TH Primary Care Children Healthy Weight (Obesity) Pathway (2024)

The importance of non-stigmatising communication

•Weight stigma have serious negative impact on the life and care of children and young people living with excess weight. (Figure 1)
•Shaming an individual for their weight does not prevent obesity; rather, it can have detrimental effects on weight management by promoting unhealthy coping strategies such as unhealthy eating behaviours (Figure 1)
• It is important to challenge stereotypes about obesity as a lifestyle choice and interact with compassion and empathy including when taking measurements
•See Obesity UK "Language Matters" for guidelines on how to speak about Obesity in an empathic and supportive way.

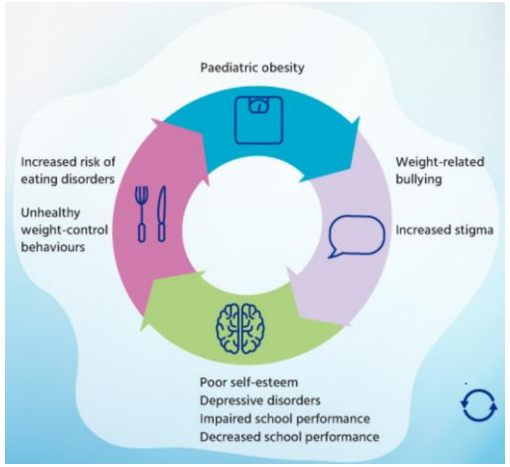

Figure 1

GP can refer directly to Excess Weight (CEW) clinic via their webpage or via :kch-tr.kings.bartscew@nhs.net

Concern about Excess Weight

If no recent measurement on child record, measure height & weight. Plot BMI using WHO growth charts (available at UK-WHO growth charts - 2-18 years | RCPCH) **(See Box 1.)**

BMI> 91st centile

Provide general health promotion information. (Ask open question – consider psycho-social context and think Family)

If there is a physical, emotional, social need signpost/ refer to relevant services in B**ox 2**

BMI >99.6thcentile

Use clinical judgment to take a physical and emotional assessment (consider aetiology of excess weight, risk factors and complex features) **(See Box 3)**

Are risk factor, comorbidities or complex features present?

No and BMI <99.6th

Yes or No but BMI> 99.6th

GP to assess first line blood and blood pressure **(See Box 4)**

BMI > 3,33 SDS and aged 2-18 years, with obesity related comorbidity

Bloods and/or BP abnormal

A&R to General Paediatrics (<16yrs)

With complex features and BMI >3 SDS

Bloods and BP Normal

No complex features and BMI < 3 SDs

Refer to 0-19 Service for monitoring and signposting (Box 2)

- Always assess for safeguarding/child protection issues. Any concerns, complete MASH referral and discuss with child protection team.
- If concerns about emotional health and well-being, see Mental Health links available on NEL intranet. These will include referral to services like Barnardo's, Spotlight or CAMHs

Box 1

Training & Resources

- Anthropometry E-learning training is available on the CEW in children and young people e-LfH.
- Access UK-WHO Growth charts on RCPCH
- Download UK-WHO Growth charts on your smartphone

BMI interpretation

BMI unreliable in children <2 years of age –

For children >2 years of age: Body Mass Index (kg/m2) = weight(kg)/height(m)2

- >91st centile = overweight
- >98th centile = obese
- Extreme obesity = >3.33 standard deviations above mean

➢ For children aged 5 with central adiposity calculate Waist (cm)/Height (cm) ratio > 0,5 indicate increased risk of adverse cardiovascular outcomes.

➢ Upper body fat, such as buffalo hump and neck, may be suggestive of Cushing's syndrome

Box2

Remember that health and weight are influenced by many individual and societal factors (Figure 2). Avoid making assumptions about a family lifestyle and avoid giving advice without having an understanding the family 's situation.

When signposting to further support, consider psycho-social determinants of weight drawing on the THGPCG Child Healthy weight page and Directory of support services.

The 0-19 Service can be contacted using the details below:

➢ **Health Visiting Team**: thgpcg.hvrecordsandreferrals@nhs.net or 0204 551 1414.

➢ **School Health & Wellbeing team**: thgpcg.schoolnurses@nhs.net or 0204 551 1414.

➢ **Early Help Hub:** 020 7364 5006 and the online enquiry form

➢ **CAMHS:** 0207 426 2375/2400 or elt-tr.CAMHSTowerHamletsDuty@nhs.net

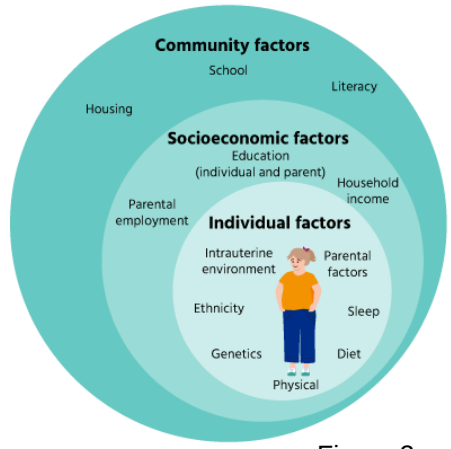

Figure 2

Box 3 Physical examination and history

- Sign of endocrine disorder: short stature, fatigue, violaceous striae, hirsutism, irregular menses, dysmorphic features, central adiposity , polyuria and polydipsia are associated with diabetes.
- Early or late puberty (before 8 years or no signs at 13 in girls, 15 in boys). Girls with early onset puberty are at higher risk of PCOS which involves late menarche, oligomenorrhoea or amenorrhoea (central adiposity, insulin resistance, acanthosis nigricans and hirsutism are commonly seen in PCOS)
- Consider concomitant drugs such as atypical antipsychotic medications and glucocorticoids (oral or high dose inhaled)
- Special Educational Needs and Disability (Genetic cause should be considered if early onset - before the age of 5-years-old - of severe obesity with associated hyperphagia or learning difficulties)
- Consider family history Family history of T2DM or CVD in 1st or 2nd degree relative
  - ➢ Early onset T2DM <40yrs
  - ➢ FH of CVD before 60yrs
- Give special consideration to children from BAME backgrounds due to increased metabolic risk
- Other complications: sleep disturbance such as Obstructive Sleep Apnea, heat intolerance, intertrigo, breathlessness, musculoskeletal complications (consider Vit D)
- Signs of hypothyroidism include short stature or reduced growth velocity, goitre, thickened yellow skin, skin and hair changes, psychomotor slowing and hung-up ankle jerks.

Emotional examination (depression, anxiety, low self-esteem, bullying, disordered eating, withdrawal)

Screening tools can be used to identify particular patterns of behaviour or experiences:

➢ PedsQL. Measurement Model for the Pediatric Quality of Life Inventory

➢ Revised Children's Anxiety and Depression Scale (RCADS)

➢ Eating Attitudes Test (EAT-26)

Box 4

Blood pressure assessment

Use an appropriately sized blood pressure cuff. In children and young people with obesity it is best practice to measure the mid-upper arm circumference and use this to determine the appropriately sized cuff. (Using the wrong sized blood pressure cuff can affect accuracy to 30mmHG2.)

There is no standard definition in the UK for hypertension in children and young people. In the USA, hypertension is as ≥95th centile on 3 or more separate occasions or ≥98th centile and defined 91st to 98th centile = high normal blood pressure for age on UK reference data.

Firstline bloods

- See guidance about Diabetes, insulin resistance, Hyperlipidaemia, NAFLD, iron deficiency anaemia, Vitamin D deficiency on the next page.
- Consider other investigations according to symptoms/signs i.e. USS abdomen, sleep study, PCOS etc.

Below is an overview and summary of complications and biochemical markers to consider for investigation .

Diabetes

Biochemical marker: HbA1c levels:

- 42-47mmol/mol 'pre-diabetes'
- ≥ 48mmol/mol 'diabetes'.

Insulin resistance

Biochemical marker (normal range): Fasting plasma insulin.

Basic interpretation: Calculate the Homeostatic model assessment of insulin resistance (HOMA-IR).

HOMA-IR equals (FPI times FPG) divided by 22.5. Where FPI is fasting plasma insulin (mU/mL) and FPG is fasting plasma glucose (mmol/L).

Measurements of >4.5 can indicate long term risk of type 2 diabetes.

Hyperlipidaemia

Biochemical marker (normal range): Lab ranges and guidelines differ for diagnostics, so it is important to refer to local protocols.

Basic interpretation: Calculate total cholesterol to HDL-C ratio. ≥6 indicates high risk.

NAFLD

Biochemical marker (normal range): ALT ≥35.

Basic interpretation: Raised ALT (≥twice normal range, for example ≥70) is the best indicator of probable NAFLD (non-alcoholic fatty liver disease), the hepatic manifestation of insulin resistance.

Some guidelines suggest further investigation if ALT equal to or greater than twice the upper limit of normal [26].

However, this is not sensitive enough in some cases so BSPGAN recommend that all patients with obesity with raised liver enzymes (any of ALT, AST, GGT above the upper end of normal limit or higher) get an abdominal USS. Abdominal USS (+/- elastography) with finding of hepatic steatosis used to diagnose NAFLD (BSPGHAN guideline: UK Fatty Liver Guideline. British Society of Paediatric Gastroenterology, Hepatology and Nutrition. 2020)

Iron deficiency anaemia

Biochemical marker (normal range): Full blood count, urea and electrolytes.

Basic interpretation: Full blood count, urea and electrolytes are not specifically indicated in obesity. However, iron deficient anaemia is more common in those with disordered eating. Markers of iron deficiency anaemia include haemoglobin, haematocrit, serum ferritin or transferrin.

Vitamin D deficiency

Biochemical marker (normal range): An increased risk of vitamin D deficiency at serum 25-hydroxyvitamin D (25[OH]D) levels less than 25nmol/L. Vitamin D levels may be inadequate (or insufficient) in some people when serum 25(OH)D is 25 to 50nmol/L.

Fasting Insulin

If fasting insulin is less than 40 and HbA1c is normal, then no need for OGTT. If fasting insulin is significantly >40 with a borderline HbA1c then referral for Paediatric consideration for OGTT is advisable

References & Resources

- This pathway has been informed by the Complication of Excess Weight (CEW) in children and young people foundation E-learning course for MTD clinicians.
- NICE guidelines - Obesity: identification, assessment and management