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# Does a standardised dinner meal consumed the evening prior to testing add methodological integrity to an acute meal test study design?

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## **Abstract**

Abstract of an oral paper that was presented at the Dietitians Association of Australia 31st National Conference. Incorporating: 2nd World Forum on Nutrition Research - Translating the Principles of the Mediterranean Diet, 15-17 May 2014, Brisbane Convention and Exhibition Centre, Brisbane, Queensland, Australia.

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## **Does a Standardised Dinner Meal consumed the Evening Prior to Testing add Methodological Integrity to an Acute Meal Test Study Design?**

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Sorghum is an ancient, gluten-free cereal grain that has slow digestibility in vitro and high polyphenol content that may attenuate blood glucose and insulin responses and potentially increase satiety and antioxidant potential in humans. A randomised, double-blind meal test study was conducted to determine the acute effects of different sorghum-based breakfast meals on measures of acute satiety, prospective food intake and antioxidant capacity. The aim of this paper is to discuss whether a standardised pre-test dinner meal added mechanistic value and research quality to this study design. Using a within-subjects, repeated measures design, 40 healthy subjects (20 men and 20 women), aged 20-50 years attended a Clinical Trials Unit on 4 occasions after a 12-hour overnight fast. The evening before the testing day, each subject consumed a frozen dinner meal of energy value stratified to his or her usual intake. The key rationale for this condition was to standardise the level of polyphenolic compounds, and therefore potential antioxidants, present in the plasma of subjects at baseline on each test day. Standardisation of energy, macro- and micro- nutrients was a secondary effect. This paper reviews evidence on standardisation of intake before meal test studies, particularly reviewing the baseline plasma antioxidant capacity in the current study, after consumption of the standardised meal on the evening prior to testing. These results may inform the design of future meal test studies that specifically investigate food intake and antioxidant outcome measures.