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Title **Body Impedance Analysis (BIA) Composition Equipment**

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Aim

To assess the effectiveness, safety and cost-effectiveness of BIA Body Composition Equipment for use in the medical facilities within the Ministry of Heath Malaysia to estimate body composition especially body fat.

Conclusions and results

Seven articles that consist of a randomised controlled trial and six cross sectional studies were included. The retrieved clinical trial evidence included small patient numbers.

BIA Body Composition Equipment is non-invasive, relatively inexpensive, does not expose users to ionizing radiation and has very limited "between observer variations". It is portable and therefore can be easily performed on any subject. However, a validated BIA equation that is appropriate with regards to age, sex and race is required. Population-specific equations or equations that adjust for fat free mass in kg (FFM) and percentage body fat (BF) changes with age are recommended. The retrieved fair level of evidence showed inconclusive results for measurements of body composition such as fat mass, percentage fat mass in obese subjects, subjects of different gender and of different ethnicity.

Methods

The literature was searched using electronic databases specifically PubMed/Medline, Cochrane, OVID and INAHTA. Google was used to search for additional web-based information. In addition searching the websites of existing HTA agency, society websites and pearling the articles retrieved were also carried out. A critical appraisal of the retrieved papers was performed and the evidence level was graded according to the US/Canadian Preventive Services Task Force.

Further research/reviews required

More prospective clinical research is warranted to provide further evidence on the effectiveness for its use in measuring body-composition. Local data, especially on measurable quantitative outcomes, must be documented to provide more scientific evidence on our local population.

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