

Day 3 Case Study

Physical Activity Assessment & Intervention

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Day 3 Case Study

Sarah age 13

Background

- Sarah attended GP with abdominal pain and expressed concern about her body shape and weight
- She reported that she has always been 'bigger' than her friends but it only bothered her since starting secondary school. She really worries about PE, finds it hard to keep up and feels very anxious about changing into her PE gear.
- Sarah is 13 years of age, her height is 162cm and her weight is 75kg
- She is referred to you for obesity assessment and management



USING YOUR PHONE/LAPTOP GO TO
MENTI.COM

Enter 9 5 3 8 3 2 3 9

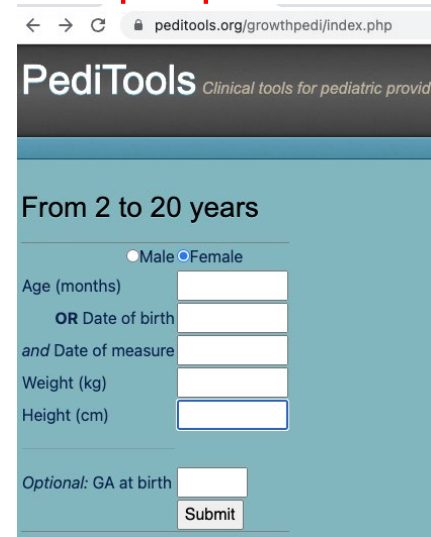
Estimates of adiposity

Preparation before encounter:

- Sarah is 13 years of age, her height is 162cm and her weight is 75kg
- What is Sarah's BMI? <https://peditools.org/growthpedi/index.php>
- What is her BMI percentile?
- What is her risk of health complications?

At the encounter:

- What is the first thing you will say to Sarah and her parent?



The screenshot shows the Peditools website interface. At the top, it says "PediTools Clinical tools for pediatric providers". Below this, there's a section titled "From 2 to 20 years". Underneath, there are radio buttons for "Male" and "Female", with "Female" selected. Then, there are input fields for "Age (months)", "OR Date of birth", and "and Date of measure". Below these are input fields for "Weight (kg)" and "Height (cm)". At the bottom, there's an "Optional: GA at birth" field and a "Submit" button.



Questions to consider related to
physical activity?

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Questions to consider related to activity and participation

- Does she participate in PE?
 - How does she get to school?
 - Is she involved in any after-school clubs?
 - How many mins of MVPA per day does she get each day?
 - What activities/games/dance does she enjoy?
 - Screen-hours per day
 - Was she involved in activity/games and sport when she was younger?
 - Has clothes that fit for PE (sports bra, cotton underwear, cotton t-shirt, runners/shoes that fit?)
 - What hobbies/activities do parents do?
 - Can she think of someone that she could move or be active with?
- *Most of the time*
 - *By bus – 10 min journey*
 - *No*
 - *10-20 mins*
 - *Hip-hop dance, drama, boxing*
 - *4*
 - *Basketball, swimming, cycling*
 - *Has never gone for a bra-fitting, runners/shoes and clothes fit*
 - *Dad likes cycling, mum walking*
 - *Her school-friend Jake, her dad and her mum*



Objective/subjective related to
physical activity, fitness or
function?

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Objective/subjective data to collect related to physical activity

- Blood pressure
- Heart rate at rest
- SpO2
- Sleep duration/quality/difficulties
- Body composition (waist circumference is 89cm)
- Waist:height ratio– height is 162cm
- Screening: MSK, CM, CV, GI
- Pedometer/accelerometer
- Physical activity questionnaire
- 6min walk test
- 140 SBP/ 80 DBP
- 60
- 100%
- 7 hours, wakes x 2 nightly for WC
- Waist:height ratio– 0.55
- No pain, No acanthosis nigricans, no dizziness/blurred vision, no enuresis.
- IPAQ=low level PA
- 6MWD 550m with HR 170 and BORG RPE 19 post test



What are Sarah's strengths?

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Strengths

- Attendance – she is here today
- Support from family
- Previous interest in b-ball & cycling
- Moderate level of functional fitness
- Can swim and ride a bike
- Lives close to school
- Has a friend Jake
- likes drama and hip-hop dance



Rank these concerns from your
perspective

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Planning Intervention: Sarah's concerns

- Not keeping up in PE.
- Anxious about changing for PE.
- Tiredness.

Mum's concerns

- Fitness Level
- Confidence.
- Sleep and tiredness.



Shared goals with you =

Behaviour Change Approaches

- Goals and Planning *(SMART & problem solving)*
- Social support *(modelling, help, company)*
- Feedback and monitoring *(biofeedback, self monitoring)*
- Natural consequences *(social, emotional, health)*
- Reward *(non-food based)*
- Repetition and substitution *(practice & building habits)*
- Antecedents *(restructuring environment)*
- Modeling *(comparison of behaviour)*
- Shaping knowledge *(education, instruction)*
- Comparison of outcomes/behaviour *(social comparison, pros & cons)*
- Self Belief *(self talk, focus on past success, encouragement)*

Goal Setting

SMART & FITT-VP

- What activity goal?
- How often each week?
- How hard from Sarah's perspective?
- How long in mins/hours?
- When in relation to meals/homework?
- Total amount during week?
- How will goal be advanced?



- **S**MART
- **F**requency
- **I**ntensity

- **T**ime
- **T**iming

- **V**olume
- **P**rogression

- What activity goal?
 - Walk home from school
- How often each week?
 - Wed and Fri
- How hard from Sarah's perspective?
 - Natural pace when schoolbag lighter
- How long in mins/hours?
 - 25 mins. Steps on smartphone
- When in relation to meals/homework?
 - Before
- Total amount during week?
 - 50 mins
- How will goal be advanced?
 - After 1 month add in Tuesday

- What activity goal?
 - Get bike/saddle fixed, cycle with dad
- How often each week?
 - Mon & Sun
- How hard from Sarah's perspective?
 - Comfortable (BORG 11)
- How long in mins/hours?
 - 30 mins
- When in relation to meals/homework?
 - After dinner on Mon, before on Sun
- Total amount during week?
 - 60 mins
- How will goal be advanced?
 - After 2 weeks add 10 mins

Goal Setting: Sleep

NUMBER 3

- What goal?
 - Sleep more. 11 instead of 12
- How often each week?
 - Sun to Thurs
- How hard will this be/what will help?
 - Very hard. Phone off at 10
- How long in mins/hours?
 - 60 mins
- Total amount during week?
 - 5 hours per week
- How will goal be advanced?
 - 1 hour earlier Fri/Sat night
 - 10pm Sun-Thurs
 - Asleep by 12 Fri/Sat
 - Phone off 9

- What goal?
 - Consider after school activities
- How often each week?
 - 1
- How hard will this be/what will help?
 - Hard.
- Plan?
 - Check websites
 - Talk to friends
 - Ask teachers

Follow up

- Sarah attends 2 months later
- Goal review
 - She started well with her goals but finds the cycle one hard now as doesn't have time on Mon with homework
 - There is a dance class on Tues that she wants to do but won't have time to walk home from school
 - Sleeping at 10.30 on school nights, less tired now
- Goal setting
- Plan to re-test 6MWT next time

Plan for intervention

- Short-term goals (6 weeks)
 - Built rapport and trust, increase positive relationship with PA
- Medium term goals (6 months)
 - Increase PA, reduce screen time and sedentary time
 - Increase fitness (68 m extra on 6MWT)
 - Increase confidence and social interactions
- Long-term goals (12+ months)
 - Reaching at least 60 mins MVPA daily / 420mins per week
 - Waist:height ratio < 0.5 , BP lowered



What is physical activity?

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What are the recommended
guidelines for Sarah's age?

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Children with obesity generally....

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DISCUSSION