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Friday, August 09, 2019

(Plenary)

17:00 - 17:15 Childhood and Adolescent Obesity - Assessment and Management

Childhood and adolescent obesity: Assessment and Management

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Disclosures

- No disclosures to report

Obesity in childhood and adolescence

- **Can be a serious, chronic, relapsing disease**
- **While prevention is important, so too is effective treatment of those already affected**

Assessment: Can you recognise risk?

Can you see risk? Are these children affected by underweight, healthy weight, overweight or obesity?



Age 3 y 3 weeks



Age 4 y 4 weeks



Age 4 y

Can you see risk? Are these children affected by underweight, healthy weight, overweight or obesity?



Age 3 y 3 weeks
BMI >95th centile
Obesity



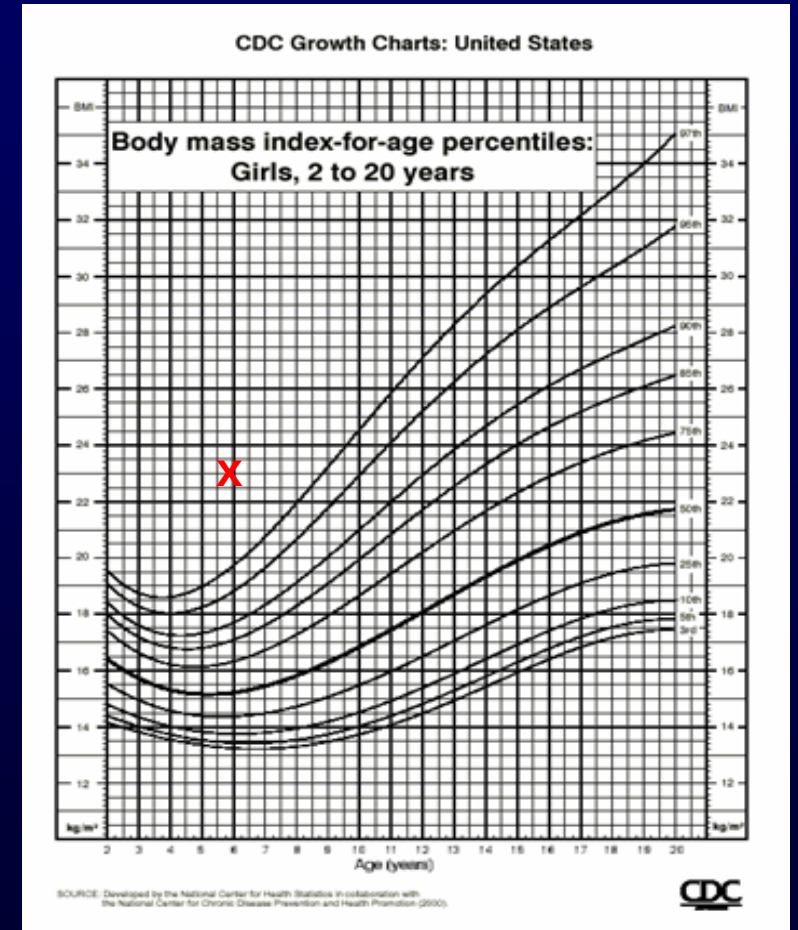
Age 4 y 4 weeks
BMI 10th centile
Healthy weight



Age 4 y
BMI 85th-95th centile
Overweight

Recognising the child with overweight or obesity (“above a healthy weight”)

- → routinely measure height & weight
- → plot BMI on a BMI-for-age chart:
 - *Example:*
 - Girl aged 6 years
 - Weight 33 kg
 - Height 120 cm
 - **BMI 22.9 kg/m²**



(>>97th centile for age; obesity range)

Same child

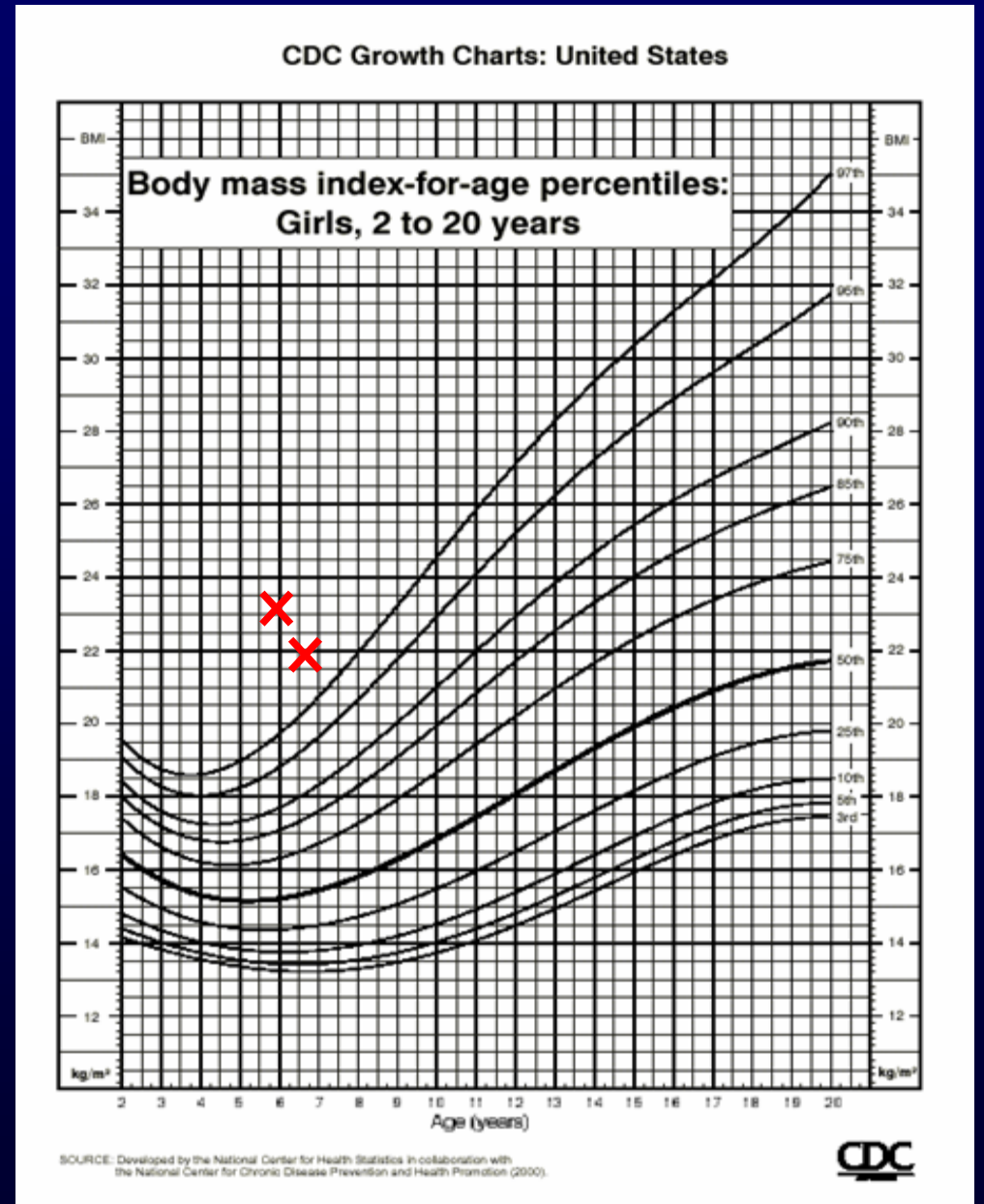
6 months later

Family-focused lifestyle intervention

Weight unchanged

Height 123 cm (↑ 3 cm)

BMI now 21.8 kg/m²



Practice Points

- **Measure height and weight routinely**
- **Plot BMI on a BMI for age chart**

Raising the issue of a child's weight with the family

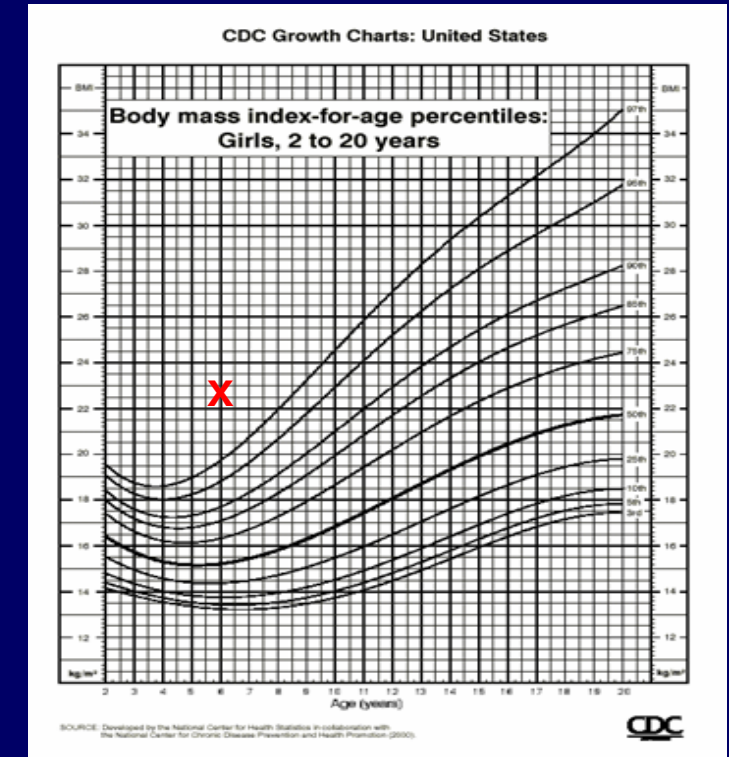
Raising the issue

- You are seeing a child for an apparently unrelated reason (e.g. asthma, otitis media) and think the child may have a weight issue.....
 - How do you raise the issue?

Raising the issue

- You are seeing a child for an apparently unrelated reason (e.g. asthma, otitis media) and think the child may have a weight issue.....
 - How do you raise the issue?
- Clinical practice guidelines recommend
 - Routinely measuring height & weight, calculating BMI, and plotting on growth chart
 - Discussing growth chart sensitively with parent/young person

- *“I’ve plotted weight adjusted for height here on the growth chart.... You can see that it’s above the healthy range for age.... Does that surprise you? Would you like to discuss it?”*
- Then recommend a further consultation to start addressing the weight issue
- Could the primary reason for the consultation be related to weight? (e.g. *asthma, enuresis, fracture, lower limb pain, sleep disturbance ...*)
- If so, then highlight its importance
- Take care with the language used eg “well above the healthy weight range”



- Are there existing problems associated with excess weight?
- Start to explore or investigate these

Practice Points

- **Use the growth chart to raise the issue sensitively**
- **Is your patient “above a healthy weight”?**

Assessment: When should I organise clinical investigations?

When to investigate?

- **Age:** adolescents > younger children
- **Higher levels of BMI** (especially central obesity)
- **High risk family history:**
 - 1st and 2nd degree relatives with premature heart disease, type 2 diabetes/gestational diabetes, dyslipidaemia, sleep apnoea, bariatric surgery etc
- **Higher risk ethnic groups:**
 - Aboriginal & Torres Strait Islander people, Pacific, Maori, Indian sub-continent, Mediterranean & Middle-Eastern, South-East Asian, Native American, African ...
- **Clinical suggestion of co-morbidities**

What investigations?

- **Initial fasting blood tests** (others dependent upon results):
 - Glucose
 - Liver function tests (ALT, AST)
 - Lipids (triglycerides, HDL cholesterol, LDL cholesterol)
 - Full blood count, iron studies
 - Vitamin D, B12
 - [Consider insulin - some controversy]
 - [Thyroid function tests]
- Consider referral for sleep assessment
- Other investigations that MAY be warranted: oral glucose tolerance test, liver ultrasound

Results for Peter aged 15 y

BMI 36, waist 110 cm, waist:height ratio 0.62, Greek ethnic origin, acanthosis nigricans. Strong family history of diabetes (father), obesity (both parents) and sleep apnoea (father)

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- **Fasting lipid profile**
 - Triglycerides 2.2 mmol/L (normal range [NR] <1.7)
 - Total cholesterol 5.1 mmol/L (NR <5.5)
 - HDL cholesterol 0.7 mmol/L (NR >0.9)
- **Fasting insulin & glucose**
 - Insulin 247 pmol/L (~40 mU/L)*
 - Glucose 4.8 mmol/L
 - Insulin:glucose 51.5**
 - No IGT on OGTT

* Insulin mU/L x 6 $\cong$ Insulin pmol/L

**Insulin:glucose (pmol/mmol) ratio >15 consistent with insulin resistance (Vuguin P et al. J Clin Endocrinol Metab 2001; 86:4618-4621)

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- **Liver function tests**
 - Normal apart from raised ALT 85 U/L (NR 10-50)
- **Liver ultrasound**
 - Diffuse increase in fatty liver, consistent with fatty liver; gall bladder and common bile duct normal

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**Central obesity with:
Dyslipidaemia
Insulin resistance
Non-alcoholic fatty liver disease**

– No IGT on OGTT

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Practice Point

- **Consider investigations in adolescents, and in those with more severe obesity, a concerning family history, higher risk ethnicity, or suspicion of co-morbidities**

“Common or garden” obesity can be responsive to treatment – provided it is made available!

Previous systematic reviews → family-based lifestyle interventions can be effective

- 2009 Cochrane Review*:
 - “Family-based, lifestyle interventions with a behavioural program provide significant and clinically meaningful **decreases in overweight in both children and adolescents** ... compared to standard care or self-help, in the short- and medium-term”
- 2012 systematic review[#]:
 - Lifestyle interventions: produce significant weight loss effects compared to no-treatment control or usual care; and also lead to significant **improvements in LDL cholesterol, triglycerides and fasting insulin**

* Oude Luttikhuis H et al. Interventions for treating obesity in children. Cochrane Database of Systematic Reviews 2009, Issue 1.. [#] Ho M et al. Effectiveness of lifestyle interventions in overweight children: a systematic review of randomised controlled trials. Pediatrics 2012; 130:e1647-e1671.



Cochrane
Library

Cochrane Database of Systematic Reviews

Parent-only interventions for childhood overweight or obesity in children aged 5 to 11 years (Review)

Surgery for the treatment of obesity in children and adolescents (Review)

Diet, physical activity, and behavioural interventions for the treatment of overweight or obesity in preschool children up to the age of 6 years (Review)

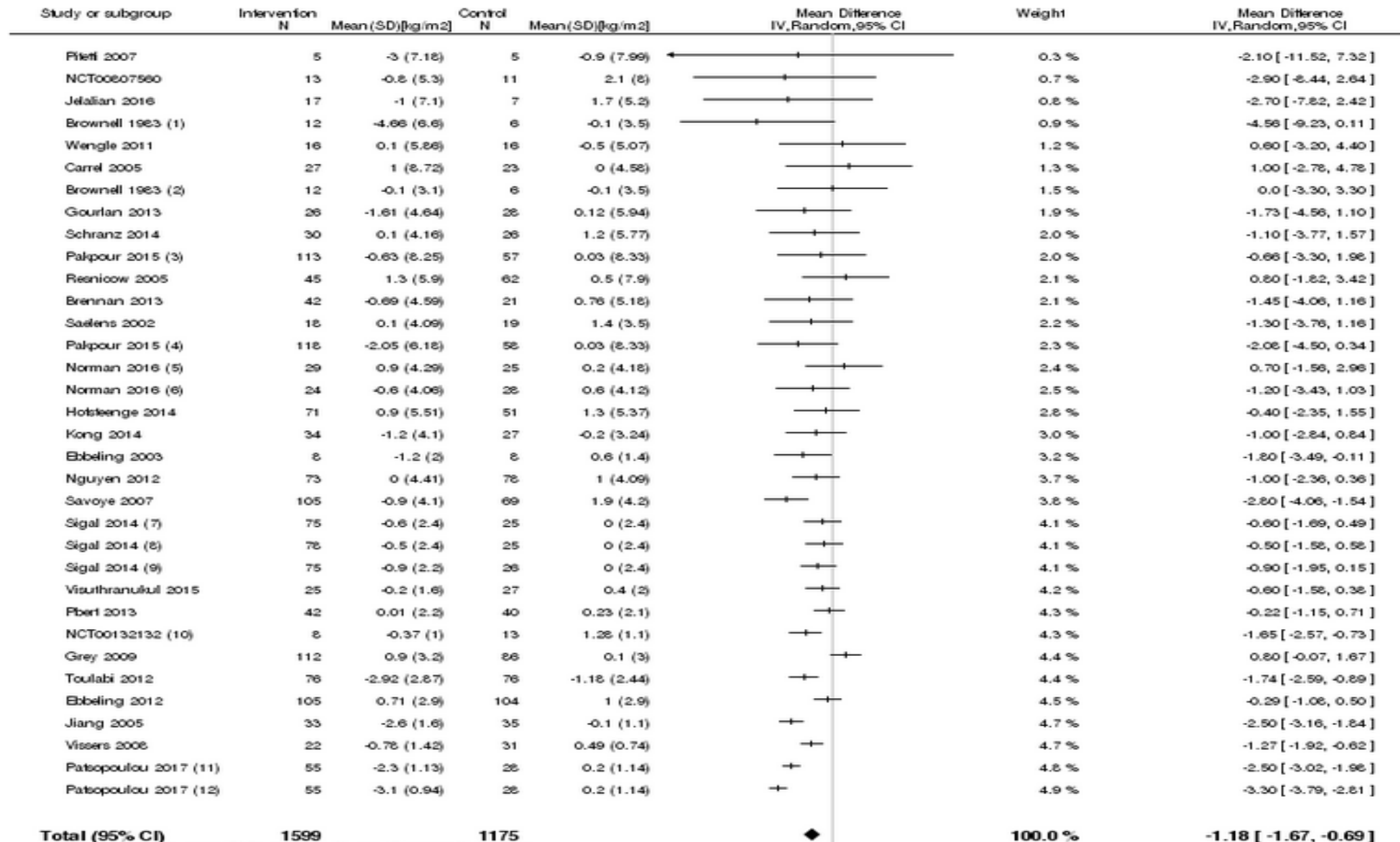
Drug interventions for the treatment of obesity in children and adolescents (Review)

Diet, physical activity and behavioural interventions for the treatment of overweight or obese adolescents aged 12 to 17 years (Review)

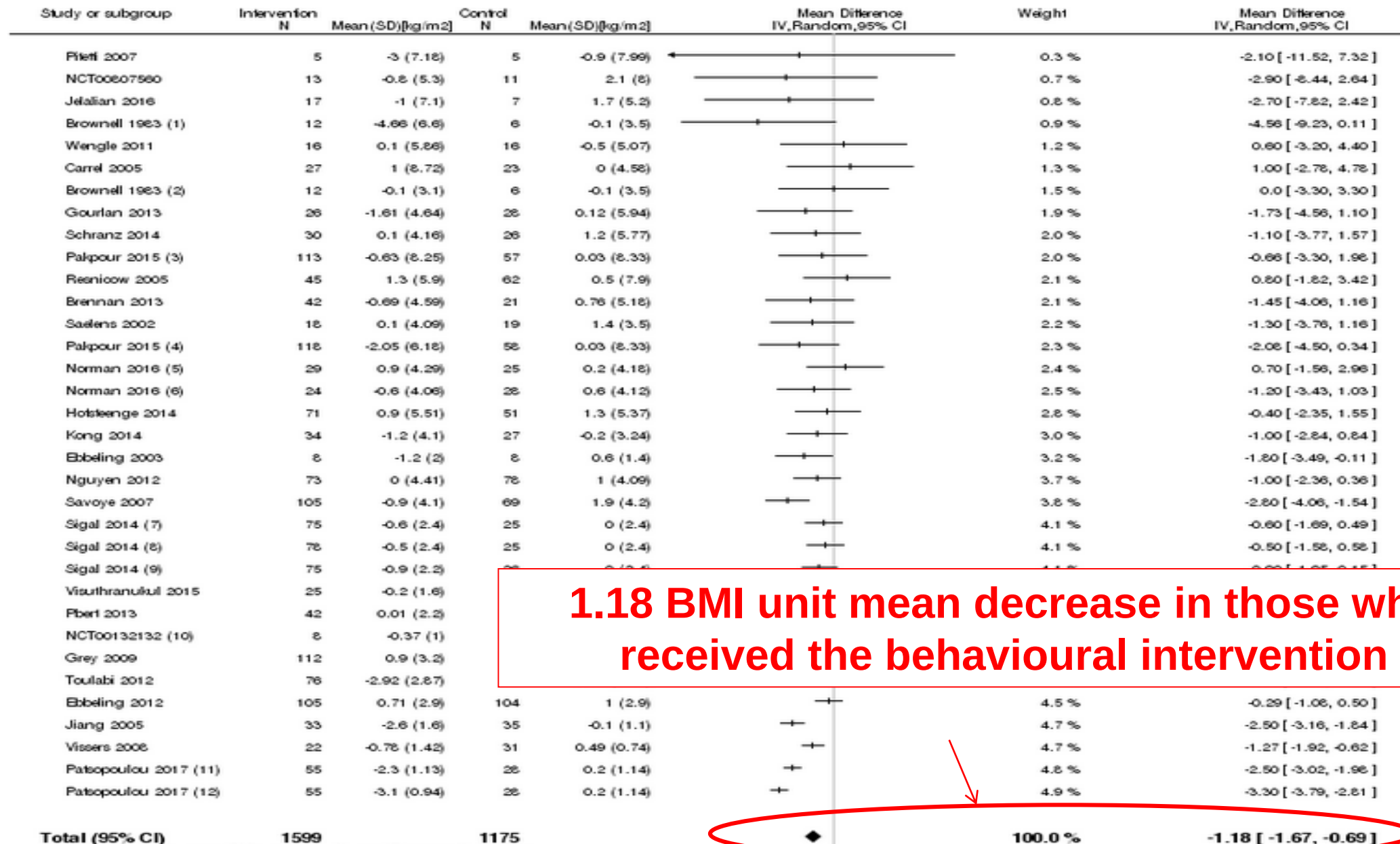
Diet, physical activity and behavioural interventions for the treatment of overweight or obese children from the age of 6 to 11 years (Review)

And now there are 6 updates in 2015-2017!!

Behavioural interventions for adolescents with obesity; Outcome: BMI change (Al-Khudairy L et al, Cochrane Database of Systematic Reviews 2017)



Behavioural interventions for adolescents with obesity; Outcome: BMI change (Al-Khudairy L et al, Cochrane Database of Systematic Reviews 2017)



...but, in addition to resource constraints, there are often many barriers to providing treatment services in real-life settings

Barrier	Potential intervention strategy
Poverty	Focus on low-cost food alternatives Provision of low cost physical activity alternatives
Culturally & linguistically diverse patients	Culturally sensitive weight management advice
Learning disabilities & developmental disorders	Greater family involvement Intensive practical interventions Involvement of specialist support services
Illiteracy	Minimise/eliminate written material Simple key messages Frequent phone support
Family in crisis	Crisis intervention Case management until the situation stabilises Additional support services
Psychiatric disorders	Mental health treatment & support services Case management until the situation stabilises

So what are some of the “simple” initial strategies to be discussed with the young person or the family of an affected child/ young person?

Practice Points



See also resources at:
pro.healthykids.nsw.gov.au

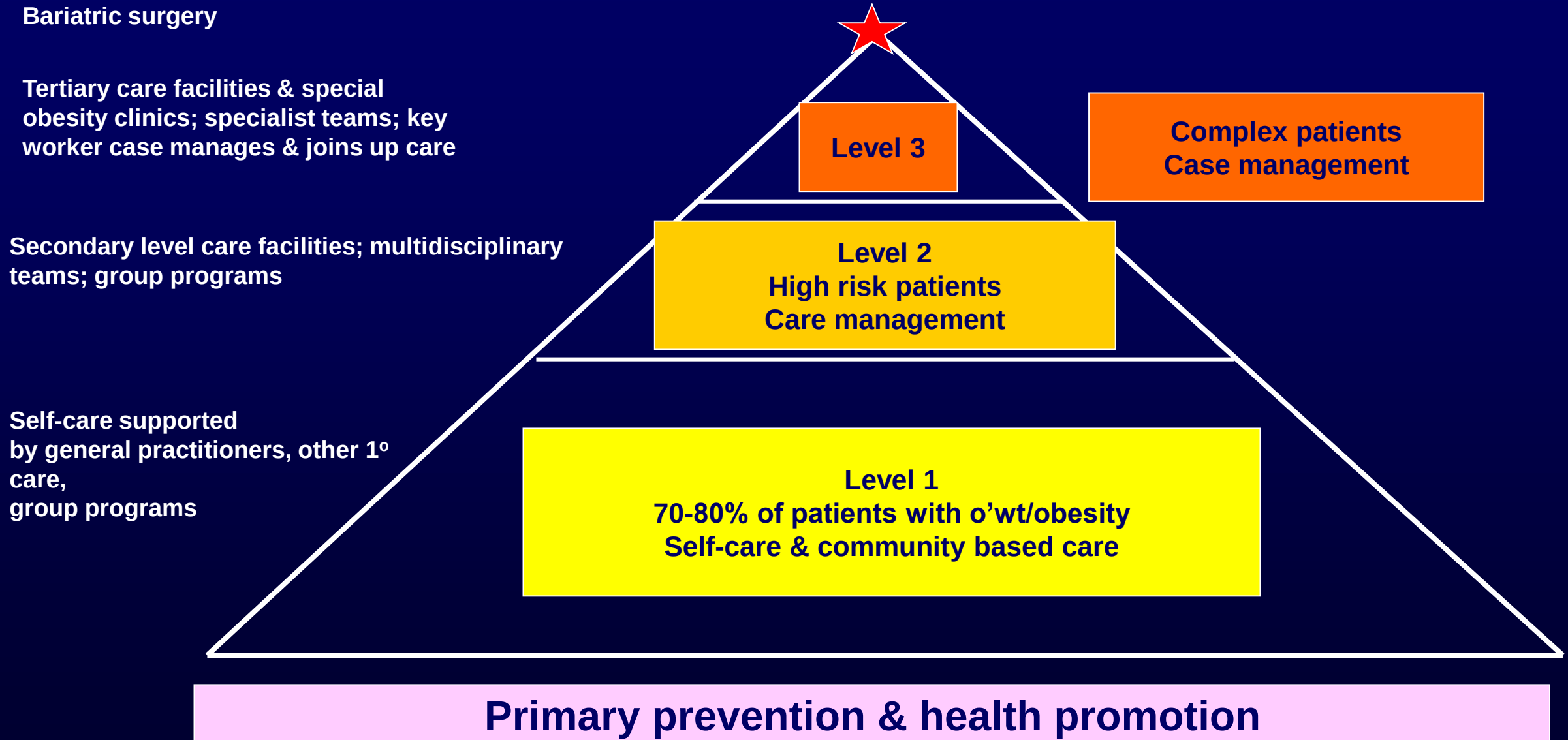
Available also in Arabic, Burmese,
Chinese Simplified, Chinese
Traditional, Farsi, French, Hindi,
Karen, Swahili, Vietnamese

What then?

Keeping on, supporting your patients

- What fits your skill-set and practice, and local resources?
- Frequent regular follow-up initially
- Role of phone coaching, SMS reminders
- Role of practice nurse
- Referral to other therapists e.g. dietitian, clinical psychologist, exercise professional, medical ...
- Monitor, monitor, monitor – behaviours, plus weight (in those who are treatment-seeking)

Obesity and the chronic disease care pyramid



Obesity and the chronic disease care pyramid

Bariatric surgery

Tertiary care facilities & special
obesity clinics
worker case m

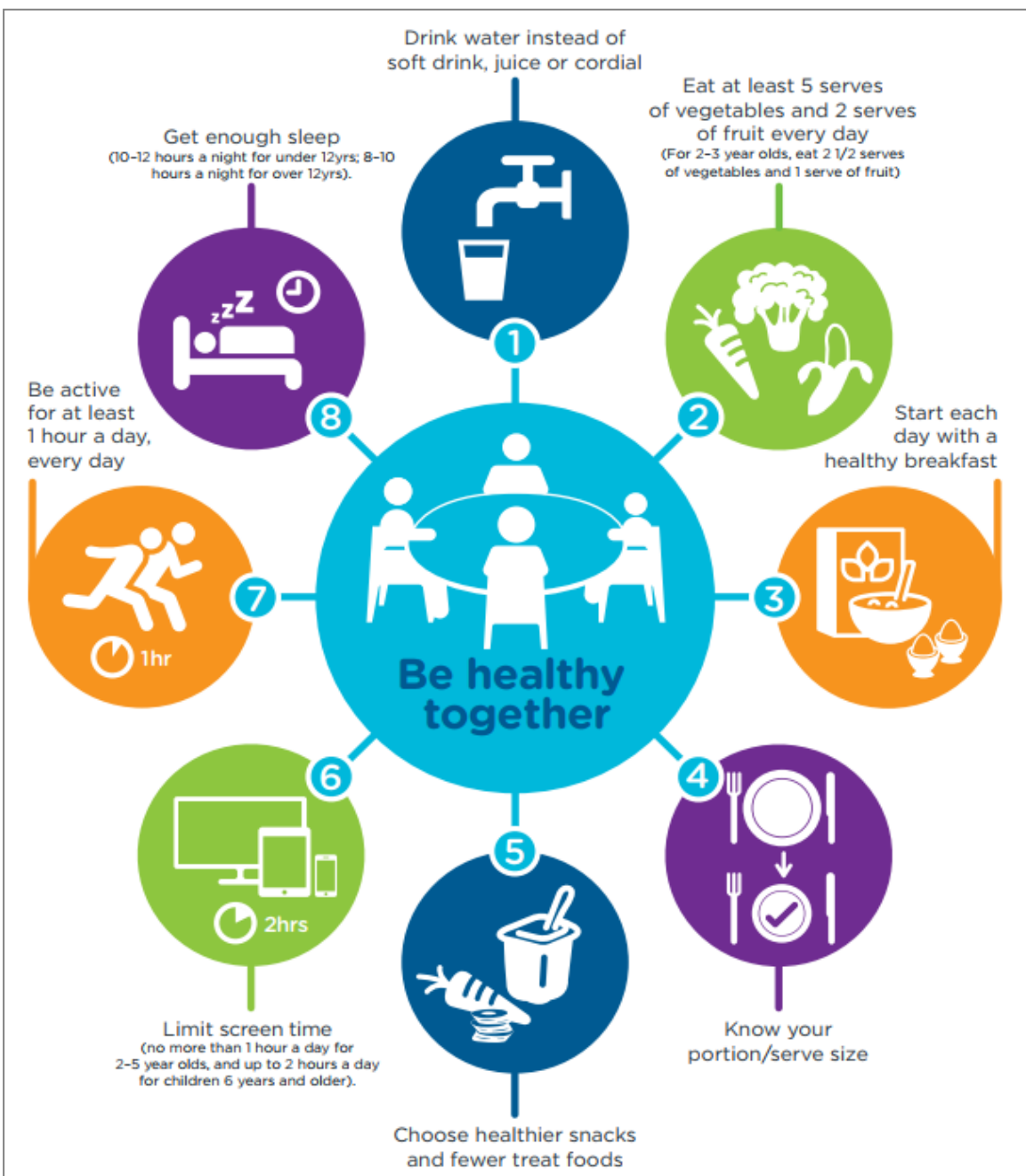
Secondary level
teams; group p

Self-care supported
by general practitioners, other 1^o
care,
group programs

**All parts of the pyramid are needed.
What is available in your region?**

Level 1
70-80% of patients with o'wt/obesity
Self-care & community based care

Primary prevention & health promotion



See also resources at:
pro.healthykids.nsw.gov.au

**Thank
you!**