

Intake24 in Australia: evaluating the criterion validity of a self-administered 24-hour recall using a controlled feeding study in Western Australia adults

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Intake24 is an online self-administered 24-hour dietary recall instrument. It has been evaluated for criterion validity in a UK population⁽¹⁾ and is currently used to assess UK population dietary intakes.⁽²⁾ Intake24 has been adapted for use in the Australian population.⁽³⁾ To date, it has not been evaluated for criterion validity in Australia. Staff and students at Curtin University in Perth, Western Australia were invited to participate in a controlled feeding study. Study participants attended a university research centre to consume breakfast, lunch, and dinner on the same day. Foods and beverages served, and any leftovers were inconspicuously weighed. Following the feeding day, participants were emailed a link to complete Intake24. The completed recall was used to estimate energy intake and compared against energy calculated from known weights of foods and beverages consumed. The Australian food composition tables were used (AUSNUT 2011–2013). The Intake24 database contains > 2800 Australian foods and beverages. A total of 150 participants (56% female; mean age 32 y (SD 11 y), and mean BMI 26.6 kg/m² (SD 5.3 kg/m²) completed Intake24. Mean daily energy intake estimated by Intake24 was 8549 kJ (SD 3399 kJ) compared with 9554 kJ (SD 5261 kJ) from weighed items consumed ($p = 0.159$). The mean difference between energy intake derived from known weights versus Intake24 was –1,004 kJ (limits of agreement: 10,816 to 8,808 kJ). Among 23% of participants, Intake24 underestimated energy intake by >20%. Contrastingly, 21% of participants using Intake24 overestimated energy intake by >20%. On average, at the group level, the foods and beverages recalled using Intake24 accounted for 99% of energy intake derived from known weights (SD 33 percentage points). Results indicate that when using Intake24, individual estimates of total daily energy intake vary widely in terms of accuracy. However, estimates at the group level do not differ significantly from true intakes in this Western Australian population sample.

References

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