants (all male).

Research Team

Stubbs, R.J., Johnstone, A.M., Harbron, C.G. and Reid, C. (1998). Covert manipulation of energy density of high carbohydrate diets in 'pseudo free-living' humans. *International Journal of Obesity and Related Metabolic Disorders*, 22: 885-92.

Reference

Stubbs, R.J., Johnstone, A.M., Harbron, C.G. and Reid, C. (1998). Covert manipulation of energy density of high carbohydrate diets in 'pseudo free-living' humans. *International Journal of Obesity and Related Metabolic Disorders*, 22: 885-92.

Date

1998

The effect of covertly manipulating the energy density of mixed diets on *ad libitum* food intake in 'pseudo free-living' humans

Aim

To examine the effects of covert alterations in the energy density (ED) of mixed, medium fat (MF) diets on ad libitum food and energy intake (EI), subjective hunger and body weight in humans.

Summary

- Six men were each studied three times (factorial design), during 14 days, throughout which they had ad libitum access to one of three covertly-manipulated MF diets that were low (373kJ/100g); medium (549kJ/ 100g) or high (737kJ/100g) in energy density
- Food intake decreased as ED increased, giving mean values of 2.84, 2.51 and 2.31kg/d, respectively. However, EI significantly increased with increasing ED giving mean intakes of 10.12, 12.80 and 16.17MJ/d, respectively. Subjective hunger did not differ between diets
- Diet significantly affected body weight ($F(2,10) = 4.62$; $P = 0.038$), producing changes of - 1.20, 0.02 and 0.95kg, respectively over two weeks
- This study showed that dietary ED can influence EI and body weight, since changes in amount eaten alone are insufficient to defend energy balance, when subjects feed on unfamiliar diets and diet selection is precluded.

Participants

6 participants (all male).

Research Team

Externally conducted research by R.J. Stubbs, M.A. Johnstone, M.L. O'Reily and K. Barton from the Rowett Research Institute plus C. Reid from Biomathematics and Statistics, Scotland.

Reference

Stubbs, R.J., Johnstone, A.M., O'Reilly, L.M., Barton, K. and Reid, C. (1998). The effect of covertly manipulating the energy density of mixed diets on ad libitum food intake in 'pseudo free-living' humans. *International Journal of Obesity and Related Metabolic Disorders*, 22: 980-7.

Date

1998

Covert manipulation of dietary fat and energy density: effect on substrate flux and food intake in men eating *ad libitum*

Aim

To assess whether human food intake is regulated by carbohydrate stores (glycogenostatic model).

Summary

- Six men were each studied three times during 7 days of whole-body indirect calorimetry, throughout which they had *ad libitum* access to one of three covertly manipulated diets: low fat (LF), medium fat (MF), or high fat (HF)
- Energy intakes increased with percent fat, producing average daily balances of -0.27, 0.77, and 2.58MJ/d during the LF, MF, and HF diets, respectively
- This study demonstrated the impact of dietary fat on energy intake and balance. The data revealed a hierarchical relationship between whole-body macronutrient balance and energy intake, in that protein and carbohydrate have potential to reduce subsequent energy intake whereas there was no apparent reductive effect due to fat
- This suggests that physiological models including all macronutrients have greater capacity to predict energy balance than those based on single macronutrients.

Participants

6 participants (all male).

Research Team

Externally conducted research by R.J. Stubbs and G.C. Harbron from the Rowett Research Institute plus R.P. Murgatroyd and M.A. Prentice from the Dunn Clinical Research Institute.

Reference

Stubbs, R.J., Harbron, C.G., Murgatroyd, P.R. and Prentice, A.M. (1995). Covert manipulation of dietary fat and energy density: effect on substrate flux and food intake in men eating *ad libitum*. *American Journal of Clinical Nutrition*, 62: 316-29.

Date

1995

For further information please contact:

Jemma Donovan PhD, BSc (Hons)

Research Manager
01773 546167
jemma.donovan@slimmingworld.co.uk

Carolyn Pallister BSc (Hons), RD

Head of Nutrition, Research and Health
01773 546091
carolyn.pallister@slimmingworld.co.uk

.....
Slimming World, Clover Nook Road, Alfreton, Derbyshire DE55 4SW
0344 892 0400
info@slimmingworld.co.uk
slimmingworld.co.uk/health