4th UK Congress on Obesity 2017

University of South Wales
Treforest Campus,
Pontypridd, Wales

September 7-8, 2017
HELP YOUR PATIENTS WITH OBESITY BREAK FREE FROM HUNGER AND CRAVINGS

Mysimba®

naltrexone HCl/bupropion HCl

8mg/90mg Prolonged-Release Tablets

A new dual approach that targets the CNS pathways helping your patients with obesity to achieve significant weight loss.

Mysimba® is indicated as an adjunct to a reduced-calorie diet and increased physical activity, for the management of weight in adult patients (≥18 years) with an initial Body Mass Index (BMI) of ≥30 kg/m² (obese), or ≥22.5 kg/m² to <30 kg/m² (overweight) in the presence of one or more weight-related co-morbidities (e.g., type 2 diabetes, dyslipidaemia, or controlled hypertension).

Exercise caution when prescribing to patients with predisposing factors that may increase the risk of seizures. Patients receiving opioid analgesics do not administer to patients receiving chronic opioid therapy. The attempt to overcome any naloxone opioid blockade by administering large amounts of exogenous opiates is very dangerous and may lead to a fatal overdose or loss of endogenous opioid mediation (e.g., respiratory arrest, circulatory collapse).

Allergic reactions: Discontinue if experiencing allergic or anaphylactic/anaphylactoid reactions (e.g., skin rash, eosinophilia, hives, chest pain, edema, and shortness of breath), during treatment. Elevation of blood pressure: Use with caution in controlled hypertension and do not use in uncomplicated hypertension. Cardiovascular disease: Use with caution in active coronary artery disease (e.g., angina, angina at rest); history of myocardial infarction or history of coronary artery disease. Hepatocellular: Mysimba is contraindicated in severe hepatic impairment and not recommended in mild or moderate hepatic impairment. Patients with suspected drug-induced liver injury should discontinue treatment. Renal impairment: Mysimba is contraindicated in end-stage renal failure or severe renal impairment, and is not recommended in moderate renal impairment. Dose reduction is not necessary in mild renal impairment. Neuraxial analgesic: Symptoms and signs of nausea occur. Use with caution in patients with a history of mania. Lactation: Do not use in patients with severe hyperglycemic diseases of lactation. Lepral disease: Deficiency of alcohol can be minimized or avoided. Effects of alcohol to drive and use machines: It should be taken into account that drisane may occur during treatment. Undesirable effects: Adverse reactions reported in subjects who received Mysimba include: Mysimba; bupropion alone, or bupropion alone. Very common (≥1/100); Anxiety, metoclopramide therapy: Abnormal blood fat, nausea; constipation: vomiting; asthenia, myalgia. Common (≥1/1000 to <1/100); Lymphocyte count decreased: Hypersensitivity reactions; e.g., urticaria, dyspepsia; elevator, irritability, affective disorders; depression; dizziness; tremor; dyspeptic disturbance in attention or concentration; paraesthesia; sensation increased; tremor; vertigo; palpitations; electrocardiogram changes; hypertension; chest pain; dry mouth; taste disorders; headache; abnormal pain; hyperglycaemia; pruritus; anxiety; weight; vomiting; elevated transaminases; feeling irritable; energy; increased appetite; chilliness.

For a full list of adverse events, please consult the summary of product characteristics. NHS Price: £73.00 per box of 112 tablets. Legal Classification: POS. MA number: EU/1/14/006/001. Marketing Authorization Holder: Orexigen Therapeutics Inc., Ltd., Renton, WA 98056, USA. Fora Limited, Butterkin House, Finsbury Street, Dublin 2, Ireland. Further information is available on request from: Consilient Health UK Ltd, No.1 Church Road, Richmond upon Thames, Surrey, TW9 3OE or Mysimba@druginfo.com. J40 Code: UK/MI/14/17/0006 Date of preparation: April 2017

Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk-yellowcard. Adverse events should also be reported to Orexigen*: 0800-051-6402 or Mysimba@druginfo.com

References:
Dear Colleagues,

As Chair of ASO I have great pleasure in extending a warm welcome to you on behalf of the ASO Trustees to the 4th UK Congress on Obesity 2017 (UKCO) at the University of South Wales. I feel honoured to have been Chair over the last 3 years and to announce that this year is the 50th anniversary of the ASO, a longevity that we should all be proud of and celebrate!

The Congress is the ASO’s main annual meeting for researchers, health practitioners, policymakers and other key stakeholders working on the prevention and management of obesity. UKCO 2017 is the fourth 2-day meeting that the ASO has organised, and is fast becoming an established diary event within the obesity world.

This year, the main theme of the Congress is obesity, health and social inequalities. Sessions are designed to highlight the reasons for the disparity in obesity prevalence across social groups and discuss the effectiveness of interventions to address obesity and social inequalities. We are delighted to announce our partnership with the Welsh Obesity Society (WOS) and Diabetes UK (Cymru) in creating the programme and are grateful to them for their valuable support.

The Congress aims to provide informative, high-quality, evidence-based sessions and once again the breadth of the programme is impressive and offers many opportunities to update and expand knowledge around a range of aspects related to obesity. This year a number of events have been offered pre-UKCO2017. The Welsh Obesity Society will be hosting a metabolic syndrome symposium and a behaviour change workshop. We are also delivering the ASO Early Career Researchers workshop to support our new talent. The main programme offers sessions from distinguished leading researchers, clinicians, practitioners and early-career researchers. A range of themed plenary lectures, topical ASO, commercial and member-led symposia and presentations of the Best Practice and Best Abstract Awards are also included. We hope that you will find the programme stimulating and the experience of attending rewarding in terms of networking and developing collaborations.

We hope that you will join us in congratulating the Local Programme Committee led by Dr Simon Williams for their hard work in developing an excellent, high quality programme.

On behalf of the ASO we wish you an excellent UKCO2017 and happy memories of Wales.

Professor Pinki Sahota
Chair of ASO
General Information

Congress Venue - University of South Wales Conference Centre, Treforest Campus, Pontypridd

The Congress will take place at the University of South Wales Conference Centre. The Conference Centre is situated in the Treforest Campus, Pontypridd.

Please see the accompanying map of the Treforest Campus for directions. The Conference Centre is marked 6 on the campus map and all lecture sessions will take place here.

The Exhibition, Poster Sessions, Lunches and Breaks will take place in the Sports Centre, marked 4 on the campus map. The buffet dinner on Thursday evening will take place in the Stilts Dining Room, marked 7 on the campus map.

Congress Registration

The Registration area is located inside the main entrance of the Conference Centre building. The registration desk will open on Thursday 7th of September from 08.30 to 10.00 and from 8.00 to 8.30 on the Friday. Please ensure you wear your badge at all times during the Congress.

Certificates of Attendance

Certificates of Attendance will not be issued at the Congress. They will be provided after the event upon request as a PDF file. Please email ukco@aso.org.uk from Tuesday September 12th to request a copy.

Chairpersons and Speakers

All speakers should have their presentation available on a memory stick so that it can be uploaded onto the provided equipment in each of the lecture rooms. Please ensure that you submit your presentation at least 15 minutes prior to the start of the session. Technical assistance will be available in each of the rooms.

We kindly ask that all chairpersons and speakers are available in the relevant lecture room at least ten minutes prior to the start of each session. Please allow 5-10 minutes for audience questions at the end of each session.

Three Course Dinner and Drinks

The complimentary three course dinner takes place on the Thursday evening from 19.00 to 21.30 in the Stilts Dining Room (marked 7 on the campus map). We encourage all delegates to attend and help celebrate the ASO 50th Anniversary. It will be a friendly relaxed evening - no formal attire needed!

Exhibition

The exhibition will take place in the Sports Centre marked 4 on the campus map. Exhibition times will be during the lunches and coffee breaks.

Lunches and Breaks

Lunches and coffee breaks on the Thursday and Friday will be available in the Sports Centre - a short walk from the Conference Centre. This will be clearly signposted and we kindly ask delegates to make their way there promptly.

Poster Session

The poster sessions will take place on Thursday and Friday during the lunch breaks in the Sports Centre. Please see the Programme for times. We encourage all delegates to attend and vote for the best poster. Poster voting forms will be available near the poster area. Please return voting forms to the registration desk by Friday 14.00 for your chance to win a prize. The lucky winner will be announced on Friday at 14.15 in the main lecture room.

If you are presenting a poster please check the programme book on page 40-42 for your poster number. We ask that you hang your poster prior to the session on Thursday which commences at 13.15. Help and materials will be provided to assist you. Please ensure that you are available to discuss and answer any questions from delegates during the session. If your poster is nominated ‘best poster’ by delegates, you will receive a complimentary registration to UKCO 2018. Best poster will be announced on Friday at 14.15 in the main lecture room.

Wi-Fi

Free Wi-Fi will be available in the Congress Venue.

Disclaimer: University of South Wales and the ASO will not accept any responsibility for the loss or damage of any property at the Congress.
Campus Map

Treforest
1. Gatehouse and Main Reception
2. Orchard
3. Students’ Union and Shop
4. Sports Centre
5. Delegate Parking
6. Conference Centre
7. Stills Food Court

Main Entrance

UKCO2017
September 7-8, 2017
# Programme Overview

## Thursday 7th September

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<th>Time</th>
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<td>08.30 - 10.00</td>
<td>Registration and Coffee</td>
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<tr>
<td>10.00 - 10.30</td>
<td>Welcome Address</td>
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<td>10.30 - 11.15</td>
<td>Plenary Lecture 1</td>
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<td>11.15 - 11.45</td>
<td>Prize talks: Best Practice and Best Abstract Awards</td>
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<td>13.15 - 14.45</td>
<td>Lunch, Exhibition and Posters</td>
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<td>14.15 - 14.45</td>
<td>ASO Regional Group Networking Forum - All welcome</td>
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<td>14.45 - 15.30</td>
<td>Plenary Lecture 2</td>
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<td>15.30 - 17.00</td>
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### Symposia and Oral abstracts (11.45 - 13.15)

- **Consilient Health Ltd Symposium**
  - Mysimba (buproprion/naltrexone) – A new treatment for obesity in the UK
  - Main Auditorium

- **ASO symposium 1**
  - Obesity and Society
  - Room 9

- **Oral Abstracts 1**
  - Basic Science
  - Room 10

### Oral Abstracts 2

- **Oral Abstracts 2**
  - Obesity Practice
  - Room 10

### Coffee Break & Exhibition

- **Coffee Break & Exhibition**
  - (17.00 - 17.30)
  - Sports Hall

### ASO 50th Anniversary Celebration Lecture

- **ASO 50th Anniversary Celebration Lecture**
  - The causes and consequences of obesity: Lessons from human genetics
  - **Professor Sir Stephen O’Rahilly**
  - (17.30 - 18.30)
  - Main Auditorium

### ASO 50th Anniversary Celebration Dinner

- **ASO 50th Anniversary Celebration Dinner**
  - (19.00 - 22.00)
  - Stilts Dining Room

## Friday 8th September

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### Diabetes UK (Cymru) Symposium

- **Symposium sponsored by Novo Nordisk**
  - Medical management of Obesity and associated metabolic dysfunction
  - Main Auditorium

### Member-led Symposium 2

- **Symposium 2**
  - Weight stigma: Evidence and action for the future
  - Room 9

### Oral Abstracts 2

- **Oral Abstracts 2**
  - Obesity Practice
  - Room 10

### Coffee Break & Exhibition

- **Coffee Break & Exhibition**
  - (10.45 - 11.15)
  - Sports Hall

### Symposia (11.15 - 12.45)

- **Symposium**
  - Diabetes UK (Cymru)

### Oral Abstracts 3

- **Oral Abstracts 3**
  - Clinical Research
  - Room 10

### Workshop

- **Workshop**
  - What should the National Obesity Strategy for Wales include?
  - (16.00 - 17.00)
  - Main Auditorium

### End of Programme
Thursday 7th September

09.00 – 10.30  Registration and Coffee  Main Foyer

10.00 – 10.30  Welcome address  Main Auditorium

Professor Pinki Sahota, ASO Chair & Dr Frank Atherton, Chief Medical Officer for Wales

10.30 – 11.15  Plenary Lecture 1  Main Auditorium

Chair: Professor Pinki Sahota, ASO Chair
Reducing inequalities in obesity: Insights from theory and practice
Professor Clare Bambra, Newcastle University

11.15 – 11.45  Prize talks: Best Practice Award and Best Abstract Award  Main Auditorium

Chair: Dr Maria Bryant, University of Leeds

Best Abstract Award
11.15  Post-surgical cliff after bariatric surgery: Accounts of patients and their health care practitioners
Sandra Jumble, Queen Mary University of London

Best Practice Award
11.30  The Bariatric Consultancy providing 4 healthy weight and why weight programmes
Janet Biglari, The Bariatric Consultancy

11.45 – 13.15  Commercial Symposium - Consilient Health Ltd  Main Auditorium

Chair: Professor Nadim Haboubi, Professor of clinical nutrition and obesity, Bariatric Physician, Nevill Hall Hospital, Wales

Mysimba ▼ (bupropion/naltrexone) – A new treatment for obesity in the UK
11.50  The physiology of obesity and the need for new pharmacotherapies
Professor Rachel Batterham, Professor of Obesity, Diabetes and Endocrinology at University College London (UCL) and University College London Hospital (UCLH)

12.10  Mysimba (bupropion/naltrexone) – Clinical data and real-world clinical experience from the U.S.
Dr Scott Kahan M.D., Director of the National Center for Weight and Wellness, Washington D.C

12.35  Stigma and the patient’s perspective – How can we make a difference?
Dr Carly Hughes, GP Partner Fakenham Medical Practice and Clinical Lead Fakenham Weight Management Service (Tier 3 Service)

The Obesity Empowerment Network – Who are we?
Dr Jackie Doyle, Clinical Psychologist for UCLH Centre for Weight Management and Metabolic Surgery

13.00  Questions and Panel Discussion

11.45 – 13.15  ASO Symposium 1 – Obesity and Society  Room 9

Chair: Professor Clare Bambra, Newcastle University

Adiposity and socioeconomic position in UKHLS
Professor Meena Kumari, University of Essex

12.15  Adolescent obesity and related behaviours in Wales and beyond
Dr Chris Roberts, Welsh Government

12.45  Using genetics to unpick the causes and consequences of obesity
Dr Jessica Tyrrell, University of Exeter

Continued >
11.45 – 13.15 **Oral Abstracts Session 1 – Basic Science**

**Room 10**

Chair: Dr Sue Kenneally, Cwm Taf University Health Board

- **11.45** The food and drink preferences of twins discordant for weight are the same
  Andrea Smith, University College London

- **12.00** Plate clearing tendencies, larger portions and overeating
  Florence Sheen, University of Liverpool

- **12.15** Renormalizing the obesogenic food environment: Evidence on the ‘normalizing’ effect of reducing food portion sizes
  Eric Robinson, University of Liverpool

- **12.30** Emotional over- and under-eating are characterised by distinct parental feeding practices in early childhood
  Moritz Herle, University College London

- **12.45** Children’s genetic risk for obesity elicits parental feeding practices
  Clare Llewellyn, University College London

- **13.00** The effect of brisk walking in the fastest state on substrate utilisation, gastric emptying rate, and appetite
  Victoria McIver, Manchester Metropolitan University

13.15 – 14.45 **Lunch, Exhibition and Posters**

Sports Hall

14.15 – 14.45 **ASO Regional Group Networking Forum**

Room 9

14.45 – 15.30 **Plenary Lecture 2**

Main Auditorium

Chair: Dr Simon Williams, University of South Wales

From standing more to high intensity exercise: Tailoring physical activity for metabolic health
Dr Thomas Yates, University of Leicester

15.30 – 17.00 **SCOPE accredited Clinical Symposium sponsored by Cambridge Weight Plan**

Main Auditorium

Chair: Dr Sue Kenneally, Cwm Taf University Health Board

- **15.30** Structured obesity training and the 10-minute consultation: Creating clarity from complexity
  Dr Rachel Pryke, Royal College of General Practitioners

- **15.55** Achieving weight loss in our patients – the practise GP’s guide
  Professor Paul Aveyard, Oxford University

- **16.20** Impact of primary care exercise referral schemes on the health of patients with obesity
  Dr Helen Parretti, University of Birmingham

- **16.40** Physical activity – The wonder drug
  William Preece, Public Health England

15.30 – 17.00 **ASO Symposium 2 – Biological responses to physical behaviour & sedentary behaviour**

Room 9

Chair: Dr Simon Williams, University of South Wales

- **15.30** Physical activity and exercise in the regulation of adipose mass and function
  Professor Dylan Thompson, University of Bath

- **16.00** Acute and chronic effects of exercise on appetite regulation
  Professor David Stensel, Loughborough University

- **16.30** The role of fat-free mass and energy expenditure in the regulation of appetite and energy balance
  Dr Mark Hopkins, University of Leeds
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<td><strong>Chair:</strong> Dr Anna Gryka, Obesity Action Scotland, Royal College of Physicians &amp; Surgeons of Glasgow</td>
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<td></td>
<td><strong>Advocating for Change</strong></td>
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<td>15.30</td>
<td><strong>Welcome and Introduction</strong></td>
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<td>Dr Anna Gryka, Obesity Action Scotland, Royal College of Physicians &amp; Surgeons of Glasgow</td>
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<tr>
<td>15.35</td>
<td><strong>Why and what should we change</strong></td>
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<td>Professor Simon Capewell, Faculty of Public Health and University of Liverpool</td>
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<td>16.00</td>
<td><strong>How can we deliver change in England</strong></td>
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<td>Caroline Cerny, Obesity Health Alliance</td>
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<td>16.20</td>
<td><strong>How can we deliver change in Scotland – a different opportunity?</strong></td>
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<td>Lorraine Tulloch, Obesity Action Scotland</td>
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<td>16.40</td>
<td><strong>Symposium Discussion: How could third sector organisations better interact with the obesity research community to achieve change?</strong></td>
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<td><strong>Chair:</strong> Professor Jeffrey Stephens, Swansea University</td>
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<td></td>
<td><strong>Targeting the gut to treat obesity and type 2 diabetes</strong></td>
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<td>Professor Rachel Batterham, University College London</td>
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<td><strong>Medical management of obesity and associated metabolic dysfunction</strong></td>
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<td>09.15</td>
<td><strong>Current and new therapies for obesity</strong></td>
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<td>Dr Barbara McGowan, Guys and St Thomas’ NHS Foundation Trust</td>
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<td>09.45</td>
<td><strong>Microbiota and metabolic dysregulation</strong></td>
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<td>Dr Denise Robertson, University of Surrey</td>
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<td>10.15</td>
<td><strong>Treatment associated weight gain in diabetes. Is it a problem and how can this be managed?</strong></td>
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<td>Dr Aled Roberts, University Hospital of Wales, Cardiff</td>
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*Novo Nordisk has sponsored this symposium but has had no influence or control over the content*
09.15 – 10.45  **Member-led Symposium 2**  
*Room 9*

**Chair:** Dr Stuart Flint, Leeds Beckett University

**Weight stigma: Evidence and action for the future**

09.15  **Weight stigma in the UK**  
Dr Stuart Flint, Leeds Beckett University

09.30  **Putting obesity to work in reality TV: The creation of stigma in UK weight loss shows and factual documentaries**  
Professor Jayne Raisborough, Leeds Beckett University

09.45  **Too close to home? Challenging obesity professionals’ stigmatising attitudes and behaviour**  
Dr Judy Swift, University of Nottingham

10.00  **Parents, policy and stigma**  
Sharon Noonan Gunning, City University of London

10.15  **Is it time for legislative action**  
Dr Stuart Flint, Leeds Beckett University

10.30  **Panel Discussion**

09.15 – 10.45  **Oral Abstracts 2 – Obesity Practice**  
*Room 10*

**Chair:** Dr Adrienne Cullum, Public Health England

09.15  **Insights from an App Market Review for the Development of Weight Loss Apps**  
Professor Paul Aveyard, University of Oxford

09.30  **The role of economics with informing childhood obesity policy**  
Emma Frew, University of Birmingham

09.45  **The association between maternal pre-pregnancy body mass index and offspring weight status: a systematic review and meta-analysis**  
Nicola Heslehurst, Newcastle University

10.00  **Strong genetic influence on children’s vegetable intake can be overridden through an environmental exposure intervention**  
Alison Fildes, University of Leeds

10.15  **“…You feel like you’re just going to lick the screen”**  
Jyotsna Vohra, Cancer Research UK

10.30  **An Evaluation of an Emotional Eating Programme: A National Health Service Adult Weight Management Intervention**  
Dr Enzo Di Battista, Aneurin Bevan University Health Board, Wales

10.45 – 11.15  **Coffee Break & Exhibition**  
*Sports Hall*

11.15 – 12.45  **Diabetes UK (Cymru) Symposium**  
*Main Auditorium*

**Chair:** Mr Hazem Al-Momani, Welsh Institute of Metabolic and Obesity Surgery, Swansea

**Metabolic Surgery**

11.15  **Operation choice and outcomes for type 2 diabetes following metabolic surgery**  
Mr Richard Welbourn, Musgrove Park Hospital and Nuffield Health Hospital in Taunton

11.45  **When should patients with obesity and impaired glucose regulation undergo metabolic surgery?**  
Dr Alexander Miras, Imperial College London

12.15  **The importance of physical activity before and after bariatric surgery in patients with type 2 diabetes and obesity**  
Dr Richard Bracken, Swansea University
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<td>11.15 – 12.45</td>
<td><strong>ASO Symposium 3 – Obesity Policy</strong></td>
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<td>Chair: Professor Pinki Sahota, Leeds Beckett University</td>
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<tr>
<td>11.15</td>
<td>The role of evidence in policy interventions</td>
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<td>Dr Garrath Williams, Lancaster University</td>
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<tr>
<td>11.45</td>
<td>Update on obesity prevention and reduction in Wales</td>
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<td>Dr Chrissie Pickin, Public Health Wales</td>
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<td>12.15</td>
<td>Addressing England’s obesity epidemic – Challenges and opportunities</td>
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<td>Dr Alison Tedstone, Public Health England</td>
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<td>Chair: Dr Laura Wilkinson, Swansea University &amp; Dr Charlotte Hardman, University of Liverpool</td>
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<td><strong>Psychosocial issues in weight management and bariatric surgery: The roles of attachment style, distress and maladaptive coping</strong></td>
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<td>11.15</td>
<td>Attachment insecurity and body weight: The mediating roles of emotion regulation and disinhibited eating</td>
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<td>Dr Charlotte Hardman, University of Liverpool</td>
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<td>11.35</td>
<td>Systematic review of attachment insecurity in bariatric surgery candidates/ recipients</td>
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<td>Tanisha Douglas, Swansea University</td>
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<td>11.55</td>
<td>Disinhibited eating mediates differences in attachment insecurity between bariatric surgery candidates/ recipients and lean controls</td>
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<td>Dr Laura Wilkinson, Swansea University</td>
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<td>Danielle Reaves, University of Liverpool</td>
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<td>12.45 – 13.30</td>
<td><strong>ASO Annual General Meeting</strong></td>
<td>Main Auditorium</td>
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<td>13.00 – 14.15</td>
<td><strong>Lunch, Exhibition and Posters</strong></td>
<td>Sports Hall</td>
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<td>14.15 – 14.30</td>
<td><strong>Best Poster Prize announcement and closing remarks</strong></td>
<td>Main Auditorium</td>
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<td>14.30 – 16.00</td>
<td><strong>ASO Symposium 4</strong></td>
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<td>Chair: Nicola Heslehurst, Newcastle University</td>
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<td><strong>Public health &amp; workplace interventions to tackle social inequalities and obesity</strong></td>
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<td>14.30</td>
<td>Equity and effectiveness of population interventions</td>
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<td>Dr Jean Adams, University of Cambridge School of Clinical Medicine</td>
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<td>15.00</td>
<td>The effectiveness of interventions for reducing socioeconomic inequalities in obesity</td>
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<td>Dr Frances Hillier-Brown, Newcastle University</td>
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<td>15.30</td>
<td>Does active design increase physical activity and decrease adiposity? Evaluation of a natural experiment examining whether moving into housing in East Village (formerly the London 2012 Olympics Athletes’ Village) improves health</td>
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<td>Professor Christopher Owen, St George’s, University of London</td>
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### Full Programme

#### Symposium

**Room 9**

**Chair:** Dr Amy Ahern, University of Cambridge

**14.30 – 16.00**

**Symposium**

**Room 9**

**Chair:** Dr Amy Ahern, University of Cambridge

**14.30**

**Scalable behavioural weight management programmes for the prevention and treatment of type 2 diabetes**

Dr Amy Ahern, University of Cambridge

**15.00**

**Formula diets for the prevention and treatment of type 2 diabetes**

Naomi Brosnahan, University of Glasgow

**15.30**

**Cost effectiveness of population, community, workplace and individual policies for the prevention of type 2 diabetes**

Penny Breeze, The University of Sheffield

#### Oral Abstracts Session 3 – Clinical Research

**Room 10**

**Chair:** Professor Nadim Haboubi, Aneurin Bevan University Health Board & University of South Wales

**14.15 – 15.45**

**Oral Abstracts Session 3 – Clinical Research**

**Room 10**

**Chair:** Professor Nadim Haboubi, Aneurin Bevan University Health Board & University of South Wales

**14.30**

**Effects of replacing diet beverages with water on weight loss and weight maintenance: 18 month follow up, randomized clinical trial**

Dr Ameneh Madjd, University of Nottingham

**14.45**

**Feasibility study of a culturally adapted child weight management programme: Lessons learned and considerations for a future trial**

Dr Miranda Pallan, University of Birmingham

**15.00**

**Parent feeding practices, child energy intake from free sugar, and weight status: Cross-sectional and longitudinal associations from the West Midlands ActiVe lifestyles and healthy Eating in School children (WAVES) study**

Dr Kiya Hurley, University of Birmingham

**15.15**

**Reduced functional mobility, cardio-respiratory and strength responses in patients awaiting metabolic surgery**

Max Eckstein, University of Potsdam, Potsdam, Germany

**15.30**

**Training response inhibition to food in a simple computer game reduces energy intake and facilitates weight loss**

Dr Natalia Lawrence, University of Exeter

**15.45**

**The effects of ethnicity and gender on weight in a multicomponent weight management programme**

Natalie Bisal, Queen Mary University of London

#### Workshop

**Main Auditorium**

**Chair:** Dai Williams, Diabetes UK (Cymru)

**16.00 – 17.00**

**Workshop**

**Main Auditorium**

**Chair:** Dai Williams, Diabetes UK (Cymru)

**What should the National Obesity Strategy for Wales include?**

### End of Programme
ASO Early Career Researchers Workshop
Sponsored by Slimming World

Wednesday 6th September

Programme

13:00 – 13:30 Registration and lunch

Dr Maria Bryant, Leeds Institute of Clinical Trials Research, University of Leeds.

13:35 – 14:15 Advice to a young scientist
Dr Margaret Ashwell, President, Association for Nutrition

14:15 – 14:55 How to get a paper published in a high impact journal
The old adage ‘publish or perish’ is still true. But where you publish your research matters; as does how well it is received by other scientists and the public.
Dr Claire Llewellyn, Department of Epidemiology and Public Health, UCL.

14:55 – 16:25 Innovative methods to disseminate your research
(Including story telling & group work/activity)
Delia Muir, Wellcome Trust Fellow, University of Leeds.

16:25 – 16:40 Break

16:40 – 17:25 Creating opportunities for your future career: Networking, collaborating and delivering
Professor Joyce Kenkre, Faculty of Life Sciences and Education Research Unit, University of South Wales.

17:25 – 17:45 Discussion and Close – All speakers
Questions and wider discussion of the role of the Early Career Researcher Network in ASO.

17.45 ECRN Social Event

Speaker Biographies

Dr Margaret Ashwell
Dr Margaret Ashwell has viewed the relationship between food and health from all sides. Her first degree was from the University of Southampton and her higher degree from the National Institute for Medical Research in London. Since then, she has been a Senior Research Scientist with the Medical Research Council, Principal of the Good Housekeeping Institute and Science Director of the British Nutrition Foundation. She was Honorary Secretary for the Nutrition Society in the 1980s. She served on the UK Government’s Food Advisory Committee for 9 years and was appointed to be an Officer of the British Empire (OBE) in 1995. She edited the biography of the nutrition pioneers, McCance and Widdowson, in 1993. She became a Senior Visiting Fellow at Cass Business School, City University London in 2015. Margaret was elected to be President of Association for Nutrition (AFN) from January 2016.

Since 1995, Margaret has advocated the use of the waist-to-height ratio as an early indicator of diabetic and cardiometabolic risk. Her message is simple and universal: “Keep your waist to less than half your height”. Screening would only require a piece of string. Although she has authored more than 200 peer reviewed scientific publications across a very wide range of nutrition topics, she suspects that she will forever be known as the ‘apples and pears lady’. Margaret has been Director of Ashwell Associates since 1995 and, realising the need for a network for the self-employed sector, she was the Founder of SENSE (Self Employed Nutritionists Support and Enlightenment) in 1996. Margaret acted as Coordinator for the Food Standards Agency’s Nutrition Research Programme from 1994 to 2007 and was also responsible for dissemination for several EC projects on totally different nutrition topics between 2002 and 2010. She has undertaken numerous projects for industrial clients, many relating to the scientific substantiation of health claims or the derivation of nutrition policies.

Dr Clare Llewellyn
Clare is a lecturer in Behavioural Obesity Research, and leader of the Obesity research group in UCL’s Department of Behavioural Science and Health. After an initial career in the pharmaceutical industry she retrained as a psychologist, undertaking an MSc and PhD at UCL, and post-doctoral training at UCL and King’s College London. Her research interest is understanding how genes and the environment interact to promote excessive weight gain, with a focus on ‘obesogenic’ behaviours, including eating behaviour and sleep. She leads Gemini, a large population-based birth cohort of twins set up to establish genetic and environmental contributions to early growth. Clare is a Trustee for the UK Association for the Study of Obesity, and established their first London Regional Group.
Abstract: How to get a paper published in a high impact journal

The old adage ‘publish or perish’ is still true. But where you publish your research matters; as does how well it is received by other scientists and the general public. Various metrics have been developed to evaluate the publication outputs of individual scientists (e.g. h-index, i10-index), and the journals we publish in (e.g. impact factor). Many of these have been widely criticised, and some consider them unhelpful or even flawed. But how useful are they, and do they really matter? The publication game can feel quite daunting. This session will provide an overview and evaluation of the metrics used, and a step-by-step process of how to publish a paper in a good quality journal and maximise its impact after publication.

Delia Muir

Delia Muir is a Wellcome Trust Engagement Fellow based at the Leeds Institute for Clinical Trials Research (LICTR). Her work focuses on public involvement and engagement with health research. Delia has a background in performance and still works as a theatre practitioner and performer. Her Wellcome Fellowship is looking at how the arts can be used to start inclusive and meaningful conversations about health research.

Delia Muir
www.deliamuir.wordpress.com

Workshop Outline

Workshop participants will consider how to share their research with a variety of audiences. We will discuss real-life, innovative dissemination examples, and consider the pros and cons of different approaches.

We will also look at the principles of storytelling. We will explore how storytelling techniques can be used to communicate health and research messages.

This will be an interactive workshop, with lots of opportunities for discussion.

Joyce Kenkre

Joyce Kenkre is Professor of Primary Care at the University of South Wales, Associate Director for PRIME Centre Wales leading for community nursing, long-term conditions, social care and links with industry. Joyce is also lead for Industry for the South-East Wales Academic Health Science Partnership. In these various roles, Joyce has developed research strategies and opportunities through consensus within professions and across sectors in Wales. Joyce has conducted over 60 research projects including the effect of new drugs, epidemiological, point of care testing and evaluation of service provision. Many of these have been large multi-centre studies.

Wednesday 6th September

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<tr>
<th>Time</th>
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<tr>
<td>13.30</td>
<td><strong>Welsh Obesity Society &amp; University of South Wales Workshop: Behaviour Change</strong> Room 9</td>
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<td><strong>Motivational interview skills</strong></td>
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<td>Orla Adams, Cardiff and Wales UHB - Dietetics</td>
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<td><strong>Solution focused therapy skills</strong></td>
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<td>14.40</td>
<td>Stephen Thomas, Aneurin Bevan UHB – Family and Therapies</td>
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<td>15.50</td>
<td>Break</td>
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<td>16.20</td>
<td><strong>Compassion focused therapy</strong></td>
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<td>16.20</td>
<td>Sioned Quirke, Aneurin Bevan UHB – Family and Therapies</td>
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<td>18.00</td>
<td><strong>Welsh Obesity Society Symposium: Metabolic Syndrome</strong> Room 9</td>
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<td>18.00</td>
<td><strong>The biochemistry behind the Metabolic Syndrome</strong></td>
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<td>Dr Nadia El-Farhan, Aneurin Bevan UHB – Biochemistry Department</td>
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<td>18.30</td>
<td><strong>Insulin sensitivity &amp; the incretin hormones</strong></td>
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<td>Professor Jeffrey Stephens, Swansea University</td>
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<td>19.00</td>
<td><strong>NAFLD/NASH</strong></td>
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<td>19.00</td>
<td>Dr Andrew Yeoman, Aneurin Bevan UHB – Medicine</td>
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<td>19.30</td>
<td><strong>Benefits of metabolic surgery</strong></td>
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<td>19.30</td>
<td>Mr Jonathan Barry, Welsh Institute of Metabolic and Obesity Surgery</td>
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<td>20.00</td>
<td><strong>Buffet and refreshments courtesy of the Welsh Obesity Society and University of South Wales</strong></td>
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Chair: Sioned Quirke, Aneurin Bevan UHB – Family and Therapies

Chair: Professor Nadim Haboubi, Aneurin Bevan University Health Board & University of South Wales

Chair: Professor Nadim Haboubi, Aneurin Bevan University Health Board & University of South Wales
Sandra Jumbe

Sandra is a health psychologist with research interests in chronic disease management and smoking cessation. She completed her doctorate in health psychology at the University of the West of England in Bristol, UK. She has previously worked in the National Health Service (NHS) as a primary care and mental health researcher, an assistant psychologist and in research governance. She has also delivered consultancy work developing tailored stress management interventions within organisations and group settings. Alongside her research work, Sandra works as a general advisor for the London Research Design Service team based at Queen Mary University. This role involves supporting health professionals and research teams within the North East London area to develop their research ideas into full funding applications to the NIHR and other peer reviewed funders.

Post-surgical cliff after bariatric surgery: accounts of patients and their health care practitioners

Sandra Jumbe1, Jane Meyrick2, Diana Harcourt2
1 Queen Mary University of London, London, United Kingdom, 2 University of the West of England, Bristol, United Kingdom

Introduction:
The superiority of bariatric surgery for improving medical outcomes in severe obesity when compared to other weight loss interventions remains undisputed. However, knowledge about the psychological impact of the procedure on people’s lives is limited. Systematic reviews consistently show persisting disordered psychosocial wellbeing postoperatively when compared to control groups, especially after long-term monitoring, suggesting need for psychological support and longer term postoperative psychological outcomes research. Literature also infers limited understanding regarding the postoperative patient lived experience. This may form a barrier in health practitioners’ understanding of this patient group’s ongoing needs. This study aimed to capture patients and practitioners’ postoperative accounts of bariatric surgery, exploring concordance between the two groups to gauge awareness of patients’ subsequent health needs.

Methodology:
Ten individuals who had bariatric surgery two or more years ago and eight bariatric surgery practitioners were recruited within the NHS and individually interviewed by the researcher. The audiorecorded interviews were transcribed and examined using thematic analysis.

Findings:
Thematic analysis of the interviews elicited ‘postsurgical cliffs in patient care’ which permeated through three themes; (1) navigating health changes (2) contrasting perspectives and (3) perceived prejudice. Participants reported unmet needs; psychological support to facilitate adjustment to physical and psychological changes, excess skin and accepting non-obese self. Impact of differing views of success between patients and professionals on postoperative care were highlighted.

Conclusion:
Bariatric surgery is a great weight loss catalyst for severe obesity. However, lack of psychological aftercare may threaten long-term health outcomes. Recommendations from a health psychology perspective are given.
Janet Biglari and Sevim Mustafa

Janet Biglari and Sevim Mustafa are the founders and Directors of the Bariatric Consultancy a specialist weight management company. They are both psychotherapists who have worked for many years in adult mental health services. Having developed a specialist interest and research into the link between obesity and poor mental health they commenced the development of a multi disciplinary programme to support morbidly obese patients in making psychological and lifestyle changes to lose weight. The aim was also to educate individuals who were requesting bariatric surgery in order to achieve the best outcomes. In 2008, Eastern Coastal Kent Primary Care Trust commissioned the Consultancy to design and deliver a one-year pilot specialist obesity service for 120 patients. This early model laid the foundations for the development of a structured multi-disciplinary Tier 3 model that would be delivered in the community as part of an integrated obesity pathway.

The Bariatric Consultancy providing 4 healthy weight and why weight programmes

The development of this service model is in response to the significant body of literature establishing the correlation between obesity and poor psychological health. We have set out to develop a treatment model that is psychologically led and responds to the often complex mental health of individuals presenting with morbid obesity.

Introduction:
Since 2008, The Bariatric Consultancy (TBC) has pioneered the development of psychologically led Tier 3 specialist weight management services. We have designed and delivered seven services across the south of England. We currently run four services across Crawley, Horsham and Mid Sussex, High Weald, Havens & Lewes, East, West and North Kent and the London Borough of Greenwich. Each of our services is designed to deliver treatment up to 500 patients per year, entering on either a non-surgical preventative pathway or a surgical preparation pathway the pathway is for either 12 or 24 months. In 2016, we implemented care packages for 1500 patients across all contracts.

Methodology:
The service model offers multi disciplinary treatment including medical, dietetic, physical activity and psychological therapy. Treatment is in three stages, assessment, intensive twelve-week treatment and maintenance, which includes preparation for tier 4 if appropriate.

Conclusion:
Our research has shown that patients who comply with the programme can lose between 5-10%+ of their excess weight. In one sample of 465 patients who entered the service between 2015-16, 376 achieved weight loss at the point of discharge. Of this same sample 377 showed an improvement in their self-esteem.

Since implementing these services we have seen a significant impact on the numbers of patients proceeding onto surgery. In 2015-16 out of 1430 patients entering treatment 248 went onto have weight loss surgery. The savings to the commissioners are highly significant.

TBC have developed all aspects of the programme including the clinical material and all administrative processes. We have developed a unique protocol for designing and mobilising a service. We have been able to adapt our model to integrate with the needs of diverse and complex communities taking into account specific cultural and socio economic requirements, which have created challenges in service design and delivery.

Our services are funded by Clinical Commissioning Groups (CCGs) and are activity based.
The ASO is 50 years old this year! Founded in 1967, the ASO has become the UK’s foremost charitable organisation dedicated to the understanding, prevention and treatment of obesity. It organised the inaugural International Congress on Obesity, held in London in 1974 and was the founding body of the respected International Journal of Obesity.

Help us to celebrate ASO’s 50th Anniversary on Thursday evening from 19.00 in the Stilts Dining Hall with a 3-course dinner and drinks.

UKCO2017 is a SCOPE accredited event earning you 4 SCOPE points which can be used towards your SCOPE certification. SCOPE is the official education programme of the World Obesity Federation developed by global obesity experts to educate health professionals.

To earn your SCOPE points, you must complete the SCOPE sign sheet which can be found at the registration desk.
Cambridge Weight Plan
Cambridge Weight Plan manufactures formula food products used in total diet replacement regimens providing energy intakes both under 800kcal/d and above 800kcal/d. Collaboration with research scientists has generated gold-standard evidence for effective weight loss and maintenance, safety, improved nutritional status and improved cardiovascular risk status. Programmes can be delivered by trained Cambridge Consultants working in a community setting or by health care professionals and deliver average weight losses of over 10kg of body weight and weight maintenance for up to four years, with improved nutritional status, and health benefits in osteoarthritis, psoriasis, obstructive sleep apnoea and coronary artery disease.

www.cambridgeweightplan.com

Consilient Health
Consilient Health Ltd is a young, dynamic and rapidly growing pharmaceutical company, operating in the UK, Ireland and the Nordics, with a portfolio of branded and generic pharmaceutical products. Consilient Health has one of the widest ranges of oral contraceptives in the UK, having supplied over 19 million packs since 2010. In addition to this, our range of vitamin D products is also rapidly expanding to offer patients and prescribers greater choice.

Consilient Health is very excited to have the opportunity of adding to its existing Women’s Health and Bone Health portfolios by expanding into the area of obesity. Obesity is a significant, growing and costly issue in the UK and Ireland, and current treatment options are limited. For Consilient Health, this fits well with our focus on bringing innovative solutions for unmet patient needs and leveraging our strong skills in successfully launching new medicines that provide value to the NHS.

Passionate about supplying prescription medicines that benefit patients, Consilient Health is keen to work in partnership with all stakeholders, from healthcare professionals and organisations to the patients who rely on our products. Consilient Health is delighted to be a sponsor of the UKCO 2017 and looks forward to welcoming you at our symposium on Thursday 7th September at 11.45.

www.consilienthealth.com

Novo Nordisk
Novo Nordisk is a global healthcare company with more than 90 years of innovation and leadership in diabetes care. This heritage has given us experience and capabilities that also enable us to help people defeat other serious chronic conditions: diabetes, haemophilia, growth disorders and obesity.

Headquartered in Denmark, Novo Nordisk employs approximately 42,000 people in 77 countries and markets its products in more than 165 countries. Every day, millions of people all over the world rely on our products, which are manufactured in seven countries. Novo Nordisk has a unique ownership structure, with two-thirds of Novo Nordisk’s shares controlled by the Novo Nordisk Foundation. The objective of the Foundation is to provide a stable basis for the commercial and research activities of Novo Nordisk and support scientific, humanitarian and social purposes.

As the acknowledged leader in diabetes care, we work to prevent, treat and ultimately cure this increasingly onerous disease. Over the past 90 years, our researchers have pioneered many breakthroughs in its management, and today, our determination to help these people is stronger than ever. Novo Nordisk also holds leading positions in the management of bleeding disorders, growth hormone treatment and hormone replacement therapy. We are currently researching into novel delivery systems and autoimmune and chronic inflammatory diseases, using technologies such as translational immunology and monoclonal antibodies. For more information, visit novonordisk.co.uk

Slimming World
Slimming World is the UK’s most advanced weight management organisation, helping more than 900,000 members lose weight every week in over 16,000 groups around the UK and Ireland, run by a network of 4,500 trained consultants working in their local communities.

Each year we influence over 3 million people to eat more healthily and adopt a healthier, more active lifestyle. Working with primary care since 2000, Slimming World pioneered a subsidised referral programme that allows health practitioners to offer patients membership of one of our weekly support groups.

We have an active research programme including both internal and collaborative research which supports the continued development of our programme to provide the best support for our members; regular evaluation of the effectiveness of our service; and monitoring to ensure that our approach is fully in line with national best practice guidance. For further information on Slimming World’s approach and our extensive evidence base please visit:

www.slimmingworld.co.uk/health
www.slimmingworld.co.uk/research-portfolio

Infant & Toddler Forum
The Infant & Toddler Forum takes a life course approach to nutrition and health, exploring the early connection through pregnancy, infancy and toddlerhood. Our aim is to support and empower families to make healthy lifestyle choices by delivering clear, practical advice on those critical early windows of opportunity to provide all children with the best start in life.

One third of our children, two thirds of adult men and just over half of adult women are overweight or obese. Diabetes levels have doubled in the past two decades and more than a quarter of five-year-olds have tooth decay from eating sugary food and drinks.

The health consequences of this poor diet and lifestyle are both immediate and long-lasting. Over five billion is spent by the NHS each year dealing with health problems associated with excess body weight, and despite a decline in recent years, cardiovascular disease remains the biggest cause of death in the UK.

Clearly, we need to take action if we are to improve the health of the next generation. Whilst the past ten years have seen a growing commitment to early years’ intervention, now is the time to look beyond intervention and consider the strategies that need to be put into place to promote healthy behaviours and hence healthier lives.

To access our free resources, visit www.infantandtoddlerforum.org
CCH offers a variety of London South Bank University validated 12 week postgraduate modules that make up our PGCert/PGDip/MSc courses. They run three times a year in January, April and September.

For students who want to upskill, and improve their professional practice, in obesity care and weight management, but don’t have time for a full postgraduate qualification, CCH have a range of online Professional Short Courses for continued professional development (CPD). CCH Professional Short Courses are 6-10 hours and can be started at any time – begin learning whenever you want!

Included within our range of Professional Short Courses are:
- Living and Working with Obesity
- Obesity Essentials
- Weight and Fitness Essentials
- Childhood Obesity Essentials
- Nutrition and Weight Management Essentials

“The CCH courses make a significant contribution to the clinical education of practitioners. The modules are evidence-based, relevant and of high quality and should be recommended to all practitioners involved in obesity prevention and management”.

Professor Pinki Sahota
Chair of the Association for the Study of Obesity

Study with us and join our globally growing network of health professional alumni trained in obesity care and weight management! Become essential to the future of healthcare.

If you would like any more information about CCH or our obesity care and weight management courses, please feel to visit our website www.contemporaryhealth.co.uk, download our prospectus, or speak to one of the team at either (0)20 3773 4895 or via email at info@contemporaryhealth.co.uk.

Broccoli and Brains
Broccoli and Brains

LighterLife’s magazine, Broccoli and Brains is full of the stuff of human hunger. We needed to write it because we needed to shout more loudly. We needed you to hear us. We needed you to know that the confusing messages we have been fed for decades around “eat less and do more” have not, and will not, solve the obesity problem raging in this country.

Through our personal experience and by dedicating a significant part of our working lives to helping others to tackle their own obesity problem. We have seen how it can destroy lives and have been frustrated by the slow pace of change.

For the past 25 years, as an organisation, we have provided weight management solutions that focus on the psychological reasons that underpin people’s overeating. We have significant evidence that a therapeutic approach can provide most with a much better opportunity to change and achieve a healthier, more fulfilled life.

What we care about most is that obesity is considered much more than just a physical symptom – that psychological support and solutions are considered and available to all who need it. We care that society changes it’s thinking about obesity.

www.broccolilandbrains.co.uk

The College of Contemporary Health
The College of Contemporary Health (CCH) is the world’s leading online institute in Obesity Care and Weight Management. We combine flexible online learning, world-class academic expertise, and a unique interdisciplinary curriculum to provide health professionals with university validated education that can be applied immediately in day-to-day interaction with patients.

CCH are committed to ensuring that students always have the most up-to-date and relevant learning material. To do this, we have developed an outstanding Academic Advisory Board comprised of the most influential voices in the obesity care and weight management field; they are all at the cutting edge of both research and clinical practice. Their expertise is reflected in all CCH courses.

For more detailed information please contact: 0121 643 9349
sales@seca.co.uk
www.uk.secashop.com

seca
seca, the global leader in medical measuring and weighing, offers healthcare providers advanced wireless technology and system solutions that go beyond height, weight and BMI. Based on over 175 years of quality German engineering, seca medical devices set the standard for innovation, design and reliability. On every continent, doctors and nurses in medical practices, hospitals and nursing homes rely on the high quality of seca’s medical scales and measuring systems.

NEW: mobile seca mbCA for medical body composition analysis
lightweight and compact, the device is equipped with its own WiFi for immediate entry in available networks. The sophisticated technology delivers reliable and reproducible medical data and stores the results internally. The seca mbCA 625 is ideal for mobile use by nutritionists and dietitians, clinically validated against the scientific gold standard for body composition: MRI, DEXA, Bod Pod, D2O, NaBr.

Our wireless product system seca 360° is the first of its kind in the world. Our products transmit their data as required via a special medical wireless protocol to a simple, fast and secure seca network. Within seconds, measurements are transmitted wirelessly and assigned to the correct patient ID in your Electronic Medical Record system, or transferred to a seca 360° wireless printer. This increased efficiency allows your facility to concentrate on what’s really important — the well-being of your patients.

NEW: seca 287 ultrasonic wireless measuring station offers fully automatic measuring of height, weight, BMI and was designed to be user-friendly for convenient use. Automated voice guidance makes it easy for the patient to use without any assistance from the nursing staff. Digital ultrasound technology ensures for precise height measurements, with constant auto-calibration. In addition, the touch-screen display keypad function ensures that you can always rely on an accurate measuring process.

For more information, please contact one of the team at either (0)20 3773 4895 or via email at info@contemporaryhealth.co.uk.

www.contemporaryhealth.co.uk
Levels through non-surgical means offers a tractable approach for the treatment of obesity and type 2 diabetes.

Targeting the gut to treat obesity and type 2 diabetes

The gastrointestinal tract (GI) represents the key interface between food and the human body and plays a critical role in regulating energy homeostasis. Nutrient presence within the GI tract leads to an orchestrated hormonal and neural response that informs the brain of on-going nutritional status and initiates adaptive responses that regulate eating behaviour and metabolism. This lecture will explore the evidence that gut hormones are involved in the pathogenesis of obesity, the failure of dietary-induced weight loss efforts and the beneficial effects of bariatric surgery on body weight and glucose homeostasis. In addition, I will discuss the notion that modulating gut hormone levels through non-surgical means offers a tractable approach for the treatment of obesity and type 2 diabetes.
The importance of physical activity before and after bariatric surgery in patients with type 2 diabetes and obesity

Metabolic or bariatric surgery is increasingly an option for the obese patient to improve body mass. In this talk the role of exercise prehabilitation is detailed which combined with short-term dietary restriction practices have significant influences not only on body mass but also on functional capacity, recovery from surgery and improved metabolic control. Following surgery, the patient is still sedentary, and sedentariness is an independent risk factor for cardio-vascular disease and insulin resistance. Here we profile evidence for changes in body mass and glycaemic control in patients after metabolic surgery and explore the impact of physical activity in the long-term recovery from surgery. Finally, efforts to improve metabolic control with exercise may also improve some markers of health-related quality of life.

The effectiveness of interventions for reducing socioeconomic inequalities in obesity

Socioeconomic inequalities in obesity are well established in high-income countries. There is a lack of evidence of the types of intervention that are effective in reducing these inequalities among adults and children. We conducted a systematic review of the effectiveness of individual, community and societal interventions in reducing socio-economic inequalities in obesity among adults and children. Nine electronic databases were searched from start date to October 2012 along with website and grey literature searches. The review examined the ‘best available’ evidence (both experimental and observational) in any setting and country.

The most available evidence was provided by 20 adult studies and 23 child studies and suggests that some individual and community-based interventions may be effective in reducing socioeconomic inequalities in obesity among adults and children in the short term. There was little evidence of long term effectiveness, and few studies of pre-school children, adolescents and men, or outside the USA. However, there was little evidence to suggest that interventions increase inequalities. Further research is required particularly of more complex, multi-faceted and societal-level interventions.

The role of fat-free mass and energy expenditure in the regulation of appetite and energy balance

Changes in body tissue that influence physiological and psychological function may affect energy balance behaviours. Cross-sectional evidence suggests that at or close to energy balance, fat-free mass is positively associated with ad libitum energy intake while fat mass shows a weak negative or no association with energy intake. Associations between fat-free mass and energy intake appear to be indirectly mediated by resting metabolic rate, suggesting that energy turnover may provide a drive to eat that helps match energy intake with energy needs. Some studies also suggest that proportionate loss of fat-free mass during weight loss predicts subsequent weight regain, but how functional changes in tissue compartments such as fat-free mass during weight loss or weight gain influence energy intake remains unclear. We hypothesize that at or close to energy balance, associations between body composition and energy intake represent an indirect, tonic mechanism that relates the energetic demands of metabolically active tissues to energy intake. As such, components of body composition and energy expenditure should be recognised as important excitatory features of homeostatic appetite control alongside the known inhibitory signals stemming from adipose tissue and the gastrointestinal tract.

Dr Richard Bracken, Swansea University
Diabetes UK Symposium – Friday 8th, 11.15-12.45. Main Hall

Dr Richard Bracken is an Associate Professor in Exercise Physiology and Biochemistry at Swansea University. His research interest lies in the interaction of physical exercise, nutrition and pharmaceutical interventions in the management of obese, type 1 and type 2 diabetes individuals wishing to exercise safely to obtain the health benefits of regular physical activity. Dr. Bracken leads a lifestyle research group in diabetes at the Diabetes Research Network, Cymru. In addition, he leads a Clinical Exercise Physiology interest group in the British Association of Sports and Exercise Sciences and is Vice-Chair of an Exercise and Physical Activity Study group at European Association for the Study of Diabetes (EASD). He is passionate about communicating the influence physical activity has on obesity and diabetes management and regularly presents, publishes and talks to healthcare professionals and lay people on the benefits of physical exercise.

Dr Frances Hillier-Brown, Newcastle University
ASO Symposium – Friday 8th, 14.15-15.45. Main Hall

Dr Hillier-Brown is a Public Health Research Associate based at Newcastle University with strong interests in nutrition, obesity, health inequalities and intervention evaluation, from methodology to translation of research into practice. She has completed several systematic reviews and evidence syntheses, and has been involved in the development and evaluation of a range of nutrition and obesity prevention interventions delivered in communities of high deprivation. She currently works between the Health Inequalities and Evidence Synthesis teams at Newcastle University on a European-wide project exploring the effects of different welfare states on health inequalities and a WHO funded systematic review of starch intake and dental caries.

Dr Mark Hopkins, University of Leeds
ASO Symposium – Thursday 7th, 15.30-17.00.

Mark is a Lecturer in Nutritional Physiology in the School of Food Science and Nutrition, University of Leeds. His research focuses primarily on the relationship between diet, physical activity and appetite control, and the biological and behavioural responses that mediate susceptibility to weight loss. In particular, he is interested in i) the role of body composition and energy expenditure as drivers of appetite and food intake, ii) the physiological and behavioural responses to dietary and exercise-induced weight loss, and iii) individual variability in treatment response to weight loss.

Dr Barbara McGowan, Guys and St Thomas' NHS Foundation Trust
Diabetes UK Symposium – Friday 8th, 09.15-10.45. Main Hall

Barbara McGowan is a consultant and Honorary Senior Lecturer in Diabetes and Endocrinology at Guy’s and St Thomas’ Hospital London. She was awarded a PhD from Imperial College London in 2007 investigating the role of gut hormones and other neuropeptides in appetite control. She currently leads the obesity bariatric service at Guy’s and St Thomas Hospital where she manages patients with complex obesity. Her areas of research interest include gut hormones, obesity and remission of type 2 diabetes post-bariatric surgery. Her main remit within the ASO is to promote education and training in obesity for all healthcare professionals.
Dr Alexander Miras, Imperial College London
Diabetes UK Symposium – Friday 8th, 11.15-12.45. Main Hall
Alex Miras graduated from medical school at Imperial College London, UK, and trained as a junior doctor and Specialist Registrar in Diabetes and Endocrinology in the London deanery rotations between 2002-2010. In 2010, he was awarded with a Medical Research Council (MRC) Clinical Research Training PhD fellowship, which enabled him to investigate the effects of bariatric surgery on food reward using functional neuroimaging and behavioural methodologies both in humans and rodents. He is currently a NIHR Clinical Lecturer in Metabolic Medicine at Imperial College London and interested in the mechanisms through which lifestyle interventions, pharmacotherapy, bariatric surgery and medical devices improve weight, metabolic control and diabetes-related microvascular complications.

When should patients with obesity and impaired glucose regulation undergo metabolic surgery?
In this presentation, Dr Miras will be presenting the best available evidence on when to operate on patients with dysglycaemia and what the practical implications are. Evidence will be presented from randomised controlled trials and large case control studies.

Professor Sir Stephen O’Rahilly, University of Cambridge
ASO Plenary – Thursday 7th, 17.30-18.30. Main Hall
Professor Sir Stephen O’Rahilly FRS, is Co-Director of the Wellcome Trust-MRC Institute of Metabolic Science (IMS) and Director of the MRC Metabolic Diseases Unit which is part of the broader University of Cambridge Metabolic Research Laboratories which he also directs. On the wider Cambridge Biomedical Campus, he is Scientific Director of the NIHR Biomedical Research Centre and Head of the University Department of Clinical Biochemistry. He was elected FRS in 2003, to the National Academy of Sciences, USA in 2011, has received four honorary doctorates and numerous scientific awards including the 2014 Zülch Prize of the Max Planck Society, the 2014 Baly Medal of the RCP (London) and in 2015 was the first recipient of the EASD/Novo Nordisk Foundation Diabetes Prize for Excellence. In 2013 he was made Knight Bachelor ‘for services to medical research’. His main research area is the aetiology and pathophysiology of human metabolic and endocrine disease and how such information might be used to improve the diagnosis, therapy and prevention of these diseases.

The causes and consequences of obesity; lessons from human genetics
Professor O’Rahilly will discuss how studies of the variation in DNA sequence between people has helped to provide a better understanding of why some people are susceptible to obesity and some are resistant and how the identification of several single gene disorders causing obesity has and will change clinical practice. He will also discuss how genetics is helping us to understand why some people are particularly susceptible to the adverse metabolic consequences of obesity.

Professor Christopher Owen, St George’s, University of London
ASO Symposium – Friday 8th, 14.15-15.45. Main Hall
Christopher Owen is Professor of Epidemiology in the Population Health Research Institute at St George’s, University of London. His recent research has focused on measuring physical activity and fitness, and understanding their determinants, especially in children. Professor Owen is principal investigator on the Examining Neighbourhood Activities in Built Living Environments in London (ENABLE London) project, which aims to establish whether physical activity, adiposity and other health behaviours show sustained changes among individuals and families relocating to East Village (formerly the London 2012 Olympics Athletes’ Village), when compared with a control population living outside East Village throughout. The main purpose is to establish whether where we live has an overriding influence on how active we are. The project is funded by the UK Medical Research Council National Prevention Research Initiative and the National Institute of Health Research Public Health Programme.

Does active design increase physical activity and decrease adiposity? Evaluation of a natural experiment to examine whether moving into housing in East Village (formerly the London 2012 Olympics Athletes’ Village) improves health
The Examining Neighbourhood Activities in Built Living Environments in London (ENABLE London) study is a natural experiment which aims to establish whether physical activity, adiposity and other health behaviours show sustained changes amongst individuals relocating to East Village (formerly the London 2012 Olympics Athletes’ Village), when compared to a control population living outside East Village throughout.

Between January 2013 and December 2015, 1278 adults from 1006 households were recruited and assessed (including 392 social households, 421 seeking intermediate and 193 market rent homes). Objective assessments of physical activity (using ActiGraph accelerometers) and body composition (using bioelectrical impedance) have been made, and detailed participant questionnaires provide information on sociodemographic, lifestyle and health related behaviours. The two-year follow-up rate to date is 71% of households, of which near half (51%) have moved to East Village. Follow-up will be completed in December 2017.

Compared to other housing sectors, baseline findings show that those in social housing were older, more likely to be female, non-white and economically inactive. Allowing for these demographic differences, those in the social sector had markedly lower physical activity levels (especially at weekends) and higher levels of adiposity. Moreover, those in the social sector were more likely to be depressed, anxious and had poorer well-being, which was partly accounted for by perceptions of their local built environment. The presentation will outline baseline differences between housing sectors, and show the potential of the study to examine long-term change in physical activity and adiposity outcomes amongst those who have moved to East Village compared to a control population who have not.

We hope findings from the study will be generalizable to other urban residential housing developments, and will help inform future evidence based urban planning to improve health.
**Dr Helen Parretti, University of Birmingham**

**Clinical Symposium – Thursday 7th, 15.30-17.00. Main Hall**

Dr Helen Parretti is a GP and NIHR academic clinical lecturer, currently working in Birmingham. She has a research interest in the management of obesity in primary care and is currently involved with several research studies in this area. She led the development of RCGP endorsed guidance for the long-term management of patients post bariatric surgery in primary care in conjunction with the British Obesity and Metabolic Surgery Society and was a member of the multidisciplinary subgroup commissioned by NHS England Obesity CRG to develop bariatric surgery follow-up guidelines. She is the RCGP representative to the RCP Joint Steering Committee for diabetes and endocrinology and the dissertation module lead for the Clinical Primary and Community Care MSc at the University of Birmingham.

**Impact of primary care exercise referral schemes on the health of patients with obesity**

Primary care exercise referral schemes are a potentially useful setting to promote physical activity. However, it is not established whether exercise referral schemes have differing health outcomes according to participant body mass index (BMI). This presentation summarises the current evidence for the impact of primary care exercise referral schemes on the health of people with obesity and reports a reanalysis of the EMPOWER study, the first data to report differential outcomes of exercise referral schemes by BMI category.

Reanalysis of the EMPOWER study data showed some evidence of a differential impact of exercise referral schemes on physical activity by BMI category. These findings will be presented together with the results of the reanalysis of the EMPOWER study data on other outcomes such as weight, blood pressure and anxiety and depression scores. Overall the effects of exercise referral schemes in primary care for patients with obesity remains unclear due to the small number of published studies that have reported outcomes by BMI category and further research is needed.

**Dr Chrissie Pickin, Public Health Wales**

**ASO Symposium – Friday 8th, 11.15-12.45.**

Originally from the United Kingdom, Dr Pickin has worked in a number of senior local, regional and national public health roles across a range of settings in the UK, Australia and New Zealand. She joined Public Health Wales last year following three and a half years as Chief Adviser for Population Health at the Ministry of Health in New Zealand.

Dr Pickin’s role at Public Health Wales entails working closely with Public Health Wales’s key partners to introduce improvements that will enable people to stay healthier for longer and reduce the health inequalities that exist in Wales. Dr Pickin has a strong track record of leading change across complex systems and working collaboratively across organisations to improve health outcomes. Her experience includes delivering successful large scale public health improvement programmes involving many partners across a range of sectors.

**William Preece, Public Health England**

**Clinical Symposium – Thursday 7th, 15.30-17.00. Main Hall**

William Preece is a Registered Nurse. Will is currently working as a Public Health England Physical Activity Champion and is working part time on a Medical Oncology ward. He has always had an interest in Physical Activity and the affect this can have on people’s lives. He received special permission from the RFU to do his rugby coaching qualification underage. A year later aged 14, Will coached his local team to their first tournament success. Will’s research interest lies with using Physical Activity as a facilitator to returning to normal activity. Will has presented his Systematic Review at the Global Summit for work and health in New Orleans.

Presentation learning objectives:

- Improve understanding why all clinicians need to be Physical Activity Champions.
- Who benefits most and how can Physical Activity be implemented in the clinical setting?
- To understand how to support colleagues and patients to increase physical activity.

**Dr Rachel Pryke, Royal College of General Practitioners**

**Clinical Symposium – Thursday 7th, 15.30-17.00. Main Hall**

Dr Pryke is a part-time GP partner and trainer in Redditch, Worcestershire, with particular interests in obesity, malnutrition and women’s health.

She was RCGP Clinical Champion for Nutrition until 2015 and began a NICE Fellowship in April 2015. She established the RCGP Nutrition Group in 2013, now renamed GPING – GPs Interested in Nutrition Group. Resources stemming from this programme can be accessed via RCGP Nutrition Web pages. [www.rcgp.org.uk/clinical-and-research/clinical-resources/nutrition.aspx](http://www.rcgp.org.uk/clinical-and-research/clinical-resources/nutrition.aspx)

She has written two books - “Weight Matters for Children” and “Weight Matters for Young People”, Radcliffe Publishing 2006, plus many e-learning modules on obesity, child obesity and adolescent health.

She runs primary care obesity training courses throughout the UK and have collaborated with WHO to deliver primary care obesity training in Malta and Uzbekistan. [https://primarycareobesitytraining.wordpress.com/](https://primarycareobesitytraining.wordpress.com/)

She contributed to the Academy of Medical Royal Colleges Obesity Steering Group 2013 report:- *Measuring up: The medical profession’s prescription to the obesity crisis.*

She contributed to the 2013 RCP Action on Obesity:Comprehensive care for all report, which looks at how the NHS should adapt to meet the needs of an increasingly obese nation. She is a member of the Lancet Standing Commission on Liver Disease in UK.
Structured obesity training and the 10-minute consultation: Creating clarity from complexity

Learning objectives for this presentation:

- In multi-disciplinary teams, we should not all be doing the same thing: what is primary care's role? What aspects are GPs best-placed to deal with?
- What do primary care really need to know about obesity – and what information can they do without?
- When brief interventions are not enough – where next with the conversation?
- More than ‘a chat’ - Understand how structured obesity conversations can act as an intervention tool.
- To summarise what points primary care staff could/should cram into a 10 minute consultation

Dr Aled Roberts, University Hospital of Wales, Cardiff
Diabetes UK Symposium – Friday 8th, 09.15-10.45. Main Hall

Dr Roberts is a Consultant Physician with an interest in Diabetes and Endocrinology, at the University Hospital of Wales, Cardiff, and Clinical Director of Medicine, at Cardiff and Vale University Health Board. He was awarded an MD for research into Myocardial and Vascular function in Type 2 Diabetes in 2007. Dr Roberts’ interests include the management of hospital inpatients with Diabetes, integrated management of diabetes, and perinatal care of patients with Diabetes and Endocrine disease. Dr Roberts is clinical lead for Diabetes at the University Hospital of Wales, and co-lead of the Cardiff community diabetes initiative. Dr Roberts is a member of the JBDS inpatient guideline writing group and has authored a number of national guidelines for this group. He holds an Honorary Lecturer title with Cardiff University and is a tutor on the University of South Wales Postgraduate Diploma in Diabetes. Dr Roberts is Chair of the General (Internal) Medicine training programme, and a member of the STC for Endocrinology and Diabetes, within the Wales Deanery.

Dr Chris Roberts, Welsh Government
ASO Symposium 1 – Thursday 7th, 11.45-13.15. Room 9

Chris leads a small team within the Social Research and Information Division, Welsh Government, providing research and evaluation support to policy colleagues in the Department of Health and Social Services. The role involves commissioning research and undertaking projects in-house, as well as promoting the use of evidence in the policy process more broadly. He also acts as Deputy Chief Social Researcher. For a number of years Chris has been Principal Investigator for Wales on the WHO collaborative Health Behaviour in School-aged Children (HBSC) study. This study takes place across Europe and North America and aims to enable a deeper understanding of how social circumstances and developmental processes influence young people’s health. Chris recently completed part-time doctoral work looking at the barriers and facilitators to the use of RCTs for evaluating social policies.

Dr Denise Robertson, University of Surrey
Diabetes UK Symposium – Friday 8th, 09.15-10.45. Main Hall

Denise Robertson has a PhD in Clinical Nutrition from the University of Newcastle and is currently a Reader in Nutritional Physiology at the University of Surrey. Her interest has always been in the complex interplay between the gastrointestinal tract and whole-body physiology in both health and diseased states; with the gut now implicated now as both the “cause” and “treatment” for many conditions such as obesity and type 2 diabetes. She works entirely in human models of human disease. In addition to nutritional research, she has active links with chronobiology researchers looking at the effects of sleep and clock genes on diabetes risk in addition to deciphering role of gut microbiota in diabetes. She has won awards for her translational work; The Nutrition Society David Cuthbertson Medal (2006), the Association for the Study of Obesity Young Achiever Award (2008) and the Nutrition Society Silver medal (2011). Current projects involve understanding the gastrointestinal handling of carbohydrates and fats in the diet and how they relate to individualised disease risk.

Microbiota and metabolic dysregulation

In many ways, the gut microbiota could’t be more topical or trendy, linked seemingly to every human (and rodent) condition, with type 2 diabetes being no exception. There is striking and consistent data showing associations between bacterial species/diversity and diabetes and although this may help in elucidating some of the mechanisms of the metabolic dysregulation which come from existing risk factors such as an unbalanced diet or from obesity, can the composition of our microbiota be considered as an independent risk-factor and how far away are we as “non-microbiologists” from utilising the microbiota as a potential therapeutic treatment? The gut microbiota can be targeted specifically with drugs such as antibiotics and now metformin, with diet through the use of dietary fibres and pre/probiotics and of course by faecal transplantation from healthy donors, but what trials have actually been done in this area and how successful were they for patients with diabetes? An important aspect of microbiota research and metabolic dysregulation is the prospect of whether we can identify an individual by their microbiota before they develop diabetes, and so target these individuals specifically in terms of diabetes prevention.

Professor David Stensel, Loughborough University
ASO Symposium – Thursday 7th, 15.30-17.00.

David Stensel is Professor of Exercise Metabolism and Associate Dean for Research in the School of Sport, Exercise and Health Sciences at Loughborough University where he has worked for the past 18 years. David is also on the Scientific Advisory Board of the British Nutrition Foundation and he is an Associate Editor for the International Journal of Obesity. David has been researching links between exercise and appetite for over 10 years with particular emphasis on the effects of exercise on appetite regulating hormones. David’s current research is examining the potential factors which may explain individual differences in appetite responses to exercise with reference to both genetic and environmental factors. In addition to this research David is interested in links between exercise and health more broadly and he also conducts research in the area of exercise and cardiovascular disease risk with a particular focus on the effects of exercise on lipid/lipoprotein metabolism.
Acute and chronic effects of exercise on appetite regulation
This talk will focus primarily on the influence of exercise on a variety of appetite regulating hormones including ghrelin, peptide YY and glucagon-like peptide-1. In particular this presentation will examine research which consistently shows that in the short term (over the course of a day or so) exercise does not stimulate compensatory changes in appetite hormones or energy intake in most people. The talk will examine the effects of different modes, intensities and durations of exercise on appetite and will address the question of whether people may be classified as ‘responders’ and ‘non-responders’ in terms of their appetite responses to exercise and if so what factors (both genetic and environmental ) might determine whether someone is a responder or a non-responder. The latter part of the talk will address the effects of chronic exercise training on appetite which is clearly relevant for the role of exercise in assisting with weight loss and the maintenance of a healthy body weight/composition.

Professor Dylan Thompson, University of Bath
ASO Symposium – Thursday 7th, 15.30-17.00.
Dylan Thompson is Professor of Human Physiology at the University of Bath, UK. His research investigates the role of physical activity and exercise in the prevention of chronic diseases. He integrates molecular and cellular laboratory-based approaches with free-living assessments outside the lab. His research has been supported by major grants from the British Heart Foundation, BBSRC, MRC, Diabetes UK and the National Institute for Health Research. He serves as an advisor on funding agency panels and other bodies in both the UK and overseas.

Physical activity and exercise in the regulation of adipose mass and function
What is the impact of exercise on adipose and fat metabolism? To what extent does exercise and physical activity change adipose tissue masses? What is the impact of chronic exercise (training) on adipose tissue function? Are the effects from physical activity dependent or independent of an effect on energy balance? In this presentation I will attempt to answer these and other related questions in order to understand the role of physical activity and exercise in the regulation of adipose tissue mass and function. I will focus on human studies that have incorporated innovative methodologies and/or study designs as part of various investigations – including acute exercise studies, exercise and physical activity interventions and overfeeding experiments.

Dr Gareth Williams, Lancaster University
ASO Symposium – Friday 8th, 11.15-12.45.
I am Senior Lecturer in Philosophy at Lancaster University and also, for the coming year, a visiting Professor at Ruhr University (Bochum, Germany). My research interests fall across ethics, political theory and applied ethics. One of my main interests, in all three of these areas, is responsibility – both conceptually and in terms of its practical aspects. For the past ten years, I have been involved in collaborative research on children, health and public policy, including two consecutive EU-funded projects, IDEFICS and I.Family (www.ifamilystudy.eu).
These large cohort studies have investigated diet and health-related behaviours in children and families across Europe, with a special focus on obesity. I have a particular interest in the powers and responsibilities of business corporations, as well as in the framing of public health policy.

The role of evidence in policy interventions
My talk will consider why the appeal to evidence has been so influential in the domain of public health, and why it so often proves problematic in practice. Coining the motto “policies are not pills,” I will first highlight why standards of evidence developed in the pharmaceutical domain provide a poor guide for judging policy options and evaluating complex interventions. I will then point out how policies and interventions can be justified despite the difficulties of generating clear evidence. Unlike pills, policies and interventions can be adapted and intelligently implemented by those involved. And unlike pills, policies and interventions often have beneficial “side-effects” – which is also to say, we should never consider or evaluate them simply in terms of their effects on a single goal.

Dr Thomas Yates, University of Leicester
Dr Tom Yates works within the Diabetes Research Centre, University of Leicester, and is a leading physical activity researcher. He works across a broad portfolio of physical activity research, including the Walking Away from Type 2 Diabetes and Let’s Prevent Diabetes programmes which are now delivered within primary care nationally and internationally. Dr Yates is also a core member of the NIHR Leicester Biomedical Research Centre where ongoing research is investigating how physical activity and reduced sedentary behaviour can be used as a therapy in the prevention and treatment of chronic disease. Dr Yates has published widely, including in the Lancet, and holds several prestigious research grants.

From standing more to high intensity exercise: Tailoring physical activity for metabolic health
Physical activity is one of the most powerful therapies known to man. However, the vast majority of the population remain inactive suggesting more personalised and tailored approaches to physical promotion and prescription are needed. This plenary will consider how the full physical activity intensity continuum, from standing breaks to high intensity interval training, can be harnessed in the promotion of metabolic health and disease prevention and how this allows more flexibility in using physical activity as therapy going forwards.
Thursday September 7th 11.45-13.15
Consilient Health Ltd

Mysimba ▼ (bupropion/naltrexone) – A new treatment for obesity in the UK

11:45  Chair’s Introduction and Welcome
Professor Nadim Haboubi, Professor of clinical nutrition and obesity. Bariatric Physician, Nevill Hall Hospital, Wales

11:50  Session 1
The physiology of obesity and the need for new pharmacotherapies
Professor Rachel Batterham, Professor of Obesity, Diabetes and Endocrinology at University College London (UCL) and University College London Hospital (UCLH)

12:10  Session 2
Mysimba (bupropion/naltrexone) – Clinical data and real-world clinical experience from the U.S.
Dr Scott Kahan M.D. Director of the National Center for Weight and Wellness, Washington D.C.

12:35  Session 3
Stigma and the patients perspective – How can we make a difference?
Dr Carly Hughes, GP Partner Fakenham Medical Practice and Clinical Lead Fakenham Weight Management Service (Tier 3 Service)

The Obesity Empowerment Network – Who are we?
Dr Jackie Doyle, Clinical Psychologist for UCLH Centre for Weight Management and Metabolic Surgery

13:00  Panel Discussion
Questions and Panel Discussion
Dr Natalia Lawrence, University of Exeter

13:15  End of Symposia

Consilient Health

Consilient Health Ltd is a young, dynamic and rapidly growing pharmaceutical company, operating in the UK, Ireland and the Nordics, with a portfolio of branded and generic pharmaceutical products. Consilient Health has one of the widest ranges of oral contraceptives in the UK, having supplied over 19 million packs since 2010. In addition to this, our range of vitamin D products is also rapidly expanding to offer patients and prescribers greater choice.

Consilient Health is very excited to have the opportunity of adding to its existing Women’s Health and Bone Health portfolios by expanding into the area of obesity. Obesity is a significant, growing and costly issue in the UK and Ireland, and current treatment options are limited. For Consilient Health, this fits well with our focus on bringing innovative solutions for unmet patient needs and leveraging our strong skills in successfully launching new medicines that provide value to the NHS.

Passionate about supplying prescription medicines that benefit patients, Consilient Health is keen to work in partnership with all stakeholders, from healthcare professionals and organisations to the patients who rely on our products. Consilient Health is delighted to be a sponsor of the UKCO 2017 and looks forward to welcoming you at our symposium on Thursday 7th September at 11.45.

www.consilienthealth.com
Thursday September 7th 15.30 – 17.00
SCOPE accredited Clinical Symposium sponsored by Cambridge Weight Plan

Main Auditorium

Chair Dr Sue Kenneally

15.30  Structured obesity training and the 10-minute consultation: Creating clarity from complexity
Dr Rachel Pryke, Royal College of General Practitioners

15.55  Achieving weight loss in our patients – the practising GP’s guide
Professor Paul Aveyard, Oxford University

16.20  Impact of primary care exercise referral schemes on the health of patients with obesity
Dr Helen Parretti, University of Birmingham

16.40  Physical activity – The wonder drug
William Preece, Public Health England

Cambridge Weight Plan

Cambridge Weight Plan manufactures formula food products used in total diet replacement regimens providing energy intakes both under 800kcal/d and above 800kcal/d. Collaboration with research scientists has generated gold-standard evidence for effective weight loss and maintenance, safety, improved nutritional status and improved cardiovascular risk status. Programmes can be delivered by trained Cambridge Consultants working in a community setting or by health care professionals and deliver average weight losses of over 10kg of body weight and weight maintenance for up to four years, with improved nutritional status, and health benefits in osteoarthritis, psoriasis, obstructive sleep apnoea and coronary artery disease.

www.cambridgeweightplan.com
Diabetes UK (Cymru) Symposium

Friday September 8th 09.15 – 10.45

Medical management of obesity and associated metabolic dysfunction sponsored by Novo Nordisk

Chair: Professor Jeffrey Stephens, Swansea University

09.15

Current and new therapies for obesity
Dr Barbara McGowan, Guys and St Thomas’ NHS Foundation Trust

09.45

Microbiota and metabolic dysregulation
Dr Denise Robertson, University of Surrey

10.15

Treatment associated weight gain in diabetes. Is it a problem and how can this be managed?
Dr Aled Roberts, University Hospital of Wales, Cardiff

Novo Nordisk has sponsored this symposium but has had no influence or control over the content

Novo Nordisk

Novo Nordisk is a global healthcare company with more than 90 years of innovation and leadership in diabetes care. This heritage has given us experience and capabilities that also enable us to help people defeat other serious chronic conditions: diabetes, haemophilia, growth disorders and obesity.

Headquartered in Denmark, Novo Nordisk employs approximately 42,000 people in 77 countries and markets its products in more than 165 countries. Every day, millions of people all over the world rely on our products, which are manufactured in seven countries. Novo Nordisk has a unique ownership structure, with two-thirds of Novo Nordisk’s shares controlled by the Novo Nordisk Foundation. The objective of the Foundation is to provide a stable basis for the commercial and research activities of Novo Nordisk and support scientific, humanitarian and social purposes.

As the acknowledged leader in diabetes care, we work to prevent, treat and ultimately cure this increasingly onerous disease. Over the past 90 years, our researchers have pioneered many breakthroughs in its management, and today, our determination to help these people is stronger than ever. Novo Nordisk also holds leading positions in the management of bleeding disorders, growth hormone treatment and hormone replacement therapy. We are currently researching into novel delivery systems and autoimmune and chronic inflammatory diseases, using technologies such as translational immunology and monoclonal antibodies. For more information, visit novonordisk.co.uk
Member-led Symposia

Thursday September 7th 15.30-17.00
Room 10
Member-led Symposium: Advocating for Change
Obesity Action Scotland, Royal College of Physicians & Surgeons of Glasgow

Understanding how research is used to inform, influence, lobby, create policies and advocate for change is the condition of effective communication between researchers, campaigners, activists, policy-makers and the public. Everyone has a role to play in tackling the obesity crisis, this includes academia, governments, schools, food producers, retailers, individuals and the public as a whole. This symposium will give a public health perspective on obesity in the UK and highlight the importance of dialogue and support between the stakeholders.

The speakers will give an insight into work of the third sector organisations and alliances that advocate and campaign in the area of obesity in the UK. The insight will come from the work and experience of Obesity Health Alliance based in London and Obesity Action Scotland based in Glasgow. The symposium will also include an overview of organisations and alliances from all over the world who do similar work.

The talks will introduce both organisations’ origins and aims, and give an overview of their current work and campaigns. Speakers will talk about their shared support for policy areas and discuss how they approach these with the Scottish and Westminster governments, media and other stakeholders.

1. Welcome and introduction to the symposium – aims, structure and speakers (5min)
Dr Anna Gryka, Obesity Action Scotland, Royal College of Physicians & Surgeons of Glasgow

2. Why and what should we change? (25 min)
Professor Simon Capewell, Faculty of Public Health and Liverpool University

Professor Simon Capewell will give an introduction, briefly reviewing obesity trends and burden of disease, and initial policy interventions and the challenges they faced. Effective interventions and strategies highlighted by Public Health England and Health Select Committee reviews will then be described along with the lessons from successes in tobacco and alcohol control. Professor Capewell will also briefly speak about the work of Action on Sugar, Obesity Health Alliance and Obesity Action Scotland, and the importance of broader healthy alliances.

3. How can we deliver change in England? (20 min)
Caroline Cerny, Obesity Health Alliance

Caroline Cerny will give an insight into work of Obesity Health Alliance (OHA) who advocate and campaign in the area of obesity in the UK, outlining their origins and aims, members and campaigns. Current obesity policy in England will be discussed, including the soft drinks industry levy and reformulation. Caroline will focus on the importance of dialogue and support between the stakeholders.

4. How can we deliver change in Scotland – a different opportunity? (20 min)
Lorraine Tulloch, Obesity Action Scotland

Lorraine Tulloch will give an insight into work of Obesity Action Scotland (OAS) that advocate and campaign in the area of obesity in the Scotland. She will describe how OAS approaches the Scottish government, media and other stakeholders and speak about the new Obesity Alliance in Scotland. Lorraine will focus on the opportunities that exist within a devolved context to take a different route to the UK government including on issues such as price promotions, portion sizes and advertising and marketing. Lorraine will also give examples of good practice from different countries and show how we can learn from them.

Symposium discussion: How could third sector organisations better interact with the obesity research community to achieve change?
The main aim of this symposium is to highlight the importance of weight stigma and discrimination for academics, healthcare professionals and policy makers. This symposium will raise the topic of weight stigma, in particular why people form stigmatising attitudes based on weight, evidence demonstrating the widespread nature of weight stigma in the UK, interventions to reduce weight stigma, evidence of stigma in weight related campaigns and policy, and legislative loopholes, support and action.

Research examining weight stigma and discrimination in the UK has increased substantially overtime (e.g., Latner & Stunkard, 2003), and is recognised as key to future research and practice relating to obesity (Flint, 2015). Indeed, weight stigma has the potential to reduce the enrolment and effectiveness of obesity treatment and is associated with both physical and mental health concerns (Flint & Lorenzo, 2017). It is understood that a range of institutions across society contribute to the formation of stigmatising attitudes and beliefs about obesity, and the role of the media has been highlighted as a chief contributor. Despite the evidence of weight stigma and discrimination in today’s society, there have been few attempts to intervene, and on the whole interventions have been ineffective or where success has been evident, this has been minimal. Unlike legislative relating to physical characteristics where stigma and discrimination has been observed, there is little evidence of legislative protection for people who experience stigma and discrimination based on weight.

There are six activities planned as part of this symposium:

1. Dr Stuart Flint (Leeds Beckett University); Title: Weight stigma in the UK
   The symposium will commence by introducing weight stigma as a topic area and its importance to research and practice. Dr Stuart Flint will then discuss evidence from his own research published recently that demonstrates weight stigma is evident in the UK population and the population groups where weight stigma is most evident. In particular, Dr Flint will discuss his findings relating to ‘UK adults implicit and explicit attitudes towards obesity’ in more detail.

2. Professor Jayne Raisborough (Leeds Beckett University); Title: Putting obesity to work in reality TV: The creation of stigma in UK weight loss shows and factual documentaries
   Professor Jayne Raisborough will discuss media coverage of obesity in reality TV and how the representations of obesity is a contributing factor in the formation of stigmatising attitudes towards people who have a higher weight. Her focus on what reality representations of obesity do, allows her to examine recent so-called ‘poverty porn’ to think how weight stigma may procure public consent for welfare cuts – particularly for white working class disabled recipients.

3. Dr Judy Swift (University of Nottingham); Title: Too close to home? Challenging obesity professionals’ stigmatising attitudes and behaviour.
   Dr Judy Swift will discuss intervention attempts to reduce weight stigma. She will draw on research from across the world, highlighting efforts that have been effective. In particular, Dr Swift will discuss her own intervention work, qualitative research investigating the experience of HCP/researchers having their attitudes challenged, and survey work investigating self-stigma (internalised negative beliefs about own weight status) in an international sample of 1000+ obesity HCP/researchers. Finally, Dr Swift will outline future opportunities.

4. Sharon Noonan Gunning (City University of London); Title: Parents, policy and stigma
   Sharon Noonan-Gunning will discuss the importance of ensuring stigma is not evident in campaigns and policy. She will discuss in particular, her research highlighting evidence of stigma attached to the parents of children with obesity. Stigma that is mediated by obesity related campaigns and policy, and why this may impact the effectiveness of those initiatives.

5. Presenter: Dr Stuart Flint (Leeds Beckett University); Title: Is it time for legislative action?
   Dr Stuart Flint will discuss the lack of legislative protection for people who may be discriminated against based on their weight and whether legislative action is required. He will highlight that there is some evidence of legislative action in the USA. He will also discuss research that suggests there is public support for legislative action and the opportunities that are available in the UK.

6. Panel discussion
   The presenters will form a panel for an open discussion on the presentations and research discussed above as well as emergent themes for future research, practice, and policy and campaign development in the area.
This symposium will consider candidate psychosocial determinants of eating behaviour and weight management with a particular focus on attachment style, psychological distress, and the coping mechanisms that people use to manage this distress. The relevance of this theoretical framework to patients undergoing bariatric surgery will be a key overarching theme.

At a population level, bariatric surgery is a clinically-effective treatment for patients with severe obesity. However, individual responses to treatment can vary dramatically. Of particular concern are recent data which indicate that some patients have poor psychiatric outcomes and develop alcohol use disorders post-surgery. Existing evidence suggests that certain psychological factors may make it easier for patients to adjust to the post-operative condition, and these include having good mental health, undisturbed eating behaviours, and strong social support networks (van Hout, Verschure, & van Heck, 2005). However, further research is needed to identify key patient characteristics which may be linked to more successful outcomes following surgery.

There is emerging evidence that an individual’s attachment style has a strong influence on disinhibited eating behaviours and subsequent body weight. This is thought to be because individuals who have an insecure attachment style (i.e. anxious or avoidant) are less able to internally regulate emotion, or “self-soothe”, in response to distress. This may lead them to rely on external sources of comfort such as consuming food and ultimately increase the risk of weight gain and obesity. In the first talk of the session, Charlotte Hardman will provide an overview of findings from studies in community samples which support this theory. In Study 1, attachment anxiety strongly predicted body mass index (BMI) and this relationship was fully mediated by disinhibited (over-) eating. This finding was replicated and extended in a UK-based multi-site study (Study 2) which found that attachment anxiety predicted the use of food as a coping strategy which, in turn, predicted unhealthy snack consumption and BMI. Finally, in a sample of US-based participants (N=548), attachment anxiety predicted stress-induced (over-) eating and this was specifically due to an impaired ability to regulate responses to distressing social cues.

In the second talk, Tanisha Douglas will consider the relevance of this model to bariatric surgery. Considering 12 relevant studies from the current literature, two key themes will be explored. First, whether attachment insecurity is associated with a specific profile of psychosocial factors in bariatric surgery candidates (including uncontrolled eating in response to distress) and second, whether attachment insecurity is a reliable predictor of weight-loss ‘success’ following bariatric surgery. Shortcomings of the current emerging literature and recommendations for future research directions will be discussed.

In the third talk, Laura Wilkinson will present data showing that obese bariatric surgery candidates and bariatric surgery recipients show significantly higher levels of attachment insecurity (higher attachment anxiety and/or higher attachment avoidance) than a group of age and gender-matched lean controls. Mediation analyses showed that disinhibited eating accounted for differences between the bariatric surgery group (candidates and recipients) and lean gender and age matched controls. However, no such difference in disinhibited eating was observed between the bariatric surgery candidate and recipient groups. One possibility is that despite having already received bariatric surgery this group were engaging in the same uncontrolled overeating that is evident in individuals prior to surgery. The implication that surgery does not impact the underlying psychology driving overeating will be discussed.

In the final talk, Danielle Reaves will consider the use of maladaptive coping strategies in bariatric surgery recipients and the extent to which these might increase the risk of developing alcohol use disorders. She will present the findings of qualitative interviews with patients who received weight loss surgery 5.8 ± 4 years previously. Key themes from these interviews indicate that individuals who experienced alcohol problems post-surgery had several unmet needs (relational, self-esteem, vocational, and/or mental health), had experienced major life stressors (divorce, loss of parents), and reported drinking alcohol to cope. These individuals also reported less ability to tolerate high-calorie foods which meant that using food to cope was no longer feasible. These findings raise the possibility that surgery may promote a “switch” in coping strategies from eating to drinking.

The session will conclude by synthesizing the body of evidence presented and considering future directions for research. Importantly, the findings suggest that attachment insecurity is an underpinning cause of stress-induced eating and may thus be a risk factor for poor outcomes following bariatric surgery. The implications for identification, prevention and treatment of problematic eating behaviours in patients and the more general population will be discussed.

References

Speakers and presentation titles
Attachment insecurity and body weight: the mediating roles of emotion regulation and disinhibited eating.
Charlotte Hardman, University of Liverpool.

Systematic review of attachment insecurity in bariatric surgery candidates/ recipients.
Tanisha Douglas, Swansea University.

Disinhibited eating mediates differences in attachment insecurity between bariatric surgery candidates/ recipients and lean controls.
Laura Wilkinson, Swansea University.

Use of alcohol as a coping strategy following bariatric surgery.
Danielle Reaves, University of Liverpool.
Oral Presentation Abstracts

The food and drink preferences of twins discordant for weight are the same

Andrea Smith1, Alison Fildes2, Lucy Cooke3, Clare Llewellyn1
1University College London, London, United Kingdom, 2University of Leeds, Leeds, United Kingdom

Background: Greater liking of energy-dense foods or drinks is a hypothesised risk factor for the development of overweight; because preferences drive actual intake. A powerful design to estimate the importance of food and drink preferences as environmentally-acquired influences to weight development is by studying the dietary preferences of identical twins discordant for BMI.

This was the first study to examine the food and drink preferences of twins discordant for BMI, independent of genetic variation and all environmental confounders shared by twin pairs (e.g. socioeconomic status).

Methods: Participants were 77 adolescent (19.1 y) identical twin pairs discordant for body mass index (Δ BMI ≥ 3 kg/m²) from the Twins Early Development Study. Liking for 6 food groups (fruit, vegetables, meat/fish, dairy, snacks, and starches) and 7 beverage types (sugar-sweetened beverages, non-nutritive sweetened beverages, orange juice, fruit squash, milk, tea, coffee) were self-reported. BMI was calculated from self-reported height and weight. Differences in preferences between discordant pairs were tested using paired t-tests.

Results: BMI scores of weight-discordant twins differed on average by 5.56 kg/m² (SD=4.92). Only preference scores for fruit differed significantly within-pairs, with the heavier twin reporting higher liking of fruit (p<0.04) but the effect size was small.

Conclusions: Food and drink preferences are not associated with BMI independent of genetic effects. This suggests that weight may be shaped more by ‘how much’ rather than ‘what’ we eat and drink.

Plate clearing tendencies, larger portions and overeating.

Florence Sheen1, Charlotte Hardman1, Eric Robinson1
1University of Liverpool, Liverpool, United Kingdom

Consumers eat more food when served larger relative to smaller portions (the ‘portion size effect’) and individuals who clear their plate out of habit when eating are more likely to be of heavier BMI than individuals who do not. One explanation for why people eat more when given larger portions is that many people have a natural tendency to want to clear their plate when eating. The effect of ‘plate clearing’ tendencies on energy intake, and the extent to which plate clearing tendencies may explain the portion size effect, are yet to be empirically tested. In the present study participants completed a screening questionnaire to identify self-reported habitual ‘plate-clearers’ (N=48) and ‘non-plate-clearers’ (N=41). They were then invited to attend a single laboratory session during which they were served either a normal or large portion of pasta for lunch. Participants consumed significantly more when served the large vs. normal portion (104kcal difference). There was also a main effect of plate-clearing, with plate-clearers consuming significantly more than non-plate-clearers (71kcal difference). There was no significant interaction between plate clearing tendencies and portion size condition. These findings show for the first time that plate clearing tendencies are associated with greater energy intake, but plate clearing tendencies do not appear to moderate the portion size effect. Plate clearing tendencies may cause weight gain by promoting passive overconsumption of food.

Renormalizing the obesogenic food environment: Evidence on the ‘normalizing’ effect of reducing food portion sizes

Eric Robinson, Inge Kersbergen
University of Liverpool, Liverpool, United Kingdom

Supersized portions have now become normal and historical increases in the size of commercially available food products have been linked to the emergence of a worldwide obesity crisis. Although portion size has been identified as a potential target to improve public health, the downstream consequences of reducing food portion sizes are unclear. We hypothesise that reducing food portion size may ‘renormalize’ perceptions of what constitutes a normal amount of food to eat and in doing so nudge people towards freely selecting and consuming smaller portions of food. We tested this possibility across three experiments by serving participants a large or smaller portion of food. In experiments 1-2, twenty four hours later participants selected and consumed a portion of that food. In experiment 3, one week later participants reported on their preferred portion size of that food. Serving participants smaller portion sizes of a food resulted in them selecting and consuming less of that food in future. Mediation analyses confirmed that smaller portion sizes reduced later consumption by adjusting perceptions of what constitutes a ‘normal’ portion size. Because consumer preferences are in part driven by environmental influence, reducing food portion sizes may recalibrate perceptions of a ‘normal’ amount of food to eat and in doing so decrease how much consumers freely choose to eat. These results suggest that downsizing the default size of food products would soon result in the ‘renormalization’ of smaller food portion sizes.
Emotional over- and under-eating are characterised by distinct parental feeding practices in early childhood

Moritz Herle1, Alison Fildes2, Clare Llewellyn1
1University College London, London, United Kingdom, 2University of Leeds, Leeds, United Kingdom

Background: Twin studies have established that emotional over- (EOE) and under-eating (EUE) are learned not inherited, in childhood. Little is known about environmental shapers of EUE, and whether they differ from those related to EOE. This is the first study to identify environmental factors specifically associated with EUE and EOE.

Methods: Participants were 1168 five-year-old children from the Gemini cohort. EOE and EUE were measured using the Child Eating Behaviour Questionnaire. Environmental factors included home chaos (CHAOS), and parental eating (Dutch Eating Behaviour Questionnaire) and feeding behaviour (Parental Feeding Style Questionnaire). Child body mass index was calculated from parent-reported anthropometrics and converted to age- and sex-adjusted standard deviation scores (BMI-SDS) using UK90 data. Complex Samples General Linear Models examined cross-sectional associations between environmental factors and emotional over- and under-eating, adjusting for clustering of twins in families, age, sex and BMI-SDS.

Results: After controlling for covariates and EUE, parental emotional feeding (B=0.308, 0.206-0.410, p<0.01) and parental emotional eating were significantly associated with EOE (B=0.054, 0.002-0.107). After controlling for covariates and EOE parental pressure to eat was significantly associated with EUE (B=0.204, 0.065-0.343).

Discussion: Distinct parental behaviours are cross-sectionally associated with EOE and EUE in early childhood. Parental emotional feeding and eating are associated with child EOE, suggestive of vicarious learning (through parents modelling emotional eating) and conditioning (being emotionally fed) giving rise to EOE. For EUE, a parent’s own eating was unimportant but their pressure to eat was the only significant correlate. Longitudinal studies are needed to test direction of causation.

Children's genetic risk for obesity elicits parental feeding practices

Saskia Selzam1, Tom McAdams1, Robert Plomin1, Clare Llewellyn2
1King's College London, London, United Kingdom, 2University, London, United Kingdom

Background: Parental feeding practices (PFP, restriction/pressure) are widely assumed to have a causal influence on a child’s weight. However, interest has grown in the idea that a child’s weight may also ‘elicit’ certain feeding practices by the parents. Longitudinal data support this interpretation but cannot definitely identify causation. A novel approach is to examine associations between the child’s genetic risk for obesity and PFP, because PFP cannot change genetic risk.

Methods: Data were from 6710 twins (9.92 (0.86) years) from the Twins Early Development Study. Genetic susceptibility to obesity was indexed using a genetic risk score (GPS) comprising single nucleotide polymorphisms (SNPs) from the most recent genome-wide meta-analysis of body mass index (BMI). Parental ‘pressure’ and ‘restriction’ were assessed using the Child Feeding Questionnaire. Child BMI standard deviation scores (BMI SDS) were calculated from parent-reported height and weight. Correlations between the child’s BMI GPS and PFP were tested. The twin design was used to establish more broadly if genetic influence on child BMI was correlated with parental feeding practices (‘genetic correlation’, rG).

Results: The BMI GPS was correlated with BMI SDS (r=0.19, 0.16-0.22; P=1.96x10-05). Child BMI GPS was positively correlated with restriction (r=0.08, 0.05-0.11; P=7.46x10-05), and negatively associated with pressure (r=-0.08, -0.11 to -0.05; P=2.80x10-05). Twin-based genetic correlations were substantial and negative between BMI SDS and pressure (r=-0.49, -0.53 to -0.45) and moderate and positive between BMI SDS and restriction (r=0.28, 0.23-0.33).

Conclusions: These findings support the hypothesis that parents develop their feeding practices in response to their child’s BMI.

The effect of brisk walking in the fasted state on substrate utilisation, gastric emptying rate, and appetite.

Victoria J McIver, Lewis Mattlin, Gethin H Evans, Adora MW Yau
Manchester Metropolitan University, Manchester, United Kingdom

Fasted exercise has become increasingly popular in weight management practices. However, little is known about its physiological effects. The aim of the current study was to investigate the effect of brisk walking in the fasted state on gastric emptying rate, substrate utilisation and appetite. Twelve healthy males completed two 45-minute treadmill walks, either fasted (FAST) or following consumption of a standardised breakfast (FED), in a randomized counterbalanced fashion. Gastric emptying (GE) rate of a standardised semi-solid lunch was subsequently measured for two hours. Blood samples were collected at baseline, post-breakfast period, pre-exercise, post-exercise, pre-lunch then every 30 minutes following lunch for two hours to measure circulating triglycerides, non-esterified fatty acids (NEFA), glucose and cholesterol. Appetite was assessed at 15 minute intervals throughout. Substrate utilisation was measured every 30 minutes, and continuously throughout exercise. Hunger was lower from post breakfast in FED compared to FAST until post-exercise (all P < 0.05). Carbohydrate oxidation was lower in FAST compared to FED during exercise at 30-minutes (0.8 ± 0.3 vs 1.1 ± 0.3 g/min; P = 0.023) and 45-minutes (0.6 ± 0.2 vs 1.0 ± 0.2 g/min; P = 0.015). No differences were seen between trials for fat oxidation and GE rate. Incremental area under the curve (AUC) for triglycerides was lower for FAST compared to FED (-17.20 ± 36.18 vs. 9.79 ± 24.88 mmol/L; P = 0.027). No differences in IAUC were seen for glucose, cholesterol or NEFA. In conclusion, fasted walking resulted in overall lower triglyceride levels, and changes in substrate utilisation during exercise. Further studies on the implication of fasted exercise and its role in weight management are required.
Insights from an App Market Review for the Development of Weight Loss Apps

Kerstin Frie, Jamie Hartmann-Boyce, Susan Jebb, Charlotte Albury, Rebecca Nourse, Paul Aveyard
University of Oxford, Oxford, United Kingdom

**Background:** Recently, researchers have started to deliver weight loss interventions in the form of apps. Development of these digital resources is costly and user retention is challenging. In this context, we conducted a review of Google Play Store applications in order to assess their features, popularity, and reviews.

**Methods:** The Google Play Store was searched and screened for weight loss apps using the search terms “weight loss” and “weight track*”, resulting in 179 apps. A feature analysis was conducted based on the OxFab taxonomy (Hartmann-Boyce, Aveyard, Koshiaris, & Jebb, 2016). For a subset of 15 popular weight tracking apps user reviews were sampled from the Google Play Store. Reviews were qualitatively analysed according to evaluation of features and emerging themes.

**Results:** The complexity (number of features) of weight loss apps was significantly positively correlated with popularity indicators. In the qualitative analysis of weight tracking apps, we found that positive reinforcement through detailed feedback fostered users' motivation for further weight loss. Smooth functioning and reliable data storage increased switching costs and hence emerged as critical prerequisites for long-term app usage. Further emerging themes were preference for simplicity and ease of use.

**Conclusion:** Users of weight tracking apps valued simplicity whereas users of comprehensive weight loss apps appreciated availability of more features, indicating that complexity demands are specific to different target populations. Further attention must be paid to immaculate functioning and reliable data storage. Considering the costly development process, our results provide guidance to researchers who contemplate creating weight loss apps.

The role of economics with informing childhood obesity policy

Emma Frew
University of Birmingham, Birmingham, Birmingham City Council, Birmingham

Economics is about the behaviour of the economy (macroeconomics), and the behaviour of individuals (microeconomics) and the pursuit of efficiency, particularly in the world of scarce resources. In 2013, public health responsibilities in England shifted from the National Health Service (NHS) to local government and since that time, decision makers have been faced with unprecedented financial pressure on public services and have had to make difficult resource allocation decisions.

This presentation will outline how economics is being used to shape the childhood obesity strategy for the City of Birmingham, UK. It will begin with outlining the ‘distribution of responsibility’ for childhood obesity and how that in turn has informed policy. It will then describe how Birmingham City Council are taking leadership with implementing programmes to promote intake of healthy foods, physical activity and healthy school environments, working within a context of extreme financial pressure.

Using empirical examples, the presentation will describe the innovative methods that are being used to develop community interventions that are sustainable; it will describe the ‘Run a Mile’ Randomised Control Trial – referred to as the flagship study for the Run a Mile Foundation. It will highlight how the Council is working with local businesses to become the next ‘Veg City’ recognised by the Food Foundation. It will also discuss the political need to align childhood obesity priorities with other public policy priorities to ensure engagement with all key stakeholders, and how together that ensures it operates as a Smarter City.
The association between maternal pre-pregnancy body mass index and offspring weight status: a systematic review and meta-analysis

Nicola Heslehurst, Rute Vieira, Zainab Akhter, Hayley Johnson, Emma Slack, Lem Ngongalah, Augustina Pemu, Judith Rankin
Newcastle University, Newcastle upon Tyne

Background: Early prevention strategies are essential to halt the rise in childhood obesity. In the UK, almost a quarter of reception-age (4-5 years) children are overweight or obese. Supporting women to achieve healthy pre-pregnancy weight may be a strategy for childhood obesity prevention. This systematic review investigates associations between maternal BMI and offspring weight.

Methods: Five literature databases, reference lists and citations were searched. Authors were contacted when required. Observational studies published in English Language were included. When data pooling was possible, random effects meta-analyses were carried out. Meta-regression explored a-priori factors which may influence heterogeneity. Egger’s test explored publication bias.

Results: Seventy-seven studies met the inclusion criteria (n=45 unique cohorts). Data from 57 studies were included following removal of duplicate cohort data (n=336,555 children). Categorical data from six studies were pooled for children aged 3-5 years. Maternal overweight (OR 1.65 95% CI 1.48-1.84) and obesity (OR 2.67 95% CI 2.15-3.32) were associated with offspring obesity (BMI>95th percentile). Odds were reduced for maternal underweight (OR 0.60 95%CI 0.46-0.77). Study quality, publication year and adjustment for breastfeeding contributed to heterogeneity in this age group. There was no evidence of publication bias. Assessment of suitability to pool data is ongoing for additional offspring ages, and for continuous data to estimate dose-response associations.

Conclusion: Maternal pre-pregnancy BMI is significantly associated with offspring preschool age weight status. Maternal weight is a modifiable risk factor for childhood obesity. Pre-conception interventions to support women of childbearing age to reduce their BMI would provide an opportunity for very early childhood obesity prevention strategies.

Strong genetic influence on children's vegetable intake can be overridden through an environmental exposure intervention

Alison Fildes1,2, Moitz Herle2, Clare Llewellyn2
1University of Leeds, Leeds, United Kingdom, 2University College London, London, United Kingdom

Objective: Liking of vegetables is under strong genetic influence in children (heritability ~50%). This raises the question as to whether it is possible to reduce genetic expression on vegetable intake via environmental means. More broadly, most behaviours targeted through interventions are highly heritable, but no studies have examined if genetic influence on behaviour can be overridden through environmental intervention. We used a twin design to assess change in genetic influence on children’s vegetable intake following an exposure intervention.

Methods: 220 twin pairs (aged 3-4 years) from the Gemini cohort, who had a troubling level of vegetable refusal, were randomised to either a parent-delivered exposure intervention (n=98 pairs) or a no-treatment control condition (n=122), stratified by family. Vegetable intake was parent-reported at baseline and follow-up. Change in genetic influence on intake from baseline to follow up was examined for each group using a longitudinal quantitative genetic model.

Results: The intervention was successful, indicated by a significantly larger increase in intake from baseline to follow-up in the intervention condition compared to controls. At baseline genetic influence on intake was high for both intervention and control groups (57%; 25%-73%). Following the intervention, genetic influence was lower for the intervention group (31%; 0%-60%) but remained high for the control group (86%; 68%-92%).

Conclusions: These findings demonstrate that strong genetic influence on vegetable intake can be successfully overridden by an established exposure intervention. Genes are not necessarily destiny when it comes to problematic behaviour.
“...You feel like you're just going to lick the screen”

Jyotsna Vohra1, Camille Aznar2, Andy MacGregor3, Gillian Rosenberg1, Lauren Porter4, Hayley Lepps2, Aude Bicquelet4, Douglas Eadie5, Jennifer McKell5, Anne Marie MacKintosh5, Lucie Hooper1

1Policy Research Centre for Prevention, Cancer Research UK, London, United Kingdom, 2NatCen Social Research, London, United Kingdom, 3ScotCen, Edinburgh, United Kingdom, 4NatCen Social Resea, London, United Kingdom, 5Institute for Social Marketing, University of Stirling, Stirling, United Kingdom

A wealth of evidence exists that highlights the impact that marketing and promotion can have on children and young peoples' behaviour including food preferences. It is vital for us to explore the impact that marketing of HFSS foods can have and highlight interventions that would combat the nation's obesity epidemic.

We have conducted 3 research studies exploring the exposure and impact of food marketing on children and young people of 8-11 years (qualitative) and 11-19 years (qualitative and quantitative). They have explored the impact of exposing children to marketing and food promotion activities.

The qualitative work clearly highlights that marketing in particular television adverts do influence behaviours with younger children admitting to “pestering” their parents to buy the HFSS food and older children agreeing that it increases their interest in the product and likelihood to purchase it.

“Well if it’s good enough for a celebrity to do it, it must be good” {Female 11-13}

“With the [take-away pizza] advert like they’re just so cool”

“When I see the advert....you feel like you’re just going to lick the screen.”{Year 4, boy}

Further quantitative data is currently being collected from 11-19 year old to show the format in which they are exposed to Marketing of HFSS foods.

With obese children likely to become obese adults we at Cancer research UK believe that targeting junk food marketing will help to reduce childhood obesity levels and the data presented here will show how evidence can work in supporting public health policy.

An Evaluation of an Emotional Eating Programme: A National Health Service Adult Weight Management Intervention

Stephen Thomas1, Enzo Di Battista1,2

1Aneurin Bevan University Health Board, Newport, Gwent, United Kingdom, 2University of South Wales, Pontypridd, United Kingdom

A significant number of adults with obesity suffer from depressive and/or anxiety disorders that exacerbate their condition via emotional eating behaviours (SIGN, 2010). The National Institute for Health and Clinical Excellence (NICE) recommend behavioural interventions apply cognitive restructuring (modifying thoughts), problem solving, social support and assertiveness training to improve psychometric and anthropometric outcomes for people with emotional eating behaviours and obesity (NICE CG189, 2014). Therefore, a psychological group intervention ‘Emotional Eating Programme’ (EEP) was designed and implemented in Aneurin Bevan UHB to improve the emotional wellbeing of patients with obesity and potentially support longer term weight loss outcomes. The aim of this study was to evaluate the EEP.

The programme was theory informed consisting of six 90 minute sessions, delivered weekly and facilitated by a senior counsellor. In order to evaluate the programme’s impact on emotional wellbeing, CORE and Rosenberg Self Esteem Questionnaires were completed pre and post EEP. The 34 items of the CORE questionnaire measure 4 dimensions: Subjective well-being; Problems/symptoms; Life functioning; Risk/harm.

Twenty-six programmes run from July 2015 to February 2017 with 143 participants starting and 105 completing (retention = 66.8%). Participants (n = 99) completed ‘CORE’ questionnaires, of which, 90.4% of patients reported an improvement in overall wellbeing following attendance of the EEP and ‘Resenberg’ data (n = 98) suggests 88.9% of patients increased their self esteem on completing the EEP.

Our data suggests implementing group programmes for people with obesity to target emotional eating behaviour is feasible and patients experience improvements in wellbeing and self esteem. Longer term analyses will suggest whether these emotional changes translate in to weight loss maintenance.
Effects of replacing diet beverages with water on weight loss and weight maintenance: 18 month follow up, randomized clinical trial

Ameneh Madjd, Moira A. Taylor, Ian A. Macdonald, Hamid R Farshchi
School of Life Sciences, Queen’s Medical Centre, University of Nottingham

Beneficial effects of replacing diet beverages (DBs) with water on weight loss, during a 24-wk hypoenergetic diet has been indicated. However, sustaining the long term effectiveness of this strategy is unknown.

We evaluated the effects of replacing DBs with water on body weight in participants enrolled in an 18 month weight loss plan.

We randomly assigned 89 obese and overweight adult women (BMI: 27–40 kg/m²; age: 18–50 y) who usually consumed DBs in their diet to either substitute water for DBs or continue drinking DBs 5 times/week after their lunch for 18 month of follow-up, consisting of 24 weeks weight loss and 53 weeks weight maintenance program.

56 participants, 29 in the DB group and 27 in the water group, completed the whole 77 week study. Weight change (mean ± SD) at 18 months in the water group was -10.2± 3.8 kg compared with -7.8±3.4 kg in the DBs group (P=0.005). BMI in participants receiving water decreased -3.9 ± 1.3 vs. -3±1.3 kg/m² (mean ± SD) in the DBs group (P=0.005). There was also a greater reduction in fasting insulin levels (-3.5±1.8 vs. -1.7 ±2.1 mmol/l, <0.001), better improvement in homeostasis model assessment of insulin resistance (HOMA-IR) (-1.2±0.6 vs -0.8±0.6, <0.001), a greater decrease in 2-h postprandial plasma glucose (- 1.4±0.5 vs - 0.8 ±0.3 mmol/l, p<0.001) and glycated hemoglobin (-0.7±0.3 vs -0.5 ±0.3 %, P=0.030) in the water group compared with the DBs over 18 months.

Replacement of DBs with water after the main meal in women who were regular users of DBs may cause greater weight reduction during an 18 month weight management program. It may also offer benefits in carbohydrate metabolism including improvement of insulin resistance over this period.

Feasibility study of a culturally adapted child weight management programme: Lessons learned and considerations for a future trial

Miranda Pallan, Kyia Hurley, Tania Griffin, Emma Lancashire, Peymane Adab
University of Birmingham, Birmingham, United Kingdom

Background: Despite a plethora of community-based child weight management programmes in the UK, none have been adapted for ethnically diverse communities. In the Child Weight Management for Ethnically diverse communities (CHANGE) study, we culturally adapted a weight management programme for children aged 4-11 years.

Objectives: We evaluated acceptability and feasibility of programme delivery, and feasibility of trial methods.

Methods: We undertook a feasibility cluster-RCT in Birmingham, UK. Twenty-four programmes were randomised to be delivered as “culturally adapted” (intervention) or “standard” (comparator) with a 2:1 ratio. Programme completion was assessed. Ninety-two families participated in home visits to collect outcome data at three time-points, and 24 parents and children who attended the adapted programme participated in interviews.

Results: The programme was delivered successfully with some minor refinements. Programme completion was higher in the intervention arm (OR 2.40; 95% CI 1.32, 4.34). Parents and children enjoyed the programme, and particularly valued the physical activity, interactive and social elements. Outcome measures were feasible, although home visits were resource intensive and participant burden was high. Study attrition was high at 6 month follow up, with 35% lost to follow up and differential attrition across the two study arms (29% and 52% in the intervention and comparator arms, respectively).

Conclusions: Given the high acceptability and feasibility of the adapted programme, evaluation of its clinical and cost-effectiveness is warranted in a future trial. However, design of the trial would need to address participant burden and account for attrition.
Parent feeding practices, child energy intake from free sugar, and weight status: Cross-sectional and longitudinal associations from the West Midlands ActiVe lifestyles and healthy Eating in School children (WAVES) study

Kiya Hurley, Miranda Pallan, Emaa Lancashire, Tania Griffin, Peymane Adab
University of Birmingham, Birmingham, United Kingdom

Background: Parental feeding practices influence children’s dietary preferences and practices throughout their life. Diets high in free sugars are associated with weight gain and tooth decay in children. Children’s free sugar intakes are far in excess of UK recommendations and prevalence of childhood obesity is high.

Methods: The relationship between a range of parent feeding practices, proportion of energy intake from free sugar and weight status was investigated in an ethnically diverse sample of children. This study included 833 parent/child dyads taking part in the WAVES study. Children’s dietary intake was assessed at three time points (T0=baseline (5-6 years), T1=first follow-up (7-8 years), and T2=second follow-up (8-9 years)) using CADET. Parents completed the following subscales of the Comprehensive Feeding Practices Questionnaire at T1: child control, emotion regulation, environment, food as a reward, modelling, monitoring, pressure to eat, and restriction for weight control. Multivariate mixed-effect linear and logistic regression models were developed.

Results: At T1, ‘environment’ (availability of healthy food in the home) was associated with lower proportion of free sugar (B=1.2% (99%CI: -1.9, -0.41)). This was maintained at T2 (B=0.9% (99%CI: -1.64, -0.20)) where there was also a lower risk of overweight/obesity (OR=0.59 (99%CI: 0.36, 0.97)). Additionally at T2, ‘food as a reward’ was associated with increased proportion of free sugar (B=0.6% (99%CI: 0.02, 1.05)), and ‘emotion regulation’ was associated with a higher likelihood of overweight/obesity (OR=1.69 (99%CI: 1.00, 2.86)).

Discussion: Interventions to modify parent feeding practices could reduce free sugar intakes and reduce the risk of childhood obesity.

Reduced functional mobility, cardio-respiratory and strength responses in patients awaiting metabolic surgery

Max Eckstein1,2,3, Jimmy Lawrence1, Christoph Otto1,4, Peggy Kotsch1, Janin Messerschmidt1,5, Frank Marusch6, Richard Bracken2,3, Othmar Moser1,2,3
1University Outpatient Clinic, Center of Sports Medicine & Sports Orthopedics, University of Potsdam, Potsdam, Germany, 2Diabetes Research Group, Swansea University, Medical School, Swansea, United Kingdom, 3Applied Sport, Technology, Exercise and Medicine Research Centre (A-STEM), College of Engineering, Swansea University, Swansea, United Kingdom, 4Fritz Stephan GmbH, Gackenbach, Germany, 5Department of Medicine II, Department of Hematology, University Hospital Wuerzburg, Wuerzburg, Germany, 6Department of General- and Bariatric Surgery, Ernst von Bergmann Hospital, Potsdam, Germany

Introduction: Physical exercise is recommended in patients with obesity awaiting metabolic surgery to optimise postoperative recovery. However, it is unclear if current exercise interventions are target-oriented in improving postoperative recovery as current recommendations mainly focus on endurance training. In this pilot study, we determined baseline responses in sensorimotor control, general mobility, cardio-respiratory fitness and strength capacity in obese and non-obese controls.

Methods: Twenty individuals (ten obese: age 44.6±12.1 years, BMI 43.4±4.9 kg.m⁻² and ten sex- and age- matched non-obese controls age: 45.1±12.6 years, BMI: 22.9±2.5 kg.m⁻²) performed a timed ‘up-and-go’ test, a ‘star-excursion balance’ test, a maximum strength test and a cardio-pulmonary exercise test. Myocardium volumes were determined by ultrasound. Data were compared via unpaired t-test (p<0.05).

Results:

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<th>Variable</th>
<th>Obese</th>
<th>Non-Obese</th>
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<tr>
<td>Timed up-and-go (s)</td>
<td>9.3±1.2</td>
<td>7.8±1.7*</td>
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<td>Star-excursion balance (cm.cm⁻¹ Ht)</td>
<td>0.37±0.03</td>
<td>0.47±0.02*</td>
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<tr>
<td>End systolic volume (ml)</td>
<td>49±18</td>
<td>28±10*</td>
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<td>End diastolic volume (ml)</td>
<td>134±34</td>
<td>99±23*</td>
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<tr>
<td>VO₂peak (ml.kg⁻¹.min⁻¹)</td>
<td>18±06</td>
<td>37±11*</td>
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<tr>
<td>VO₂peak (ml.kg⁻¹ FFM.min⁻¹)</td>
<td>28±08</td>
<td>45±12*</td>
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<tr>
<td>Peak power during CPX (W.kg⁻¹)</td>
<td>1.15±0.7</td>
<td>2.86±0.8*</td>
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<tr>
<td>Peak power during CPX (W.kg⁻¹ FFM)</td>
<td>1.52±0.66</td>
<td>3.53±2.52*</td>
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<tr>
<td>VO₂ at anaerobic threshold (%VO₂peak)</td>
<td>58.5±10</td>
<td>69.2±88*</td>
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<tr>
<td>Heart rate at lactate turn point 2 (%HRmax)</td>
<td>91±01</td>
<td>85±08</td>
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<tr>
<td>Power at lactate turn point 2 (W.kg⁻¹)</td>
<td>0.81±0.32</td>
<td>2.01±0.58*</td>
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<tr>
<td>Maximum strength (kg.kg⁻¹ Wt)</td>
<td>0.49±0.45</td>
<td>0.81±0.88*</td>
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Table 1. Physical and physiological responses to exercise and functional testing. * indicate significant difference between groups (P<0.05).

Conclusion: Patients with severe obesity displayed reduced mobility, cardio-respiratory and musculoskeletal strength responses. Consequently, (p)rehabilitation should start with implementation of preoperative holistic exercise therapy to support postoperative recovery.
Training response inhibition to food in a simple computer game reduces energy intake and facilitates weight loss.

Natalia Lawrence¹, Mahmood Javaid¹, Samantha Van Beurden¹, Colin Greaves¹, Christopher Chambers², Frederick Verbruggen¹

¹University of Exeter, Exeter, United Kingdom, ²Cardiff University, Cardiff, United Kingdom

Over-eating is a key contributor to obesity. Computerised food response inhibition training, which requires people to repeatedly inhibit motor responses (keyboard presses) to food pictures, reduces food intake, decreases food liking and facilitates weight loss. Furthermore this low-cost digital intervention is easy to complete and highly acceptable. Here we conducted an open pragmatic study of food response inhibition training delivered online or via smartphone to the public to further examine its acceptability and effectiveness in reducing food intake and weight. We also conducted a thematic analysis of comments.

Online data collection took place over 6 months following media dissemination of our successful pilot trial. Participants were asked to complete an (optional) pre-training survey followed by four daily 10-minute training sessions, consisting of a go/no-go task in which energy-dense foods were always paired with a no-go signal. They were sent a post-training survey 4-6 weeks later. The pre- and post-training surveys measured self-reported weight and frequency of intake of energy-dense snack foods over the previous month.

Of the 18,725 participants who tried the training, 7763 provided pre-training measures and 933 also provided post-training measures. Paired t-tests suggested significant (p<.001) pre- to post- weight loss (M = -0.91 kg, SD = 2.56; Cohen’s dz=0.35) and reduced snacking frequency (M = -19.78%, SD 28.8; Cohen’s dz=0.68). Most participants reported that the training did or may have helped them to reduce their intake (74%) and that they would or might recommend the intervention to a friend (82%). These promising findings support our pilot trial and await validation in large-scale randomised controlled trials with objective measures.

The effects of ethnicity and gender on weight in a multicomponent weight management programme

Sarrah Peerbux, Charlotte Smith, Daisy Thompson-Lake, Hayden McRobbie, Peter Hajek
Wolfson Institute of Preventive Medicine, Queen Mary University of London, London, United Kingdom

Background: Obesity rates in the UK are higher in ethnic minority groups (EMG), who are also less likely to participate in weight management programmes (WMP). There is some evidence to suggest that participants from EMG achieve poorer outcomes in such programmes. Another group with low participation in WMP are men. We examined the effects of gender and ethnicity on weight loss in participants attending a task-based, multicomponent programme structured to cater for clients from disadvantaged communities (Weight Action Programme; WAP).

Methods: 221 adults were recruited from general practices in two diverse Boroughs in London; 49% were from EMG and 27% were men. WAP combines dietary- and physical activity advice and self-monitoring in a group-oriented intervention that commits participants to implement concrete behaviour tasks for at least a week. Participants attend 8 weekly sessions followed by 10 optional monthly maintenance sessions. Weight was measured at baseline, 8 weeks (end of treatment; EOT), and at 6 and 12 months. Outcomes were calculated using a Baseline Observation Carried Forward (BOCF) analysis.

Results: A significant change in weight from baseline was recorded at all time points (-2kg at EOT, -3.2kg at 6 and -2.8kg at 12 months, all p’s <0.05). A 2 (white vs. EMG) x 2 (male vs. female) ANOVA revealed no significant main effects for gender or ethnicity at any time point (all p’s>.09). There were no significant interactions.

Conclusions: A task-based WMP designed for use in disadvantaged communities produced weight loss independent of participants’ ethnicity or gender.
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01 Poster: Influence of Fed vs. Overnight-Fasted State Exercise on Substrate Utilisation during Exercise in Overweight or Obese Women.

Nurul-Fadhilah Abdullah1,2, Gareth A Wallis1

1School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, Birmingham, United Kingdom, 2Department of Health Science, Faculty of Sport Science and Coaching, Universiti Pendidikan Sultan Idris, Perak, Malaysia

Increasing fat oxidation during exercise may help improve insulin sensitivity and reduce body fat. Exercise performed in overnight-fasted state results in higher fat oxidation than exercise in the fed state in lean and obese men, but has not been studied in obese women. The purpose of this study was to determine how meal timing around exercise impacts exercise fat oxidation, ratings of appetite and subsequent energy intake at an ad libitum lunch in obese women. Using a randomized, crossover design, eight obese (30.9 ± 3.8 kg/m²) but otherwise healthy young (28.3 ± 7.0 years) women performed 1-h of constant load bicycle exercise (65% VO2max) followed by 3-h of controlled recovery. On one occasion, exercise was performed after an overnight-fast (Fasted) and a standardised breakfast (25% daily energy intake; 65% carbohydrate, 20% fat & 15% protein) was consumed immediately after exercise, and on the other they consumed 90 minutes before exercise (Fed). During exercise, fat oxidation (0.29 ± 0.06 vs. 0.18 ± 0.07 g/min respectively, P<0.01) and concentration of plasma glycerol (P<0.001) and non-esterified fatty acids (P<0.01) were significantly higher in Fasted vs. Fed trial. Self-rated (Visual Analogue Scales) hunger (P<0.001) and prospective food consumption (P<0.01) were significantly higher in Fed vs. Fasted before lunch time and total energy intake at the ad libitum lunch was significantly higher in Fed vs. Fasted (864 ± 211 vs. 734 ± 171 kcal respectively, P<0.05). This study shows that in obese women, an acute bout of aerobic exercise performed in the overnight-fasted state augments exercise fat oxidation and suppresses appetite and energy intake in the short-term post-exercise period as compared to exercise performed in the fed state.

02 Poster: Investigating the association between pregnancy following bariatric surgery and adverse perinatal outcomes: A systematic review and meta-analysis.

Zainab Akhter1, Judith Rankin1, Rute Veira1, Roland Devlieger2, Roger Ackroyd3, Nicola Heslehurst1

1Newcastle University, Newcastle upon Tyne, United Kingdom, 2UZ Leuven, Leuven, Belgium, 3Northern General Hospital, Sheffield, United Kingdom

Maternal obesity is associated with adverse outcomes for the mother and baby. Bariatric surgery prior to pregnancy reduces the risk of health complications for the mother but there is limited evidence of the impact of bariatric surgery on perinatal outcomes. Bariatric surgery can cause nutritional deficiencies such as folate deficiency which increases the risk of certain congenital anomalies and subsequently perinatal mortality. This systematic review will investigate the association between pregnancy after bariatric surgery and adverse perinatal outcomes.

Six literature databases (MEDLINE, EMBASE, CINAHL, PsycINFO, Scopus and Google Scholar) and relevant journals were searched. Reference lists and citations of relevant studies and systematic reviews will be searched and authors will be contacted when required. Observational studies comparing post-bariatric surgery pregnancies to BMI-matched controls or pregnant women with obesity will be included. The primary outcomes are congenital anomalies and perinatal mortality (death between 24 weeks gestation and 7 days after birth). Secondary outcomes include additional adverse perinatal outcomes such as preterm birth (birth <37 weeks gestation), miscarriage (fetal loss <24 completed weeks gestation) and small-for-gestational-age. Meta-analyses will be carried out if data pooling is appropriate to calculate a pooled odds ratio. Heterogeneity will be assessed using the I-squared test statistic. If data cannot be pooled, the results will be summarised narratively (PROSPERO CRD42017051537).

Final searches identified 3,298 results for screening after deduplication. Full results will be presented. The results from this systematic review will inform the epidemiological analyses of UK and European datasets investigating adverse perinatal outcomes after bariatric surgery.
03 Poster: Supporting members with a learning disability within Slimming World groups.

Sarah Bennett, Laura Holloway, Carolyn Pallister, Jacquie Lavin
Slimming World, Alfreton, United Kingdom

Introduction: People with learning disabilities are often less able to access and respond to public health interventions. Slimming World (SW) aims to provide weight management support accessible to everyone and has been involved in research investigating ways to further develop support for people with a learning disability. Part of this included a survey of group leaders (Consultants) to investigate their experiences of supporting their members.

Methods: SW hosted a qualitative questionnaire online for two weeks, exclusively aimed at Consultants who’ve had a member with a learning disability. The questionnaire asked about experiences including: challenges encountered, the role of a carer and need for Easy-Read resources.

Results: Of the 379 respondents, 97.6% had a member attend with a learning disability and almost half of those (49%) had a member attend with a carer.

Reported challenges included the inability of some members to read or write, which impacted on their comprehension of the SW plan and completion of food diaries.

Consultants also found difficulty in getting carers to engage and support their member as they often seemed ‘disinterested or inconvenienced’.

Consultants often used larger A4 size and audio versions of existing SW resources to support members but indicated a need for more tailored visual and Easy-Read resources.

Conclusion: SW are using the findings to develop Easy-Read resources for members with a learning disability, as well as written information to help support and reassure Consultants, alongside information for carers. These will be piloted to assess their acceptability before being rolled out nationally.

04 Poster: A multi-level Optimisation Intervention to optimise parent engagement with an obesity prevention programme; HENRY (Health, Exercise and Nutrition for the Really Young).

Wendy Burton¹, Maureen Twiddy¹, Pinki Sahota², Julia Brown¹, Maria Bryant¹
¹University of Leeds, Leeds, United Kingdom, ²Leeds Beckett University, Leeds, United Kingdom

Introduction: Implementing obesity prevention programmes is complex; influenced by the delivery and receipt of intervention components, and successfully engaging with participants. HENRY is an obesity prevention programme delivered in children’s centres in the UK. Evaluations show that it is highly acceptable, but some centres struggle to attract and retain participants. We developed an intervention to support children’s centres to optimise participant engagement. We describe details of the multi-level approach taken, including methods that may be generalizable to promoting participant engagement in other programmes.

Methods: The Optimisation Intervention was developed utilising the findings of an ethnography study, input from stakeholders and the literature on promoting participant engagement. The behaviour change wheel (Michie et al. 2011) was used as a development framework by guiding the behaviours and behavioural components to target, and intervention functions and behaviour change techniques to adopt utilising APEASE criteria (affordability, practicability, effectiveness, acceptability, side effects and equality).

Results: The Optimisation Intervention takes a multi-level approach, proposing that participant engagement is dependent on interacting processes and behaviours across the children’s centre hierarchy. Levels of the intervention include strategies aimed at commissioners to influence decision making around the resources invested into programme implementation. The attitudes and perceptions of parents are also targeted by utilising peers that have already attended the programme to increase motivation of to engage.

Conclusion: The effectiveness of the intervention is currently being evaluated. The outcome of this work will further knowledge on which interventions may or may not work to optimise engagement with public health programmes.
05 Poster: Maternal concerns, perceptions and accuracy to perceive their young child's weight: Analysis of the born in Bradford cohort study.

Marena Ceballos Rasgado¹, Kate Pickett¹, Rosie McEachan²
¹University of York, York, United Kingdom, ²Bradford Institute for Health Research, Bradford, United Kingdom

**Background:**
- Maternal perception of their child’s weight and concerns about it may influence feeding behaviours, which are known to affect child body weight.
- Studies have found that parents are likely to misperceive their child’s weight, especially at young ages.

**Research Aim:**
- Describe maternal perception and accuracy of child’s weight, and mothers’ concerns about their child becoming underweight or overweight at 6 and 24 months postpartum in the BiB1000 subsample of the multi-ethnic cohort study Born in Bradford.
- Determine predictors of accuracy and concerns at both time periods.

**Methods:** Descriptive statistics for maternal perceptions and accuracy regarding their child’s weight. Predictors of mothers’ concerns and accuracy were identified with generalized linear models for categorical variables.

**Results:** The sample of 670 White British and 846 Pakistani mother-child dyads showed that 46% of the women underestimated their and young child’s weight at 24 months. Women were concerned about their child becoming underweight (84%), whereas a smaller proportion was concerned about overweight (17.72%). Significant predictors of maternal misperception included child’s weight status and maternal ethnicity. Perception of child’s weight as high was predictor of maternal concerns about their child becoming overweight (OR 3.07 95% CI: 1.5 , 6.3) but not child’s weight status.

**Conclusion:** There is substantial misperception of child’s weight among women with underweight and overweight children, which is not aligned with their levels of concern about their child’s weight. Identification of the relation of mother’s perceptions and concerns to maternal feeding behaviours of the BiB1000 sub-sample is required to help bridge current gaps needed for obesity prevention.

06 Poster: Women's perceptions and concerns about their child's weight and their association with their feeding practices: Analysis of the born in Bradford cohort study.

Marena Ceballos Rasgado¹, Kate Pickett¹, Rosie McEachan²
¹University of York, York, United Kingdom, ²Bradford Institute for Health Research, Bradford, United Kingdom

**Background:**
- A preliminary study in Bradford showed that parents were likely to underestimate their young child’s weight.
- Maternal perception and concerns about their child’s weight may influence women’s engagement with health behaviours and their feeding practices.

**Research aim:**
- Describe mother’s perceptions, concerns and feeding practices of the BiB1000 subsample of the Born in Bradford cohort study.
- Examine associations between women’s perceptions and concerns about their child’s weight with their feeding practices.

**Methods:** Cross-sectional analysis at 24 months postpartum within the BiB1000 subsample of the multi-ethnic cohort study Born in Bradford. Descriptive statistics are presented for maternal feeding practices, perceptions, concerns and accuracy regarding their child’s weight. Predictors of mothers’ concerns and accuracy, and the relation between feeding practices with perceptions and concerns were modelled with multinomial and logistic regression as appropriate.

**Results:** A sample of 670 White British and 846 Pakistani mother-child dyads showed that around 80% of the women perceived their child’s weight as just right. Mothers who perceived their child’s weight as low were less likely to have an indulgent feeding style (RRR 0.42 95%CI: 0.26, 0.71) than an authoritative. No associations between feeding styles and concerns were found. Further research should explore the association between women’s perceptions and concerns and other feeding practices.
07 Poster: Relationship between FTO genotype, cognitive restraint and uncontrolled eating.

Hanan Abdella, Dawn Hadden, David Broom, Carol Dalton
Sheffield Hallam University, Sheffield, United Kingdom

Background: Eating behaviours such as cognitive restraint and uncontrolled eating have been associated with increased BMI; in addition genome-wide association studies have identified the FTO polymorphism rs9939509 as having the strongest genetic association with weight-related phenotype, with the AA and AT genotypes associated with increased BMI.

Aim: To investigate whether high scores for both cognitive restraint, and uncontrolled eating were associated with FTO genotype.

Design: 233 healthy volunteers (136F, 97M; BMI 24.3 ± 5.2 kg/m²) completed the shorter version of the three-factor eating questionnaire (TFEQ-R18) to measure cognitive restraint and uncontrolled eating. Based on the scores from the TFEQ-R18 questionnaire participants were classified into high, medium or low groups for cognitive restraint, and high, medium or low groups for uncontrolled eating. DNA was extracted and genotyping was carried out using Taqman assays for the FTO single nucleotide polymorphism rs9939509.

Results: 82 of the participants were classified in the high group for cognitive restraint and 90 were classified in the high group for uncontrolled eating. 48 participants were classified in the high group for both behaviours. Of these 85% (41) were either AA or AT genotype compared with 63% AA/AT in the groups with the remaining participants (n=185, p=0.005). There was no difference in the average BMI for the 2 groups (24.5 vs 24.9 kg/m²).

Conclusion: The risk A allele of the FTO rs9939509 polymorphism is associated with high levels for both cognitive restraint and uncontrolled eating, however participants with high scores for both eating behaviours did not have increased BMI.

08 Poster: The First Two Years: Looking at the relationship between children being overweight and family stress and trauma – the Healthy Weight Project, inner London. Using a family based and multi disciplinary approach leads to improvement in children’s physical and mental health and addresses systemic issues in service provision.

Claire Dempster
South London & Maudsley NHS Trust, London, United Kingdom, Guys & St Thomas NHS Trust, London, United Kingdom, Lambeth Council, London, United Kingdom

Studies show that children who are overweight are likely to suffer from psychological problems and have an increased risk of psychosocial and psychological problems that persist into adulthood. These issues are linked with environmental and other social factors e.g. a disproportionate number of children from black and minority ethnic groups who are obese. Addressing this remains a challenge. Whilst there is need for a multi disciplinary approach in working with families (BMJ 2013; 346: 8679) there is little evidence for what works (RCT of a ten week, family based programme reported no significant change. Robertson, W et Arch Dis Child 2017; 102:416-426).

The project employs a systemic family and multi disciplinary approach that addresses healthy eating, physical activity and psychosocial issues in a way we hope is acceptable to families. The work revealed a wide range of psychosocial factors acting as barriers to healthier lives, including child protection, parental mental and physical health issues, asylum seeking status, domestic violence, parental substance misuse, bereavement as well as children with additional diagnoses e.g. autism.

The project demonstrated good engagement with children from different backgrounds and with complex family lives. Where families worked with the project for 3 months or over, Z scores stabilised or improved; where longer, the percentage increased as did their mental health scores. The project also addressed wider issues of service provision e.g. signposting and raising concerns about child safety. It also revealed systemic issues in service provision e.g. children well known to different services whose care was not well co-ordinated.

09 Poster: The history of obesity and the ideas leading to her development of a family therapy focused multi-disciplinary and multi-agency service for children with obesity in inner London (Healthy Weight Projects).

Claire Dempster
South London & Maudsley NHS Trust, London, United Kingdom

Drawing on her experience and that of colleagues, Claire will consider how childhood obesity may be better understood as a phenomenon that is ‘written on the body’ of those who experience it e.g. in terms of historical processes such as migration and discrimination as well as for some, contemporary events such as domestic violence and parental mental health issues. She will also be discussing how wider discourses inform and construct ideas about the body e.g. ideas about the ‘right’ or ‘perfect body’ as well as historical ideas of ownership and fragmentation of the body (bodily parts). Claire will be arguing for how unless attended to, present forms of services unwittingly perpetuate these issues e.g. reinforcing individual experiences of blame and shame.

Using case examples and feedback from families to illustrate the above, Claire and her colleagues will demonstrate how taking the approach offered by the Healthy Weight Project, brings about different results i.e. an improvement in both the mental health and physical well-being of the children involved, offering a different communication about and through the body. Throughout, Claire and her colleagues will be demonstrating how systemic thinking and practice is required at all levels; understanding historical processes including that of services, our own histories of eating and feeding as well as those of the families we serve.
10 Poster: It’s like a bomb going off… (using the word ‘fat’).
Work with children who are overweight frequently focuses on physical health consequences. Elsewhere the stigma and shame of obesity persists. Less is said about the narratives that form the lives of young people for whom this is a daily experience.

Claire Dempster

‘I ate when it was all going off on with my mum’.. ‘I knew I shouldn’t cut because my friend did that.’

What young people and their families have to say has the most to teach us about obesity and related practice, in particular the emotional and psychosocial factors that form the ‘logic’ for this and crucially the strengths and resources that families bring to tackling these matters.

In this presentation, we will be looking at six case examples from practice in Healthy Weight Project (inner London). We will be looking at the psychosocial factors and health inequalities that led to struggles with weight in the first place as well as those that acted as scaffolding to its continuing. We will be arguing from this, for the importance of a whole system, family and community based approach that sees families as resourceful and reflects this in its practice. We will be examining in more detail, the likely systemic issues that exist in our social and professional histories that impede our working more effectively. We look forward to feedback and lively debate.

11 Poster: Socio-demographic characteristics of patients referred to a National Health Service Adult Weight Management Service in South Wales: A retrospective observational study.

Enzo Di Battista1,2, Doris Behrens3,1, Teresa Filipponi2
1Aneurin Bevan University Health Board, Newport, Gwent, United Kingdom, 2University of South Wales, Pontypridd, United Kingdom, 3Cardiff University, Cardiff, United Kingdom

Welsh obesity rates rank high among the rest of the United Kingdom [1] with up to 29% in Gwent areas of lower-socioeconomic status (LSES) [2]. In response Aneurin Bevan University Health Board (ABUHB) implemented an Adult Weight Management Service (AWMS).

The aims of this study were to analyse the socio-demographic characteristics of patients who took the first step on the AWMS pathway and to evaluate the patients’ intervention choice after the initial consultation.

AWMS patients (n = 2,557) resided in Gwent. Units of analysis were (i) Lower Super Output Area (LSOA) derived from the postcode of AWMS patients and (ii) Body Mass Index (BMI). For the 2,500 valid records LSOAs were related to the Welsh Index of Multiple Deprivation (WIMD) ranks [3]. To test for correlation with patient BMI, both the WIMD ranks and an aggregation into quintiles were used; performing a One-Way ANOVA for the latter.

Over 92% of patients (n = 2,312) identified themselves as White British with 726 (29%) males and 1774 (71%) females attending the AWMS. BMI and patient WIMD rank were not correlated (r=0.03; significant at the 10% level). The majority of patients opted for 1:1 dietetic support (n = 1314; 51.4%); average BMI 43kg/m².

Patients attending the AWMS may not have a low-socioeconomic background according to the WIMD rank. Additionally, the results indicate that males and patients from ethnic minorities were less likely to attend the AWMS. These findings support the notion of developing gender and ethnicity specific, equity-focused, weight management interventions.


Enzo Di Battista1,2, Andrew Yeoman1, Simon Williams2, Joyce Kenkre2
1Aneurin Bevan University Health Board, Newport, Gwent, United Kingdom, 2University of South Wales, Pontypridd, United Kingdom

Obesity is a significant risk factor for and contributor to numerous comorbidities particularly liver disease (WHO, 2011). People with obesity have a 3.5-fold increased risk of developing non-alcoholic fatty liver disease (NAFLD; Li et al., 2016). Weight loss in obesity and NAFLD reduces insulin resistance so the main priority is to engage patients in hypocaloric behavioural programmes targeting body weight (Hannah and Harrison, 2016).

The fasting method ‘time restricted eating’ (TRE) has recently been conceptualised and involves eating meals within an 8-10 hour timeframe each day thus extending night time fasting to 14-16 hours. TRE studies have not been reported for people with obesity but because of the potential effect on insulin resistance and weight loss TRE could reverse NAFLD.

The design is a mixed-methods 3-phase feasibility study: 1) Coproductive phase involving interviews and focus groups with patients to inform the pilot; 2) Pilot TRE intervention; 3) Mixed-method evaluation of TRE intervention including liver fibrosis score and homeostatic model assessment. To be included in the study, participants will have a BMI ≥ 30kg/m2, an ultrasound NAFLD diagnosis, and reside in a socially deprived area. The Welsh Index of Multiple Deprivation interactive tool will be used to screen for social deprivation.

This feasibility study will test the trial design and assess recruitment, retention, acceptability and adherence, as well as providing preliminary efficacy data. This study will inform the design of future controlled trials, which will be carried out to determine the effectiveness of TRE in reducing body weight and reversing NAFLD in obesity.
13 Poster: Don’t blame the obese adolescents: Individuals homozygous for the risk alleles of the FTO gene SNPs cannot be thin.

Saeid Doaei¹, Maryam Gholamalizadeh²
¹Students’ Research Committee, National Nutrition and Food Technology Research Institute, Faculty of Nutrition Sciences and Food Technology, Shahid Beheshti University of Medical Sciences, Tehran, Iran. ²Cancer Research Center (CRC), Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Background: Single-nucleotide polymorphisms (SNPs) located in the first intron of the FTO gene are reported to be associated with the anthropometric indices such as body mass index and body fat mass. The objective of the study was to investigate the association of FTO polymorphisms with anthropometric indices in the Iranian adolescent boys.

Methods: We genotyped 238 adolescent boys, aging from 12 to 16-years-old, recruited randomly from two schools in the central region of Tehran, Iran. The DNA samples were genotyped for the FTO gene polymorphisms by DNA Sequencing. Association of the FTO polymorphisms with Weight, height, BMI, body fat and body muscle percent were investigated.

Results: A haplotype of rs9930506, rs9930501 & rs9932754 (GGT) in the first intron of the FTO was found to be significantly associated with higher weight (odds ratio =1.32), BMI (odds ratio =5.36) and fat mass (odds ratio = 1.46) and lower muscle mass (odds ratio = 3.59) (P<0.05). None of the students homozygous for the G allele of rs9930506 were underweight and all of the students homozygous for the A allele had high muscle mass.

Conclusion: A haplotype in the first intron of the FTO gene had a strong association with obesity indices in Iranian adolescent boys. It can be concluded that the FTO gene polymorphisms might have more impressive effects on anthropometric indices than what was previously imagined.

Keywords: FTO, SNP, anthropometric indices, haplotype.

14 Poster: Indicators for success of obesity reduction programs in adolescents: body composition and Body Mass Index: Evaluating a school-based health promotion project in Iran after 12 weeks of intervention.

Saeid Doaei¹, Maryam Gholamalizadeh²
¹Students’ Research Committee, National Nutrition and Food Technology Research Institute, Faculty of Nutrition Sciences and Food Technology, Shahid Beheshti University of Medical Sciences, Tehran, Iran. ²Cancer Research Center (CRC), Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Background: Obesity in adolescence is a primary risk factor for obesity in adulthood. The objective of this study was the assessment of the effect of a comprehensive lifestyle intervention on different anthropometric indices in 12 to 16 years old boy adolescents.

Methods: 96 adolescent boys of two schools of district 5 of Tehran have participated in this study. The schools were randomly assigned as intervention school (n=53) and control school (n=43). The height and weight of students were measured with a calibrated tape line and digital scale respectively and their BMI were calculated. The amounts of body fat percent (BF) and body muscle (BM) percent were determined by Bio Impedance Analyzer (BIA) considering the age, gender and height of students at baseline and after intervention. The intervention was implemented in the intervention school, according to the Ottawa charter principles.

Results: 12 weeks of intervention decreased body fat percent in the intervention group in comparison with the control group (decreased by 1.81 % in the intervention group and increased by .39 % in the control group, P<.01). But weight, BMI and BM did not change significantly.

Conclusion: The result of this study showed that the implementation of comprehensive intervention in obese adolescents may improve the body composition, although these changes may not be reflected in BMI. It’s possible that BMI is not a good indicator in assessment of the success of obesity management intervention.

15 Poster: Macronutrients and the FTO gene expression in hypothalamus: A systematic review of experimental studies.

Saeid Doaei¹, Maryam Gholamalizadeh²
¹Students’ Research Committee, National Nutrition and Food Technology Research Institute, Faculty of Nutrition Sciences and Food Technology, Shahid Beheshti University of Medical Sciences, Tehran, Iran. ²Cancer Research Center (CRC), Shahid Beheshti University of Medical Sciences, Tehran, Iran.

The various studies have examined the relationship between FTO gene expression and macronutrients levels. In order to obtain better viewpoint from this interaction, all of existing studies were reviewed systematically. All published papers have been obtained and reviewed using standard and sensitive keywords from databases such as CINAHL, Embase, PubMed, PsycInfo, and the Cochrane, from 1990 to 2016. The results indicated that all of 6 studies that met the inclusion criteria (from a total of 428 published article) found FTO gene expression changes at short-term follow-ups. Four of six studies found an increased FTO gene expression after calorie restriction, while two of them indicated decreased FTO gene expression. The effect of protein, carbohydrate and fat were separately assessed and suggested by all of six studies. In Conclusion, the level of FTO gene expression in hypothalamus is related to macronutrients levels. Future research should evaluate the long-term impact of dietary interventions.
16 Poster: Does type of bariatric surgery affect pregnancy outcome? A UK regional centre experience.

Mary Gardner1, Beth Greenslade1, Elizabeth Paxton1, Claire Lovelock1, Melanie Robson1, Robert Andrews1,2, Isabelle Douek1
1Taunton & Somerset NHS Foundation Trust, Taunton, United Kingdom, 2University of Exeter, Exeter, United Kingdom

Most studies that have reported on pregnancy safety after bariatric surgery have not differentiated between types of surgery. One might expect to see a difference because Roux en Y Gastric Bypass (RYGB) and Sleeve Gastrectomy (SG) have a greater impact on micronutrient absorption compared to Laproscopic Adjustable Gastric Banding (LAGB). We compare outcomes of pregnancies post RYGB and SG (RYGB/SG) versus LAGB.

Methods: Notes of post bariatric surgery women who delivered between 01/01/12 and 01/01/17 were reviewed. Type of operation, weight gain during pregnancy and outcomes including delivery type, birthweight and neonatal intensive care admission (NICU) were obtained.

Results: Results are mean ± SD. Data were available on 17 LAGB and 25 RYGB/SG pregnancies (22 RYGB). Groups were similar for age at pregnancy (LAGB 31.5 ± 5 v RYGB/SG 32.5 ± 5yrs, p 0.31), weight gain (LAGB 12.4 ± 9.0 v RYGB/SG 10.8 ± 5.0 kg, p 0.4), delivery type, gestational age at delivery (39 ± 1 weeks both groups) and NICU admission (1 from each group).

Time from surgery to pregnancy was longer in the LAGB group (3.7 ± 2.6 v 2.2 ± 1.6yrs, p 0.05) and the LAGB group was heavier at booking (107 ± 18 v 87 ± 17kg, p 0.003). Babies in the LAGB group were heavier, (3.53 ± 0.43 v 3.19 ± 0.26kg, p 0.01). One baby was small for gestational age (LAGB) and 8 were large for gestational age (6 LAGB). 70% of LAGB and 33% of RYGB/SG babies were male, this however was not significant (p0.25).

Conclusion: There appears to be a difference in birthweight between LAGB and RYGB/SG babies and a possible surprising difference in gender ratio. This needs to be explored further.

17 Poster: Healthy Eating and Lifestyle in Pregnancy (HELP) trial, supporting mothers with obesity during pregnancy towards behaviour change and weight management: Follow on study of mothers and babies two years after birth.

Dunla Gallagher1, Rebecca Cannings-John1, Lucy Brookes-Howard1, Elinor Coulman1, Sharon Simpson2
1Centre for Trials Research, Cardiff, United Kingdom, 2Social and Public Health Sciences Unit, Glasgow, United Kingdom

Background: Excess weight gain during pregnancy can lead to long-term maternal obesity and is linked with child obesity. Healthy Eating and Lifestyle in Pregnancy (HELP) was a cluster randomised controlled trial of a complex intervention for weight management, delivered in pregnancy to mothers with obesity. This study aims to evaluate outcomes for the mother and baby at two years postbirth, to understand the long term impact of the intervention.

Methods: Mothers who took part in the HELP trial were invited to take part in this follow-up study. Primary outcomes were maternal and child BMI. Secondary outcomes related to health behaviours associated with obesity. The study also explored participants’ experiences of obesity, pregnancy, behaviour change and parenting.

Results: 241 mothers (and their babies) were followed up at two years postpartum. 18 mothers also took part in telephone interviews. Follow-up data are currently being analysed and results for all outcomes will be complete and presented at the conference. The qualitative results will evaluate primary and secondary outcomes for the mother and baby in the intervention and control groups. The qualitative results will present participants’ experiences and attitudes towards weight management for themselves and their child.

Conclusions: Exploring the long term value and reach of this behaviour change intervention for the mother and baby, and understanding experiences from the perspective of the participant is important. Furthermore, exploring child eating and physical activity at this age, and parental attitudes towards their child’s behaviours, is under-researched and interesting in terms of the trans-generational nature of obesity.

18 Poster: Assessing the Potential Shared Genetic Aetiology between Body Mass Index (BMI) and Sleep duration.

Victoria Garfield1, Ghazaleh Fatemifar1, Caroline Dale1, Yanchun Bao2, Melissa Smart2, Andrew Steptoe1, Clare Llewellyn1, Delilah Zabanah1, Meena Kumari2
1University College London, London, United Kingdom, 2University of Essex, Colchester, United Kingdom, 3King’s College London, London, United Kingdom

Observational studies find an association between body mass index (BMI) and self-reported sleep duration in adults such that a higher BMI is associated with shorter duration of sleep. However, the key question here is whether this relationship is causal, in either direction. Recently, findings from a Mendelian randomisation study in the UK Biobank suggest that a higher BMI does not in fact cause short sleep duration. Thus, it is likely that there are alternative biological pathways through which BMI and sleep duration are associated, but this has not been examined in depth, to date. To investigate this further we created several polygenic risk scores (PRSs) of BMI and examined their association with self-reported sleep duration in a combination of individual participant data (IPD) and summary-level data, with a total sample size of ~140,000. We find that, although a PRS of BMI is negatively associated with sleep duration, this explains a very small proportion of its variance. We will present detailed findings alongside a discussion of these, with reference to previous research and potential for future work.
19 Poster: Maternal self-efficacy and feeding practices in children aged 3-6 years.

Maryam Gholamalizadeh1, Saeid Doaei2
1Cancer Research Center (CRC), Shahid Beheshti University of Medical Sciences, Tehran, Iran, 2National Nutrition and Food Technology Research Institute, faculty of Nutrition Sciences and Food Technology, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Objective: Nutrition in childhood has an important role in current and adulthood health. Recent studies have shown that the mother’s lifestyle has an important role in the methods used by mother to feed child. This paper aimed to investigate the association between mother’s weight efficacy lifestyle with feeding practices in children aged 3-6 years.

Materials and Methods: In this cross-sectional study which was carried out in 30 primary schools of Rasht (Iran) in 2012, 165 mothers with children aged 3-6 years were participated. Mothers reported their own and their child’s demographics. Aspects of mother’s weight efficacy lifestyle and mother’s control practices were assessed using Weight Efficacy Lifestyle (WEL) questionnaire and Comprehensive Feeding Practices questionnaire (CFPQ) respectively. Height and weight of mothers participated in the study were measured. The role of mother’s weight efficacy in predicting child’s feeding practices was assessed using linear regression.

Results: results showed that mother’s weight efficacy was related to child feeding practices. The mothers with similar weight efficacy lifestyle applied similar methods in child nutrition. Mothers with better weight efficacy used more encourage balance and variety, environmental control, child involvement and less emotion regulation using foods.

Conclusion: The result of the study showed that maternal lifestyle was associated with child feeding practices.

20 Poster: The IRX3 gene; the missing link between the FTO gene and obesity.

Maryam Gholamalizadeh1, Saeid doaei2
1Cancer Research Center (CRC), Shahid Beheshti University of Medical Sciences, Tehran, Iran, 2National Nutrition and Food Technology Research Institute, faculty of Nutrition Sciences and Food Technology, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Aims: The aim of this study was investigation of the mediator role of the IRX3 gene in the relationship between the FTO gene and obesity.

Materials and Methods: All related articles published in English from June 1990 to February 2017 were studied.

Results: Only a Few studies have examined the association between the IRX3 gene with the FTO gene and obesity. However, all of them reported that the FTO gene can influence on the IRX3 gene expression. Also, it’s reported that the IRX3 gene expression level have a significant association with body weight and body composition.

Conclusions: The FTO gene effects on obesity is in part due to its impact on the IRX3 gene expression level. The further studies are needed to investigate this interaction and clarify the existing mechanisms.

Keywords: IRX3 gene, the FTO gene, Obesity.

21 Poster: FTO gene affects obesity and breast cancer through similar mechanisms: A new insight into the molecular therapeutic targets

Maryam Gholamalizadeh1, Saeid Doaei2
1Cancer Research Center (CRC), Shahid Beheshti University of Medical Sciences, Tehran, Iran 2National Nutrition and Food Technology Research Institute, faculty of Nutrition Sciences and Food Technology, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

The fat mass and obesity-related (FTO) gene is known to be associated with risk of obesity. Some recent studies have shown that the FTO polymorphisms are linked with breast cancer. This review focused on the possible mechanisms of the effects of the FTO on obesity and breast cancer. All articles published in English from June 1990 to January 2017 were studied. The search terms used were FTO gene, FTO polymorphism, breast cancer and obesity. Inclusion criteria consisted of assessment of the relationship between FTO polymorphisms and/or FTO expression level with obesity and/or breast cancer as a primary outcome. The risk of both obesity and breast cancer is affected by the FTO genotype. Some FTO polymorphisms exert their effects through effect on IRX3 gene expression level. On the other hand, the FTO gene expression level is closely related to mTOR signaling pathway activation and its ultimate effects on obesity and breast cancer. Obesity and breast cancer might have similar genetics origins. The FTO gene is a possible mediator between obesity and breast cancer. If this result is correct then, it will be interesting to examine the FTO gene as a molecular therapeutic target.

Keyword: Obesity, FTO polymorphism, breast cancer, FTO gene, IRX3 gene, mTOR.
22 Poster: The Relationship between TV Viewing and Food Intake and BMI in Preschool Children.

Maryam Gholamalizadeh¹, Saeid Doaei²
¹Cancer Research Center (CRC), Shahid Beheshti University of Medical Sciences, Tehran, Iran, ²National Nutrition and Food Technology Research Institute, faculty of Nutrition Sciences and Food Technology, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Background: Considerable attention is currently being paid to childhood nutrition. Mass media, particularly TV, is believed to largely contribute to eating habits and BMI. This study was carried out to identify the link between tendency towards TV viewing and its influence on children with food intake and BMI in pre-school kids.

Methodology: The survey was conducted using a cross-sectional and longitudinal design, in which 114 children aged 2-6 yrs from 11 selected nursery schools in Tehran were used. Regarding data collection related to TV viewing rate and influence rate of TV viewing from parents’ viewpoint, a questionnaire was used, which had been already approved in terms of validation and reliability. To collect data about children’s diets intake, a food frequency questionnaire (FFQ) was applied. Height and weights of children were measured using a measuring tape and a digital weight scale. Data were analyzed using Pearson correlation coefficient and analysis of variance (ANOVA) statistical tests by SPSS software.

Findings: It turned out that consumption rate of some food groups including meats & alternatives (p=0.008), sugars (p=0.013) and snacks & desserts (p=0.011) were higher in children who spend more time watching TV. In addition, Intake of cereals and breads appeared to be higher in children with strong desire for TV food ads (p=0.019). It was also revealed that influence rate of TV viewing and fats intake were positively correlated (p=0.017), which is confirmed by previous studies. It can be concluded that TV viewing rate is positively linked with BMI with low nutritional-value foods.

23 Poster: A mixed methods study exploring weight related bias in undergraduate and qualified nurses.

Elisabeth Goad¹, Kate Gleeson¹, Sue Jackson²
¹University of Surrey, Guildford, United Kingdom, ²University of the West of England, Bristol, United Kingdom

Evidence suggests that nurses' bias towards patients with obesity has adverse psychological and physical health implications in terms of poorer care from healthcare staff and the avoidance of healthcare. Despite important clinical implications the literature yields no consensus about specific factors relating to weight bias and no consistently used theoretical framework to interpret findings. This study aimed to draw on intergroup theories of weight bias to explore the relationship between weight bias in nurses and their self-esteem, BMI, qualification status, stress and burnout.

A cross sectional mixed method design employed online survey using standardized measures and an open ended question about bias. Participants were 218 undergraduate and postgraduate nurses practicing within the United Kingdom.

Results show no evidence of weight bias and little evidence of association between weight bias and self-esteem, BMI, qualification status, stress and burnout. However, the qualitative analysis suggested that weight bias was present but were organised according to a range of social identities situated within a social context. Different conceptual frameworks were also used by nurses to make sense of obesity. Both of these issues made it difficult for nurses to 'own' more negative attitudes, which may explain the inability of more restrictive survey design methodologies to reveal the complexity of attitudes within a social context.

Future research involving methods that enable exploration of the complexity around the nursing role may enhance our understanding of weight bias in nurses.
24 Poster: The development of an All Wales Evaluation Framework for Tier 3 weight management services: An initial benchmarking exercise.

Abigail Guerrier Sadler1, Enzo Di Battista2, Suzanne Wood3, Dev Datta4, Sioned Quirke2, Nadim Haboubi2, Simon Williams1
1Cardiff University, Cardiff, United Kingdom, 2Aneurin Bevan University Health Board, Cardiff, United Kingdom, 3Public Health Wales, Cardiff, United Kingdom, 4Cardiff and Vale University Health Board, Cardiff, United Kingdom, 5University South Wales, Cardiff, United Kingdom

Introduction: Multidisciplinary obesity clinics are becoming established across Wales and so, there is a need to evaluate their effectiveness. The introduction of an All Wales Evaluation Framework for Tier 3 MDT weight management services would enhance networking and reporting procedures, and provide a standardised method for benchmarking and improving practice. The first aim of this initial scoping exercise was to assess the extent to which Health Boards in Wales adhere to the All Wales Obesity Pathway specification. The second aim was to use the results to draft essential and desirable outcomes for an All Wales Evaluation Framework.

Methods: Data sets used by the Tier 3 obesity services in Cardiff and Vale University Health Board (CVUHB) and Aneurin Bevan University Health Board (ABUHB) were compared to the MDT minimum data set from the All Wales Obesity Pathway specification using a clinical practice benchmarking procedure.

Results: The outcome measures were divided into five categories: General information, individual demographic details, patient clinical details, process indicators and onward referral. Overall, CVUHB included 47.5% (19/40) and ABUHB included 50% (20/40) of the measures outlined in the specification.

Discussion: Although the Health Boards only included half of the measures in the specification, they both used additional measures to monitor patient progress. Reasons for this need to be explored, but it suggests that the All Wales Obesity Pathway needs updating. Combining the outcome measures used in each health board and from existing evaluation frameworks, a draft of essential and desirable outcomes for an All Wales Evaluation Framework was created.

25 Poster: The impact of mood and attachment styles on food preferences and desire to eat in an overweight population.

Eleanor Hambly, Jane Ogden
University of Surrey, Guildford, United Kingdom

To provide the best treatment and prevention approaches for obesity, it is important to understand the mechanisms involved. One factor which has become of interest in this field is attachment styles. Attachment styles refer to the way individuals interact with and perceive themselves and others, as well as how they cope with distress and affect regulation. Research has shown that people with insecure attachment styles have greater emotion regulation difficulties and are more likely to emotionally eat. Using food to regulate emotions is also more prevalent in obese populations. This study used an experimental design to assess the link between attachment styles, emotional eating and obesity. BMI and attachment styles were assessed in 230 normal-weight and overweight women who were randomly allocated to view a film designed to generate either positive or negative mood. They then rated their food preferences and desire to eat. The results showed that when in a negative mood participants showed a relative increase in desire to eat if they were insecure avoidant, which was particularly apparent in overweight participants. This indicates that mood was the driver of food preferences and desire to eat, moderated by BMI and attachment.

26 Poster: The relationship between perceived overweight and weight management: A systematic review.

Ashleigh Haynes1, Inge Kersbergen1, Angelina Sutin2, Michael Daly2,4, Eric Robinson1
1Institute of Psychology, Health & Society, University of Liverpool, Liverpool, United Kingdom, 2Florida State University College of Medicine, Tallahassee, USA, 3Behavioural Science Centre, Stirling Management School, University of Stirling, Stirling, United Kingdom, 4UCD Geary Institute, University College Dublin, Dublin, United Kingdom

It is commonly assumed that identifying as being ‘overweight’ is necessary for successful weight management among individuals with overweight and obesity. However, evidence supporting this proposition is mixed. The aim of the present research was to systematically review evidence for the association between self-perceived overweight and weight-related behaviours and outcomes including: (a) weight loss attempts, (b) healthy and unhealthy weight-loss strategies, (c) healthy eating habits and physical activity, (d) disordered eating, and (e) weight loss. Searches identified 10,422 unique records, which were screened to yield 71 eligible studies. Evidence from eligible studies was synthesised and evaluated, both overall and within participant sub-groups (gender, age, objective weight status). Results provided strong evidence that perceived overweight was consistently associated with a higher likelihood of attempting weight loss, and was associated with both healthy and unhealthy weight loss strategies in certain participant groups (e.g., adolescents and individuals with a healthy weight). Perceived overweight was not reliably associated with physical activity or healthy eating habits but was associated with reduced physical activity in some samples. There was strong evidence that perceived overweight was associated with disordered eating. Rather than improved weight management, there was consistent evidence that perceived overweight was predictive of greater weight gain over time. Individuals who perceive their weight status as overweight are more likely to report attempts at weight loss yet have greater weight gain over time.
27 Poster: The GLOWING pilot cluster randomised controlled trial (RCT): An intervention to support midwives implementation of weight management guidelines.

Nicola Heslehurst, Catherine McParlin, Judith Rankin, Falko Sniehotta, Denise Howel, Stephen Rice, Elaine McColl
Newcastle University, Newcastle upon Tyne, United Kingdom

Background: UK guidelines exist for weight management in pregnancy but are not optimally implemented. There are complex barriers to health professionals’ practice. GLOWING used Social Cognitive Theory to support midwives overcome barriers and implement guidelines. The pilot study investigated the feasibility and acceptability of delivering and evaluating GLOWING using cluster RCT methods.

Methods: Four NHS Trusts were randomised to intervention and control arms, stratified by size (large or small Trust). GLOWING included one-day intensive training and resources for routine practice. Feasibility assessments included ability to deliver GLOWING to all eligible midwives in the intervention arm and recruitment rates for outcome data collection (target n=60). Intervention arm midwives were treated with GbE for 14 days. Proteomic analysis of the retroperitoneal white adipose tissue (WAT) depot was performed by data independent acquisition mass spectrometry. As result, 823 proteins were identified and 74 quantified. The GbE treatment reduced the levels of 9 proteins, such as galactin (UNIPROT ID P97840-2) related to the inflammation of adipose tissue; cytochrome c oxidase (ID P10888), NADH-ubiquinone oxidoreductase (ID Q66H1F) related to the oxidative stress and 3-ketoacyl-CoA thiolase B_peroxisomal (ID P07871) related to the lipid metabolism. These results indicate potential proteins targeted by GbE that might be involved in the improvement of obesity-related disorders. However, other studies are necessary in order to further describe the mechanisms of action of this herbal medicine.

Results: GLOWING was delivered to all eligible intervention arm midwives (n=67). 94.4% of intervention components were rated as “very/somewhat useful”. Resources for routine practice rated highest and role play the lowest. Midwives felt GLOWING was directly relevant to practice, increased their knowledge and confidence to have weight-related discussions. Suggestions for improvements included reducing role play and having training updates. Midwives felt they more frequently discussed weight and described the resources as a key facilitator. Baseline recruitment for outcome data collection exceeded target (n=63).

Conclusions: This pilot study demonstrated it is feasible and acceptable to deliver and evaluate GLOWING using a cluster RCT design. All eligible midwives in the intervention arm were released from practice to participate, which was a key feasibility issue.


Bruna KS Hirata¹, Amanda P Pedrosa², Lila M Oyama², Alexandre K Tashima², Eliane B Ribeiro², Monica M Telles²
¹Universidade Federal de São Paulo, Diadema, Brazil, ²Universidade Federal de São Paulo, São Paulo, Brazil

Ginkgo biloba Extract (GbE) has been investigated as an alternative treatment for many diseases, including obesity. We have previously described that GbE is associated with the insulin sensitivity improvement of obese rats and these data allowed us to suggest the potential use of GbE as a therapy to treat metabolic complications from obesity. However, little is known about the association between the proteomic profile of white adipose tissue and the metabolite status of obese rats treated with GbE. In this context, the present study aimed to investigate the potential mechanisms involved in the beneficial effects of GbE previously observed. For this, high fat diet-induced rats were treated with GbE for 14 days. Proteomic analysis of the retroperitoneal white adipose tissue (WAT) depot was performed by data independent acquisition mass spectrometry. As result, 823 proteins were identified and 74 quantified. The GbE treatment reduced the levels of 9 proteins, such as galactin (UNIPROT ID P97840-2) related to the inflammation of adipose tissue; cytochrome c oxidase (ID P10888), NADH-ubiquinone oxidoreductase (ID Q66H1F) related to the oxidative stress and 3-ketoacyl-CoA thiolase B_peroxisomal (ID P07871) related to the lipid metabolism. These results indicate potential proteins targeted by GbE that might be involved in the improvement of obesity-related disorders. However, other studies are necessary in order to further describe the mechanisms of action of this herbal medicine.

29 Poster: Exploring physical health and wellbeing amongst members of Slimming World and the general population.

Laura Holloway, Sarah-Elizabeth Bennett, Josef Toon, Jacquie Lavin
Slimming World, Derbyshire, United Kingdom

Introduction: Slimming World (SW) offers a multi-component approach to weight management that encourages healthy eating and physical activity, alongside behaviour change support. The aim of this study was to understand how losing weight with SW impacts physical health and well-being, using the general population as a comparator.

Methods: Two surveys were conducted; one completed by SW members, and one coordinated by IPSOS Mori, completed by the general population. Results were compared using descriptive statistics.

Results: The SW member survey elicited 1544 responses (55% male, mean BMI 37.7kg/m², weight 111.3kg, weight loss 15%) and the general population survey 1275 responses (46% male, mean BMI 31.2kg/m², weight 92.1kg).

Fewer SW members felt their health currently limits them in physical activities (12%) compared to before joining SW (39%) and the general population (42%). Only 12% of members felt their physical/mental health currently impacts social activities, compared to 77% before joining SW and 56% of the general population. Pain was less likely to interfere with work for members now (37%) compared to before SW (62%) and the general population (56%). Over half of members (58%) frequently feel energetic now, compared to before SW (7%) and the general population (23%).

Conclusion: Results indicate that losing weight with SW can improve physical health/wellbeing, positively impacting physical, social and work-based activities. Despite still having a higher BMI, SW members rated their physical wellbeing higher than the general population, suggesting the action of weight loss and/or other elements of the SW support programme influence overall health and wellbeing.

Laura Holloway, Sarah-Elizabeth Bennett, Carolyn Pallister, Josef Toon, Jacque Lavin
Slimming World, Derbyshire, United Kingdom

Introduction: Slimming World on Referral (SWOR) is a subsidised partnership enabling organisations including primary care and workplaces to refer individuals to Slimming World (SW) at no cost to the individual. Referrals run as 12 week packages, with the option to commission further consecutive 12 week referral blocks.

The aim of this study was to explore weight outcomes amongst individuals receiving a second referral.

Methods: All SWOR member records meeting the following criteria were included in the analysis:
• Received two consecutive referrals after September 2010
• Attended second referral within 2 weeks of the first

Results: 19,899 second referrals were issued; 13,393 members (86% women) attended within two weeks of the first referral and were included in the analysis. Mean results broken down by each referral period are shown below.

<table>
<thead>
<tr>
<th></th>
<th>Referral 1</th>
<th>Referral 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg) Start</td>
<td>103.5</td>
<td>95.2</td>
</tr>
<tr>
<td>End</td>
<td>95.6</td>
<td>92.6</td>
</tr>
<tr>
<td>Change (-7.9 (7.6%))</td>
<td>-2.6 (2.7%)</td>
<td></td>
</tr>
<tr>
<td>BMI (kg/m²) Start</td>
<td>38.0</td>
<td>35.0</td>
</tr>
<tr>
<td>End</td>
<td>35.1</td>
<td>34.0</td>
</tr>
<tr>
<td>Change (-2.9)</td>
<td>-0.9</td>
<td></td>
</tr>
<tr>
<td>Sessions attended (maximum 12)</td>
<td>11.5</td>
<td>10.0</td>
</tr>
</tbody>
</table>

By the end of the two referral periods, members had lost on average 10.5% (10.4kg), with a mean BMI reduction of 3.8kg/m². Half of members achieved weight losses of 10% or more, while the majority (87%) achieved 5% or more.

Men lost slightly more than women (11.5% vs 10.3%) and had a greater reduction in BMI (4.3kg/m² vs 3.73 kg/m²).

Conclusion: Findings indicate that provision of further referral periods can enhance weight loss outcomes and support more patients in achieving clinically significant weight loss.

Poster 31: Knowledge of Obesity and Anti-Fat Prejudice Amongst Health Care Professionals and Medical Students.

Thazin Wynn¹, Nazrul Islam¹, Charlotte Thompson¹, Khin Swe Myint² ¹
¹Norwich Medical School, University of East Anglia, Norwich, United Kingdom, ²Norfolk and Norwich University Hospital, Norwich, United Kingdom

Background: Research has shown negative attitudes towards people with obesity exist amongst healthcare professionals (HCPs). We aim to identify knowledge and perceptions of obesity, and how this varies amongst HCPs.

Methods: Survey was approved by R&D and University Ethical Board. Two established questionnaires assessing anti-fat prejudice (ATOP) and knowledge (ORK-10) were sent out to HCPs and medical students.

Results: Respondents (n=526): 64% female; 155 medical students; 86 consultants; 95 nurses; 49 junior doctors; 141 other professionals. Percentage answering the ORK-10 correctly are: obesity increases risk of bowel cancer (72%), breast cancer (59%) and hypertension (95%); weight loss improves health benefits (93%), people with obesity need to lose 40% bodyweight for health benefits (38%), obesity is more of a risk for people from South Asia (46%). Explicit bias (moderately/strongly agreeing with the statement) was evident in the ATOP questionnaire: “people with obesity feel they are not as good as others” (20%); “are more self-conscious” (38%); “that they cannot be as successful as other workers” (8%); “people without obesity wouldn’t want to marry a person with obesity” (20%).

Discussion: The preliminary analysis identified a lack of some specific knowledge of obesity among HCP/students (cancer risk, percentage weight loss and health benefit, ethnic variation). Obesity prejudice is prevalent amongst HCPs. These negative attitudes have been shown to affect the clinical judgment of the bearer, deter individuals from seeking care, whilst affecting their health and psychological well-being. Further analysis to investigate the correlation between knowledge and an impact on HCPs’ opinions is required.
Poster 32: Relationship between fatigue and level of physical activity in women who engaged in a weight management programme.

Husna Kaya Kacar1, Fiona McCullough1, Amanda Avery1, Sarah Bennett2
1University of Nottingham, Nottingham, United Kingdom, 2Slimming World, Alfreton, United Kingdom

Introduction: Individuals with obesity have higher levels of fatigue than people of healthy weight. Weight management programmes encourage participants to improve both their diet and physical activity levels. This study investigates the effects of physical activity on level of fatigue in people with obesity.

Method: An online survey, hosted by Slimming World, completed by new female adult members. The questionnaire included before joining (T0) and current data (T1): weight, height, level of fatigue (using the validated Multidimensional Assessment of Fatigue), and level of physical activity (IPAQ-short form). 12 weeks (T2) later, the same participants were invited to complete a second survey asking the same questions. Global fatigue index (GFI) and total Metabolic Equivalent of Task (MET) - minutes/week calculated at each time point.

Results: 74 eligible participants (BMI≥30kg/m²) completed the questionnaire at all time-points. Early analysis indicates significant differences (p<0.001) for levels of physical activity and fatigue over the three time points (T0, T1 and T2) (table). For physical activity and fatigue, there was a significant effect size for time, p<.001. The Pearson correlation coefficient suggests a very weak negative correlation between physical activity and fatigue (r= -.092, n=512, p<.05) at T1.

<table>
<thead>
<tr>
<th></th>
<th>T0</th>
<th>T1</th>
<th>T2</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI</td>
<td>33.5 (±6.5)</td>
<td>32.38 (±6.2)</td>
<td>30.52 (±6.3)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>PA (MET)</td>
<td>1383.8 (±1990.8)</td>
<td>2842.6 (±2982.9)</td>
<td>2953.2 (±2455.8)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Fatigue (GFI)</td>
<td>29.4 (±12.2)</td>
<td>20.8 (±11.6)</td>
<td>18.3 (±10.6)</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Discussion: Increasing physical activity levels may help to reduce levels of fatigue in females with obesity engaging in a weight management programme. Further analysis will be undertaken to investigate other factors which may reduce levels of fatigue.

Poster 33: Dehumanization of people with obesity.

Inge Kersbergen, Eric Robinson
University of Liverpool, Liverpool, United Kingdom

Much research shows that obesity is stigmatised. The general public hold a number of negative stereotypes about people with obesity. Here, we provide evidence on the ‘dehumanization of obesity’ which suggests that the degree of stigma associated with obesity may be more extreme than previously assumed: Obesity results in a person being judged as being less human. In three studies we investigated the extent to which people with obesity were blatantly dehumanized and to what extent this predicted (mis)treatment of people with obesity. Across all studies (N = 1013) we demonstrated that people with obesity were viewed as less evolved and less human than people without obesity. Blatant dehumanization was shown to be predictive of participants’ endorsement of discriminatory policies against obesity. Dehumanization was also evident in behaviour towards people with obesity. Participants’ preference towards reducing human as opposed to animal suffering decreased when they believed that it would be humans with obesity who would suffer less, as opposed to humans with ‘normal’ weight. Taken together, these studies provide evidence for the first time that people with obesity are blatantly dehumanized, but the extent to which this affects behaviour towards people with obesity is still unclear.

Poster 34: Making Every Contact Count: Supporting Families to make Healthy Lifestyle Changes.

Wendy Lawrence
University of Southampton, Southampton, United Kingdom

Introduction: The Infant & Toddler Forum joined forces with the MRC Lifecourse Epidemiology Unit at the University of Southampton to develop a training course to support behaviour change. The aim was to provide HCPs with Healthy Messages [Ten Steps for a Healthy Pregnancy/Toddlers] and Healthy Conversation Skills (HCS) to effectively engage families and support them to take steps towards making positive changes.

Method: HCPs were invited to attend training sessions throughout the UK. The first half of the training focussed on the Ten Steps and the second half introduced HCS. Before and after training HCPs rated from one-to-ten confidence and importance of current conversations in supporting individuals to make lifestyle changes. They also rated their conversations’ usefulness in supporting such change, and afterwards the usefulness of HCS in this endeavour. They also rated how valuable they found the training.

Results: A total of 70 HCPs participated. Their confidence and importance scores increased significantly (mean 6.2 to 8.5 and 7.7 to 8.8 respectively); usefulness of current conversations scored a mean of 6.6, and after training the usefulness of HCS had a mean of 8.9. The mean value of the course was 9.

Conclusion: A short, easily deliverable and highly-valued training course in Ten Steps and HCS can support HCPs to engage with parents and empower them to make lifestyle changes in-line with current recommendations. This unique, scalable and transferable intervention may help achieve current government aims for “Making Every Contact Count” and more effectively combat maternal and childhood obesity.
Poster 35: Association between type of grandparent care and childhood obesity - baseline data from the Chirpy Dragon trial.

Bai Li1, Peymane Adab1, Wei Jia Liu2, Rong Lin2, Wei Liu2, Miranda Pallan1
1College of Medical and Dental Sciences, University of Birmingham, Birmingham, United Kingdom, 2School Health Unit, Guangzhou Centre for Diseases Control and Prevention, Guangzhou, China

Background: Involvement of informal carers such as grandparents in childcare has been shown to be associated with higher risk of excess weight in children. However, the mechanism by which this occurs, and whether risk differs by grandparents’ visiting/live-in status is unclear.

Methods: We used baseline data from a childhood obesity prevention trial (CHIRPY DRAGON) in China (n=979/1622, mean age=6.15 years) to assess the relationship between type of grandparent involvement and risk of obesity. Trained researchers measured the height and weight of eligible children from 40 schools; parents reported the extent of grandparent involvement (sometimes/most of the time versus never) in 10 common childcare responsibilities. Children’s weight status (non-overweight versus overweight/obese, defined by WHO 2007 reference) was compared according to type of involvement and whether they were live-in or visiting grandparents. All analyses used logistic regression, controlling for socio-demographic factors, birth weight as well as key dietary, physical activity and sedentary variables.

Results: Over 70% of the children had some grandparent involvement in their care. Children were more likely to be overweight/obese if visiting grandparents were regularly involved in taking them for outdoor activities (adjusted OR=4.88; 95% CI: 1.54-15.47), or were their main carer during the weekend (adjusted OR=3.77; 95% CI: 1.12-12.72) or weekday evenings (adjusted OR=3.51, 95% CI: 1.10-11.16), compared with those whose grandparents never did this. No associations were found among children who lived with at least one grandparent.

Conclusion: Visiting grandparents might be more likely to overindulge grandchildren through treat foods or overfeeding than live-in grandparents, representing an important target for future interventions.


Melissa Biggart, Aurelia Liu, Megan Owen, Mary Perrins, Bai Li
College of Medical and Dental Sciences, University of Birmingham, Birmingham, United Kingdom

Background: Enormous preventive trials and reviews have been invested to identify effective childhood obesity prevention strategies. However, the question of why certain interventions were effective or ineffective has rarely been addressed. This literature review aimed to 1) assess the scope and methodological quality of Process Evaluation (PE) within completed childhood obesity prevention trials and 2) identify barriers and facilitators that influenced intervention fidelity.

Methods: Searches were conducted on Medline, PubMed and NHS Evidence up to May 2017 using the following strategy:
- Population: children (0-18 years) participated in obesity prevention trials
- Intervention: prevention programme delivered within those trials
- Comparator: the comparative prevention programme (if any) delivered
- Outcome: factors that influenced intervention fidelity; scope and methodological quality of PE within those trials. Included studies were appraised against the MRC guidelines on PE.

Results: A total of 28 papers were included, reporting 22 randomised control trials (RCTs) and six qualitative studies in RCTs. Of the three constructs of PE (implementation, mechanism of impact and context), investigation of implementation was reported in all papers. Context was least reported. Many studies did not follow the MRC guidelines or any frameworks. Commonly reported barriers to intervention delivery or participation included time constraints and lack of resources. The most commonly reported facilitator to measure PE was methods that were easy to implement.

Conclusions: Previous trials rarely followed structured frameworks in PE. Well conducted and reported PE will improve understanding of barriers and facilitators of interventions, which in turn will inform the design, implementation and commissioning decisions of future prevention programmes.
**Poster 37: Counterweight-Plus, an intensive, non-surgical programme to treat severe and complicated obesity: Weight loss with Total Diet Replacement, sustained at 12months using a structured programme for food reintroduction and prevention of weight regain.**

Anna Bell-Higgs1, Naomi Brosnhan2,1, Hazel Ross1, Louise McCombie2, Lindsay Govan3, Mike Lean2
1Counterweight Ltd, Corby, United Kingdom, 2University of Glasgow, Glasgow, United Kingdom, 3Phastar, London, United Kingdom

**Introduction:** Severe and complicated obesity demands greater weight loss than achieved by conventional lifestyle interventions. Consensus states target loss of >15kg (>10%). Long-term sustainability is vital but intensive approaches are neglected because rapid weight loss is commonly considered to result in rebound weight regain.

**Methods:** Counterweight-Plus comprises four phases: Screening, Total Diet Replacement (nutritionally replete 825kcal/day formula diet), Food Reintroduction and Weight Loss Maintenance. At enrollment, patients are invited to provide anonymised data for service evaluation.

**Results:** Data from 288 individuals enrolled in Counterweight-Plus 2013-2016 were analysed, 222(77%) managed within routine NHS primary care, the remainder privately. At baseline mean(SD) age was 47.5(12.7) years, weight 128.0(32.0) kg, BMI 45.7(10.1)kg/m²; 76(26.5%) were male and 99(34.5%) diabetic. At 3, 6 and 12months, mean(SD) weight losses(kg) for complete cases were 12.7(8.0), 15.8(9.9) and 14.2(11.6), with 10.8, 29.3 and 44.2% loss to follow up. Mean regain was 1.6kg (10% of weight lost) between 6 and 12months. Of 217 eligible, 61(28%) recorded ‘target’ 12m weight loss of >10%, and 48(22%) lost >15kg. Twelve month weight-loss was positively related to early weight-change: For every 1kg greater weight-loss at 3 and 6months, weight loss at 12months was also greater by c.1kg. Being diabetic did not affect results.

**Conclusion:** This programme achieved target weight loss, for all starters, of >15kg at 12m for at least 22% and >10% for at least 28%. Greater early loss results in greater 12month loss when maintenance strategies are included to minimise regain. Unlike other weight management interventions, people with diabetes did equally well.

**Poster 38: Impact of weight loss on health-related quality of life, as measured by SF-36 in the SCALE Obesity and Prediabetes trial of liraglutide 3.0 mg: 3-year data.**

Barbara McGowan1, Jakob Bjorner2, Gabriel Smolarz3, Henrik Meincke4, Ronette Kolotkin5
1Guy's and St Thomas' Hospital, London, United Kingdom, 2Optum, Lincoln, RI, USA, 3Novo Nordisk Inc, Plainsboro, NJ, USA, 4Novo Nordisk A/S, Seborg, Denmark, 5Quality of Life Consulting, Durham, NC, USA

Obesity has a negative impact on health-related quality of life (HRQoL), related to the obesity severity. This post-hoc analysis explored weight loss (WL) impact, over 3 years, on HRQoL in people with prediabetes and obesity (BMI ≥30kg/m²) or overweight (BMI ≥27kg/m²) with hypertension and/or dyslipidaemia.

Participants were randomized 2:1 to once-daily SC liraglutide 3.0mg (n=1505) or placebo (n=749) as adjunct to diet+exercise (NCT01272219). The Short-Form 36 v2 (SF-36) questionnaire was administered in countries with validated translations (79% participants). Data are reported as estimated change from baseline (ANCOVA with LOCF); increased scores signify improvement for both physical component (PSC) and mental component score (MCS). The analysis was stratified by categorical weight change from baseline. Results are reported for liraglutide 3.0mg and placebo: A=weight loss (WL) ≥15%; B=WL 10-14.9%; C=WL 5-9.9%; D=WL 4.9%; E=weight gain. Baseline characteristics (means): 77.6% female, age 47.9 years, weight 108.2kg, BMI 39.1kg/m². More participants treated with liraglutide 3.0mg vs. placebo were in the higher WL categories: A=10.9 vs 3.1%; B=13.8 vs 6.8%; C=24.7 vs 13.7%; D=35.4 vs 37.3%; E=14.9 vs 38.6%. Changes in PSC were highest in WL category A (6.15) and decreased with decreasing categorical WL: B=3.99; C=4.02; D=2.50; E=0.55 (based on both treatment arms). MCS scores were: A=-0.48; B=-0.30; C=-1.08; D=-0.79; E=-1.03.

More participants achieved greater categorical WL after 3 years with liraglutide 3.0mg as adjunct to diet+exercise vs placebo. With greater categorical WL, greater improvements in SF-36 PCS score were observed, corresponding to 1-year data, while no consistent pattern was observed for MCS.
Poster 39: Impact of weight loss on health-related quality of life (HRQoL) as measured by IWQOL-Lite in the SCALE Obesity and Prediabetes trial of liraglutide 3.0 mg: 3-year data.

Barbara McGowan¹, Ronette Kolotkin², Gabriel Smolarz³, Henrik Meincke⁴, Jakob Bjorner⁵
¹Guy’s and St Thomas’ Hospital, London, United Kingdom, ²Quality of Life Consulting, Durham, NC, USA, ³Novo Nordisk Inc, Plainsboro, NJ, USA, ⁴Novo Nordisk A/S, Seborg, Denmark, ⁵Optum, Lincoln, RI, USA

Obesity has a negative impact on health-related quality of life (HRQoL), related to the severity of obesity. This post-hoc analysis explored the impact of weight loss (WL), over 3 years, on HRQoL in people with prediabetes and obesity (BMI ≥30kg/m²) or overweight (BMI ≥27kg/m²) with hypertension and/or dyslipidaemia.

Participants were randomized 2:1 to once-daily liraglutide 3.0 mg (n=1505) or placebo (n=749) as adjunct to diet and exercise (NCT01272219). The Impact of Weight on Quality of Life (IWQOL)-Lite questionnaire was administered in countries with validated translations (79% of individuals). Data are reported as estimated change from baseline using ANCOVA with LOCF; increased scores signify improvement. The analysis was stratified by categorical weight change from baseline. Results are reported for both liraglutide 3.0mg and placebo, as follows: A=weight loss (WL) ≥15%; B=WL 10-14.9%; C=WL 5-9.9%; D=WL 0-4.9%; E=weight gain.

Baseline characteristics (means): 77.6% female, age 47.9 years, weight 108.2kg, BMI 39.1kg/m². A greater proportion of participants treated with liraglutide 3.0 mg vs. placebo were in the higher WL categories: A=10.9% vs 3.1%; B=13.8% vs 6.8%; C=24.7% vs 13.7%; D=35.4% vs 37.3% and E=14.9% vs 38.6%. Changes in IWQOL-Lite total score were highest in the WL ≥15% category (18.72); and decreased with decreasing categorical weight loss: B=14.91; C=12.01; D=8.33 and E=5.23 (based on both treatment arms).

More participants achieved greater categorical WL after 3 years with liraglutide 3.0mg as adjunct to diet and exercise vs. placebo. With greater categorical WL, larger improvements in IWQOL-Lite total score were observed.

Poster 40: Improving Engagement: Identifying factors for non-attendance at weight management services. Developing recommendations for service improvement.

Sarah Milward
Cwm Taf UHB, Cwm Taf, United Kingdom, Cardiff Metropolitan University, Cardiff, United Kingdom

Taking steps to tackle the rising obesity epidemic is essential, as obesity now affects one in four adults in the UK, and is a key factor in the development of disease. Cwm Taf University Health Board demonstrates the highest rates of obesity within Wales, yet 70% of dietetic referrals for weight management fail to attend services. The aim for this patient engagement study was to identify factors affecting attendance at weight management services, and to develop recommendations for improvement.

Methods included a mixed methods approach, encompassing data from 26 quantitative responses to a postal questionnaire, and six complementing semi-structured interviews. Participants included non-attenders or non-engagers to a local dietetic led weight management service. Quantitative data demonstrated that patients failed to book or attend an appointment despite the fact that 96% agreed with the referral and 88% felt that they needed to attend. Qualitative data highlighted six key themes affecting attendance: Previous experience, locus of control, competing priorities, course structure and location, time and cost. Quantitative data additionally highlighted anxiety surrounding attendance as a cause. Suggested interventions for improvement include; dietary advice combined with exercise, text reminder service, cooking skills, more information about the content of appointments and specific individualised information. Factors affecting attendance at weight management services are multifactorial and one method of improvement is unlikely to fit all. Service improvements and changed should be relevant to the local demographic, in order to lessen the effects of patient focussed factors.
**Poster 41: The Ten Steps for a Healthy Pregnancy: A positive approach to healthy lifestyle in preconception and pregnancy.**

**Judy More**  
Freelance Paediatric Dietitian (Member of Infant & Toddler Forum), London, United Kingdom

**Introduction:** Emerging evidence suggests that a mother’s weight and nutritional status before, during and between pregnancies can determine the baby’s immediate health, growth and development, and also ‘programme’ later health and risk of obesity and disease. Yet one in two women enter pregnancy overweight and one in 20 women in the UK give birth with a BMI over 35. To address this, ten steps were developed to help HCPs advise women on improved health outcomes of a healthy lifestyle prior to and during pregnancy.

**Method:** An expert panel was consulted to establish current guidance, latest research findings and the evidence on which to base advice. A survey of mothers and HCPs reviewed current challenges and where more accessible information was needed and requested. A wide range of stakeholders were consulted during the development to ensure consensus on the advice.

**Results:** Stakeholders were positive about the project and agreed on the need for education. Ten steps were developed including:

- Appropriate gestational weight gain
- Nutritious meals/snacks
- Supplementation
- Physical activity
- Smoking, alcohol, drug use

The resource is available as A4 leaflets and A3 posters. A booklet outlining the evidence base behind each of the Ten Steps is also available. The Preschool Learning Alliance adopted the Ten Steps into their national policy, piloting the programme and measuring behaviour change among pregnant women and the practitioners who advise them.

**Conclusion:** Wide use of the Ten Steps could inspire healthy conversations and improve health outcomes for mother and baby in the short and long-term.

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**Poster 42: Reported experiences of reframing in self-directed weight loss and weight loss maintenance: Systematic review of qualitative studies.**

**Jamie Hartmann-Boyce, Rebecca Nourse, Anne-Marie Boylan, Susan A. Jebb, Paul Aveyard**  
University of Oxford, Oxford, United Kingdom

**Aim:** To systematically review qualitative studies to examine the ways people experience reframing – the technique of redefining the behaviours and processes of weight management- in self-directed weight loss and weight loss maintenance.

**Methods:** Seven electronic databases were searched (January 2017) for qualitative studies of adults with overweight or obesity attempting to lose weight through self-directed behaviour change. Studies must have contained some information on reframing. Thematic synthesis was used to identify themes from the available data.

**Results:** We included 23 studies. Most involved people who had tried to lose weight previously, and in these participants reframing was used to overcome barriers participants had encountered in previous weight loss attempts, echoing the concepts of cognitive restructuring. It was used to re-conceptualise weight loss attempts, the behaviours involved in weight management, and the identity of the individual. A common theme among the articles was the deliberate shifting of discourses, most notably away from the language of ‘weight loss’ and ‘diet’ and towards terms such as ‘health’, ‘lifestyle’ and ‘changing the way I eat’.

**Conclusions:** Some people who are attempting to lose weight or maintain lost weight use cognitive reframing to help them achieve their goals. The most prominent example of this was in participants who saw dieting as about deprivation and suffering. They found this thought unhelpful and believed it promoted relapse. Construing the dietary regimen as about healthy eating and the new normal made weight control more rewarding for these participants who therefore felt more able to maintain their efforts.

Emma O’Byrne
Middlesex University, London, United Kingdom

**Background:** According to WHO, 39% of the world’s adults are overweight. Research suggests some people are more vulnerable to food cues in the environment leading to overeating and weight gain. Poor inhibitory control is also shown to contribute to weight gain and obesity.

**Aim:** The present study aimed to investigate the interaction between attentional bias towards food cues and self-control, in relation to BMI and eating behavior in adolescents.

**Design:** Participants (N=74) were recruited from two secondary schools (age M 16.2± SD 1.0). A cross-sectional design using self-report measures, cognitive tasks and behavioral measures were employed to assess participants’ preference for food cues, self-control and eating behaviors.

**Results:** A significant difference between normal and overweight/obese groups can be seen for self-report of emotional (t=2.4, p=.02) and external eating (t=2.35, p=.02). Using a multiple hierarchical regression, a weak significant interaction between self-control and attentional bias for food cues was found (r = .131, p=.02).

**Conclusion:** Although a weak correlation was found suggesting impaired processing towards food cues, this study suggests that emotional and external eating are likely to play a role in overeating.

Poster 44: Can we engage women in the NHS breast screening programme (NHSBSP) with a breast cancer prevention or a multiple disease prevention weight loss programme?

Michelle Harvie1, Mary Pegington1,2, Louise Gorman1, D Gareth Evans2, Christi Deaton4, Basil Issa5, Helen Ruane1, Grace Cooper1, Sarah McDiamid2, Debbie McMullan1, Christopher J Armitage6, David French7, Lee Graves7, Julie Pickford8, Philip Foden9, Anthony Howell1,2
1The Nightingale Centre, University Hospital of South Manchester, Manchester, United Kingdom, 2Institute of Cancer Sciences, The University of Manchester, Manchester, United Kingdom, 3Manchester Academic Health Science Centre, The University of Manchester, Manchester, United Kingdom, 4Cambridge Institute of Public Health, University of Cambridge School of Clinical Medicine, Cambridge, United Kingdom, 5Diabetes Centre, University Hospital of South Manchester, Manchester, United Kingdom, 6Manchester Centre for Health Psychology, University of Manchester, Manchester, United Kingdom, 7The School of Sport and Exercise Sciences, Liverpool John Moores University, Liverpool, United Kingdom, 8Public Health Manchester, Manchester City Council, Manchester, United Kingdom, 9Department of Medical Statistics, University Hospital of South Manchester, Manchester, United Kingdom

**Background:** Excess weight and unhealthy lifestyles are common amongst women in the NHS Breast Screening Programme (NHSBSP). They increase the burden of breast cancer, CVD and diabetes, but are not currently addressed. This feasibility study assessed uptake and adherence to two 12 month weight loss programmes: a standard breast cancer prevention programme (BCPP) and a multiple disease prevention programme (MDPP) which included personalised risk information on CVD and diabetes (NHS Health Check).

**Methods:** Overweight (BMI ≥25 kg/m²) women from the NHSBSP were pre-randomised to a mailshot invite to either the BCPP (n=45) or the MDPP (n=81). Women received individualised diet and exercise advice to follow a 5:2 diet and meet exercise recommendations (>150 min/week) with support from a self-monitoring web site, personalised e-mails in the first 6 months and then standard automated e-mails. Changes in weight, body composition and diet and exercise behaviours were assessed at 3, 6 and 12 months.

**Results:** Uptake was comparable between the BCPP (8.9%) and MDPP (9.6%). Four women (8.9%) in the BCPP and 16 (19.8%) in the MDPP withdrew before 12 months. Baseline observation carried forward analyses at 6 months found 69% BCPP and 68% MDPP achieved ≥5% weight loss. Some weight was regained in months 6-12, but 58% and 57% of women maintained a weight loss of ≥5%.

**Conclusion:** Both web-supported weight loss programmes achieved good levels of weight loss at 6 months and weight maintenance at 12 months. There is no increase in uptake or adherence with additional health risk information.
Poster 45: Changes in implicit wanting and explicit liking and wanting for food after gastric bypass surgery.

Ruth Price1, Graham Finlayson2, Adele McElroy¹, Tamsyn Redpath1, Carel Le Roux3, Barbara Livingstone1
1Ulster University, Coleraine, United Kingdom, 2University of Leeds, Leeds, United Kingdom, 3University College Dublin, Dublin, Ireland

Changes in body weight following Roux-en-Y gastric bypass (RYGB) could be due to a reduction in the total amount of food and/or changes in food preferences. However, evidence disambiguating whether these changes are driven by food aversion or food avoidance are lacking. The aim of the current work was to investigate changes in implicit wanting (motivational expression), and explicit liking (hedonic feelings) and wanting (desire to consume) for food following RYGB surgery.

To date 30 participants [16 RYGB patients [4M,12F; BMI45.2(SD7.0)], 14 weight-stable controls [5M,9F; BMI25.6(SD4.6)] have completed baseline (1 month pre-surgery), and 17 (10 patients,7 controls) time-point 2 (3 months post-surgery) (controls time-matched). At both time-points food liking and wanting were measured 2-hours after a standardised breakfast, with explicit measures derived from analogue ratings, and implicit wanting derived from forced-choice frequency and reaction time. All measures used four food categories; high fat savoury, low fat savoury, high fat sweet and low fat sweet.

There were no differences between groups at baseline with both groups having strong explicit and implicit preferences for sweet over savoury foods (p<0.01). Following surgery patients’ implicit wanting for sweet vs savoury food decreased compared to controls (F(1,15)=8.6,p<0.05). There were also indications of reduced explicit liking and explicit wanting for all foods in the patient group, and a reduced implicit wanting for high fat foods (F=1.53,p=0.2). Considering the more significant role of implicit measures on food consumption, these trends will continue to be observed, along with their potential impact on food choice in the wider study.

Poster 46: Dietary patterns in UK adults are associated with socio-demographic characteristics, BMI, smoking status and the Nutrient-based Diet Quality Score: Results from the National Diet and Nutrition Survey.

Katharine Roberts1, Janet Cade2, Jeremy Dawson1, Michelle Holdsworth1
1University of Sheffield, Sheffield, United Kingdom, 2University of Leeds, Leeds, United Kingdom

Dietary patterns analyses methods are used in nutritional epidemiology to reduce detailed dietary intake data into patterns to assess adherence to a priori defined diets or investigate empirical patterns in populations. This study explores the latter in UK adults and their associations with sample characteristics and diet quality.

Principal Component Analysis identified factors representing dietary patterns using National Diet and Nutrition Survey data from 2008-2012 (n=2083; mean age 49y; 43.3% male). Regression models investigated associations between the patterns and sex, age, ethnicity, socio-economic status (SES), BMI, smoking status, self-reported and biomarkers of nutrient intake and a Diet Quality Score (NDQS) based on UK Dietary Reference Values.

Four patterns explained 13.4% of the total variance in diet. Patterns were labelled as: ‘Snacks, fast food, fizzy drinks’ (SFFFD), ‘Fruit, vegetables, oily fish’ (FVOF), ‘Meat, potatoes, beer’ (MPB) and ‘Sugary foods, dairy’ (SFD). Higher ‘SFFFD’ scores were associated positively with: being male, white, smoking, BMI; intake of NMEs, total fat and starch; urinary sodium and negatively with: age, intake of vitamins C, D, E, B6, B12, iron, calcium and magnesium; plasma carotenoids and diet quality (NDQS). Conversely, higher ‘FVOF’ pattern scores were associated positively with: age, income, SES; intake of NSP, PUFAs, the aforementioned vitamins and minerals; plasma carotenoids and negatively with being male, white, smoking, BMI; intake of saturated fat and NMEs; urinary sodium, plasma triglycerides and diet quality (NDQS).

Dietary patterns in UK adults were characterised by intakes of particular foods and associated with sample characteristics and varying levels of diet quality.
Poster 47: Development of a Brief Diet Quality Assessment Tool (BDQAT) using dietary patterns analyses in UK adults.

Katharine Roberts1, Janet Cade2, Jeremy Dawson1, Michelle Holdsworth1
1University of Sheffield, Sheffield, United Kingdom, 2University of Leeds, Leeds, United Kingdom

**Background:** Brief, validated tools to measure and assess diet quality are needed in the UK for evaluating interventions and undertaking public health research. This study uses a posteriori dietary patterns analysis and an a priori Nutrient-based Diet Quality Score (NDQS) to develop such a tool.

**Methods:** Dietary patterns and the foods characterising them were derived through Principal Component Analysis of National Diet and Nutrition Survey (NDNS) data (n=2083). The NDQS was developed based on UK Dietary Reference Values and validated against biomarkers. NDQS scores were calculated for NDNS respondents. Associations with socio-demographics and lifestyle variables were explored.

Backwards elimination analysis identified foods that were the most independently predictive of diet quality (NDQS). Confirmatory analysis compared these with the foods that characterised the a posteriori dietary patterns. Regression analysis then identified the most parsimonious models of diet quality.

**Results:** Four dietary patterns, explaining 13.4% of the sample variance, were characterised by high/low factor loadings for particular foods and associated variously with socio-demographics, BMI, smoking and nutrient intake.

The NDQS was positively correlated with biomarkers of vitamins C, D, B6, total carotenoids and negatively with urinary sodium. Both methods generated ‘indicator food’ models moderately predictive of diet quality (adjusted R² = 0.29-0.33). A five item model of fruit, vegetables, wholemeal bread, sugary drinks and coated chicken/turkey was predictive of diet quality (adjusted R² = 0.26).

**Conclusion:** A dietary assessment tool based on five food items is predictive of diet quality, as measured by the NDQS, and could support future public health research and evaluation.

Poster 48: How reliable are fat utilisation assumptions for individualised clinical care?

Chiok Ling Tan, Thomas Smith, Kirsty Woods

**Background:** Obesity is a disease of fat storage and reduced fasting fat utilization, commonly assessed from Respiratory Quotient (RQ) using Indirect Calorimetry (IC), impacts weight, weight regain and health (1). Measurement of RQ could provide a basis for individualised nutritional intervention and successful obesity management. However, the cost and complexity of present day technology precludes its widespread use in the clinical setting (2).

**Objectives:** To assess the value of RQ measurement in the clinical setting, we investigated how different the fasting RQ (and fat utilisation) of 282 overweight and obese adults attending a primary care clinic in Western Australia, compared to normative data indicating an RQ of 0.81 corresponding to a fuel utilization ratio of <62% Fat and >38% CHO (3).

**Material & Methods:** We conducted a retrospective analysis of metabolic data measured using ECAL, an Indirect Calorimeter (IC) (ETSA, Australia) (4). Respiratory Exchange Ratio (RER) was measured during testing, and is equivalent to RQ and fuel utilization at a cellular level (5). Subjects were instructed to observe a shortened 4 hour fasting protocol developed for clinical practice (6).

**Results:** 171 (60.6%) of subjects recorded sub-optimal fat utilization defined as having RQ > 0.81 (3). Six subjects who have fasted for 8-10 hrs have been excluded. For the 4-8 hr fasted subjects, 93 (56.4%) have an RQ > 0.81. For the >10 hr fasted subjects, 74 (66.7%) have an RQ > 0.81. Overall, more than half of the subjects exhibited sub-optimal fat utilization whether they have fasted 4-8 hrs or >10 hrs, suggesting the importance of RQ and IC for the clinical management of the overweight and obese.

**Conclusion:** The results suggest that assumptions of fat utilisation have limited value for obese and overweight individuals and highlight the need for measurement of RQ to individualize obesity management.

**References:**
- ECAL Product Brochure. Energy Testing Solutions Australia Pty Ltd.
**Poster 49: Fear of negative evaluation based on weight mediates the relationship between perceived overweight and overeating in US adults.**

Eugenia Romano, Ashleigh Haynes, Eric Robinson  
University of Liverpool, Liverpool, United Kingdom

Contrary to the common assumption that realising you are overweight is necessary for successful weight management, perceived overweight has been found to be associated with overeating and weight gain. However, the mechanism behind this relationship is unclear. Obesity is widely stigmatised, and it is possible that as a result, individuals who perceive themselves as overweight fear that others will negatively evaluate them because of their weight. The aim of the present research was to test whether the relationship between perceived overweight and overeating is explained by a heightened fear of negative evaluation based on weight. Two online studies sampling US adults (N = 1,236) examined whether fear of negative evaluation mediated the relationship between perceived overweight and overeating tendencies, adjusting for potentially confounding factors. Across both studies, individuals who perceived their weight status as overweight reported a higher fear of negative evaluation, and greater overeating tendencies than did individuals who perceived their weight as ‘about right’. Further, the relationship between perceived overweight and overeating was mediated by greater fear of negative evaluation, which explained 23 - 44 % of the variance in the relationship. Fear of negative evaluation based on weight may partially account for the association between perceived overweight and the tendency to overeat.

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**Poster 50: The role of Positive Psychology in reduction of obesity: A preliminary investigation.**

Jana Rozehnalova, Jerome Carson, Ianis Matsoukas  
University of Bolton, Bolton, United Kingdom

Positive Psychology (PP) is a relatively new domain within the field of psychology, which focuses on bringing balance to a field that has been preoccupied with patholology. It aims to help people identify and develop their strengths and focus on positive aspects of their life, in order to achieve their full potential.

Obesity represents a world-wide health problem with inconsistent evidence for long-lasting effects of currently applied treatments. PP has been successfully applied to psychological disorders and disturbances related to obesity. However, its role in reduction of obesity remains unexplored.

Research shows that the differences in human development depend on the interaction between environmental exposures and individual genotypes and phenotypes. Positive psychological stimuli have been shown to produce changes on a molecular genetics level with responsiveness to the stimuli depending on individual genotypes. This report presents a novel approach to obesity treatment, where a Positive Psychological Intervention (PPI) is tested as an external stimuli and a potential trigger of change in obesity-related gene expression.

Within the scope of a PhD, a 6 week PPI has been designed and delivered in two pilot studies to 28 participants. The results revealed significant increases in well-being and body-image flexibility, and decreases in depression and anxiety. In addition, 10 participants lost significant amounts of weight after receiving the PPI. Results from the molecular genetics approach are yet to be analysed. However, it seems likely that the PPI may be able to inhibit expression of some genes related to obesity leading to weight loss.

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**Poster 51: The Development and Validation of the Addiction-like Eating Behaviour Scale.**

Helen Ruddock¹, Paul Christiansen¹², Jason Halford¹, Charlotte Hardman¹  
¹University of Liverpool, Liverpool, United Kingdom, ²UK centre for tobacco and alcohol studies, UK, United Kingdom

Overeating and obesity are frequently attributed to an addiction to food. However, there is limited evidence to suggest that certain foods contain any specific addictive substance. An alternative approach is to examine dimensions of observable behaviour which underpin a behavioural addiction to eating. To facilitate this, it is necessary to develop a tool to quantify addiction-like eating that is not based on the clinical criteria for substance-dependence. The present study provides initial validation of the Addiction-like Eating Behaviour Scale (AEBS). English speaking male and female participants (N=511) from a community sample completed the AEBS, alongside other health- and eating-related questionnaires including the Yale Food Addiction Scale (YFAS) and Binge Eating Scale (BES). Participants also provided their height and weight to enable calculation of body mass index (BMI). To assess test-retest reliability, an additional 70 participants completed the AEBS twice, two weeks apart. Principle components analysis revealed that a two-factor structure best accounted for the data. Factor 1 consisted of items referring to appetitive drive, while factor two consisted of items referring to dietary control. Both subscales demonstrated good internal reliability and test re-test reliability, and a confirmatory factor analysis confirmed the two-factor structure. AEBS scores correlated positively with BMI (p<.001) and other self-report measures of overeating. Importantly, the AEBS significantly predicted variance in BMI above that accounted for by both the YFAS and BES (p=.027).

In conclusion, the AEBS provides a valid tool to quantify behaviours associated with a potential ‘eating addiction’, and overcomes limitations associated with applying substance-dependence criteria to eating.
Poster 52: Anthropometric predictors of high uric acid levels in adults with chronic kidney disease.

Roham Sadeghimakki, David McCarthy
London Metropolitan University, London, United Kingdom

Background: Increased plasma uric acid concentration is an independent risk factor for the progression of renal disease. Renal function is also negatively affected by excessive adiposity.

Objective: To investigate the association of adiposity measures with uric acid levels among adults with chronic kidney disease (CKD).

Methodology: A cross-sectional study of 5897 adults extracted from NHANES 2009-2010 database was performed. Based on eGFR values (> 90 or ≤90 ml/min/1.73 m² BSA), the individuals were categorised into two groups with normal renal function or chronic kidney disease(CKD), respectively. Pearson's correlation as well as multivariate linear regression were carried out to assess the association between adiposity measures and uric acid level.

Results: Adiposity measures (BMI, waist circumference (WC), mid-upper arm circumference(MUAC), and waist to height ratio (WHtR)) were significantly correlated with uric acid concentration(p<0.005) in both groups, with stronger correlations in those with CKD (r = 0.32, 0.38, 0.35, 0.29, respectively). The adjusted regression models could significantly predict the variability in uric acid concentration (p<0.001) in normal kidney and CKD groups (r=0.61 and 0.53, respectively). WC and MUAC were both significant predictors of increased uric acid level in CKD group (0.01 and 0.04 mg/dl increase per 1 unit increase, respectively; p<0.005). In normal kidney group, however, MUAC did not show a significant contribution to the variation in plasma uric acid concentration.

Conclusion: WC and MUAC are independent anthropometric predictors of elevated uric acid concentrations among adults with CKD.

Poster 53: Prevalence and difficulties in achieving consensus for diabetes screening in children/adolescents with obesity attending community weight management services. Implications for further research.

Vishal Sharma¹, Jane Nixon¹, Susanne Coleman¹, Linda Sharples², Maria Bryant¹
¹University of Leeds, Leeds, United Kingdom, ²London School of Hygiene and Tropical Medicine, London, United Kingdom

Aim: To assess utility and feasibility of screening for diabetes in children/adolescent’s attending community weight management services.

Introduction: NICE guidance (PH47) recommends that children/adolescents attending community weight management services are screened for obesity-related co-morbidities to identify those at risk, and provide support/treatment to minimise future complications.

Methods: A systematic review and meta-analyses were conducted of observational studies reporting prevalence of diabetes in children/adolescents with overweight/obesity. Prevalence data were extracted and prevalence ratios calculated using a random effects model. Results were presented to a group of health professionals and researchers with an interest in obesity, and a panel of service users.

Results: Forty observational studies using six measurement methods were identified. Prevalence rates of diabetes ranged from 0.2% to 57.8% in children/adolescents with obesity depending on the measurement method. Prevalence ratios indicated that for every one child/adolescent with diabetes of a healthy weight there would be 1.5 to 3.6 with obesity. The consensus panels felt it was important to screen for diabetes based on the evidence, and their knowledge and experience. However consensus on the appropriateness of screening in a community weight management service setting was not achieved due to concerns about the feasibility of screening, service impacts (e.g. staff training and system updates), test accuracy, variation in reported prevalence, implications on the child/adolescent, and the treatment pathway.

Conclusion: Although screening for diabetes was deemed important, further work is required to explore the true benefits and implications of developing a screening programme in line existing national screening criteria.


Niraj Singh, Vivienne Byers
Dublin Institute of Technology, Dublin, Ireland

This paper utilises systematic review of studies published in different countries examining the consumers’ understanding of health claims. Review has been conducted by segmenting health claims in to different types as per Food and Agriculture Organization of the United Nations Codex (1997; 2013) and Nutrition Labelling and Education Act (NLEA) of 1990. Selected papers n=56 were from the broad pool of work examining consumers’ understanding of health claims which includes awareness, evaluation of claims, knowledge about nutrition information, understanding of nutrients in singularity and totality, perceptions, attitudes, beliefs as well as behaviour towards claims. The methodology employed Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P, 2015) for selecting research papers for systematic review. Systematic review shows consumer understanding juxtaposition between different types of claims which suggests the need to further investigate the relationship between types of claims and consumer understanding due to mixed results. A key debate that justifies the reason for this systematic review is that consumer perception and understanding differs depending on the type of food health claim hence consumers' attitude cannot be generalised. Paper also addresses the location of respondents and based on the results study implies the need to investigate the role of different type of claims in specific region.
**Poster 55: Investigating the relationship between overweight and obesity, cardiorespiratory fitness and physical competence in primary aged girls and boys.**

Hannah L Spacey1, Richard Tyler1, Kirsty Edwards1, Sinead Brophy1, Rachel Hughes2, Gareth Stratton1
1Swansea University, Swansea, United Kingdom, 2Sport Wales, Cardiff, United Kingdom

**Aim:** The aim of this study was to investigate the relationship between overweight and obesity, cardiorespiratory fitness and physical competence in children aged 9-11 years.

**Participants:** 133 children from the Swan-Linx programme were included. The sample included boys (n=66) and girls (n=67) participants with a mean ± SD age of 11.12 ± 1.0 years (boys) and 11.06 ± 0.3 years (girls) with a BMI of 18.2 ± 2.9 (boys) and 19.15 ± 3.2 (girls).

**Methods:** Participants took part in the Dragon Challenge (physical competence) and a battery of fitness tests (body weight, height and 20m multi stage fitness test). Pearson Product Moment correlation coefficients and simple linear regression were used to analyse associations between cardiorespiratory fitness, physical competence and BMI.

**Results:** In boys, BMI had a moderate association with physical competency (r=-.452, p=.000, R^2 = .20, p=.000) while cardiorespiratory fitness had a weak association (r=-.388, p=0.001, R^2 = .15, p=.000). In girls, BMI had a weak association with physical competence (r=-.321, p=.008, R^2 = .10, p=.008) while cardiorespiratory fitness had a moderate association (r=-.438, p=.000, R^2 = .15, p=.000).

**Conclusion:** The results suggest that BMI and cardiorespiratory fitness had differing significant associations with physical competence in boys and girls, although the variance accounted for was moderate. Because of the contribution of physical competence to lifelong physical activity participation, intervention approaches need to be tailored to gender with a focus on promoting and improving physical competence and cardiorespiratory fitness.

**Poster 56: Understanding social identity in the context of a group-based intervention for people with severe obesity.**

Dawn Swancutt1, Sammyh Khan2, Claire Farrow3, Katarina Kos4, Mark Daly4, Jonathan Pinkney1, Mark Tarrant4
1Plymouth University, Plymouth, United Kingdom, 2Keele University, Keele, United Kingdom, 3Aston University, Birmingham, United Kingdom, 4University of Exeter, Exeter, United Kingdom, 5Royal Devon and Exeter NHS Foundation Trust, Exeter, United Kingdom

**Background:** Prevalence of obesity in the UK is rising and currently affects 27% of the population. This presents a challenge to specialised services responsible for providing care to people with severe obesity, such as Tier 3 weight management services. Group-based programmes are increasingly used to deliver Tier 3 services, yet evidence for effectiveness of such programmes is scant. Recent research has highlighted the importance of the social identity that patients’ form within the context of Tier 3 group programmes in structuring patient engagement and progression through the service.

**Method:** A cross-sectional survey was conducted with seventy-five patients enrolled in a Tier 3 service, collecting data on their experiences of treatment, psychosocial variables, group and patient demographics. The structural and psychological dynamics of the weight-management group programme was assessed, with a particular focus on the correlates of patients' new social identity that emerged within it.

**Results:** Stepwise regression analyses revealed two variables that were most predictive of social identification with the group programme: the extent to which the group comprised the same members at each meeting (group continuity), and the centrality of self-definition as an individual of excess weight. These two significant models explained 22% of the variance in identification with the weight-management group programme.

**Conclusions:** Alongside consideration of structural elements of group programmes for weight management, it is important to consider psychological factors that likely shape the emerging dynamics within Tier 3 programmes. The findings have implications for the organisation, design and delivery of weight management groups.
Poster 57: Can the ability to tolerate distress predict aptitude to maintain weight loss in individuals with obesity?

Daisy Thompson-Lake, Emma O’Byrne, Richard De La Garza II, Peter Hajek

1Queen Mary University of London, London, United Kingdom, 2Baylor College of Medicine, Houston, USA

In substance use disorder (SUD) individuals have disrupted stress responses which are associated with relapse to drug use. Similarly, individuals with obesity have been shown to increase food intake during aversive situations. The ability to tolerate distress, therefore ameliorating dysfunctional behaviour has been measured in SUD. However, to our knowledge it has not been examined within a clinical population with obesity.

This study examined ability to tolerate distress measured by self-report, psychological and physical distress tolerance (DT) in relation to weight loss in two cohorts; 1) those who have successfully lost minimum 10% of their body weight and maintained this weight loss for > 12 months (SWL); and 2) those unable to lose more than 3% of their body weight for > one month, over a three year period (UWL).

77 participants (SWL: n=37, UWL: n=40) were recruited via support programs such as; Overeaters Anonymous, and Weight Watchers. Participants did not differ on baseline weight characteristics such as weight at start of attempt, or heaviest BMI (all ps > 0.05). Significant differences were seen in self-report measures of perceived ability to tolerate distress (p<0.05), and ability to persist compared to others (p<0.001) and on one physical DT measure (breath holding)(p<0.05). Weak correlations were seen between physical DT measures (r=0.224, p<0.005)

This study supports previous work in SUD suggesting ability to tolerate distress is predictive in successfully maintaining a behaviour change. Future studies should examine if prospective weight loss can be predicted by self-reported DT or BH. This finding has clinical implications for assisting patients in weight loss programs.

Poster 58: Action Weight: An adult weight management service for patients with morbid obesity, hosted in a cardiovascular exercise rehabilitation centre.

Russell Tipson, Linzi Murray, Mark Lynch, Harkesh Verdi, Anne Welsh, Cathy Moore, Jane Flint

Action Heart, Dudley, United Kingdom

Action Weight is an adult weight management programme for individuals with morbid obesity. The service was commissioned by Dudley Public Health to take over from a service that was failing and that had been hosted at a GP practice.

The opportunity was taken to redesign the service and to host it at the Action Heart Exercise Rehabilitation Centre, Russells Hall Hospital, Dudley.

In particular, monthly consultations for twelve months were changed to weekly consultations for twelve weeks and with patients successful in achieving their weight loss target being able to receive support for a further nine months. The new service has proven to be more successful and was commissioned at a reduced cost, ensuring that it has also been more cost effective.

Another key feature has been the success of hosting the service in the exercise rehabilitation centre. This setting, which will be typical of many cardiac rehabilitation programmes (CRP) in the UK, has proven to be very popular, with a significant increase in the number of patients opting to participate in a formal exercise programme, when compared with the previous service. This may be of interest to other weight management providers in the UK as there is a national network of CR programmes which may be able to offer support for the physical activity component of weight management services.

The service is enjoying considerable success and has recently been commissioned to increase its capacity. The results of the first two years of delivery can be shared via the poster/presentation.

Sarah Whitson, Lada Timotijevic, Kate Gleeson
University of Surrey, Guildford, United Kingdom

Strong empirical evidence exists for the relationship between Body Mass Index (BMI) and psychological distress, with general consensus that the effect is bidirectional. BMI appears to impact psychological distress through causal pathways, including social and cognitive factors. Physical self-concept, socially constructed beliefs about oneself, has not been considered by the literature. This study examined the relationship between BMI and psychological distress, and examined whether physical self-concept and social comparisons form part of a causal pathway.

Online questionnaires were administered to 265 adults from the general population. Measures included BMI, physical self-concept, psychological distress, and social comparisons. Moderated mediation analyses were conducted using the bootstrapping method. Results found that higher BMI was not directly associated with increased psychological distress; however, it was indirectly associated with psychological distress through physical self-concept. Once physical self-concept was accounted for, the relationship between BMI and psychological distress became stronger and the opposite direction to expected, with higher BMI associated with lower psychological distress. In addition, there was evidence that the effect of physical self-concept on psychological distress was only present when a person makes unfavourable comparisons of themselves to others.

Overall, the results support the theory for multiple factors forming causal pathways between BMI and psychological distress, with these factors accounting for psychological distress outcomes rather than BMI itself. The study suggests that social context and social norms will shape the interpretation of physical self-concept in terms of impact on affect and distress. Implications for public health policy and future research directions will be discussed.

Poster 60: An all Wales approach to the development, implementation and evaluation of a structured weight management programme (Foodwise for Life) delivered by trained community workers.

Lisa Williams
Cardiff and Vale University Health Board, Cardiff, United Kingdom

Obesity is steadily increasing with greater prevalence among lower socioeconomic groups. Poor diet is a risk factor for increased prevalence of chronic disease. Cost effective weight management interventions are needed urgently to help deal with the problem of increasing obesity.

‘Foodwise for Life’ (Foodwise) is an 8 week evidence based structured weight management programme, designed to be delivered by trained community workers and to meet an identified gap in weight management services at level 1 and 2 of the All Wales Obesity Pathway. Dietitians in Wales, in collaboration with partners including National Exercise on Referral Scheme (NERS), local authority leisure services and Communities First developed a tutor pack, participant handbook and standard quality assurance and evaluation framework. The programme utilises the existing model of quality assured nutrition skills training for community workers delivered through the Nutrition Skills for Life programme.

Between April 2015 and March 2016
- 62 community workers were trained and supported by dietitians to deliver Foodwise
- 123 Foodwise programmes were attended by 789 individuals.
- 99% community workers rated the training as good (21%) or excellent (78%).
- 94% felt confident (72%) or very confident (22%) to deliver the programme.
- 100% delivered Foodwise using the standard resources.
- 92% of participants felt more confident to manage their weight
- 79% lost weight. Average weight loss = 2.9kg
- 98% reported making positive changes to their diet with 77% increasing fruit and 71% increasing vegetable intake,
- 87% reported eating less sugar and sweet foods
- 89% reported reducing high fat foods.

Foodwise offers an effective and sustainable approach to the provision of level 1 and level 2 community weight management services.
Poster 61: Scaling up: a critique of recent methods for measuring severe obesity in English & Scottish National Health Surveys.

Kath Williamson1,2, Antonis Vlassopoulos1, Amy Nimegeer1, Mike Lean1
1University of Glasgow, Glasgow, United Kingdom, 2NHS Lothian, Edinburgh, United Kingdom

Introduction: Severe obesity (BMI ≥40kg/m²) is a management challenge, with high costs, poor outcomes and limited evidence. National health surveys show prevalence tripling between 1993-2015, making it the fastest growing category of obesity. Effective decision making, policy & service planning depend on robust data.

Method: Data collection methods of Scottish Health Survey (SHeS) and Health Survey England (HSE) were examined. Analysis focussed on participant recruitment, weighing procedures and descriptive statistical analysis for measured and estimated weights.

Findings & Interpretation: An invitational approach is used by both surveys, potentially creating selection bias, due to the increased social withdrawal and stigmatisation often experienced by those with severe obesity. Individuals with severe obesity may have functional disabilities preventing them standing on scales. They may frequently exceed the 130kg maximum load of Class II scales used for HSE until 2011 and majority of data collection SHeS 2010 - 2016. 18.5% of all participants with BMI ≥40kg/m² in SHeS 2008 - 2014 surveys have estimated weights, compared to 3.7% in SHeS 2015, when Class III scales (maximum load 200kg) started to replace Class II scales. Maximal load of the scales impacts the granularity of the estimated weights, all reported in round stone figures, as well as the quality of measured weight close to the maximum. The use of Class II scales creates an artificial peak of weights reported as 130kg (n=44) not seen with the new scales.

Conclusions: Scales with a low maximum weight have introduced errors and bias in assessing severe obesity. Recent adoption of Class III scales for all SHeS/ HSE surveys will reduce this problem.

Poster 62: Impact of food security status on overweight and reported dietary intake: Exploration of White British and Pakistani families in the Born in Bradford cohort.

Tiffany Yang1, Pinki Sahota2, Kate Pickett1, Maria Bryant3
1University of York, York, United Kingdom, 2Leeds Beckett University, Leeds, United Kingdom, 3University of Leeds, Leeds, United Kingdom

Objective: Compare prevalence and trajectories of overweight status and dietary intakes among food secure and insecure households of Pakistani and White British origin.

Methods: Cross-sectional differences in reported dietary intakes and overweight prevalence, and longitudinal changes in body mass index (BMI) for mothers between 12- and 36-months postpartum and BMI z-score (BMIZ) in children between 12 months and 4-5 years, by household food security status measured 12 months postpartum in the Born in Bradford study.

Results: White British mothers reported more food insecurity than Pakistani mothers (11% vs 7%; p=0.008). More food insecure mothers were overweight (food insecure vs food secure: 61% vs 55% [White British], 63% vs 53% [Pakistani] p>0.05 all). In longitudinal analyses BMI increased for only Pakistani mothers, by 0.44 units (95% Confidence Interval [CI]: 0.33, 0.55) among food secure and 0.77 units (95% CI: 0.40, 1.10) among food insecure. In longitudinal analyses of children, BMIZ increased by 0.17 (95% CI: 0.13, 0.21) units for food secure White British children and by 0.25 units (95% CI: 0.20, 0.29) in food secure, and 0.40 units (95% CI: 0.22, 0.59) in food insecure, Pakistani children. Food security status did not influence reported dietary intakes for any mothers or Pakistani children. Food insecure White British children consumed more processed sweet and savoury snacks and sugar-sweetened beverages (p<0.05 all) than their food secure counterparts.

Conclusions: Food security status and ethnicity influence overweight and reported child dietary intake, suggesting these factors are important for developing tailored interventions to promote healthy dietary intake.
Redefining mobility
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The Infant & Toddler Forum
brings together leading experts in early years nutrition and development, providing evidence based information and practical resources to enable families to make healthier lifestyle choices.

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Supported by an unrestricted educational grant from Danone Nutricia Early Life Nutrition
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  - increased insulin sensitivity
  - Less atherogenic blood lipids
  - Less small mass losses
  - Improved cardiovascular fitness
- Predictable weight loss before bariatric surgery

References

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