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Preparing for pregnancy: *Do we?*

Preconception attitudes and issues.

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Overview



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- What is preconception care?
- The obesity epidemic
- Pregnancy planning
- Weight and pregnancy
- Weight, diet or both?
- Recommendations and research for preconception care
- My research



What is preconception care?

Debate?

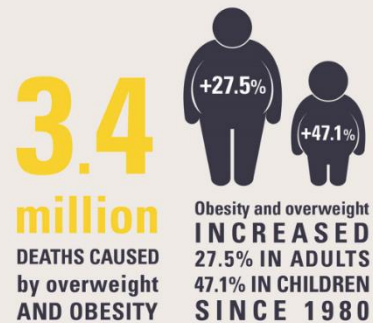
“Medical, behavioural and social health interventions to women and couples **before conception** occurs... to improve maternal and child health, in both the short and long term.” (WHO, 2012)

Levels of overweight and obesity

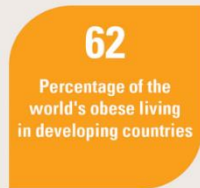
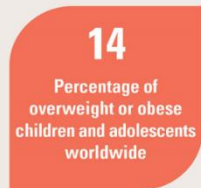
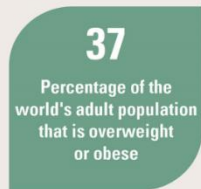


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OBESITY AND OVERWEIGHT INCREASING WORLDWIDE



Middle Eastern countries experiencing some of the largest increases in obesity globally: **SAUDI ARABIA, BAHRAIN, EGYPT, KUWAIT, AND PALESTINE**



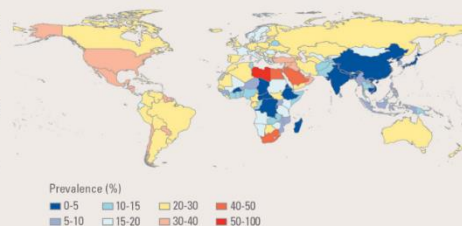
THE US ACCOUNTS FOR **13%** OF THE NUMBER OF OBESE PEOPLE GLOBALLY BUT **JUST 5%** OF THE WORLD'S POPULATION

OBESITY AND OVERWEIGHT CONTRIBUTE TO:

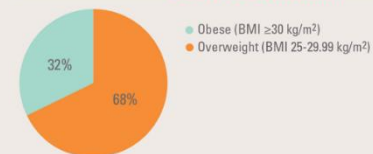


7 COUNTRIES THAT HAVE OBESITY PREVALENCE EXCEEDING 50% IN WOMEN: TONGA, KUWAIT, KIRIBATI, THE FEDERATED STATES OF MICRONESIA, LIBYA, QATAR, AND SAMOA

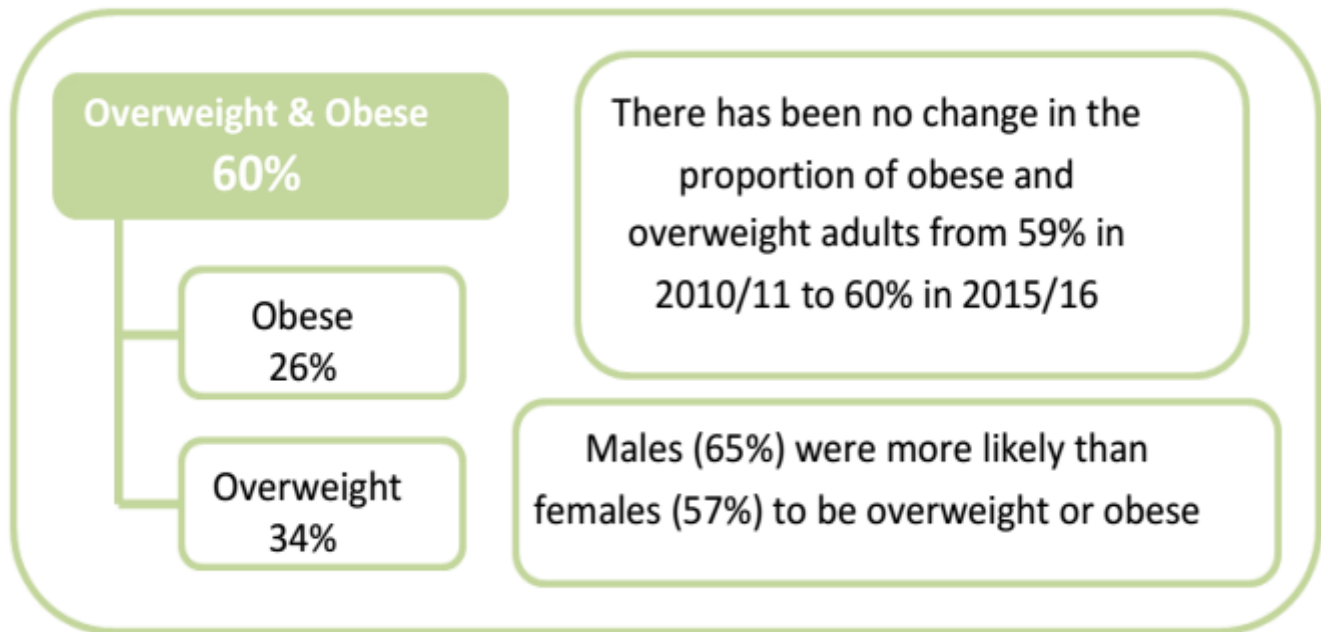
OBESITY IN WOMEN WORLDWIDE, 2013



GLOBAL BREAKDOWN OF OBESITY AND OVERWEIGHT, 2013



ADULT OBESITY



Health Survey NI, 2015-16

Pregnancy planning and weight



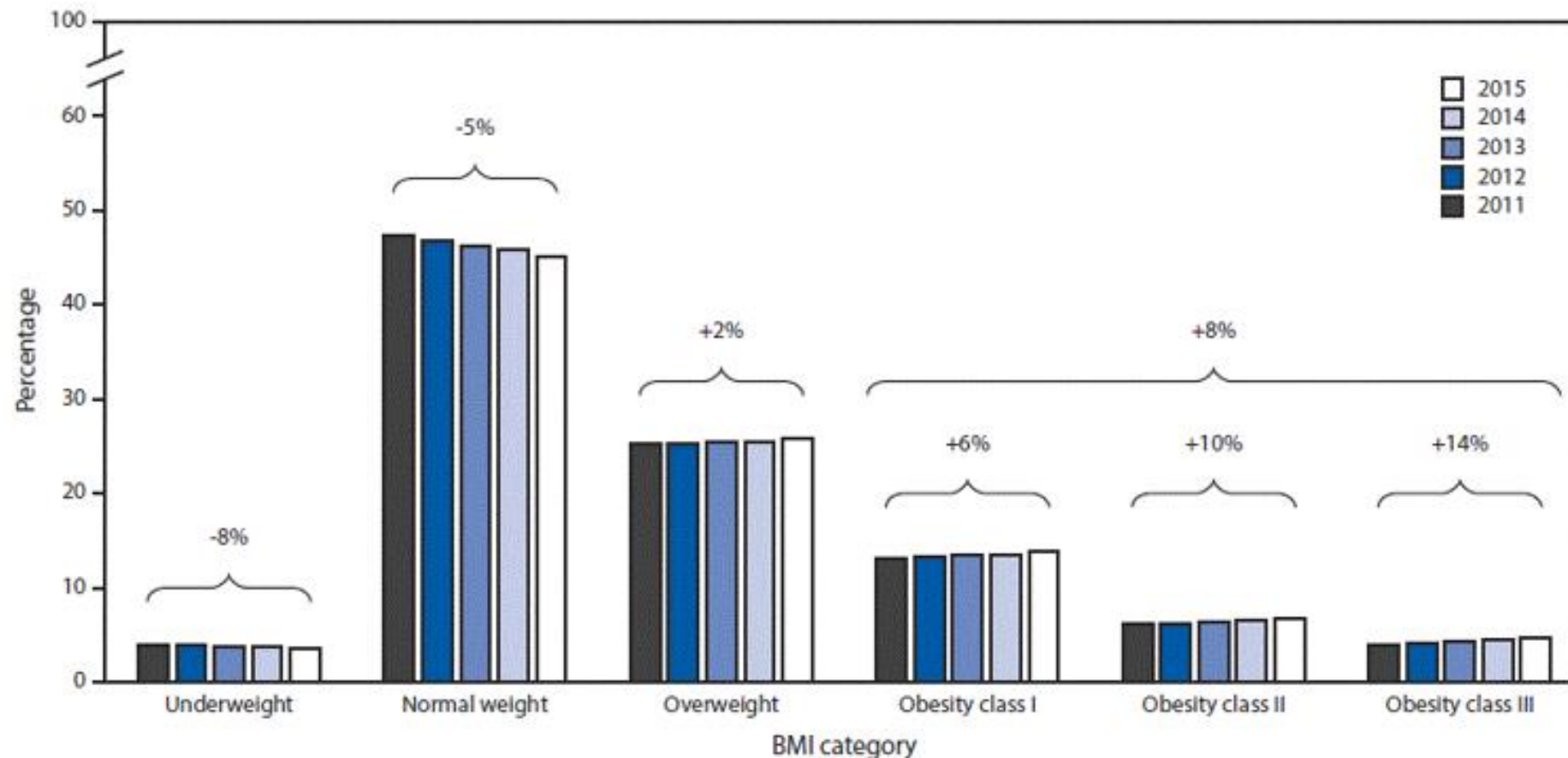
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- Pregnancy planning is generally poor with regards timing (Sedgh *et al.*, 2014)
- Low public and professional awareness of preconception health and its importance (Stephenson *et al.*, 2014)
- Those who do plan their pregnancy timing do little else in preparation (Stephenson *et al.*, 2014)

Preconception weight in Women



FIGURE. Prevalences and relative changes in prepregnancy BMI categories* among women with a live birth – 36 states, District of Columbia, and New York City,[†] 2011–2015



(Deputy *et al.*, 2018)

Weight, conception and fertility



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- Excess weight is associated with reduced fertility and a longer time to conception (Milone *et al.*, 2016; Shah *et al.*, 2011; Fontana and Torre, 2016; Stokes *et al.*, 2014)
- Spontaneous conception decreases by 5% for each unit increase over BMI 29kg/m^2 (van der Steeg *et al.*, 2008)
- Fertility treatment is less effective (Pandey *et al.*, 2010)

Weight and maternal pregnancy complications



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- Beginning pregnancy overweight/obese increases risk for excess gestational weight gain (Restall *et al.*, 2014)
- Hypertensive pregnancy disorders
- Caesarean section
- Miscarriage
- Gestational diabetes mellitus

(Scott-Pillai *et al.*, 2013
Bhattacharya *et al.*, 2007)



Neonatal outcomes

- Neonatal ward
- High/low birthweight
- Still-born and neonate death

(Scott-Pillai *et al.*, 2013)

Child outcomes

- Predisposition for obesity (Gaillard *et al.*, 2015)
- Cardiovascular and metabolic disease (Gaillard *et al.*, 2015)
- Autism spectrum disorder & intellectual disability (Li *et al.*, 2016; Pugh *et al.*, 2015)
- DNA methylation of imprinting genes (Soubry *et al.*, 2015)

Weight vs Diet



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- Poor diet is associated with negative pregnancy outcomes independent of weight.
- Women planning for a pregnancy have inadequate diets (*de Weerd et al., 2003*)
- 72% of women persist in unhealthy eating practices until at least the end of the second trimester (*McGowan and McAuliffe, 2012*)

Current guidance and recommendations



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Pre-conception - advice and management

Last revised in August 2017

Management

- **Scenario: Assessment** : covers the assessment of a woman and her partner who are planning a pregnancy.
- **Scenario: Advice for all women** : covers general advice on pre-conception care that is applicable to all women who are planning a pregnancy.
- **Scenario: Mental health issues** : covers specific issues to be considered in a woman with a mental health problem who is planning a pregnancy.
- **Scenario: Chronic medical conditions** : covers specific issues to be considered in a woman with thyroid disease, diabetes mellitus, epilepsy, chronic cardiac disease, chronic hypertension, asthma, renal disease, venous thromboembolism, rheumatological conditions, inflammatory bowel disease, sickle cell disease, or thalassaemia who is planning a pregnancy.
- **Scenario: Genetic risk assessment** : covers the provision of advice about preliminary assessment of couples concerned about their risk of inherited genetic disorders in general practice, and information regarding who should be referred for further assessment and genetic screening.

(NICE, 2017)



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Advice on weight management

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- Advise women that achieving a healthy weight (BMI 18.5–24.9 kg/m²) before becoming pregnant reduces the risk of pregnancy complications.
- Advise the woman of the potential health risks of being obese (BMI of 30 kg/m² or more) including:
 - Reduced fertility.
 - Increased risk of miscarriage.
 - Gestational diabetes.
 - Gestational hypertension/pre-eclampsia.
 - Macrosomia and shoulder dystocia.
 - Preterm delivery.
 - Birth trauma.
 - Caesarean delivery.
 - Postpartum complications (for example haemorrhage, thrombosis and infection).
 - Stillbirth.
 - Congenital anomalies (for example neural tube defects, cardiovascular anomalies, cleft palate, limb reduction, anorectal atresia, hydrocephaly).
- Advise and encourage women who are obese (BMI of 30 kg/m² or more) to lose weight before becoming pregnant.
 - Women should be informed that losing 5–10% of their weight (a realistic target) would have significant health benefits and could increase their chances of becoming pregnant.
 - Women should be encouraged to check their weight and waist measurement periodically, or as an alternative, check the fit of their clothes.
 - Offer a weight loss support programme that includes advice about diet and physical activity.
 - Women should be aware that if they do become pregnant, there is no need to 'eat for two' or to drink full-fat milk.
- Advise women who are obese (BMI of 30 kg/m² or more) to take folic acid 5 mg daily starting at least one month before conception and continuing during the first trimester.
- Advise women with a low BMI (less than 18.5 kg/m²) of the potential health risks of being underweight, including:
 - Reduced fertility.
 - First-trimester miscarriage.
 - Preterm birth.
 - Low birth weight.
 - Gastroschisis.
- If an eating disorder is suspected, see the CKS topic on [Eating disorders](#).

(NICE, 2017)

- What happens when women are informed of positive health interventions during their child-bearing years?
- Not much
- “Few women follow the recommendations for those preparing for pregnancy.”

(Inskip *et al.*, 2009)

Hope?



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- Well conducted interventions work! (Twight *et al.*, 2012)
- Dedicated clinic
- Weight, diet and lifestyle screening
- Tailored counselling
- Systematic review evidence supports preconception interventions in benefitting health, weight and pregnancy outcomes. (Hemsing *et al.*, 2017; Lan *et al.*, 2017)

Conclusions



- Debate over what exactly preconception care is?
 - Who should benefit?
 - When it should be highlighted (i.e. what stage in the life-course)?
 - Who should it be delivered by?
- Weight and health behaviours (e.g. diet) for women AND men are sub-optimal at a population level, thus pregnancies are at risk.
- Preconception health- and weight-related interventions have shown beneficial outcomes
- More research is needed

Current research – SHAMELESS PLUG!



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Men and women – please share your views on health status before pregnancy!

- Men AND women aged 18-60 years to participate in a short online questionnaire exploring views on health and lifestyle **preconception**
- We are looking for those with OR without children to take part.
- **AIM:** to generate an evidence-base surrounding the views of men and women of child-bearing age in the UK on preconception health and lifestyle behaviours, in order that they may inform future preconception health behaviour interventions.
- Visit the [#pregweightmattersASONI](#) for a link to the survey!



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