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Recording of Body Mass Index

Experiment 12 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To measure height and body mass and calculate BMI with the appropriate interpretation.

Principle

BMI = mass in kilograms divided by height in metres squared. It is a screening index and does not directly measure body fat, distribution of fat or nutritional status. Adult categories do not substitute for age-specific paediatric assessment.

Requirements

- Calibrated weighing scale, stadiometer, consenting participant and calculator.
- Record sheet and private measurement area.

Procedure

1. Prepare

Explain the activity and check zero/calibration of the equipment. Respect privacy and voluntary participation.

2. Measure mass

Use the laboratory technique with light clothing and no shoes when appropriate; record kg and relevant conditions.

3. Measure height

Position correctly at the stadiometer, without shoes when appropriate, and record metres rather than substituting centimetres in the formula.

4. Calculate

Square height in metres and divide kg by that value. Retain adequate precision in intermediate calculations.

5. Interpret

For adults, commonly used categories include underweight below 18.5, overweight from 25 and obesity from 30 kg/m^2; risk thresholds may differ by population. Children require age- and sex-specific assessment.

6. Record limits

Discuss body composition, pregnancy and other circumstances in which BMI alone can be misleading. Avoid stigmatising language.

Observations and Record

Mass (kg)	Height (m)	BMI (kg/m^2) / context
_____	_____	_____

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- Mass 62.0 kg and height 1.60 m: BMI = 62.0 / 1.60^2 = 62.0 / 2.56 = 24.22 kg/m^2.
- Using 160 instead of 1.60 produces a unit error; convert centimetres to metres first.

Result

Record the observed outcome and calculated value, with units. State whether the stated laboratory specification was met; do not copy the worked example as your result.

Precautions

- Do not diagnose a person from one BMI number.
- Record pregnancy or other relevant context and use age-appropriate standards.

Viva Questions and Answers

1. Why square height in metres?

That is the dimensional definition of the BMI index.

2. Does BMI directly measure adipose tissue?

No.

3. Can adult BMI categories classify children?

No. Children need age- and sex-specific assessment.

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