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Obesity and Weight Management: Evidence on Interventions, Clinics, and Services

Date range used : 2018-2023

Limits used: Review articles, plus UK-based original research

Full text papers

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If you would like to request any articles or any further help, please contact: Beth Thompson at beth.thompson16@nhs.net

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A. National and International Guidance

1. **Obesity: identification, assessment and management [CG189]**
National Institute for Health and Care Excellence (NICE), 2022

Available online at this link

2. **Obesity: working with local communities [PH42]**
National Institute for Health and Care Excellence (NICE), 2017

Available online at this link

3. **Obesity in adults: prevention and lifestyle weight management programmes [QS111]**
National Institute for Health and Care Excellence (NICE), 2016

Available online at this link

4. **Obesity: clinical assessment and management [QS127]**
National Institute for Health and Care Excellence (NICE), 2016

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5. **Obesity prevention [CG43]**
National Institute for Health and Care Excellence (NICE), 2015

Available online at this link

6. **Preventing excess weight gain [NG7]**
National Institute for Health and Care Excellence (NICE), 2015

Available online at this link

7. **Weight management: lifestyle services for overweight or obese adults [PH53]**
National Institute for Health and Care Excellence (NICE), 2014

Available online at this link

8. **European Practical and Patient-Centred Guidelines for Adult Obesity Management in Primary Care**
Durrer Schutz D., Busetto L., Dicker D., Farpour-Lambert N., Pryke R., Toplak H., Widmer D., Yumuk V., Schutz Y. Obesity Facts 2019;12(1): 40-66.

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The first contact for patients with obesity for any medical treatment or other issues is generally with General Practitioners (GPs). Therefore, given the complexity of the disease, continuing GPs' education on obesity management is essential. This article aims to provide obesity management guidelines specifically tailored to GPs, favouring a practical patient-centred approach. The focus is on GP communication and motivational interviewing as well as on therapeutic patient education. The new guidelines highlight the importance of avoiding stigmatization, something frequently seen in different health care settings. In addition, managing the psychological aspects of the disease, such as improving self-esteem, body image and quality of life must not be neglected. Finally, the report considers that achieving maximum weight loss in the shortest possible time is not the key to successful treatment. It suggests that 5–10% weight loss is sufficient to obtain substantial health benefits from decreasing comorbidities. Reducing waist circumference should be considered even more important than weight loss per se, as it is linked to a decrease in visceral fat and associated cardiometabolic risks. Finally, preventing weight regain is the cornerstone of lifelong treatment, for any weight loss techniques used (behavioural or pharmaceutical treatments or bariatric surgery).

B. Statistics

1. **Health Survey for England, 2021 part 1**
   NHS Digital, 2022

   The Health Survey for England is used to estimate the proportion of people in England who have health conditions, and the prevalence of risk factors and behaviours associated with certain health conditions. The surveys provide regular information that cannot be obtained from other sources. We are publishing HSE 2021 in 2 parts, part 1 features: Smoking, E-cigarettes and Alcohol Overweight and obesity.

   Available online at this link

2. **National Obesity Audit**
   NHS Digital, 2022

   Nearly two-thirds of adults in England are living with overweight or obesity. A third of children leaving primary school are living with overweight or obesity. Obesity is a serious health concern that increases the risk of many other health conditions, including Type 2 Diabetes, cardiovascular disease, joint problems, mental health problems, and some cancers. NHS England and Improvement have established the National Obesity Audit (NOA) as part of the National Clinical Audit and Patient Outcomes Programme. NOA will bring together comparable data from the different types of adult and children's weight management services across England in order to drive improvement for the benefit of those living with overweight and obesity.

   Available online at this link

C. Synopsis or Summary

1. **Obesity in adults**
   Frantzides, C.; Carlson, M.A.; Teiken, A.R. BMJ Best Practice, 2022

   Available online at this link

D. Reviews

1. **A Systematic Review of the Evidence for Non-surgical Weight Management for Adults with Severe Obesity: What is Cost Effective and What are the Implications for the Design of Health Services?.**
   Jacobsen Elisabet, Boyers Dwayne, Manson Paul, Avenell Alison. Current obesity reports 2022;11(4): 356-385.

   Available online at this link

   PURPOSE OF REVIEW: Severe obesity (BMI >= 35 kg/m2) increases premature mortality and reduces quality-of-life. Obesity-related disease (ORD) places substantial burden on health systems. This review summarises the cost-effectiveness evidence for non-surgical weight management programmes (WMPs) for adults with severe obesity., RECENT FINDINGS: Whilst evidence shows bariatric surgery is often cost-effective, there is no clear consensus on the cost-effectiveness of non-surgical WMPs. Thirty-two studies were included. Most were short-term evaluations that did not capture the long-term costs and consequences of ORD. Decision models often included only a subset of relevant ORDs, and made varying assumptions about the rate of weight regain over time. A lack of sensitivity analyses limited interpretation of results. Heterogeneity in the definition of WMPs and usual care prevents formal evidence synthesis. We were unable to establish the most

cost-effective WMPs. Addressing these limitations may help future studies provide more robust cost-effectiveness evidence for decision makers. Copyright © 2022. The Author(s).

2. **A systematic review of UK-based long-term nonsurgical interventions for people with severe obesity (BMI >=35 kg m-2).**
Aceves-Martins M., Robertson C., Cooper D., Avenell A., Stewart F., Aveyard P., de Bruin M., REBALANCE team. Journal of human nutrition and dietetics : the official journal of the British Dietetic Association 2020;33(3): 351-372.

Available online at this link

INTRODUCTION: The aim of this project was to systematically review UK evidence on the effectiveness of long-term (>=12 months) weight management services (WMSs) for weight loss and weight maintenance for adults (>=16 years) with severe obesity (body mass index >=35 kg m-2), who would generally be eligible for Tier 3 services., METHODS: Four data sources were searched from 1999 to October 2018., RESULTS: Our searches identified 20 studies, mostly noncomparative studies: 10 primary care interventions, nine in secondary care specialist weight management clinics and one commercial setting intervention. A programme including a phase of low energy formula diet (810-833 kcal day-1) showed the largest mean (SD) weight change at 12 months of -12.4 (11.4) kg for complete cases, with 25.3% dropout. Limitations or differences in evaluation and reporting (particularly for denominators), unclear dropout rates, and differences between participant groups in terms of comorbidities and psychological characteristics, made comparisons between WMSs and inferences challenging., CONCLUSIONS: There is a persistent and clear need for guidance on long-term weight data collection and reporting methods to allow comparisons across studies and services for participants with severe obesity. Data could also include quality of life, clinical outcomes, adverse events, costs and economic outcomes. A randomised trial comparison of National Health Service Tier 3 services with commercial WMSs would be of value. Copyright © 2020 The Authors. Journal of Human Nutrition and Dietetics published by John Wiley & Sons Ltd on behalf of British Dietetic Association.

3. **Acceptability and feasibility of weight management programmes for adults with severe obesity: a qualitative systematic review.**
Skea Zoe C., Aceves-Martins Magaly, Robertson Clare, De Bruin M., Avenell Alison, REBALANCE team. BMJ open 2019;9(9): e029473.

Available online at this link

OBJECTIVES: To improve our understanding of the acceptability of behavioural weight management programmes (WMPs) for adults with severe obesity., DESIGN: A systematic review of qualitative evidence., DATA SOURCES: Medline, Embase, PsycINFO, CINAHL, SCI, SSCI and CAB abstracts were searched from 1964 to May 2017., ELIGIBILITY CRITERIA: Papers that contained qualitative data from adults with body mass index (BMI) >=35 kg/m2 (and/or the views of providers involved in their care) and considered issues about weight management., DATA EXTRACTION AND SYNTHESIS: Two reviewers read and systematically extracted data from the included papers which were compared, and contrasted according to emerging issues and themes. Papers were appraised for methodological rigour and theoretical relevance using Toye's proposed criteria for quality in relation to meta-ethnography., RESULTS: 33 papers met our inclusion criteria from seven countries published 2007-2017. Findings were presented from a total of 644 participants and 153 programme providers. Participants described being attracted to programmes that were perceived to be novel or exciting, as well as being endorsed by their healthcare provider. The sense of belonging to a group who shared similar issues, and who had similar physiques and personalities, was particularly important and seemed to foster a strong

group identity and related accountability. Group-based activities were enjoyed by many and participants preferred WMPs with more intensive support. However, some described struggling with physical activities (due to a range of physical comorbidities) and not everyone enjoyed group interaction with others (sometimes due to various mental health comorbidities). Although the mean BMI reported across the papers ranged from 36.8 to 44.7 kg/m2, no quotes from participants in any of the included papers were linked to specific detail regarding BMI status., CONCLUSIONS: Although group-based interventions were favoured, people with severe obesity might be especially vulnerable to physical and mental comorbidities which could inhibit engagement with certain intervention components.

4. **Are interventions delivered by healthcare professionals effective for weight management? A systematic review of systematic reviews.**
Epton Tracy, Keyworth Christopher, Goldthorpe Joanna, Calam Rachel, Armitage Christopher J. Public health nutrition 2022;25(4): 1071-1083.

Available online at this link

OBJECTIVE: There are many systematic reviews of weight management interventions delivered by healthcare professionals (HCP), but it is not clear under what circumstances interventions are effective due to differences in review methodology. This review of systematic reviews synthesises the evidence about: (a) the effectiveness of HCP-delivered weight management interventions and (b) intervention and sample characteristics related to their effectiveness., DESIGN: The review of reviews involved searching six databases (inception - October 2020). Reviews were included if they were (a) systematic, (b) weight management interventions delivered, at least partially, by HCP, (c) of randomised controlled trials and (d) written in English. Data regarding weight management outcomes (e.g. weight) and moderating factors were extracted. Secondary analyses were conducted using study-level data reported in each of the reviews., SETTING: The review included studies that were delivered by HCP in any clinical or non-clinical setting., PARTICIPANTS: Not applicable., RESULTS: Six systematic reviews were included (forty-six unique studies). First-level synthesis showed that weight management interventions delivered by HCP are effective. The second-level synthesis found that interventions are only successful for up to 6 months, are most effective for women, non-Caucasians and adults and are most effective if they have at least six sessions., CONCLUSIONS: As interventions are only successful for up to 6 months, they are not sufficient for achieving and maintaining a healthy weight.

5. **Bariatric surgery, lifestyle interventions and orlistat for severe obesity: the REBALANCE mixed-methods systematic review and economic evaluation.**
Avenell Alison, Robertson Clare, Skea Zoe, Jacobsen Elisabet, Boyers Dwayne, Cooper David, Aceves-Martins Magaly, Retat Lise, Fraser Cynthia, Aveyard Paul, Stewart Fiona, MacLennan Graeme, Webber Laura, Corbould Emily, Xu Benshuai, Jaccard Abbygail, Boyle Bonnie, Duncan Eilidh, Shimonovich Michal, Bruin Marijn de. Health technology assessment (Winchester, England) 2018;22(68): 1-246.

Available online at this link

BACKGROUND: Adults with severe obesity [body mass index (BMI) of >= 35 kg/m2] have an increased risk of comorbidities and psychological, social and economic consequences., OBJECTIVES: Systematically review bariatric surgery, weight-management programmes (WMPs) and orlistat pharmacotherapy for adults with severe obesity, and evaluate the feasibility, acceptability, clinical effectiveness and cost-effectiveness of treatment., DATA SOURCES: Electronic databases including MEDLINE, EMBASE, PsycINFO, the Cochrane

Central Register of Controlled Trials and the NHS Economic Evaluation Database were searched (last searched in May 2017)., REVIEW METHODS: Four systematic reviews evaluated clinical effectiveness, cost-effectiveness and qualitative evidence for adults with a BMI of >= 35 kg/m2. Data from meta-analyses populated a microsimulation model predicting costs, outcomes and cost-effectiveness of Roux-en-Y gastric bypass (RYGB) surgery and the most effective lifestyle WMPs over a 30-year time horizon from a NHS perspective, compared with current UK population obesity trends. Interventions were cost-effective if the additional cost of achieving a quality-adjusted life-year is < 20,000-30,000., RESULTS: A total of 131 randomised controlled trials (RCTs), 26 UK studies, 33 qualitative studies and 46 cost-effectiveness studies were included. From RCTs, RYGB produced the greatest long-term weight change [-20.23 kg, 95% confidence interval (CI) -23.75 to -16.71 kg, at 60 months]. WMPs with very low-calorie diets (VLCDs) produced the greatest weight loss at 12 months compared with no WMPs. Adding a VLCD to a WMP gave an additional mean weight change of -4.41 kg (95% CI -5.93 to -2.88 kg) at 12 months. The intensive Look AHEAD WMP produced mean long-term weight loss of 6% in people with type 2 diabetes mellitus (at a median of 9.6 years). The microsimulation model found that WMPs were generally cost-effective compared with population obesity trends. Long-term WMP weight regain was very uncertain, apart from Look AHEAD. The addition of a VLCD to a WMP was not cost-effective compared with a WMP alone. RYGB was cost-effective compared with no surgery and WMPs, but the model did not replicate long-term cost savings found in previous studies. Qualitative data suggested that participants could be attracted to take part in WMPs through endorsement by their health-care provider or through perceiving innovative activities, with WMPs being delivered to groups. Features improving long-term weight loss included having group support, additional behavioural support, a physical activity programme to attend, a prescribed calorie diet or a calorie deficit., LIMITATIONS: Reviewed studies often lacked generalisability to UK settings in terms of participants and resources for implementation, and usually lacked long-term follow-up (particularly for complications for surgery), leading to unrealistic weight regain assumptions. The views of potential and actual users of services were rarely reported to contribute to service design. This study may have failed to identify unpublished UK evaluations. Dual, blinded numerical data extraction was not undertaken., CONCLUSIONS: Roux-en-Y gastric bypass was costly to deliver, but it was the most cost-effective intervention. Adding a VLCD to a WMP was not cost-effective compared with a WMP alone. Most WMPs were cost-effective compared with current population obesity trends., FUTURE WORK: Improved reporting of WMPs is needed to allow replication, translation and further research. Qualitative research is needed with adults who are potential users of, or who fail to engage with or drop out from, WMPs. RCTs and economic evaluations in UK settings (e.g. Tier 3, commercial programmes or primary care) should evaluate VLCDs with long-term follow-up (>= 5 years). Decision models should incorporate relevant costs, disease states and evidence-based weight regain assumptions., STUDY REGISTRATION: This study is registered as PROSPERO CRD42016040190., FUNDING: The National Institute for Health Research Health Technology Assessment programme. The Health Services Research Unit and Health Economics Research Unit are core funded by the Chief Scientist Office of the Scottish Government Health and Social Care Directorate.

6. **Commissioning guidance for weight assessment and management in adults and children with severe complex obesity.**
Welbourn R., Hopkins J., Dixon J. B, Finer N., Hughes C., Viner R., Wass J., Guidance Development Group. Obesity reviews : an official journal of the International Association for the Study of Obesity 2018;19(1): 14-27.

Available online at this link

The challenge of managing the epidemic of patients with severe and complex obesity disease in secondary care is largely unmet. In England, the National Institute of Health and Care Excellence and the National Health Service England have published guidance on the

provision of specialist (non-surgical) weight management services. We have undertaken a systematic review of 'what evidence exists for what should happen in/commissioning of: primary or secondary care weight assessment and management clinics in patients needing specialist care for severe and complex obesity?' using an accredited methodology to produce a model for organization of multidisciplinary team clinics that could be developed in every healthcare system, as an update to a previous review. Additions to the previous guidance were multidisciplinary team pathways for children/adolescent patients and their transition to adult care, anaesthetic assessment and recommendations for ongoing shared care with general practitioners, as a chronic disease management pathway. Copyright © 2017 World Obesity Federation.

7. **Conventional weight loss interventions across the different BMI obesity classes: A systematic review and quantitative comparative analysis.**
Bauer Kerstin, Lau Teresa, Schwille-Kiuntke Juliane, Schild Sandra, Hauner Hans, Stengel Andreas, Zipfel Stephan, Mack Isabelle. European Eating Disorders Review 2020;28(5): 492-512.

   Available online at this link

   Objective: The recommendation for conventional body weight loss (BWL) treatment in obesity is 5–10%. It is not clear whether BWL is similar across the three different body mass index (BMI) obesity classes. The aim was to provide an overview on BWL across these classes in moderate lifestyle/diet intervention programs. Method: A systematic literature search was conducted and the evidence of randomized controlled trials (RCTs) and pre-post design studies synthesized. The outcome was BWL. Results: For RCTs, mean BWL in the intervention group was 3.6 kg (class I) and 5.3 kg (class II), which equates to 4 and 5% BWL, respectively. None of the assessed class III obesity studies met the inclusion criteria. For pre-post design studies, mean BWL was 5.4 kg (class I), 5.5 kg (class II) and 7.9 kg (class III), with high variation within and across studies in the latter. This equates to 6, 5 and, 6% BWL, respectively. Conclusions: BWL of moderate BWL programs are similar across the different obesity classes. For class I obesity, the results differ between RCT and pre-post design studies by 2% BWL. The high variation of BWL in class III obesity might reflect different states of motivation such as the attitude towards bariatric surgery.

8. **Effectiveness of Therapeutic Patient Education Interventions in Obesity and Diabetes: A Systematic Review and Meta-Analysis of Randomized Controlled Trials.**
Correia Jorge C., Waqas Ahmed, Huat Teoh Soo, Gariani Karim, Jornayvaz François R., Golay Alain, Pataky Zoltan. Nutrients 2022;14(18): N.PAG-N.PAG.

   Available online at this link

   Diabetes mellitus (DM) and obesity account for the highest burden of non-communicable diseases. There is increasing evidence showing therapeutic patient education (TPE) as a clinically and cost-effective solution to improve biomedical and psychosocial outcomes among people with DM and obesity. The present systematic review and meta-analysis present a critical synthesis of the development of TPE interventions for DM and obesity and the efficacy of these interventions across a range of biomedical, psychosocial and psychological outcomes. A total of 54 of these RCTs were identified among patients with obesity and diabetes and were thus qualitatively synthesized. Out of these, 47 were included in the quantitative synthesis. There was substantial heterogeneity in the reporting of these outcomes (I2 = 88.35%, Q = 317.64), with a significant improvement noted in serum HbA1c levels (standardized mean difference (SMD) = 0.272, 95% CI: 0.118 to 0.525, n = 7360) and body weight (SMD = 0.526, 95% CI: 0.205 to 0.846, n = 1082) in the

intervention group. The effect sizes were comparable across interventions delivered by different modes and delivery agents. These interventions can be delivered by allied health staff, doctors or electronically as self-help programs, with similar effectiveness ($p < 0.001$). These interventions should be implemented in healthcare and community settings to improve the health outcomes in patients suffering from obesity and DM.

9. **European Guidelines for Obesity Management in Adults with a Very Low-Calorie Ketogenic Diet: A Systematic Review and Meta-Analysis.**
Muscogiuri Giovanna, El Ghoch Marwan, Colao Annamaria, Hassapidou Maria, Yumuk Volkan, Busetto Luca, Obesity Management Task Force (OMTF) of the European Association for the Study of Obesity (EASO). Obesity facts 2021;14(2): 222-245.

Available online at this link

BACKGROUND: The very low-calorie ketogenic diet (VLCKD) has been recently proposed as an appealing nutritional strategy for obesity management. The VLCKD is characterized by a low carbohydrate content (<50 g/day), 1-1.5 g of protein/kg of ideal body weight, 15-30 g of fat/day, and a daily intake of about 500-800 calories., OBJECTIVES: The aim of the current document is to suggest a common protocol for VLCKD and to summarize the existing literature on its efficacy in weight management and weight-related comorbidities, as well as the possible side effects., METHODS: This document has been prepared in adherence with Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines. Literature searches, study selection, methodology development, and quality appraisal were performed independently by 2 authors and the data were collated by means of a meta-analysis and narrative synthesis., RESULTS: Of the 645 articles retrieved, 15 studies met the inclusion criteria and were reviewed, revealing 4 main findings. First, the VLCKD was shown to result in a significant weight loss in the short, intermediate, and long terms and improvement in body composition parameters as well as glycemic and lipid profiles. Second, when compared with other weight loss interventions of the same duration, the VLCKD showed a major effect on reduction of body weight, fat mass, waist circumference, total cholesterol and triglyceridemia as well as improved insulin resistance. Third, although the VLCKD also resulted in a significant reduction of glycemia, HbA1c, and LDL cholesterol, these changes were similar to those obtained with other weight loss interventions. Finally, the VLCKD can be considered a safe nutritional approach under a health professional's supervision since the most common side effects are usually clinically mild and easily to manage and recovery is often spontaneous., CONCLUSIONS: The VLCKD can be recommended as an effective dietary treatment for individuals with obesity after considering potential contra-indications and keeping in mind that any dietary treatment has to be personalized. Prospero Registry: The assessment of the efficacy of VLCKD on body weight, body composition, glycemic and lipid parameters in overweight and obese subjects: a meta-analysis (CRD42020205189). Copyright © 2021 The Author(s) Published by S. Karger AG, Basel.

10. **Group versus one-to-one multi-component lifestyle interventions for weight management: a systematic review and meta-analysis of randomised controlled trials.**
Abbott S., Smith E., Tighe B., Lycett D. Journal of human nutrition and dietetics : the official journal of the British Dietetic Association 2021;34(3): 485-493.

Available online at this link

BACKGROUND: Multi-component lifestyle interventions that incorporate diet, physical activity and behaviour change are effective for weight management. However, it is not clear whether delivery in a group or one-to-one format influences weight loss efficacy. The present study aimed to systematically review the evidence of the effectiveness of group

compared to one-to-one multi-component lifestyle interventions for weight management., METHODS: MEDLINE, EMBASE, CINAHL, CENTRAL and ISRCTN databases were searched from inception up to February 2020 for randomised controlled trials comparing group versus one-to-one multi-component lifestyle interventions for weight loss in adults with a body mass index >= 25 kg m-2 . The primary outcome was weight loss (kg) at 12 months and the secondary outcome was attainment of >=5% weight loss at 12 months. Risk of bias was assessed using the Cochrane Risk of Bias Tool. Meta-analysis used random effects and estimated risk ratios and continuous inverse variance methods. Heterogeneity was investigated using I2 statistics and sensitivity analyses., RESULTS: Seven randomised controlled trials with 2576 participants were included. Group interventions were favoured over one-to-one interventions for weight loss at 12 months (-1.9 kg, 95% confidence interval = -1.3 to -2.6; I2 = 99%). Participants of group interventions were more likely to attain >=5% weight loss at 12 months relative to one-to-one interventions (relative risk = 1.58, 95% confidence interval = 1.25-2.00; I2 = 60%)., CONCLUSIONS: Group multi-component lifestyle interventions are superior for weight loss compared to one-to-one interventions with respect to adult weight management. Further research is required to determine whether specific components of group interventions can explain the superiority of weight loss outcomes in group interventions. Copyright © 2020 The British Dietetic Association Ltd.

11. **Healthy Eating Index Diet Quality in Randomized Weight Loss Trials: A Systematic Review.**
Cheng Jessica, Liang Hai-Wei, Klem Mary Lou, Costacou Tina, Burke Lora E. Journal of the Academy of Nutrition & Dietetics 2023;123(1): 117-143.

Available online at this link

Weight loss interventions focus on dietary and physical activity changes to induce weight loss. Both through weight loss and independent of it, diet quality is important for reducing chronic disease risk. However, whether and how diet quality changes over the course of a behavioral intervention is unclear. To systematically review the evidence from randomized controlled trials on the effect of behavioral interventions on diet quality as defined by the Healthy Eating Index (HEI) among adults with overweight and obesity. PubMed, Ebscohost CINAHL, Embase, OVID APA PsycInfo, Scopus, and Web of Science were searched through May 2021. Inclusion criteria comprised randomized controlled trial design, a primary or secondary aim of weight loss, a sample of US adults with overweight or obesity, measurement using the HEI-2005, 2010, or 2015, and assessment of the time by treatment effect. Interventions must have included behavioral components and lasted at least 3 months. Risk of bias was assessed using the Cochrane Risk of Bias 2 tool. The systematic review protocol was published on Open Science Framework. Of 3,707 citations retrieved, 18 studies met inclusion criteria. A wide array of behavioral interventions were assessed, including in-person and mobile health interventions as well as those prescribing intake of specific foods. Risk of bias in the included studies primarily arose from the measurement of the outcome variable. Sample sizes ranged from 34 to 413 participants. Nine studies used multiple dietary recalls, with few using the recommended method of Healthy Eating Index calculation. Changes in diet quality ranged from no improvement to a 20-point improvement. More often, improvement was in the 4- to 7-point range. The evidence for the efficacy of behavioral weight loss interventions for improving diet quality among adults with overweight and obesity is limited. Modest improvements in HEI scores were observed in the reviewed studies.

12. **How Effective Are Dietitians in Weight Management? A Systematic Review and Meta-Analysis of Randomized Controlled Trials.**

Williams Lauren T., Barnes Katelyn, Ball Lauren, Ross Lynda J., Sladdin Ishtar, Mitchell Lana J. Healthcare (Basel, Switzerland) 2019;7(1): No page numbers.

Available online at this link

Effective, evidence-based strategies to prevent and treat obesity are urgently required. Dietitians have provided individualized weight management counselling for decades, yet evidence of the effectiveness of this intervention has never been synthesized. The aim of this study was to examine the effectiveness of individualized nutrition care for weight management provided by dietitians to adults in comparison to minimal or no intervention. Databases (Cochrane, CINAHL plus, MedLine ovid, ProQuest family health, PubMed, Scopus) were searched for terms analogous with patient, dietetics and consultation with no date restrictions. The search yielded 5796 unique articles, with 14 randomized controlled trials meeting inclusion criteria. The risk of bias for the included studies ranged from unclear to high. Six studies found a significant intervention effect for the dietitian consultation, and a further four found significant positive change for both the intervention and control groups. Data were synthesized through random effects meta-analysis from five studies (n = 1598) with weight loss as the outcome, and from four studies (n = 1224) with Body Mass Index (BMI) decrease as the outcome. Groups receiving the dietitian intervention lost an additional 1.03 kg (95% CI:-1.40; -0.66, p < 0.0001) of weight and 0.43 kg/m2 (95% CI:-0.59, -0.26; p < 0.0001) of BMI than those receiving usual care. Heterogeneity was low for both weight loss and BMI, with the pooled means varying from 1.26 to -0.93 kg and -0.4 kg/m2 for weight and BMI, respectively, with the removal of single studies. This study is the first to synthesize evidence on the effectiveness of individualized nutrition care delivered by a dietitian. Well-controlled studies that include cost-effectiveness measures are needed to strengthen the evidence base.

13. **How does the food environment influence people engaged in weight management? A systematic review and thematic synthesis of the qualitative literature.**
Neve Kimberley L., Isaacs Anna. Obesity reviews : an official journal of the International Association for the Study of Obesity 2022;23(3): e13398.

Available online at this link

People engaged in weight loss or weight loss maintenance (weight management) often regain weight long term. Unsupportive food environments are one of the myriad challenges people face when working towards a healthier weight. This systematic review explores how the food environment influences people engaged in weight management and the policy implications. Nine electronic databases (CINAHL, Medline, PsycINFO, Academic Search Complete, Embase, Ovid Emcare, PubMed, Open Grey, and BASE) were searched systematically in May 2020 to synthesize the qualitative evidence. Eligible studies were conducted with adults (18+) in high-income countries, available in English and published 2010-2020 with a substantial qualitative element and reference to food environments. Data were analyzed using a thematic synthesis approach. Quality assessment using the Critical Appraisal Skills Programme was undertaken. We identified 26 studies of 679 individuals reporting on weight management experiences with reference to the food environment. Limitations of the included studies included a lack of detail regarding socioeconomic status and ethnicity in many studies. The analysis revealed that food environments undermine efforts at weight management, consistently making purchasing and consumption of healthier food more difficult, particularly for those on a low income. For weight management to be more successful, concurrent actions to reshape food environments are necessary.

14. **Impact of program characteristics on weight loss in adult behavioral weight management interventions: systematic review and component network meta-analysis.**
Hartmann-Boyce Jamie, Ordóñez-Mena José M., Theodoulou Annika, Butler Ailsa R., Freeman Suzanne C., Sutton Alex J., Jebb Susan A., Aveyard Paul, Hartmann-Boyce Jamie, Ordóñez-Mena José M. Obesity (19307381) 2022;30(9): 1778-1786.

Available online at this link

Objective: Behavioral weight management programs (BWMPs) for adults lead to greater weight loss at 12 months than minimal-intervention control treatments. However, there is considerable heterogeneity in the content of BWMPs and outcomes of treatment. This study assessed the contribution of individual components of BWMPs, using Bayesian component network meta-analysis.Methods: Randomized controlled trials of BWMPs in adults were identified (latest search: December 2019) and arms coded for presence or absence of 29 intervention components grouped by type, content, provider, mode of delivery, and intensity.Results: A total of 169 studies (41 judged at high risk of bias) were included in the main analysis. Six components had effect estimates indicating clinically significant benefit and credible intervals (CrIs) excluding no difference: change in diet (mean difference [MD] = -1.84 kg, 95% CrI: -2.91 to -0.80); offering partial (MD = -2.12 kg, 95% CrI: -3.39 to -0.89) or total meal replacements (MD = -2.63 kg, 95% CrI: -4.58 to -0.73); delivery by a psychologist/counselor (MD = -1.45 kg, 95% CrI: -2.81 to -0.06) or dietitian (MD = -1.31 kg, 95% CrI: -2.40 to -0.24); and home setting (MD = -1.05 kg, 95% CrI: -2.02 to -0.09).Conclusions: Future program development should consider including these components; other approaches continue to warrant evaluation of effectiveness.

15. **Interventions improving health professionals' practice for addressing patients' weight management behaviours: systematic review of reviews.**
Yazdizadeh Bahareh, Walker Ruth, Skouteris Helen, Olander Ellinor K., Hill Briony. Health promotion international 2021;36(1): 165-177.

Available online at this link

Health professionals require education and training to implement obesity management guidelines and ultimately impact on the health outcomes experienced by their patients. Therefore, a systematic review of systematic reviews that evaluated interventions designed to change the practice of health professionals when addressing diet and physical activity with their patients was conducted. MEDLINE Complete; Cochrane database of systematic reviews; PsycINFO; CINAHL Complete; Global Health; Embase; INFORMIT: Health Subset; Health System Evidence and RX for change were searched in March 2019, with no date or language limits. Identified references underwent screening, full-text analyses and data extraction in duplicate. The search identified 15 230 references. Five systematic reviews that provided a narrative syntheses of a combined 38 studies were included. Health professional participants generally reported being satisfied with the training interventions. Heterogeneity between and within included reviews, non-controlled designs of individual studies and low quality of evidence at an individual study level and review level made it difficult to draw firm conclusions regarding what interventions are most effective in changing health professionals' knowledge, skills, self-efficacy, attitudes and practice. However, similar gaps in the literature were identified across included reviews. Key areas that could be addressed in future interventions including organization and system-level barriers to providing advice, health professionals' attitudes and motivation and weight stigma have been highlighted. Health professionals and patients could be more involved in the planning and development of interventions that work towards improving diet and physical activity advice and support provided in healthcare.

16. **Interventions targeting comorbid depression and overweight/obesity: A systematic review.**
Cao Bing, Xu Jiatong, Li Ruonan, Teopiz Kayla M., McIntyre Roger S., Chen Hong. Journal of Affective Disorders 2022;314 222-232.

Available online at this link

Background: Overweight/obesity and depression are highly co-occurring conditions with shared pathophysiology as well as social and economic determinants. To our knowledge, this is the first systematic review aims to comprehensively synthesize extant literature with a focus on the effectiveness of interventions targeting obesity and depression comorbidity.Methods: We searched databases including MEDLINE, ProQuest Central, Web of Science, PsycINFO, Cochrane Library, from inception of the databases until Nov 12, 2021. Articles were included if they reported on the effects of pharmacological, psychological or dietary interventions on comorbid depression and overweight/obesity as their primary or secondary outcome.Results: Of the 5480 identified records, 19 eligible researches comprising 15 RCTs and 4 uncontrolled longitudinal studies for 3408 participants with comorbid depression and overweight/obesity. The available literature is not sufficient to inform evidence-based treatments targeting obesity and comorbid depression contemporaneously. Notwithstanding, the combination of CBT and lifestyle intervention show efficacy targeting obesity and comorbid depression as do some nutritional supplements, antidepressants and anti-diabetic agents.Limitations: The high heterogeneity of various interventions in the included studies may cause a lack of comparability between different studies.Conclusions: Concurrent management of depression and overweight/obesity is suggested by available data. There is a pressing need for studies that evaluate the effectiveness in real world samples of persons experiencing multiple co-occurring chronic diseases including but not limited to depression and overweight/obesity.

17. **Is a small change approach for weight management effective? A systematic review and meta-analysis of randomized controlled trials.**
Graham Henrietta Emily, Madigan Claire Deborah, Daley Amanda Jane. Obesity reviews : an official journal of the International Association for the Study of Obesity 2022;23(2): e13357.

Available online at this link

Traditional weight management interventions typically involve people making large changes to their energy intake and/or expenditure and can be effective in the short term, but weight regain is common. An alternative strategy is a small change approach, which asks people to make small(er) changes to their diet and/or physical activity behaviors (e.g., 100-kcal reduction or increases of 1000 steps/day). This approach may lead to sustained weight management because such energy-deficit goals are easier for people to integrate into their lives and then maintain. This systematic review and meta-analysis of randomized and quasi-randomized controlled trials assessed the effectiveness of a small change approach for weight management; 21 trials were included. In weight gain prevention trials with adults, the mean difference in weight change between groups was -0.7 kg (95% CI -1.0 to -0.4, 95% PI -1.1 to -0.3) at program-end and -0.9 kg (95% CI -1.5 to -0.3, 95% PI -3.1 to 1.3) at last follow-up, favoring small change interventions. A small change approach was not effective for weight loss. Only 2/21 trials had a low risk of bias. Initial evidence supports the effectiveness of a small change approach for weight gain prevention but not weight loss. Further high-quality trials with longer follow-up are required.

18. **Management of overweight and obesity in primary care-A systematic overview of international evidence-based guidelines.**
Semlitsch Thomas, Stigler Florian L., Jeitler Klaus, Horvath Karl, Siebenhofer Andrea. Obesity reviews : an official journal of the International Association for the Study of Obesity 2019;20(9): 1218-1230.

Available online at this link

Overweight and obesity are increasing worldwide. In general practice, different approaches exist to treat people with weight problems. To provide the foundation for the development of a structured clinical pathway for overweight and obesity management in primary care, we performed a systematic overview of international evidence-based guidelines. We searched in PubMed and major guideline databases for all guidelines published in World Health Organization (WHO) "Stratum A" nations that dealt with adults with overweight or obesity. Nineteen guidelines including 711 relevant recommendations were identified. Most of them concluded that a multidisciplinary team should treat overweight and obesity as a chronic disease. Body mass index (BMI) should be used as a routine measure for diagnosis, and weight-related complications should be taken into account. A multifactorial, comprehensive lifestyle programme that includes reduced calorie intake, increased physical activity, and measures to support behavioural change for at least 6 to 12 months is recommended. After weight reduction, long-term measures for weight maintenance are necessary. Bariatric surgery can be offered to people with a BMI greater than or equal to 35 kg/m2 when all non-surgical interventions have failed. In conclusion, there was considerable agreement in international, evidence-based guidelines on how multidisciplinary management of overweight and obesity in primary care should be performed. Copyright © 2019 The Authors. Obesity Reviews published by John Wiley & Sons Ltd on behalf of World Obesity Federation.

19. **Motivational Interviewing for Weight Management Among Women: a Meta-Analysis and Systematic Review of RCTs.**
Suire Kameron B., Kavookjian Jan, Feiss Robyn, Wadsworth Danielle D. International journal of behavioral medicine 2021;28(4): 403-416.

Available online at this link

BACKGROUND: Motivational interviewing (MI) is a communication skill set used by clinicians to help facilitate adherence to numerous health behaviors. Currently, MI's evidence supports its use among adults in various realms; however, clarity is needed regarding weight management among females. The purpose of this systematic review and meta-analysis is to synthesize the literature examining the use of MI and its impact on anthropometric measures among adult females., METHOD: The authors conducted a modified Cochrane method of systematic search and review in several relevant databases to explore and report evidence and gaps in the literature for MI in weight management among females in addition to meta-analyses for weight and BMI. Criteria for retention included randomized controlled trials with open inclusion of studies with varied settings, methods, interventionists, target behaviors, and outcomes., RESULTS: Of the 3289 references initially identified, 10 intervention arms met the criteria across review tiers. Seven of 10 intervention groups reported significant anthropometric changes compared with a control group, as well as significant changes in non-anthropometric outcomes related to weight management. Using a random-effects model, the effect size of MI on reduction in body weight (kg) was 0.19 (95% CI - 0.13, 0.26; $p < 0.01$), and the effect size of MI on reduction in BMI was 0.35 (95% CI 0.12, 0.58; $p < 0.01$)., CONCLUSIONS: Results suggest that MI interventions are useful for weight management among females. Future studies would enhance the current base of literature by utilizing advanced anthropometric

outcomes, including sex-specific results, and including more diverse and larger sample sizes.

20. **Obesity management in primary care: systematic review exploring the influence of therapeutic alliance.**
Sturgiss Elizabeth A., O'Brien Kathleen, Elmitt Nicholas, Agostino Jason, Ardouin Stephen, Douglas Kirsty, Clark Alexander M. Family practice 2021;38(5): 644-653.

Available online at this link

PURPOSE: To identify the influence of the therapeutic alliance on the effectiveness of obesity interventions delivered in primary care., METHOD: Systematic review of randomized controlled trials of primary care interventions for adult patients living with obesity. Comprehensive search strategy using the terms 'obesity', 'primary care' and 'intervention' of seven databases from 1 January 1998 to March 2018. Primary outcome was difference in weight loss in interventions where a therapeutic alliance was present., RESULTS: From 10 636 studies, 11 (3955 patients) were eligible. Only one study had interventions that reported all aspects of therapeutic alliance, including bond, goals and tasks. Meta-analysis was not included due to high statistical heterogeneity and low numbers of trials; as per our protocol, we proceeded to narrative synthesis. Some interventions included the regular primary care practitioner in management; very few included collaborative goal setting and most used prescriptive protocols to direct care., CONCLUSIONS: We were surprised that so few trials reported the inclusion of elements of the therapeutic alliance when relational aspects of primary care are critical for effectiveness. Interventions could be developed to maximize therapeutic relationships and research reports should describe interventions comprehensively., SYSTEMATIC REVIEW REGISTRATION NUMBER: CRD42018091338 in PROSPERO (International prospective register of systematic reviews).

21. **Occupational Therapy for Adults with Overweight and Obesity: Mapping Interventions Involving Occupational Therapists.**
Nielsen Svetlana Solgaard, Christensen Jeanette Reffstrup. Occupational Therapy International 2018; 1-17.

Available online at this link

Background. Worldwide obesity rates are increasing. The effectiveness of occupational therapy in overweight and obese adults has not yet been clarified. Objectives. The scoping review aimed at examining the evidence on interventions involving occupational therapists in the treatment of adults with overweight and obesity. Methods. Data on interventions involving occupational therapists and reporting on lifestyle-related outcomes in overweight and obese adults was extracted from the databases Cochrane, PubMed, CINAHL, and Embase, including hand and reference search. The scoping review methodology of Arksey and O'Malley was used. Conclusions were based on numerical and narrative analysis. Results. Thirteen articles reporting on eleven studies met the inclusion criteria. Several studies showed significant weight loss. However, the studies possessed high heterogeneity and showed insufficient explication of the role and contribution of occupational therapy to the outcomes. Conclusions. The interventions with involvement of occupational therapists were suggested to help short-term weight loss. Occupational therapists contributed to the outcomes with a holistic approach, educating on the role of activity, providing technological support, and promoting enjoyment of being active. There is a need for further

documentation of the effectiveness, role, and contributions of occupational therapy in the treatment of overweight and obese adults in all settings.

22. **Physical activity, diet, and weight loss in patients recruited from primary care settings: An update on obesity management interventions.**
de Lannoy Louise, Cowan Theresa, Fernandez Angela, Ross Robert. Obesity science & practice 2021;7(5): 619-628.

Available online at this link

BACKGROUND: Obesity and related comorbidities are the most common chronic conditions in North America where behavior modification including the adoption of physical activity (PA) and a healthful diet are primary treatment strategies. Patients are more likely to engage in behavior modification if encouraged by their physician; however, behavioral counseling in primary care rarely occurs due to lack of training and resources. A more effective method may be to refer patients from clinical settings to other health professionals., OBJECTIVE: This systematic review examines the effectiveness of behavior-based counseling for obesity management among participants referred from clinical settings., METHODS: PubMed, CINAHL, and EMBASE were used to identify randomized clinical trials (2014-2020) for weight loss with the following inclusion criteria: trial duration >=12 months, included a control or usual care group, recruited adults with overweight or obesity from primary care and/or treated in the primary care setting, and the intervention included counseling on PA and diet., RESULTS: Seventeen studies, encompassing 21 different intervention groups with 6185 unique participants (56% female) met the inclusion criteria. All participants had overweight or obesity, with a body mass index between 28.2 and 41.0 kg/m2. In 11 (52%) of the intervention groups, significant weight loss in the intervention group was observed compared to usual care (mean weight loss: 4.9[2.1] kg vs. 1.0[0.9] kg). In 13 out of 18 interventions (72%) reporting weight loss at two time points, weight regain was observed by 12 months. Statistically significant weight loss was observed in one intervention (of two total) that was longer than 12 months., CONCLUSIONS: Sustained weight loss regardless of the behavior-based, intervention strategy remains a challenge for most adults. Given the established benefits of routine PA and a healthful diet, prioritizing the adoption of healthy behaviors regardless of weight loss may be a more effective strategy for ensuring long-term health benefit.

23. **Primary care–based interventions for treatment of obesity: a systematic review.**
Marques E.S., Interlenghi G.S., Leite T.H., Cunha D.B., Verly J.únior E., Steffen R.E., Azeredo C.M. Public Health (Elsevier) 2021;195 61-69.

Available online at this link

The objective of this study was to synthesise evidence from primary care–based interventions for the treatment of obesity in adults and the elderly. Systematic review. Eight electronic databases (MEDLINE, Lilacs, Embase, Psycinfo, Cochrane, WHOLIS, Open Gray and Scholar Google) were searched. There was no limitation on publication period; articles published in English, Portuguese or Spanish were included. The selection, data extraction and quality analyses were performed by three reviewers. A literature search retrieved 6464 publications, of which 5120 publications were excluded after reading the title/abstract and 293 after reading the full text. In total, 56 publications, representing 72 interventions were included. All studies were published between 2000 and 2020. Most studies were conducted in high-income countries. The mean duration of interventions was 11.5 months (SD: 7.5), ranging from 3 to 44 months. Most interventions were effective for

body mass index reduction, weight loss and waist circumference change. Our study showed that most interventions were effective for outcomes analysed in adults and the elderly. We also found some literature gaps, such as the need to implement and evaluate obesity after intervention and the requirement to carry out more studies in low- and middle-income countries.

24. **Psychological Interventions and Bariatric Surgery among People with Clinically Severe Obesity—A Systematic Review with Bayesian Meta-Analysis.**
Storman Dawid, Świerz Mateusz Jan, Storman Monika, Jasińska Katarzyna Weronika, Jemioło Paweł, Bała Małgorzata Maria. Nutrients 2022;14(8): N.PAG-N.PAG.

Available online at this link

Aim: To assess the effectiveness of perioperative psychological interventions provided to patients with clinically severe obesity undergoing bariatric surgery regarding weight loss, BMI, quality of life, and psychosocial health using the Bayesian approach. Methods: We considered randomised trials that assessed the beneficial and harmful effects of perioperative psychological interventions in people with clinically severe obesity undergoing bariatric surgery. We searched four data sources from inception to 3 October 2021. The authors independently selected studies for inclusion, extracted data, and assessed the risk of bias. We conducted a meta-analysis using a Bayesian approach. PROSPERO: CRD42017077724. Results: Of 13,355 identified records, we included nine studies (published in 27 papers with 1060 participants (365 males; 693 females, 2 people with missing data)). Perioperative psychological interventions may provide little or no benefit for BMI (the last reported follow-up: MD [95% credible intervals] = −0.58 [−1.32, 0.15]; BF01 = 0.65; 7 studies; very low certainty of evidence) and weight loss (the last reported follow-up: MD = −0.50 [−2.21, 0.77]; BF01 = 1.24, 9 studies, very low certainty of evidence). Regarding psychosocial outcomes, the direction of the effect was mainly inconsistent, and the certainty of the evidence was low to very low. Conclusions: Evidence is anecdotal according to Bayesian factors and uncertain whether perioperative psychological interventions may affect weight-related and psychosocial outcomes in people with clinically severe obesity undergoing bariatric surgery. As the results are ambiguous, we suggest conducting more high-quality studies in the field to estimate the true effect, its direction, and improve confidence in the body of evidence.

25. **Self-compassion in weight management: A systematic review.**
Brenton-Peters Jennifer, Consedine Nathan S., Boggiss Anna, Wallace-Boyd Kate, Roy Rajshri, Serlachius Anna. Journal of psychosomatic research 2021;150 110617.

Available online at this link

OBJECTIVE: Self-compassion - the tendency or ability to treat oneself kindly in times of failure or distress - may be a natural fit to support individuals who struggle with weight management. However, while self-compassion shows promise with improving health behaviours, the associations self-compassion has on weight management outcomes are unclear. The objective of this systematic review was three-fold: (1) to evaluate whether self-compassion interventions can increase individual self-compassion in the context of weight management, (2) to investigate if self-compassion interventions can improve weight management outcomes, defined as healthier eating, increased physical activity, or reduced weight and finally, (3) to explore whether these benefits can be sustained over the longer term., METHODS: Following PRISMA guidelines, Scopus, PsycINFO, Medline, PubMed and Embase databases were searched. Studies including a measure of self-compassion and a self-compassion intervention reporting weight management outcomes were included. Studies in populations living with an eating disorder were excluded. The Quality Criteria

Checklist from the American Dietetic Association was used to assess study quality. Prospero Registration #CRD42019146707., RESULTS: Of the 9082 records screened, a total of 20 studies met inclusion criteria. Seventeen studies reported significant increases in self-compassion post-intervention. Improvements were also found for eating behaviours (15 of 18), physical activity behaviours (6 of 9), and weight loss (6 of 11). The majority of improvements were maintained at follow-up, except for physical activity behaviours (1 of 7)., CONCLUSION: Self-compassion interventions tailored to weight management outcomes demonstrate efficacy with increasing self-compassion post-intervention. Methodological weaknesses and questions about the maintenance of any improvements in weight management outcomes limit our ability to make strong conclusions. However, there is promise and clear relevance for including self-compassion interventions to enhance weight management outcomes; directions for improved intervention and study design are given.

26. **Short-term intermittent energy restriction interventions for weight management: a systematic review and meta-analysis.**
Harris L., McGarty A., Hutchison L., Ells L., Hankey C. Obesity reviews : an official journal of the International Association for the Study of Obesity 2018;19(1): 1-13.

Available online at this link

This systematic review synthesized the available evidence on the effect of short-term periods of intermittent energy restriction (weekly intermittent energy restriction; >=7-d energy restriction) in comparison with usual care (daily continuous energy restriction), in the treatment of overweight and obesity in adults. Six electronic databases were searched from inception to October 2016. Only randomized controlled trials of interventions (>=12 weeks) in adults with overweight and obesity were included. Five studies were included in this review. Weekly intermittent energy restriction periods ranged from an energy intake between 1757 and 6276 kJ/d-1 . The mean duration of the interventions was 26 (range 14 to 48) weeks. Meta-analysis demonstrated no significant difference in weight loss between weekly intermittent energy restriction and continuous energy restriction post-intervention (weighted mean difference: -1.36 [-3.23, 0.51], p = 0.15) and at follow-up (weighted mean difference: -0.82 [-3.76, 2.11], p = 0.58). Both interventions achieved comparable weight loss of >5 kg and therefore were associated with clinical benefits to health. The findings support the use of weekly intermittent energy restriction as an alternative option for the treatment of obesity. Currently, there is insufficient evidence to support the long-term sustainable effects of weekly intermittent energy restriction on weight management.

27. **The Science of Obesity Management: An Endocrine Society Scientific Statement.**
Bray George A., Heisel William E., Afshin Ashkan, Jensen Michael D., Dietz William H., Long Michael, Kushner Robert F., Daniels Stephen R., Wadden Thomas A., Tsai Adam G., Hu Frank B., Jakicic John M., Ryan Donna H., Wolfe Bruce M., Inge Thomas H. Endocrine reviews 2018;39(2): 79-132.

Available online at this link

The prevalence of obesity, measured by body mass index, has risen to unacceptable levels in both men and women in the United States and worldwide with resultant hazardous health implications. Genetic, environmental, and behavioral factors influence the development of obesity, and both the general public and health professionals stigmatize those who suffer from the disease. Obesity is associated with and contributes to a shortened life span, type 2 diabetes mellitus, cardiovascular disease, some cancers, kidney disease, obstructive sleep

apnea, gout, osteoarthritis, and hepatobiliary disease, among others. Weight loss reduces all of these diseases in a dose-related manner-the more weight lost, the better the outcome. The phenotype of "medically healthy obesity" appears to be a transient state that progresses over time to an unhealthy phenotype, especially in children and adolescents. Weight loss is best achieved by reducing energy intake and increasing energy expenditure. Programs that are effective for weight loss include peer-reviewed and approved lifestyle modification programs, diets, commercial weight-loss programs, exercise programs, medications, and surgery. Over-the-counter herbal preparations that some patients use to treat obesity have limited, if any, data documenting their efficacy or safety, and there are few regulatory requirements. Weight regain is expected in all patients, especially when treatment is discontinued. When making treatment decisions, clinicians should consider body fat distribution and individual health risks in addition to body mass index.

28. **The case for stepped care for weight management after bariatric surgery.**
Kalarchian Melissa A., Marcus Marsha D. Surgery for obesity and related diseases : official journal of the American Society for Bariatric Surgery 2018;14(1): 112-116.

Available online at this link

Among carefully screened patients, bariatric surgery has proven safe and efficacious in the management of clinically severe obesity and poorly controlled type 2 diabetes. Nonetheless, individual outcomes vary, suggesting the need for interventions to maximize and sustain the health benefits of surgery. In this short review, we synthesize findings from the extant research literature to suggest the potential utility of a stepped care approach to optimize the postsurgery weight trajectory, which requires further research using adaptive designs. Starting with low-intensity, cost-effective interventions, such as self-weighing and self-monitoring, interventions that increase in intensity, such as counseling, meal replacements, or weight loss medications, could be added strategically according to predetermined decision rules based on patient weight change. Interventions could subsequently be withdrawn if no longer indicated, or reinstituted when appropriate, allowing for efficient allocation of resources in a personalized approach to postsurgery weight management over time.

29. **The importance of service-users' perspectives: A systematic review of qualitative evidence reveals overlooked critical features of weight management programmes.**
Sutcliffe Katy, Melendez-Torres G. J, Burchett Helen E. D, Richardson Michelle, Rees Rebecca, Thomas James. Health expectations : an international journal of public participation in health care and health policy 2018;21(3): 563-573.

Available online at this link

BACKGROUND: Extensive research effort shows that weight management programmes (WMPs) targeting both diet and exercise are broadly effective. However, the critical features of WMPs remain unclear., OBJECTIVE: To develop a deeper understanding of WMPs critical features, we undertook a systematic review of qualitative evidence. We sought to understand from a service-user perspective how programmes are experienced, and may be effective, on the ground., SEARCH STRATEGY: We identified qualitative studies from existing reviews and updated the searches of one review., INCLUSION CRITERIA: We included UK studies capturing the views of adult WMP users., DATA EXTRACTION AND SYNTHESIS: Thematic analysis was used inductively to code and synthesize the evidence., MAIN RESULTS: Service users were emphatic that supportive relationships, with service providers or WMP peers, are the most critical aspect of WMPs. Supportive relationships were described as providing an extrinsic motivator or "hook" which

helped to overcome barriers such as scepticism about dietary advice or a lack confidence to engage in physical activity., DISCUSSION AND CONCLUSIONS: The evidence revealed that service-users' understandings of the critical features of WMPs differ from the focus of health promotion guidance or descriptions of evaluated programmes which largely emphasize educational or goal setting aspects of WMPs. Existing programme guidance may not therefore fully address the needs of service users. The study illustrates that the perspectives of service users can reveal unanticipated intervention mechanisms or underemphasized critical features and underscores the value of a holistic understanding about "what happens" in complex psychosocial interventions such as WMPs. Copyright © 2018 The Authors Health Expectations published by John Wiley & Sons Ltd.

30. **The role of the nurse in the Obesity Clinic: a practical guideline.**
Barrea Luigi, Framondi Lydia, DI Matteo Rossana, Verde Ludovica, Vetrani Claudia, Graziadio Chiara, Pugliese Gabriella, Laudisio Daniela, Vitale Giovanni, Iannicelli Anna Maria, Savastano Silvia, Colao Annamaria, Muscogiuri Giovanna. Panminerva medica 2021;63(4): 539-546.

Available online at this link

Obesity is a major public health issue, and its trend is increasing worldwide. Interventions to effectively treat obesity and its related diseases are advocated. Given the complexity of obesity management, nurses need specific core skills to work in the Obesity Clinic and can act as key players in the multidisciplinary team of the Obesity Clinic. To provide practical guidelines for nurses working in Obesity Clinic for effective management of obesity and its related diseases, the current evidence on the role nurses in the obesity clinic was reviewed. Nurses can play a pivotal role in the management of patients with obesity and associated diseases that may require a stricter follow-up than usual care. Given the complexity of the treatment of obesity and its comorbidity, nurses should receive a specific training for: 1) methods and tools to effectively treat obesity and obesity-related disease; 2) patients and families education on nutrition, lifestyle changes, and prevention/management of obesity-related diseases; 3) motivation of patients towards adherence to treatment to achieve their specific goals. This review highlights the need of specific core skills for nurses working in the Obesity Clinic.

31. **Third-wave cognitive behaviour therapies for weight management: A systematic review and network meta-analysis.**
Lawlor Emma R., Islam Nazrul, Bates Sarah, Griffin Simon J., Hill Andrew J., Hughes Carly A., Sharp Stephen J., Ahern Amy L. Obesity reviews : an official journal of the International Association for the Study of Obesity 2020;21(7): e13013.

Available online at this link

This systematic review and network meta-analysis synthesized evidence on the effects of third-wave cognitive behaviour therapies (3wCBT) on body weight, and psychological and physical health outcomes in adults with overweight or obesity. Studies that included a 3wCBT for the purposes of weight management and measured weight or body mass index (BMI) pre-intervention and >= 3 months post-baseline were identified through database searches (MEDLINE, CINAHL, Embase, Cochrane database [CENTRAL], PsycINFO, AMED, ASSIA, and Web of Science). Thirty-seven studies were eligible; 21 were randomized controlled trials (RCT) and included in the network meta-analyses. Risk of bias was assessed using RoB2, and evidence quality was assessed using GRADE. Random-effects pairwise meta-analysis found moderate- to high-quality evidence suggesting that 3wCBT had greater weight loss than standard behavioural treatment (SBT) at post-intervention (standardized mean difference [SMD]: -0.09, 95% confidence interval [CI]: -

0.22, 0.04; N = 19; I2 = 32%), 12 months (SMD: -0.17, 95% CI: -0.36, 0.02; N = 5; I2 = 33%), and 24 months (SMD: -0.21, 95% CI: -0.42, 0.00; N = 2; I2 = 0%). Network meta-analysis compared the relative effectiveness of different types of 3wCBT that were not tested in head-to-head trials up to 18 months. Acceptance and commitment therapy (ACT)-based interventions had the most consistent evidence of effectiveness. Only ACT had RCT evidence of effectiveness beyond 18 months. Meta-regression did not identify any specific intervention characteristics (dose, duration, delivery) that were associated with greater weight loss. Evidence supports the use of 3wCBT for weight management, specifically ACT. Larger trials with long-term follow-up are needed to identify who these interventions work for, their most effective components, and the most cost-effective method of delivery.

32. **Weight Maintenance after Dietary Weight Loss: Systematic Review and Meta-Analysis on the Effectiveness of Behavioural Intensive Intervention.**
Flore Giovanna, Preti Antonio, Carta Mauro Giovanni, Deledda Andrea, Fosci Michele, Nardi Antonio Egidio, Loviselli Andrea, Velluzzi Fernanda. Nutrients 2022;14(6): 1259.

Available online at this link

After a low-calorie diet, only 25% of patients succeed in maintaining the result of weight loss for a long time. This systematic review and meta-analysis aims to explore whether patients undergoing intensive intervention during the maintenance phase have a greater preservation of the weight achieved during the previous slimming phase than controls. A bibliographic search was conducted using PubMed, Scopus, and Cochrane databases for clinical trials and randomised, controlled trials investigating the role of choice in weight-loss-maintenance strategies. Only studies with a follow-up of at least 12 months were considered. A total of eight studies, for a total of 1454 patients, was identified, each comparing a group that followed a more intensive protocol to a control group. Our metanalysis highlighted that an intensive approach even in the maintenance phase could be important to ensure greater success in the phase following the weight-loss period. However, it should be pointed out that the improvement was not so different from the trend of the respective controls, with a non-statistically significant mean difference of the effect size (0.087; 95% CI −0.016 to 0.190 p = 0.098). This finding, along with the observation of a weight regain in half of the selected studies, suggests this is a long work that has to be started within the weight-loss phase and reinforced during the maintenance phase. The problem of weight control in patients with obesity should be understood as a process of education to a healthy lifestyle and a balanced diet to be integrated in the context of a multidisciplinary approach.

33. **Weight loss interventions for overweight and obese patients in primary care: A literature review.**
Woadden Joanna, James Janet. Practice Nursing 2018;29(10): 493-499.

Available online at this link

Primary care is the ideal place to tackle the obesity crisis. This literature review looks at which interventions are suitable for use in general practice Objective: To identify which weight loss interventions are best delivered through primary care to achieve beneficial outcomes for patients and practitioners. Methods: A literature search was conducted using online databases: Academic Search Complete, CINAHL complete, Internurse, Medline Complete, PubMed, Trip, Psych-Info and Web of Science. The search was limited to peer reviewed, English-language articles published between 2007–2017. Findings: Three core themes emerged from the literature: recruitment of participants, attrition rates and the

effects of intervention. The intervention that used a commercial provider yielded the highest percentage (60%) of patients who lost a clinically significant 5% body weight. Mean attrition rates between studies were below 30% average at 23.87%, and men were underrepresented in recruitment. Conclusion: Commercial providers can assist primary care with the burden related to obesity. In addition, training is required to support and encourage primary care practitioners to manage weight-related interactions with their patients. Male under-representation could be decreased by forming male-specific services and further research into mechanisms behind attrition, such as motivation, is recommended.

34. **Weight management programmes: Re-analysis of a systematic review to identify pathways to effectiveness.**
Melendez-Torres G. J, Sutcliffe Katy, Burchett Helen E. D, Rees Rebecca, Richardson Michelle, Thomas James. Health expectations : an international journal of public participation in health care and health policy 2018;21(3): 574-584.

Available online at this link

BACKGROUND: Previous systematic reviews of weight management programmes (WMPs) have not been able to account for heterogeneity of effectiveness within programmes using top-down behavioural change taxonomies. This could be due to overlapping causal pathways to effectiveness (or lack of effectiveness) in these complex interventions. Qualitative comparative analysis (QCA) can help identify these overlapping pathways., METHODS: Using trials of adult WMPs with dietary and physical activity components identified from a previous systematic review, we selected the 10 most and 10 least effective interventions by amount of weight loss at 12 months compared to minimal treatment. Using intervention components suggested by synthesis of studies of programme user views, we labelled interventions as to the presence of these components and, using qualitative comparative analysis, developed pathways of component combinations that created the conditions sufficient for interventions to be most effective and least effective., RESULTS: Informed by the synthesis of views studies, we constructed 3 truth tables relating to quality of the user-provider relationship; perceived high need for guidance from providers; and quality of the relationship between peers in weight management programmes. We found effective interventions were characterized by opportunities to develop supportive relationships with providers or peers, directive provider-led goal setting and components perceived to foster self-regulation., CONCLUSIONS: Although QCA is an inductive method, this innovative approach has enabled the identification of potentially critical aspects of WMPs, such as the nature of relationships within them, which were previously not considered to be as important as more concrete content such as dietary focus. Copyright © 2018 The Authors Health Expectations published by John Wiley & Sons Ltd.

35. **Weight-loss interventions for improving emotional eating among adults with high body mass index: A systematic review with meta-analysis and meta-regression.**
Chew Han Shi Jocelyn, Lau Siew Tiang, Lau Ying. European Eating Disorders Review 2022;30(4): 304-327.

Available online at this link

Objectives: To evaluate the effectiveness of weight-loss interventions on emotional eating among adults with high body mass index (BMI). Methods: A systematic review, meta-analysis and meta-regression were performed on randomized controlled trials published from inception until 19 March 2021. Results: Thirty-one studies were included, representing 1203 participants with mean ages ranging from 21.8 to 57.3 years old and BMI 27.2–43.5

kg/m2. We found small-to-medium interventional effects on emotional eating (n = 18; Hedges' g = 0.22; p = 0.01, I2 = 61.7%), uncontrolled eating (n = 16; Hedges' g = 0.46; p < 0.001, I2 = 71.6%) and cognitive restraint (n = 18; Hedges' g = 0.42; p < 0.001, I2 = 75.8%). Small-to-medium interventional effects were only found for emotional eating (n = 8; Hedges' g = 0.45; p = 0.02, I2 = 74.3%) 3-month post-intervention, and on BMI (n = 4; Hedges' g = 0.43; p < 0.05, I2 = 33.4%) and weight (n = 6; Hedges' g = 0.36; p < 0.01, I2 < 10.4%) 12-month post-intervention. Age, male proportion, baseline BMI, attrition rate and intervention length were not significant moderators of the heterogeneity between studies. Conclusion: Interventions improved emotional eating and weight loss along a year-long trajectory. Highlights: Weight-loss interventions such as Cognitive Behaviour Therapy (CBT), diet and exercise, and mindfulness are effective in improving emotional eating, uncontrolled eating/external eating and cognitive restraint/restrained eating.Purely mindfulness-based interventions showed a higher interventional effect size over a combination of CBT and mindfulness, CBT and diet and/or exercise.Small-to-medium interventional effect size on body mass index and weight was only observed 12-month post-intervention.

36. **What works and why in the identification and referral of adults with comorbid obesity in primary care: A realist review.**
Blane David N., Macdonald Sara, O'Donnell Catherine A. Obesity reviews : an official journal of the International Association for the Study of Obesity 2020;21(4): e12979.

Available online at this link

Primary care practitioners (PCPs) are well placed to identify individuals with obesity and weight-related comorbidities and to refer them to weight management services (WMS), but this does not often happen in practice. In this realist review, we searched six databases for intervention studies targeted at PCPs to improve the identification and referral of adults with comorbid obesity. Realist analysis was used to identify context-mechanism-outcome (CMO) configurations across 30 included papers (reporting on 27 studies). Most studies used multiple intervention strategies, categorised into: (a) training, (b) tools to improve identification, (c) tools to improve ease of referral, (d) audit/feedback, (e) working in networks/quality circles, and (f) other. The realist synthesis identified 12 mechanisms through which interventions work to improve identification and referral, including increasing knowledge about obesity and awareness of and confidence in WMS among practitioners, improved communication and trust between practitioners and WMS, and higher priority given to weight management among primary care teams. The theory of "candidacy" (a person's eligibility for medical attention and intervention) provided a robust explanatory framework but required refinement: (a) to take account of the different services (primary care and weight management) that patients must navigate to access support; and (b) to acknowledge the importance of wider contextual factors. Copyright © 2019 The Authors. Obesity Reviews published by John Wiley & Sons Ltd on behalf of World Obesity Federation.

E. Institutional Publication

1. **Tackling obesity: The role of the NHS in a whole-system approach**
Holmes, Jonathon. The King's Fund, 2021

In 2019, 64 per cent of adults in England were overweight, with 28 per cent being obese and 3 per cent morbidly obese (NHS Digital 2020a). Obesity is a significant health risk and is associated with increased risk of diseases including diabetes, heart disease and some cancers. • There has been a significant increase in obesity in the most deprived

communities in England in recent years, leading to a widening gap between the most and least deprived areas. The obesity prevalence gap between women from the most and least deprived areas is currently 17 percentage points and for men it is 8 percentage points, up from 11 percentage points for women and 2 percentage points for men in 2014 (NHS Digital 2020a; NHS Digital 2015). • Childhood obesity has followed a similar pattern. For children in year six there was a 13-percentage-point gap in obesity rates between the most and least deprived children in 2019, up by 5 percentage points since 2006 (NHS Digital 2020b). • The causes of obesity are many and varied. The most important risk factor is an unhealthy diet, while physical inactivity also plays a role. People in deprived areas often face significant barriers to accessing affordable, healthy food and to taking regular exercise (Public Health England 2017). Tackling obesity 2 • In 2019/20 there were more than 1 million hospital admissions linked to obesity in England, an increase of 17 per cent on the previous year. Rising rates of obesity translate to increasing costs for the NHS. In 2014/15 the NHS spent £6.1 billion on treating obesity-related ill health, this is forecast to rise to £9.7 billion per year by 2050 (NHS Digital 2021; Public Health England 2017). • Differences in obesity rates translate to worse health outcomes for people in more deprived areas and contribute to health inequalities. Rates of

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F. Original Research

1. **Efficacy of a Commercial Weight Management Program Compared With a Do-It-Yourself Approach: A Randomized Clinical Trial.**
Tate Deborah F., Lutes Lesley D., Bryant Maria, Truesdale Kimberly P., Hatley Karen E., Griffiths Zoe, Tang Tricia S., Padgett Louise D., Pinto Angela M., Stevens June, Foster Gary D. JAMA Network Open 2022;5(8): e2226561-e2226561.

   Available online at this link

   Key Points: Question: What is the efficacy at 3 and 12 months of a widely available commercial weight management program compared with a do-it-yourself approach? Findings: In this 3-country randomized clinical trial that included 373 adults, reductions in weight were significantly greater at both 3 and 12 months for participants in the commercial weight management program, which included reduced requirements for dietary self-monitoring, than for participants using the do-it-yourself approach. Meaning: This randomized clinical trial found that a commercial weight management program with reduced dietary self-monitoring produced clinically significant weight loss and may partially address the need for evidence-based approaches beyond the clinic setting. Importance: Given the prevalence of obesity, accessible and effective treatment options are needed to manage obesity and its comorbid conditions. Commercial weight management programs are a potential solution to the lack of available treatment, providing greater access at lower cost than clinic-based approaches, but few commercial programs have been rigorously evaluated. Objective: To compare the differences in weight change between individuals randomly assigned to a commercial weight management program and those randomly assigned to a do-it-yourself (DIY) approach. Design, Setting, and Participants: This 1-year, randomized clinical trial conducted in the United States, Canada, and United Kingdom between June 19, 2018, and November 30, 2019, enrolled 373 adults aged 18 to 75 years with a body mass index (BMI; calculated as weight in kilograms divided by height in meters squared) of 25 to 45. Assessors were blinded to treatment conditions. Interventions: A widely available commercial weight management program that included reduced requirements for dietary self-monitoring and recommendations for a variety of DIY approaches to weight loss. Main Outcomes and Measures: The primary outcomes were the difference in weight change between the 2 groups at 3 and 12 months. The a priori hypothesis was that the commercial program would result in greater weight loss than the

DIY approach at 3 and 12 months. Analyses were performed on an intention-to-treat basis. Results: The study include 373 participants (272 women [72.9%]; mean [SD] BMI, 33.8 [5.2]; 77 [20.6%] aged 18-34 years, 74 [19.8%] aged 35-43 years, 82 [22.0%] aged 44-52 years, and 140 [37.5%] aged 53-75 years). At 12 months, retention rates were 88.8% (166 of 187) for the commercial weight management program group and 95.7% (178 of 186) for the DIY group. At 3 months, participants in the commercial program had a mean (SD) weight loss of −3.8 (4.1) kg vs −1.8 (3.7) kg among those in the DIY group. At 12 months, participants in the commercial program had a mean (SD) weight loss of −4.4 (7.3) kg vs −1.7 (7.3) kg among those in the DIY group. The mean difference between groups was −2.0 kg (97.5% CI, −2.9 to −1.1 kg) at 3 months (P <.001) and −2.6 kg (97.5% CI, −4.3 to −0.8 kg) at 12 months (P <.001). A greater percentage of participants in the commercial program group than participants in the DIY group achieved loss of 5% of body weight at both 3 months (40.7% [72 of 177] vs 18.6% [34 of 183]) and 12 months (42.8% [71 of 166] vs 24.7% [44 of 178]). Conclusions and Relevance: Adults randomly assigned to a commercial weight management program with reduced requirements for dietary self-monitoring lost more weight and were more likely to achieve weight loss of 5% at 3 and 12 months than adults following a DIY approach. This study contributes data on the efficacy of commercial weight management programs and DIY weight management approaches. Trial Registration: ClinicalTrials.gov Identifier: NCT03571893 This randomized clinical trial compares differences in weight change between individuals randomly assigned to a commercial weight management program with reduced requirements for dietary self-monitoring and individuals randomly assigned to follow a do-it-yourself approach.

2. **Mechanisms of Action in a Behavioral Weight-Management Program: Latent Growth Curve Analysis.**
Bates Sarah, Norman Paul, Breeze Penny, Brennan Alan, Ahern Amy L. Annals of behavioral medicine : a publication of the Society of Behavioral Medicine 2022;56(1): 64-77.

Available online at this link

BACKGROUND: A greater understanding of the mechanisms of action of weight-management interventions is needed to inform the design of effective interventions., PURPOSE: To investigate whether dietary restraint, habit strength, or diet self-regulation mediated the impact of a behavioral weight-management intervention on weight loss and weight loss maintenance., METHODS: Latent growth curve analysis (LGCA) was conducted on trial data in which adults (N = 1,267) with a body mass index (BMI) >=28 kg/m2 were randomized to either a brief intervention (booklet on losing weight), a 12 week weight-management program or the same program for 52 weeks. LGCA estimated the trajectory of the variables over four time points (baseline and 3, 12 and 24 months) to assess whether potential mechanisms of action mediated the impact of the weight-management program on BMI., RESULTS: Participants randomized to the 12 and 52 week programs had a significantly greater decrease in BMI than the brief intervention. This direct effect became nonsignificant when dietary restraint, habit strength, and autonomous diet self-regulation were controlled for. The total indirect effect was significant for both the 12 (estimate = -1.33, standard error [SE] = 0.41, p = .001) and 52 week (estimate = -2.13, SE = 0.52, p < .001) program. Only the individual indirect effect for dietary restraint was significant for the 12 week intervention, whereas all three indirect effects were significant for the 52 week intervention., CONCLUSIONS: Behavior change techniques that target dietary restraint, habit strength, and autonomous diet self-regulation should be considered when designing weight loss and weight loss maintenance interventions. Longer interventions may need to target both deliberative and automatic control processes to support successful weight management.

3. **Understanding the Experience of Service Users in an Integrated Care Programme for Obesity and Mental Health: A Qualitative Investigation of Total Wellbeing Luton**
Liapi Fani, Chater Angel M., Pescheny Julia V., Randhawa Gurch, Pappas Yannis. International Journal of Environmental Research and Public Health 2022;19(2): No page numbers.

https://www.mdpi.com/1660-4601/19/2/817

Obesity is a complex public health issue with multiple contributing factors. The emphasis on joined care has led to the development and implementation of a number of integrated care interventions targeting obesity and mental health. The purpose of this study was to examine user experience in an integrated care programme for obesity and mental health in Luton, UK. Semi-structured interviews were conducted with a purposeful sample of service users (N = 14). Interview transcripts were analysed using thematic analysis. Analysis of the interviews identified six main themes for understanding service usersâ€™ experiences of integrated care: (1) â€˜A user-centered systemâ€™, (2) â€˜Supports behaviour changeâ€™, (3) â€˜Valued social supportâ€™, (4) â€˜Communication is keyâ€™, (5) â€˜Flexible referral processâ€™, and (6) â€˜Positive impact on lifeâ€™. These themes describe how the service is operated, evidence perceived value service users place on social support in behavior change intervention, and address which service areas work well and which require improvement. The findings of these interviews have offered a significant contribution to understanding what service users value the most in an integrated healthcare setting. Service users value ongoing support and being listened to by healthcare professionals, as well as the camaraderie and knowledge acquisition to support their own behaviour change and promote self-regulation following their participation in the programme.

4. **A novel approach to increasing community capacity for weight management a volunteer-delivered programme (ActWELL) initiated within breast screening clinics: a randomised controlled trial.**
Anderson Annie S., Chong Huey Yi, Craigie Angela M., Donnan Peter T., Gallant Stephanie, Hickman Amy, McAdam Chloe, McKell Jennifer, McNamee Paul, Macaskill E. Jane, Mutrie Nanette, O'Carroll Ronan E., Rauchhaus Petra, Sattar Naveed, Stead Martine, Treweek Shaun. International Journal of Behavioral Nutrition & Physical Activity 2021;18(1): 1-21.

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Background: It is estimated that around 30% of breast cancers in post-menopausal women are related to lifestyle. The breast cancer-pooling project demonstrated that sustained weight loss of 2 to 4.5 kg is associated with an 18% lower risk of breast cancer, highlighting the importance of small changes in body weight. Our study aimed to assess the effectiveness a volunteer-delivered, community based, weight management programme (ActWELL) for women with a BMI > 25 kg/m2 attending NHS Scotland Breast Screening clinics. Methods: A multicentre, 1:1 parallel group, randomised controlled trial was undertaken in 560 women aged 50 to 70 years with BMI > 25 kg/m2. On completion of baseline measures, all participants received a breast cancer prevention leaflet. Intervention group participants received the ActWELL intervention which focussed on personalised diet advice and pedometer walking plans. The programme was delivered in leisure centres by (the charity) Breast Cancer Now volunteer coaches. Primary outcomes were changes between groups at 12 months in body weight (kg) and physical activity (accelerometer measured step count). Results: Two hundred seventy-nine women were allocated to the intervention group and 281 to the comparison group. Twelve-month data were available from 240 (81%) intervention and 227 (85%) comparison group participants. Coaches delivered 523 coaching sessions and 1915 support calls to 279 intervention participants. Mean weight change was − 2.5 kg (95% CI − 3.1 to − 1.9) in the intervention group and −

1.2 kg (− 1.8 to 0.6) in the comparison group. The adjusted mean difference was − 1.3 kg (95% CI − 2.2 to − 0.4, P = 0.003). The odds ratio for losing 5% weight was 2.20 (95% CI 1.4 to 3.4, p = 0.0005) in favour of the intervention. The adjusted mean difference in step counts between groups was 483 steps/day (95% CI − 635 to 1602) (NS). Conclusions: A community weight management intervention initiated at breast screening clinics and delivered by volunteer coaches doubled the likelihood of clinically significant weight loss at 12 months (compared with usual care) offering significant potential to decrease breast cancer risk. Trial registration: Database of registration: ISCRTN. Registration number:11057518. Date trial registered:21.07.2017. Date of enrolment of first participant: 01.09.2017.

5. **Extended follow-up of a short total diet replacement programme: results of the Doctor Referral of Overweight People to Low Energy total diet replacement Treatment (DROPLET) randomised controlled trial at 3 years.**
Astbury Nerys M., Edwards Rhiannon M., Ghebretinsea Fitsum, Shanyinde Milensu, Mollison Jill, Aveyard Paul, Jebb Susan A. International journal of obesity (2005) 2021;45(11): 2432-2438.

   Available online at this link

   OBJECTIVES: To test the long-term effectiveness of a total diet replacement programme (TDR) for routine treatment of obesity in a primary care setting., METHODS: This study was a pragmatic, two-arm, parallel-group, open-label, individually randomised controlled trial in adults with obesity. The outcomes were change in weight and biomarkers of diabetes and cardiovascular disease risk from baseline to 3 years, analysed as intention-to-treat with mixed effects models., INTERVENTIONS: The intervention was TDR for 8 weeks, followed by food-reintroduction over 4 weeks. Behavioural support was provided weekly for 8 weeks, bi-weekly for the next 4 weeks, then monthly for 3 months after which no further support was provided. The usual care (UC) group received dietary advice and behavioural support from a practice nurse for up to 3 months., RESULTS: Outcome measures were collected from 179 (66%) participants. Compared with baseline, at 3 years the TDR group lost -6.2 kg (SD 9.1) and usual care -2.7 kg (SD 7.7); adjusted mean difference -3.3 kg (95% CI: -5.2, -1.5), p < 0.0001. Regain from programme end (6 months) to 3 years was greater in TDR group +8.9 kg (SD 9.4) than UC + 1.2, (SD 9.1); adjusted mean difference +6.9 kg (95% CI 4.2, 9.5) P < 0.001. At 3 years TDR led to greater reductions than UC in diastolic blood pressure (mean difference -3.3 mmHg (95% CI:-6.2; -0.4) P = 0.024), and systolic blood pressure (mean differences -3.7 mmHg (95% CI: -7.4; 0.1) P = 0.057). There was no evidence of differences between groups in the change from baseline to 3 years HbA1c (-1.9 mmol/mol (95% CI: -0.7; 4.5; P = 0.15), LDL cholesterol concentrations (0.2 mmol/L (95% CI -0.3, 0.7) P = 0.39), cardiovascular risk score (QRISK2) (-0.37 (95% CI -0.96; 0.22); P = 0.22)., CONCLUSIONS: Treatment of people with obesity with a TDR programme compared with support from a practice nurse leads to greater weight loss which persists to at least 3 years, but there was only evidence of sustained improvements in BP and not in other aspects of cardiometabolic risk. Copyright © 2021. The Author(s).

6. **Gender differences in response to an opportunistic brief intervention for obesity in primary care: Data from the BWeL trial.**
Tudor Kate, Tearne Sarah, Jebb Susan A., Lewis Amanda, Adab Peymane, Begh Rachna, Jolly Kate, Daley Amanda, Farley Amanda, Lycett Deborah, Nickless Alecia, Aveyard Paul. Clinical obesity 2021;11(1): e12418.

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Weight loss programmes appeal mainly to women, prompting calls for gender-specific programmes. In the United Kingdom, general practitioners (GPs) refer nine times as many women as men to community weight loss programmes. GPs endorsement and offering programmes systematically could reduce this imbalance. In this trial, consecutively attending patients in primary care with obesity were invited and 1882 were enrolled and randomized to one of two opportunistic 30-second interventions to support weight loss given by GPs in consultations unrelated to weight. In the support arm, clinicians endorsed and offered referral to a weight loss programme and, in the advice arm, advised that weight loss would improve health. Generalized linear mixed effects models examined whether gender moderated the intervention. Men took effective weight loss action less often in both arms (support: 41.6% vs 60.7%; advice: 12.1% vs 18.3%; odds ratio (OR) = 0.38, 95% confidence interval (CI), 0.27, 0.52, P < .001) but there was no evidence that the relative effect differed by gender (interaction P = .32). In the support arm, men accepted referral and attended referral less often, 69.3% vs 82.4%; OR = 0.48, 95% CI, 0.35, 0.66, P < .001 and 30.4% vs 47.6%; OR = 0.48, 95% CI, 0.36, 0.63, P < .001, respectively. Nevertheless, the gender balance in attending weight loss programmes closed to 1.6:1. Men and women attended the same number of sessions (9.7 vs 9.1 sessions, P = .16) and there was no evidence weight loss differed by gender (6.05 kg men vs 4.37 kg women, P = .39). Clinician-delivered opportunistic 30-second interventions benefits men and women equally and reduce most of the gender imbalance in attending weight loss programmes.

7. **Testing the short-term effectiveness of primary care referral to online weight loss programmes: A randomised controlled trial.**
Noreik Michaela, Madigan Claire D., Astbury Nerys M., Edwards Rhiannon M., Galal Ushma, Mollison Jill, Ghebretinsea Fitsum, Jebb Susan A. Clinical obesity 2021;11(6): e12482.

Available online at this link

Guidelines ask health professionals to offer brief advice to encourage weight loss for people living with obesity. We tested whether referral to one of three online programmes could lead to successful weight loss. A total of 528 participants aged >=18 years with a body mass index of >=30 kg/m2 were invited via a letter from their GP. Participants were randomised to one of three online weight loss programmes (NHS Weight Loss Plan, Rosemary Online or Slimming World Online) or to a control group receiving no intervention. Participants self-reported weight at baseline and 8 weeks. The primary outcome was weight change in each of the active intervention groups compared with control. We also compared the proportion of participants losing >=5% or >=10% of body weight. For Rosemary, Online mean weight loss was modestly greater than control (-1.5 kg [95% confidence interval (CI) -2.3 to -0.6]) and more than three times as many participants in this group lost >=5% (relative risk [RR] = 3.64, 95% CI: 1.63-8.1). For Slimming World, mean weight loss was not significantly different from control (-0.8 kg [95%CI -1.7 to 0.1]), twice as many participants lost >=5% (RR = 2.70, 1.17-6.23). There was no significant difference in weight loss for participants using the NHS Weight Loss Plan (-0.4 kg, [95% CI -1.3 to 0.5]), or the proportion losing >=5% (RR = 2.09, 0.87-5.01). Only one of three online weight loss programmes was superior to no intervention and the effect size modest among participants living with obesity.

8. **The experiences of postnatal women and healthcare professionals of a brief weight management intervention embedded within the national child immunisation programme.**

Tyldesley-Marshall Natalie, Greenfield Sheila M., Parretti Helen M., Jolly Kate, Jebb Susan, Daley Amanda J. BMC pregnancy and childbirth 2021;21(1): 462.

Available online at this link

BACKGROUND: After childbirth, most women do not lose the extra weight gained during pregnancy. This is important because postnatal weight retention contributes to the development of obesity in later life. Research shows that postnatal women living with overweight would prefer to weigh less, are interested in implementing weight loss strategies, and would like support. Without evidence for the benefit of weight management interventions during pregnancy, postnatal interventions are increasingly important. Research has focused on intensive weight loss programmes, which cannot be offered to all postnatal women. Instead, we investigated the feasibility of a brief intervention delivered to postnatal women at child immunisation appointments. This qualitative study explored the views of women who received the intervention and healthcare professionals who delivered it., METHODS: The intervention was delivered within the context of the national child immunisation programme. The intervention group were offered brief support encouraging self-management of weight when attending general practices to have their child immunised at two, three and four months of age. The intervention involved motivation and support from practice nurses to encourage women to make healthier lifestyle choices through self-monitoring of weight and signposting to an online weight management programme. Nurses provided external accountability for weight loss. Women were asked to weigh themselves weekly and record this on a weight record card. Nested within this trial, semi-structured interviews explored the experiences of postnatal women who received the intervention and nurses who delivered it., RESULTS: The intervention was generally acceptable to participants and child immunisation appointments considered a suitable intervention setting. Nurses were hesitant to discuss maternal weight, viewing the postnatal period as a vulnerable time. Whilst some caveats to implementation were discussed by nurses, they felt the intervention was easy to deliver and would motivate postnatal women to lose weight., CONCLUSIONS: Participants were keen to lose weight after childbirth. Overall, they reported that the intervention was acceptable, convenient, and, appreciated support to lose weight after childbirth. Although nurses, expressed concerns about raising the topic of weight in the early postnatal period, they felt the intervention was easy to deliver and would help to motivate women to lose weight.

9. **The impact of participant mental health on attendance and engagement in a trial of behavioural weight management programmes: secondary analysis of the WRAP randomised controlled trial.**
Jones Rebecca A., Mueller Julia, Sharp Stephen J., Vincent Ann, Duschinsky Robbie, Griffin Simon J., Ahern Amy L. The international journal of behavioral nutrition and physical activity 2021;18(1): 146.

Available online at this link

BACKGROUND: Low attendance and engagement in behavioural weight management trials are common. Mental health may play an important role, however previous research exploring this association is limited with inconsistent findings. We aimed to investigate whether mental health was associated with attendance and engagement in a trial of behavioural weight management programmes., METHODS: This is a secondary data analysis of the Weight loss referrals for adults in primary care (WRAP) trial, which randomised 1267 adults with overweight or obesity to brief intervention, WW (formerly Weight Watchers) for 12-weeks, or WW for 52-weeks. We used regression analyses to assess the association of baseline mental health (depression and anxiety (by Hospital Anxiety and Depression Scale), quality of life (by EQ5D), satisfaction with life (by Satisfaction with Life Questionnaire)) with programme attendance and engagement in WW groups, and trial attendance in all randomised groups., RESULTS: Every one unit of

baseline depression score was associated with a 1% relative reduction in rate of WW session attendance in the first 12 weeks (Incidence rate ratio [IRR] 0.99; 95% CI 0.98, 0.999). Higher baseline anxiety was associated with 4% lower odds to report high engagement with WW digital tools (Odds ratio [OR] 0.96; 95% CI 0.94, 0.99). Every one unit of global quality of life was associated with 69% lower odds of reporting high engagement with the WW mobile app (OR 0.31; 95% CI 0.15, 0.64). Greater symptoms of depression and anxiety and lower satisfaction with life at baseline were consistently associated with lower odds of attending study visits at 3-, 12-, 24-, and 60-months., CONCLUSIONS: Participants were less likely to attend programme sessions, engage with resources, and attend study assessments when reporting poorer baseline mental health. Differences in attendance and engagement were small, however changes may still have a meaningful effect on programme effectiveness and trial completion. Future research should investigate strategies to maximise attendance and engagement in those reporting poorer mental health., TRIAL REGISTRATION: The original trial (ISRCTN82857232) and five year follow up (ISRCTN64986150) were prospectively registered with Current Controlled Trials on 15/10/2012 and 01/02/2018.

10. **Barriers and facilitators to uptake and retention of inner-city ethnically diverse women in a postnatal weight management intervention: a mixed-methods process evaluation within a feasibility trial in England.**
Taylor Cath, Bhavnani Vanita, Zasada Magdalena, Ussher Michael, Bick Debra, SWAN trial team, SWAN trial team. BMJ open 2020;10(7): e034747.

Available online at this link

OBJECTIVES: To understand the barriers and facilitators to uptake and retention of postnatal women randomised to a commercial group weight management intervention using the COM-B (capability, opportunity, motivation and behaviour) behaviour change model., DESIGN: Concurrent mixed-methods (qualitative dominant) process evaluation nested within a feasibility randomised controlled trial, comprising questionnaires and interviews at 6 and 12 months postbirth., SETTING: One National Health Service maternity unit in an inner city area in the south of England., PARTICIPANTS: 98 postnatal women with body mass indices>25 kg/m2 (overweight/obese) at pregnancy commencement., INTERVENTION: Twelve-week Slimming World (SW) commercial group weight management programme, commencing anytime from 8 to 16 weeks postnatally., PRIMARY AND SECONDARY OUTCOME MEASURES: Data regarding uptake and retention from questionnaires and interviews conducted 6 and 12 months postbirth analysed thematically and mapped to the COM-B model., RESULTS: Barriers to SW uptake mostly concerned opportunity issues (eg, lack of time or childcare support) though some women also lacked motivation, not feeling that weight reduction was a priority, and a few cited capability issues such as lacking confidence. Weight loss aspirations were also a key factor explaining retention, as were social opportunity issues, particularly in relation to factors such as the extent of group identity and relationship with the group consultant; and physical opportunity such as perceived support from and fit with family lifestyle. In addition, barriers relating to beliefs and expectations about the SW programme were identified, including concerns regarding compatibility with breastfeeding and importance of exercise. Women's understanding of the SW approach, and capability to implement into their lifestyles, appeared related to level of attendance (dose-response effect)., CONCLUSIONS: Uptake and retention in commercial weight management programmes may be enhanced by applying behaviour change techniques to address the barriers impacting on women's perceived capability, motivation and opportunity to participate., TRIAL REGISTRATION NUMBER: ISRCTN39186148.

11. **Long-Term Evaluation of a UK Community Pharmacy-Based Weight Management Service.**
Evans Gareth, Wright David. Pharmacy (Basel, Switzerland) 2020;8(1): No page numbers.

Available online at this link

Obesity increases the risk of cardiovascular disease, type 2 diabetes and cancer, reducing both the quality and quantity of life. Consequently, government healthcare costs are significant. A greater than 5% reduction in weight has been shown to result in significant improvements in type II diabetes, blood pressure and cholesterol levels and therefore effective interventions are required. This paper reports the results from 17 years of delivering a private, individualised very low calorie diet (VLCD) programme in community pharmacy. In line with national guidelines, a community pharmacy-based private weight management service was set up to support individuals over the age of 18. After assessment for clinical suitability, individuals were offered either a flexible weight loss plan or a strict weight loss plan using a very low calorie diet (VLCD). The VLCD was delivered using the protocols of the proprietary programme, Lipotrim TM. These individuals followed one or more dieting sequences, defined as at least one week of attendance whilst following the VLCD, without discontinuation, producing at least a start and end weight. Data were recorded weekly and audited for this report including weight and BMI on initial presentation, weight and BMI lost and % weight and BMI loss. A total of 1875 dieting sequences were recorded from 1023 dieters. In 1261 (67.3%) sequences, a medically beneficial weight loss of >5% was achieved. Overall, the cohort demonstrated mean (sd) % weight losses of 10.1% (7.7). Mean (sd) % weight losses seen in people with type 2 diabetes was 10.4% (2.7) and 10.6% (5.9) in hypertension. In total, 555 diet sequences accessed long-term weight maintenance support. In 173 (31%) of these cases, a second weight check post weight loss could not be made. The remaining 382 individuals presenting showed a mean (sd) weight gain of only 1.4kg (4.3) equating to a mean (sd) % weight gain of only 1.8% (4.6) over a mean (sd) number of days post weight-loss of 132 days (179). The results from this long-term review demonstrate that with proper provision of a nutritionally complete VLCD, through private service provision, community pharmacies can make a significant contribution to reducing the obesity epidemic at no cost to state-funded health systems.

12. **The effect of an augmented commercial weight loss program on increasing physical activity and reducing psychological distress in women with overweight or obesity: a randomised controlled trial.**
Breslin Gavin, Sweeney Leeanne, Shannon Stephen, Murphy Marie, Hanna Donncha, Meade Mary, Armitage Christopher J. Journal of Public Mental Health 2020;19(2): 145-157.

Available online at this link

Purpose: The purpose of this paper is to test the effects of augmenting an evidence-based physical activity intervention within an existing commercial weight loss program to assess effects on increasing physical activity and reducing psychological distress. Design/methodology/approach: The CONSORT guidelines were adopted for the study. In total, 49 women with overweight or obesity (M age=39.5, SD:12.4; M Body Mass Index=31.02, SD: 2.10) enrolled in a six week commercial weight loss program were randomized to an intervention or a control group. Participants in the control group received care as usual; participants in the intervention group additionally received an evidence-based intervention to increase physical activity that included behavior change techniques including implementation intentions, goal-setting and self-monitoring. Findings: Weekly steps increased in the intervention group (M=31,516.25; SD=9,310.17 to M=62,851.36; SD=13,840.4) significantly more ($p<0.001$, $\eta p2 =0.32$) than in the control group (M=30,207.67; SD=7,833.29) to M=46,969.33 (SD=9,470.96), along with experiencing significantly lower anxiety ($p<0.001$, $\eta p2 =0.15$), social dysfunction ($p<0.001$, $\eta p2 =0.16$) and depression symptoms ($p<0.05$, $\eta p2 =0.08$) at follow-up. Research

limitations/implications: This intervention warrants extension to those seeking to improve mental health through physical activity. Originality/value: This study took a novel approach of augmenting a commercial weight loss program with a theory-based physical activity module, showing positive effects for physical activity behavior and psychological health.

13. **Weight loss during medical weight management does not predict weight loss after bariatric surgery: a retrospective cohort study.**
Abbott Sally, Lawson Jacob, Singhal Rishi, Parretti Helen M., Tahrani Abd A. Surgery for obesity and related diseases : official journal of the American Society for Bariatric Surgery 2020;16(11): 1723-1730.

Available online at this link

BACKGROUND: Many bariatric surgical centers mandate achieving weight loss targets through medical weight management (MWM) programs before offering bariatric surgery, but the evidence for this is unclear., OBJECTIVES: To examine the relationship between weight changes during (1) MWM, and (2) preoperative low-energy-diet (LED), and weight changes at 12 and 24 months after surgery., SETTING: Multicenter community- and acute-based MWM services referring to one regional bariatric center, United Kingdom., METHODS: A retrospective cohort study of patients who attended MWM and then underwent a primary laparoscopic bariatric procedure (adjustable gastric banding [LAGB], or Roux-en-Y gastric bypass [RYGB]) in a single bariatric center in the United Kingdom between 2013 and 2015. Data were collected from patient electronic records., RESULTS: Two hundred eight patients were included (LAGB n = 128, RYGB n = 80). Anthropometric data were available for 94.7% and 88.0% of participants at 12 and 24 months, respectively. There was no relationship between weight loss during MWM and after surgery at either 12 or 24 months. Weight loss during the preoperative LED predicted greater weight loss after LAGB (beta = .251, P = .006) and less weight loss after RYGB (beta = -.390, P = .003) at 24 months, after adjusting for age, sex, ethnicity, baseline weight, and LED duration., CONCLUSIONS: Weight loss in MWM does not predict greater weight loss outcomes up to 24 months after LAGB or RYGB. Greater weight loss during the preoperative LED predicted greater weight loss after LAGB and less weight loss after RYGB. Our results suggest that patients should not be denied bariatric surgery because of not achieving weight loss in MWM. Weight loss responses to preoperative LEDs as a predictor of postsurgical weight loss requires further investigation.

14. **Application of Mindfulness in a Tier 3 Obesity Service Improves Eating Behavior and Facilitates Successful Weight Loss.**
Hanson Petra, Shuttlewood Emma, Halder Louise, Shah Neha, Lam F. T, Menon Vinod, Barber Thomas M. The Journal of clinical endocrinology and metabolism 2019;104(3): 793-800.

Available online at this link

Context: Mindfulness strategies may facilitate healthier eating behavior but have not previously been studied in a United Kingdom-based tier 3 obesity service., Objective: To demonstrate the clinical effectiveness of mindfulness as part of newly created group sessions within a tier 3 obesity service., Methods: Recruitment of participants (n = 53, including n = 33 completers) from patients attending a tier 3-based obesity service at University Hospitals Coventry and Warwickshire. Each participant attended four group sessions, at which mindfulness-based eating behavior strategies were taught. Self-reported eating behavior and body weight were assessed at baseline and following completion of attendance at the group sessions. Paired-sample t tests were performed. $P < 0.05$ was

considered significant. Data are reported for the 33 completers. Weight difference was assessed in a retrospective control group of 33 patients who did not attend the group sessions but received the standard multidisciplinary input., Results: There were statistically significant improvements (P = 0.009) in self-reported eating behavior [driven by improvements in "fast-foodism" (P = 0.031)] and reduction in body weight [3.06 kg (SD 5.2 kg), P = 0.002] at 6 months following completion of the group sessions. This was statistically more (P = 0.036) than 6-month weight loss in the control group (0.21 kg). Participants reported improved self-esteem and confidence in self-management of body weight., Conclusion: Application of mindfulness-based eating behavior strategies, taught at group sessions within a tier 3 obesity service, resulted in significant improvement in eating behavior, and facilitated subsequent weight loss over 6 months. Such a strategy has potential for scalability to the wider obese population.

15. **“90% of the time, it’s not just weight”: General practitioner and practice staff perspectives regarding the barriers and enablers to obesity guideline implementation**
Mazza D., McCarthy E., Carey M., Turner L., Harris M. Obesity Research & Clinical Practice 2019;13(4): 398-403.

Available online at this link

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Objective To identify the views of GPs and general practice staff regarding barriers and enablers to implementation of obesity guideline recommendations in general practice. Methods Twenty general practitioners (GPs) and 18 practice staff from inner-eastern Melbourne, Australia, participated in semi-structured telephone interviews. The interview schedule was informed by the Theoretical Domains Framework (TDF). Interviews were audio-recorded, transcribed verbatim and underwent thematic analysis. Results Participants lacked familiarity with and knowledge of the NHMRC obesity guidelines. Barriers and enablers were predominantly related to five theoretical domains: (1) environmental context and resources, (2) knowledge, (3) emotion, (4) beliefs about consequences, and (5) motivation and goals. Time pressures in consultations, costs for the patient, reluctance to add to patient burden particularly in those with comorbidities such as mental health issues, lack of awareness about services to refer patients to and GPs’ fear of embarrassing patients and losing them were significant barriers. Enablers included having a strong doctor–patient relationship and a sense of responsibility to the patient to address weight. Conclusions Obesity guidelines and policy makers need to better engage with issues of multimorbidity, socioeconomic disadvantage and workforce issues if recommendations are to be widely adopted in general practice. Tasksharing, teamwork and technology are potential solutions to some of the barriers. Patient perspectives and approaches to being able to overcome stigma and legitimise obesity management in primary care consultations could also assist.

16. **Effects of a Web-Based, Evolutionary Mismatch-Framed Intervention Targeting Physical Activity and Diet: a Randomised Controlled Trial.**
Grey Elisabeth B., Thompson Dylan, Gillison Fiona B. International Journal of Behavioral Medicine 2019;26(6): 645-657.

Available online at this link

Background: This study sought to test the effectiveness of a 12-week, novel online intervention (Evolife) aiming to increase physical activity level (PAL) and reduce energy intake (EI) among overweight/obese adults. The intervention used an evolutionary

mismatch message to frame health information in an engaging way, incorporating evidence-based behaviour change techniques to promote autonomous motivation, self-efficacy and self-regulatory skills. Method: Men and women aged 35–74 years with a BMI of 25–40 kg/m2 were eligible. Participants were randomised to receive either the intervention (comprising a face-to-face introductory session, 12 weeks' access to the Evolife website and a pedometer) or a control condition (face-to-face introductory session and NHS online health resources). PAL was measured objectively and EI was self-reported using 3-day weighed food records. Secondary measures included BMI, waist circumference and blood pressure. Results: Sixty people met inclusion criteria; 59 (30 intervention) completed the trial (mean age = 50; 56% male). Differences between groups' change scores for PAL and EI were of small effect size but did not reach significance (d = 0.32 and d = − 0.49, respectively). Improvements were found in both groups for PAL (int: d = 0.33; control: d = 0.04), EI (int: d = − 0.81; control: d = − 0.16), waist circumference (int: d = − 0.30; control: d = − 0.17) and systolic blood pressure (int: d = − 0.67; control: d = − 0.28). Conclusion: The intervention did not lead to significantly greater improvement in PAL or reduction in EI than a minimal intervention control, although the changes in the intervention group were of meaningful effect size and comparable with positive outcomes in larger intervention trials. Trial Registration: This trail was registered on www.clinicaltrials.gov on 16 January 2017 (appeared online 26 January 2017), reference NCT03032731.

17. **Is reduction in appetite beneficial for body weight management in the context of overweight and obesity? Yes, according to the SATIN (Satiety Innovation) study.**
Hansen Thea Toft, Mead Bethan R., Garcia-Gavilan Jesus Francisco, Korndal Sanne Kellebjerg, Harrold Joanne A., Camacho-Barcia Lucia, Ritz Christian, Christiansen Paul, Salas-Salvado Jordi, Hjorth Mads Fiil, Blundell John, Bullo Monica, Halford Jason C. G, Sjodin Anders. Journal of nutritional science 2019;8 e39.

Available online at this link

New dietary-based concepts are needed for treatment and effective prevention of overweight and obesity. The primary objective was to investigate if reduction in appetite is associated with improved weight loss maintenance. This cohort study was nested within the European Commission project Satiety Innovation (SATIN). Participants achieving >=8% weight loss during an initial 8-week low-energy formula diet were included in a 12-week randomised double-blind parallel weight loss maintenance intervention. The intervention included food products designed to reduce appetite or matching controls along with instructions to follow national dietary guidelines. Appetite was assessed by ad libitum energy intake and self-reported appetite evaluations using visual analogue scales during standardised appetite probe days. These were evaluated at the first day of the maintenance period compared with baseline (acute effects after a single exposure of intervention products) and post-maintenance compared with baseline (sustained effects after repeated exposures of intervention products) regardless of randomisation. A total of 181 participants (forty-seven men and 134 women) completed the study. Sustained reduction in 24-h energy intake was associated with improved weight loss maintenance (R 0.37; P = 0.001), whereas the association was not found acutely (P = 0.91). Suppression in self-reported appetite was associated with improved weight loss maintenance both acutely (R -0.32; P = 0.033) and sustained (R -0.33; P = 0.042). Reduction in appetite seems to be associated with improved body weight management, making appetite-reducing food products an interesting strategy for dietary-based concepts.

18. **Randomised controlled trial and economic evaluation of a task-based weight management group programme.**
McRobbie Hayden, Hajek Peter, Peerbux Sarrah, Kahan Brennan C., Eldridge Sandra,

Trepel Dominic, Parrott Steve, Griffiths Chris, Snuggs Sarah, Smith Katie Myers. BMC public health 2019;19(1): 365.

Available online at this link

BACKGROUND: Obesity is a rising global threat to health and a major contributor to health inequalities. Weight management programmes that are effective, economical and reach underprivileged groups are needed. We examined whether a multi-modal group intervention structured to cater for clients from disadvantaged communities (Weight Action Programme; WAP) has better one-year outcomes than a primary care standard weight management intervention delivered by practice nurses (PNI)., METHODS: In this randomised controlled trial, 330 obese adults were recruited from general practices in London and allocated (2:1) to WAP (N = 221) delivered over eight weekly group sessions or PNI (N = 109) who received four sessions over eight weeks. Both interventions covered diet, physical activity and self-monitoring. The primary outcome was the change in weight from baseline at 12 months. To indicate value to the NHS, a cost effectiveness analysis estimated group differences in cost and Quality-Adjusted Life-Years (QALYs) related to WAP., RESULTS: Participants were recruited from September 2012 to January 2014 with follow-up completed in February 2015. Most participants were not in paid employment and 60% were from ethnic minorities. 88% of participants in each study arm provided at least one recorded outcome and were included in the primary analysis. Compared with the PNI, WAP was associated with greater weight loss overall (- 4.2 kg vs. - 2.3 kg; difference = - 1.9 kg, 95% CI: -3.7 to - 0.1; P = 0.04) and was more likely to generate a weight loss of at least 5% at 12 months (41% vs. 27%, OR = 14.61 95% CI: 2.32 to 91.96, P = 0.004). With an incremental cost-effectiveness ratio (ICER) of 7742/QALY, WAP would be considered highly cost effective compared to PNI., CONCLUSIONS: The task-based programme evaluated in this study can provide a template for an effective and economical approach to weight management that can reach clients from disadvantaged communities., TRIAL REGISTRATION: ISRCTN ISRCTN45820471 . Registered 12/10/2012 (retrospectively registered).

19. **Screening and brief intervention for obesity in primary care: cost-effectiveness analysis in the BWeL trial.**
Retat Lise, Pimpin Laura, Webber Laura, Jaccard Abbygail, Lewis Amanda, Tearne Sarah, Hood Kathryn, Christian-Brown Anna, Adab Peymane, Begh Rachna, Jolly Kate, Daley Amanda, Farley Amanda, Lycett Deborah, Nickless Alecia, Yu Ly-Mee, Jebb Susan, Aveyard Paul. International journal of obesity (2005) 2019;43(10): 2066-2075.

Available online at this link

BACKGROUND: The Brief Intervention for Weight Loss Trial enrolled 1882 consecutively attending primary care patients who were obese and participants were randomised to physicians opportunistically endorsing, offering, and facilitating a referral to a weight loss programme (support) or recommending weight loss (advice). After one year, the support group lost 1.4 kg more (95%CI 0.9 to 2.0): 2.4 kg versus 1.0 kg. We use a cohort simulation to predict effects on disease incidence, quality of life, and healthcare costs over 20 years., METHODS: Randomly sampling from the trial population, we created a virtual cohort of 20 million adults and assigned baseline morbidity. We applied the weight loss observed in the trial and assumed weight regain over four years. Using epidemiological data, we assigned the incidence of 12 weight-related diseases depending on baseline disease status, age, gender, body mass index. From a healthcare perspective, we calculated the quality adjusted life years (QALYs) accruing and calculated the incremental difference between trial arms in costs expended in delivering the intervention and healthcare costs accruing. We discounted future costs and benefits at 1.5% over 20 years., RESULTS: Compared with advice, the support intervention reduced the cumulative incidence of weight-related disease by 722/100,000 people, 0.33% of all weight-related disease. The incremental cost of

support over advice was 2.01million/100,000. However, the support intervention reduced health service costs by 5.86 million/100,000 leading to a net saving of 3.85 million/100,000. The support intervention produced 992 QALYs/100,000 people relative to advice., CONCLUSIONS: A brief intervention in which physicians opportunistically endorse, offer, and facilitate a referral to a behavioural weight management service to patients with a BMI of at least 30 kg/m2 reduces healthcare costs and improves health more than advising weight loss.

20. **The equity impact of brief opportunistic interventions to promote weight loss in primary care: secondary analysis of the BWeL randomised trial.**
Graham J., Tudor K., Jebb S. A, Lewis A., Tearne S., Adab P., Begh R., Jolly K., Daley A., Farley A., Lycett D., Nickless A., Aveyard P. BMC medicine 2019;17(1): 51.

Available online at this link

BACKGROUND: Guidelines recommend that clinicians should make brief opportunistic behavioural interventions to patients who are obese to increase the uptake of effective weight loss programmes. The objective was to assess the effect of this policy on socioeconomic equity., METHODS: One thousand eight hundred eighty-two consecutively attending patients with obesity and who were not seeking support for weight loss from their GP were enrolled in a trial. Towards the end of each consultation, GPs randomly assigned participants to one of two 30-s interventions. In the active intervention (support arm), the GP offered referral to a weight management group. In the control intervention (advice arm), the GP advised the patient that their health would benefit from weight loss. Agreement to attend a behavioural weight loss programme, attendance at the programme and weight loss at 12 months were analysed by socioeconomic status, measured by postcode using the Index of Multiple Deprivation (IMD)., RESULTS: Mean weight loss was 2.43 kg (sd 6.49) in the support group and 1.04 kg (sd 5.50) for the advice only group, but these effects were moderated by IMD (p = 0.039 for the interaction). In the support arm, weight loss was greater in higher socioeconomic groups. Participants from lower socioeconomic backgrounds were more likely to accept the offer and equally likely to attend a weight loss referral but attended fewer sessions. Adjusting for these sequentially reduced the gradient for the association of socioeconomic status with weight loss from + 0.035 to - 0.001 kg/IMD point. In the advice only arm, 10% took effective action to promote weight loss. The decision to seek support for weight loss outside of the trial did not differ by socioeconomic status, but weight loss among deprived participants who used external support was greater than among more affluent participants (p = 0.025)., CONCLUSION: Participants' responses to GPs' brief opportunistic interventions to promote weight loss differed by socioeconomic status and trial arm. In the support arm, more deprived people lost less weight because they attended fewer sessions at the programme. In the advice arm, more deprived people who sought and paid for support for weight loss themselves lost more weight than more affluent people who sought support., TRIAL REGISTRATION: This trial is registered with the ISRCTN registry, number ISRCTN26563137 . Date of registration: January 3, 2013; date of first participant recruited: June 4, 2014.

21. **Using Conversation Analysis to Review and Improve Brief Weight Loss Interventions in Primary Care**
Albury Charlotte Victoria Alice. University of Oxford, 2019

Available online at this link

National guidelines exhort GPs to give brief opportunistic interventions for weight loss which incorporate the offer of referral to an effective behavioural programme, such as a commercial weight management service (CWMS). These brief interventions have been

shown to be effective. However, GPs rarely deliver these interventions, and have requested more support to facilitate delivery. Current guidelines provide little detail to support GPs because there is sparse evidence regarding how to deliver effective opportunistic interventions. In this thesis I aimed to understand what conversational strategies used by GPs are likely to result in patient agreement-to-attend, and actual attendance at a CWMS referral, and use the findings to develop an information resource to support primary care clinicians. I used a mixed methods approach including: a systematic review of evidence from conversation and discourse analytic studies; conversation analysis of audio recorded data from the brief interventions for weight loss (BWeL) trial; and statistical analysis of BWeL patient outcome data. In a systematic review to identify how healthcare professionals can best communicate with patients about health behaviour change I found ten papers. Results demonstrated a series of specific conversational practices which clinicians use when talking about health behaviour change, and how patients respond to these. Results largely complemented clinical guidelines, providing further detail on how they can best be delivered in practice. However, one recommended practice -linking a patient's health concerns and their health behaviours - was identified as potentially problematic. In three studies using conversation and statistical analyses to examine data from the BWeL trial I examined how referrals to CWMS were structured, delivered, and received. In the first study I found that referrals were formatted as 'news deliveries'. I identified three news delivery formats, and found that use of a 'good news' delivery format showed evidence of motivating patient agreement-to-attend, and actual attendance. In the second study I focussed on patient responses to the announcement of news. I found that patients displayed positive or negative reception of the referral early in the sequence, before they had been explicitly asked if they would like to attend. I found that positive and negative reception displays following the announcement of news were associated with subsequent attendance (or not) at the referral. Additionally, orienting to these patient responses which were produced early in the consultation, showed evidence of maintaining the brevity of the intervention. In the third study I examined when and how GPs articulated an association between a patient's weight and their health, and how patients responded. I found that, although this strategy is recommended by guidelines, linking was no more effective than not-linking, but did seem likely to generate displays of resistance in many cases, and was associated with longer consultations. This thesis demonstrates associations between conversational practices and longer-term patient action. This provides specific evidence for GPs on how to deliver effective opportunistic brief interventions for weight loss. Results from this thesis highlight the importance of careful attention to conversational features to identify effective communication which has potential to improve practice.

22. **A Low Energy-Dense Diet in the Context of a Weight-Management Program Affects Appetite Control in Overweight and Obese Women.**
Buckland Nicola J., Camidge Diana, Croden Fiona, Lavin Jacquelynne H., Stubbs R. James, Hetherington Marion M., Blundell John E., Finlayson Graham. The Journal of nutrition 2018;148(5): 798-806.

Available online at this link

Background: Low energy-dense (LED) foods reduce energy intake (EI); whether this effect is sustained over time and during weight loss is unknown., Objective: This trial examined the effects of LED compared with high energy-dense (HED) meals on appetite, EI, and control over eating in the laboratory and during a weight-management program that encourages unrestricted intake of LED foods [Slimming World, UK (SW)] compared with a self-led Standard Care program [NHS weight-loss plan (SC)]., Methods: Overweight and obese women [n = 96; mean +/- SD age: 41.03 +/- 12.61 y; mean +/- SD body mass index (in kg/m2): 34.00 +/- 3.61] were recruited from the SW or SC programs. Primary outcomes included appetite, food preferences (liking and wanting for LED and HED foods), cravings, and evening meal EI (LED, HED) in response to calorie-matched LED (<=0.8 kcal/g) and HED (>=2.5 kcal/g) breakfast and lunch meals. Probe-day tests were conducted at weeks 3

and 4 and repeated at weeks 12 and 13 in a within-day crossover design. Secondary outcomes, including body weight and program experience, were measured from weeks 1 to 14 in a parallel-group design. Dietary compliance was monitored with the use of weighed food diaries at weeks 3 and 12., Results: Intention-to-treat (ITT) and completers analyses showed that the SW group lost more weight than the SC group [ITT: -5.9% (95% CI: -4.7%, -7.2%) compared with -3.5% (-2.3%, -4.8%), P < 0.05; completers: -6.2% (-4.8%, -7.6%) compared with 3.9% (-2.5%, -5.2%), P < 0.05]. The SW group reported greater control over eating and more motivation to continue the program compared with the SC group. LED meals increased sensations of fullness and reduced hunger on probe days (P < 0.001). Total-day EI was 1057 +/- 73 kcal less (95% CI: 912, 1203 kcal; 36%) under LED compared with HED conditions (P < .001). Liking for LED and HED foods and wanting for HED foods were lower before lunch under LED compared with HED conditions, and liking decreased to a greater extent after the LED lunch. The SW group reported fewer cravings under LED compared with HED conditions (P < 0.05). On probe days, appetite and EI outcomes did not differ between weeks 3 and 12 or between the SW and SC groups., Conclusion: LED meals improve appetite control in women attempting weight loss and the effect is sustainable. Consumption of LED meals likely contributed to weight loss in the SW program. This study was registered at clinicaltrials.gov as NCT02012426.

23. **Can professional football clubs deliver a weight management programme for women: a feasibility study.**
Bunn Christopher, Donnachie Craig, Wyke Sally, Hunt Kate, Brennan Graham, Lennox Jemma, Maclean Alice, Gray Cindy M. BMC public health 2018;18(1): 1330.

Available online at this link

BACKGROUND: Levels of obesity remain high in the UK. The Football Fans in Training (FFIT) randomised controlled trial (RCT) demonstrated that a 12-week, gender-sensitised weight management, physical activity and healthy eating group programme delivered through professional football clubs helped men aged 35-65 years with BMI at least 28 kg/m2 lose a clinically-significant amount of weight. We aimed to test the feasibility of a minimally-adapted FFIT programme for delivery to women by assessing recruitment and completion rates; determining if the programme content and delivery required further refinement; and evaluating the potential of FFIT for Women to deliver improvements in weight and other clinical, behavioural and psychological outcomes., METHODS: A feasibility study of the FFIT for Women programme including before-and-after measurements of clinical (weight, waist, body mass index [BMI], blood pressure) behavioural (self-reported physical activity, food and alcohol intake) and psychological (self-esteem, positive and negative affect, physical and mental HRQoL) outcomes at five professional football clubs. Post-programme focus groups assessed acceptability of the programme format, content and style of delivery for women., RESULTS: Recruitment across the five clubs resulted in 123 women aged 35-65 years with BMI at least 28 kg/m2 taking part in the study. The mean weight (95.3 kg) and BMI (36.6 kg/m2) of the cohort were both suggestive of high risk of future disease. Of 123 women who started the programme, 94 (76%) completed it; 72 (58.5%) returned for 12-week follow-up measurements. Participants compared FFIT for Women favourably to commercial weight loss programmes and emphasised the importance of the programme's physical activity content. They also spoke positively about group dynamics, suggested that the approach to food was less restrictive than in other weight loss approaches, and broadly enjoyed the football setting. Mean weight loss was 2.87 kg (95% CI 2.09, 3.65, p <= 0.001). Mean waist reduction was 3.84 cm (2.92, 4.77, p <= 0.001)., CONCLUSION: In this evaluation, FFIT for Women was feasible, acceptable and demonstrated potential as a weight loss programme. Our findings suggest the programme has the potential to produce outcomes that are on a par with existing commercial and state-funded offerings.

24. **Cost-effectiveness of habit-based advice for weight control versus usual care in general practice in the Ten Top Tips (10TT) trial: economic evaluation based on a randomised controlled trial.**
Patel Nishma, Beeken Rebecca J., Leurent Baptiste, Omar Rumana Z., Nazareth Irwin, Morris Stephen. BMJ open 2018;8(8): e017511.

Available online at this link

OBJECTIVE: Ten Top Tips (10TT) is a primary care-led behavioural intervention which aims to help adults reduce and manage their weight by following 10 weight loss tips. The intervention promotes habit formation to encourage long-term behavioural changes. The aim of this study was to estimate the cost-effectiveness of 10TT in general practice from the perspective of the UK National Health Service., DESIGN: An economic evaluation was conducted alongside an individually randomised controlled trial., SETTING: 14 general practitioner practices in England., PARTICIPANTS: All patients were aged >=18 years, with body mass index >=30 kg/m2. A total of 537 patients were recruited; 270 received the usual care offered by their practices and 267 received the 10TT intervention., OUTCOMES MEASURES: Health service use and quality-adjusted life years (QALYs) were measured over 2 years. Analysis was conducted in terms of incremental net monetary benefits (NMBs), using non-parametric bootstrapping and multiple imputation., RESULTS: Over a 2-year time horizon, the mean costs and QALYs per patient in the 10TT group were 1889 (95% CI 1522 to 2566) and 1.51 (95% CI 1.44 to 1.58). The mean costs and QALYs for usual care were 1925 (95% CI 1599 to 2251) and 1.51 (95% CI 1.45 to 1.57), respectively. This generated a mean cost difference of -36 (95% CI -512 to 441) and a mean QALY difference of 0.001 (95% CI -0.080 to 0.082). The incremental NMB for 10TT versus usual care was 49 (95% CI -1709 to 1800) at a maximum willingness to pay for a QALY of 20 000. 10TT had a 52% probability of being cost-effective at this threshold., CONCLUSIONS: Costs and QALYs for 10TT were not significantly different from usual care and therefore 10TT is as cost-effective as usual care. There was no evidence to recommend nor advice against offering 10TT to obese patients in general practices based on cost-effectiveness considerations., TRIAL REGISTRATION NUMBER: ISRCTN16347068; Post-results.

25. **Greater improvements in diet quality among overweight participants following a group-based commercial weight loss programme than those receiving support to lose weight in primary care.**
Ambrosini Gina L., Solis-Trapala Ivonne, Ahern Amy L., Fuller Nicholas R., Holzapfel Christina, Hauner Hans, Caterson Ian D., Jebb Susan A. Nutrition journal 2018;17(1): 64.

Available online at this link

BACKGROUND: Relatively little is known about dietary changes and their relationships with weight change during behavioural weight loss interventions. In a secondary analysis of data from a multicentre RCT, we investigated whether greater improvements in diet would be achieved by overweight adults following a 12 month group-based commercial weight loss programme (CP) than those receiving standard care (SC) in primary practice, and if these dietary changes were associated with greater weight loss., METHODS: Adults with a BMI 27-35 kg/m2 and >1 risk factor for obesity-related disorders were recruited in study centres in Australia and the UK during 2007-2008. Dietary intake and body weight were measured at baseline, 6 and 12 months. Linear mixed effects models compared mean changes in dietary macronutrient intake, fibre density and energy density over time between groups, and their relationships with weight loss., RESULTS: The CP group demonstrated greater mean weight loss than the SC group at 6 months (3.3 kg, 95% CI: 2.2, 4.4) and 12 months (3.3 kg, 95% CI: 2.1, 4.5). Diet quality improved in both intervention groups at 6 and 12

months. However, the CP group (n = 228) achieved significantly greater mean reductions in energy intake (mean difference; 95% CI: - 503 kJ/d; - 913, - 93), dietary energy density (- 0.48 MJ/g; - 0.81, - 0.16), total fat (- 6.9 g/d; - 11.9, - 1.8), saturated fat (- 3.3 g/d; - 5.4, - 1.1), and significantly greater mean increases in fibre density (0.30 g/MJ; 0.15, 0.44) at 6 months than the SC group (n = 239). Similar differences persisted at 12 months and the CP group showed greater mean increases in protein density (0.65 g/MJ). In both groups, weight loss was associated with increased fibre density (0.68 kg per g/MJ, 95% CI: 0.08, 1.27) and protein density (0.26 kg per g/MJ, 95% CI: 0.10, 0.41)., CONCLUSIONS: Following a group-based commercial program led to greater improvements in diet quality than standard care. Increases in dietary protein and fibre density were independently associated with weight loss in both behavioural weight loss interventions. Greater increases in protein and fibre density in the commercial program likely contributed to their greater weight loss., TRIAL REGISTRATION: ISRCTN: ISRCTN85485463 Registered 03/08/2007 Retrospectively Registered.

26. **Long-term weight loss trajectories following participation in a randomised controlled trial of a weight management programme for men delivered through professional football clubs: a longitudinal cohort study and economic evaluation.**
Gray Cindy M., Wyke Sally, Zhang Ruiqi, Anderson Annie S., Barry Sarah, Boyer Nicki, Brennan Graham, Briggs Andrew, Bunn Christopher, Donnachie Craig, Grieve Eleanor, Kohli-Lynch Ciaran, Lloyd Suzanne M., McConnachie Alex, McCowan Colin, MacLean Alice, Mutrie Nanette, Hunt Kate. The international journal of behavioral nutrition and physical activity 2018;15(1): 60.

Available online at this link

BACKGROUND: Obesity is a major public health concern requiring innovative interventions that support people to lose weight and keep it off long term. However, weight loss maintenance remains a challenge and is under-researched, particularly in men. The Football Fans in Training (FFIT) programme engages men in weight management through their interest in football, and encourages them to incorporate small, incremental physical activity and dietary changes into daily life to support long-term weight loss maintenance. In 2011/12, a randomised controlled trial (RCT) of FFIT demonstrated effectiveness and cost-effectiveness at 12 months. The current study aimed to investigate long-term maintenance of weight loss, behavioural outcomes and lifetime cost-effectiveness following FFIT., METHODS: A longitudinal cohort study comprised 3.5-year follow-up of the 747 FFIT RCT participants. Men aged 35-65 years, BMI >= 28 kg/m2 at RCT baseline who consented to long-term follow-up (n = 665) were invited to participate: those in the FFIT Follow Up Intervention group (FFIT-FU-I) undertook FFIT in 2011 during the RCT; the FFIT Follow Up Comparison group (FFIT-FU-C) undertook FFIT in 2012 under routine (non-research) conditions. The primary outcome was objectively-measured weight loss (from baseline) at 3.5 years. Secondary outcomes included changes in self-reported physical activity and diet at 3.5 years. Cost-effectiveness was estimated at 3.5 years and over participants' lifetime., RESULTS: Of 665 men invited, 488 (73%; 65% of the 747 RCT participants) attended 3.5-year measurements. The FFIT-FU-I group sustained a mean weight loss of 2.90 kg (95% CI 1.78, 4.02; p < 0.001) 3.5 years after starting FFIT; 32.2% (75/233) weighed >=5% less than baseline. The FFIT-FU-C group had lost 2.71 kg (1.65, 3.77; p < 0.001) at the 3.5-year measurements (2.5 years after starting FFIT); 31.8% (81/255) weighed >=5% less than baseline. There were significant sustained improvements in self-reported physical activity and diet in both groups. The estimated incremental cost-effectiveness of FFIT was 10,700-15,300 per QALY gained at 3.5 years, and 1790-2200 over participants' lifetime., CONCLUSIONS: Participation in FFIT under research and routine conditions leads to long-term weight loss and improvements in physical activity and diet. Investment in FFIT is likely to be cost-effective as part of obesity management strategies in countries where football is popular., TRIAL REGISTRATION: ISRCTN32677491 , 20 October 2011.

27. **Metabolic syndrome and weight management programs in primary care: a comparison of three international healthcare systems.**
Sturgiss Elizabeth, Madigan Claire Deborah, Klein Doug, Elmitt Nicholas, Douglas Kirsty. Australian journal of primary health 2018;24(5): 372-377.

Available online at this link

Lifestyle behaviours are contributing to the increasing incidence of chronic disease across all developed countries. Australia, Canada and the UK have had different approaches to the role of primary care in the prevention and management of lifestyle-related diseases. Both obesity and metabolic syndrome have been targeted by programs to reduce individual risk for chronic disease such as type 2 diabetes. Three interventions are described - for either obesity or metabolic syndrome - that have varying levels of involvement of GPs and other primary care professionals. The structure of a healthcare system for example, financing and physical locations of primary care clinicians, shapes the development of primary care interventions. The type of clinicians involved in interventions, whether they work alone or in teams, is influenced by the primary care setting and resource availability. Australian clinicians and policymakers should take into account the healthcare system where interventions are developed when translating interventions to the Australian context.

28. **The Cambridge Intensive Weight Management Programme Appears to Promote Weight Loss and Reduce the Need for Bariatric Surgery in Obese Adults**
Golubic Rajna, Laur Celia, Kelsey Megan, Livesy Alana, Hoensch Joanna, Park Adrian, Ray Sumantra. Frontiers in nutrition 2018;5 54.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6052095/

Objectives: To investigate the impact of the Cambridge Intensive Weight Management Programme (IWMP) on weight change, eligibility for bariatric surgery, HbA1c, and blood pressure. Design: Prospective non-randomized intervention. Setting: The IWMP is a multi-disciplinary weight loss intervention for severely obese patients to avoid or optimize their physiological state thus enabling bariatric surgery. It uses dietary interventions, pharmacotherapy, and physical activity along with behavior change counseling. Participants: Severely obese patients (Body Mass Index, BMI≥40 kg/m(2)). Interventions: IWMP is a prospective intervention conducted in a National Health Service Tier 3 obesity service. It includes 3 phases of 8 weeks each: weight loss, weight stabilization, and weight maintenance. In each phase, patients adhered to a prescribed dietary regime and attended regular clinic visits. Data included in this analysis are from those who enrolled in IWMP between 2009 and 2013. Primary and secondary measures: The primary outcome was weight change between baseline and completion of the programme. Secondary outcomes included changes in blood pressure, HbA1c and eligibility for bariatric surgery pre-assessment. Changes in outcomes were compared by age, sex, smoking status, and employment. Results: Of n = 222 eligible patients, complete data were available for n = 141 patients (63.5%). At baseline, the mean (SD) BMI was 49.7 (9.2) kg/m(2) for women, and 47.9 (7.2) kg/m(2) for men. Mean (SD) weight change for women was -18.64 (8.36) kg and -22.46 (10.98) kg for men. N = 97 (69%) of patients achieved ≥10% weight loss. Individuals aged ≤ 50 years lost significantly more weight than those aged >50 years [mean (SD) weight loss: 22.18 (10.9) kg vs. 18.32 (7.92) kg, p = 0.020]. Changes in weight were non-significant by smoking status or employment. Median (IQR) change in systolic and diastolic blood pressure was -6 (-14.6) mmHg and 0 (-8.6) mmHg (non-significant), respectively. There was ~50% reduction in the need for bariatric surgery. Conclusions: For the majority of the patients, IWMP is promoting weight loss and allowing for avoidance of, or optimization before, bariatric surgery.

29. **The impact of social deprivation on the response to a randomised controlled trial of a weight management intervention (BeWEL) for people at increased risk of colorectal cancer.**
Fisher A., Craigie A. M., Macleod M., Steele R. J. C., Anderson A. S. Journal of Human Nutrition & Dietetics 2018;31(3): 306-313.

Available online at this link

Abstract: Background: Although 45% of colorectal cancer (CRC) cases may be avoidable through appropriate lifestyle and weight management, health promotion interventions run the risk of widening health inequalities. The BeWEL randomised controlled trial assessed the impact of a diet and activity programme in overweight adults who were diagnosed with a colorectal adenoma, demonstrating a significantly greater weight loss at 12 months in intervention participants than in controls. The present study aimed to compare BeWEL intervention outcomes by participant deprivation status. Methods: The intervention group of the BeWEL trial (n = 163) was classified by the Scottish Index of Multiple Deprivation (SIMD) quintiles into 'more deprived' (SIMD 1–2, n = 58) and 'less deprived' (SIMD 3–5, n = 105). Socio-economic and lifestyle variables were compared at baseline to identify potential challenges to intervention adherence in the more deprived. Between group differences at 12 months in primary outcome (change in body weight) and secondary outcomes (cardiovascular risk factors, diet, physical activity, knowledge of CRC risk and psychosocial variables) were assessed by deprivation status. Results: At baseline, education (P = 0.001), income (P < 0.001), spending on physical activity (P = 0.003) and success at previous weight loss attempts (P = 0.007) were significantly lower in the most deprived. At 12 months, no between group differences by deprivation status were detected for changes in primary and main secondary outcomes. Conclusions: Despite potential barriers faced by the more deprived participants, primary and most secondary outcomes were comparable between groups, indicating that this intervention is unlikely to worsen health inequalities and is equally effective across socio-economic groups.

G. Search History

Ovid MEDLINE(R) ALL <1946 to January 06, 2023>

1 exp Obesity Management/ 32793
2 exp Weight Reduction Programs/ 3009
3 ((obesity or weight or overweight) adj1 (clinic or service or management or program$ or intervention)).ti. 3162
4 exp General Practice/ 78040
5 primary care.tw. 135087
6 general practi$.tw. 88680
7 Primary Health Care/ 89967
8 1 or 2 35417
9 4 or 5 or 6 or 7 277459
10 8 and 9 522
11 3 or 10 3573
12 limit 11 to (english language and (clinical study or clinical trial, all or clinical trial or comparative study or controlled clinical trial or meta analysis or multicenter study or observational study or

pragmatic clinical trial or randomized controlled trial or "review" or "scientific integrity review" or "systematic review" or twin study or validation study) and last 5 years) 495

CINAHL via EBSCO

S11	S7 AND S10	Limiters - Exclude MEDLINE records; Geographic Subset: UK & Ireland Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	45
S10	S8 OR S9	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	114,403
S9	AB systematic review or meta-analysis or literature review or review of literature or scoping review	Limiters - Published Date: 20180101-20231231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	81,294
S8	TI systematic review or meta-analysis or literature review or review of literature or scoping review	Limiters - Published Date: 20180101-20231231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	88,407
S7	S2 OR S4 OR S5	Limiters - Published Date: 20180101-20231231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	2,589
S6	S2 OR S4 OR S5	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	8,588
S5	S1 AND S3	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	6,095
S4	TI ((obesity OR overweight OR weight) N1 (clinic OR intervention OR service OR program*)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	3,257
S3	TI (clinic OR service OR intervention OR program*)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	357,750
S2	(MM "Weight Reduction Programs")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	2,424
S1	(MM "Obesity+") OR (MH "Pediatric Obesity") OR (MH "Obesity, Morbid/DH/PC/TH")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	78,998

#	Query	Limiters/Expanders	Results
S9	S7 AND S8	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	22

S8	AF uk or united kingdom	Limiters - Published Date: 20180101-20231231; English Language; Peer Reviewed; Exclude MEDLINE records; Publication Type: Clinical Trial, Randomized Controlled Trial Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	2,421
S7	S2 OR S4 OR S5	Limiters - Published Date: 20180101-20231231; English Language; Peer Reviewed; Exclude MEDLINE records; Publication Type: Clinical Trial, Randomized Controlled Trial Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	359
S6	S2 OR S4 OR S5	Limiters - English Language; Peer Reviewed; Exclude MEDLINE records; Publication Type: Clinical Trial, Randomized Controlled Trial; Geographic Subset: UK & Ireland Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	139
S5	S1 AND S3	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	6,095
S4	TI ((obesity OR overweight OR weight) N1 (clinic OR intervention OR service OR program*)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	3,257
S3	TI (clinic OR service OR intervention OR program*)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	357,750
S2	(MM "Weight Reduction Programs")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	2,424
S1	(MM "Obesity+") OR (MH "Pediatric Obesity") OR (MH "Obesity, Morbid/DH/PC/TH")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	78,998

Google Scholar

allintitle: "obesity clinic"

allintitle: obesity clinic model

"obesity clinic" AND ("primary care OR "general practice")

Cochrane Systematic Reviews

obesity

Google

"obesity clinic" "primary care" uk

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