

Using a tape measure to examine chronic disease and risk factors

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The North West Adelaide Health Study

The North West Adelaide Health Study (NWAHS) is a biomedical cohort study of a random representative sample of people living in the north western suburbs of Adelaide, recruited via a telephone interview for a baseline biomedical examination during 2000-2003 and returning during 2004/2005 (first follow-up examination).

All households within the north western region of Adelaide with a telephone connected and the telephone number listed in the Electronic White Pages were eligible for selection. Within each household, the person who had their birthday last and was aged 18 years or older, was selected for interview and invited to attend the study clinic. Of those who were eligible, n=4060 attended the clinic, resulting in a participation rate of 71.2%.

Maintaining a good rapport through ongoing regular contact with study participants has allowed a number of qualitative and quantitative sub-studies to be conducted that will add further understanding and value to existing data.

Measuring obesity in the NWAHS

Obesity is considered a major risk factor for a range of chronic conditions. The relationship between overweight and obesity defined in Boxes 1 & 2 and self-reported and biomedically measured chronic conditions such as diabetes, asthma and chronic obstructive pulmonary disease (COPD), musculoskeletal and mental health conditions, and other health-related risk factors and outcomes (including quality of life, and medical service & pharmaceutical usage) are being examined.

The longitudinal nature of the study allows for qualitative and quantitative research, including the incidence and prevalence of obesity, and the classification of participants along a chronic disease continuum ranging from not at risk, at risk, having an undiagnosed condition, and having a diagnosed condition with increasing co-morbidity and severity. From this, targeted primary, secondary and tertiary prevention activities can be developed for the prevention, early detection, or delay of a condition's progress and/or co-morbidities for identified groups.

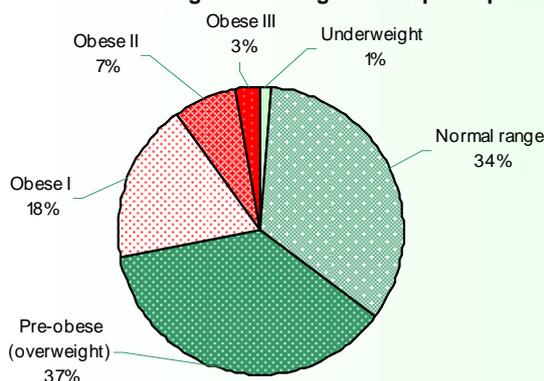
Box 1 Body Mass Index (BMI)

- Height (without shoes) – measured to nearest 0.5 cm using a wall-mounted stadiometer
- Weight (light clothing, without shoes) – measured to nearest 0.1 kg using standard digital scales
- Formula: $\text{weight (kg)} / \text{height (m)}^2$
- Definition (World Health Organization cut-offs):



Underweight	< 18.5
Normal range	18.5 – 24.9
Pre-Obese (Overweight)	25.0 – 29.9
Obese I	30.0 – 34.9
Obese II	25.0 – 39.9
Obese III	40+

Prevalence of BMI categories among NWAHS participants:



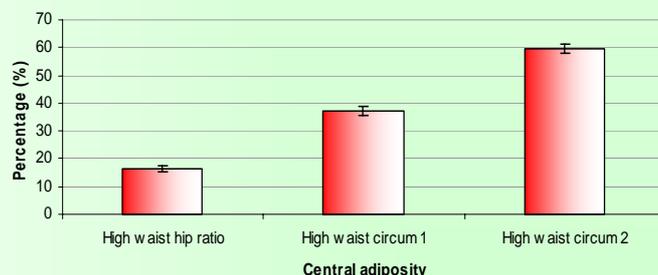
Box 2 Central adiposity

- Measured with inelastic tape at horizontal plane, with subject standing comfortably with weight distributed evenly on both feet
- Waist circumference – measurement at narrowest part of waist
- Hip circumference – measured at maximum posterior extension of buttocks
- Three waist and hip measurements taken to nearest 0.1 cm and mean calculated
- Definitions:



High waist hip ratio Males > 1.0; Females > 0.85
 High waist circumference 1 Males ≥ 94 cm; Females ≥ 80 cm
(International Diabetes Federation – for metabolic syndrome)
 High waist circumference 2 Males ≥ 100 cm; Females ≥ 90 cm
(level at which weight reduction should be recommended)

Prevalence of central adiposity among NWAHS participants:



TAKE HOME MESSAGES

The North West Adelaide Health study is:

- providing useful evidence whether being overweight/obese or having central adiposity contributes to poorer health outcomes;
- through regular clinic examinations, providing a valuable opportunity to assess participants' health and feedback results to members of the cohort and their GPs.

These measures are simple and non-invasive, and they may help to alter incorrect perceptions people have about their height, weight and central adiposity, and how these factors may affect their health.

The NWAH Study is committed to improving the health of the community by providing a rich source of health information for communities, researchers, health planners and policy makers.