

# Obesity and Weight Reduction: A Review on the Latest Weight Reduction Strategies

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## ABSTRACT

**Introduction:** Obesity prevalence in Malaysian adults aged 18 and above has more than tripled over the past 20 years with 4.5% in 1996 to 17.7% in 2015. The alarming trend of the obesity epidemic in Malaysia requires immediate revision of public health policies. Thus this review was conducted to determine the effectiveness of latest weight reduction strategies. **Methods:** Literature search was conducted as guided by PICO Framework and using online databases PubMed on 22 June 2018. A total of 2,203 articles were found and screened. A total of 26 articles were reviewed. **Results:** Most weight loss achieved is through surgical intervention with weight reduction of 20.8 kg compared to 8.5 kg reduction in control group (95% CI,  $p < 0.001$ ). Non-invasive procedures that produced greatest weight reduction include diet modification strategy consisting of isocaloric diet with large breakfast (700 kcal) which produced weight reduction of  $8.7 \pm 1.4$  kg compared to large dinner (700 kcal)  $3.6 \pm 1.5$  kg (95% CI,  $p < 0.0001$ ), and special diet of adding 3g/day cumin supplementation into normal diet which produced weight reduction of 6.2 kg compared to 4.19 kg reduction in control group (95% CI,  $p < 0.05$ ). **Conclusion:** In this review, most weight loss is achieved through surgical intervention. All patients should receive lifestyle therapy and additional consideration should be given for pharmacotherapy and bariatric surgery when indicated.

**Keywords:** Obesity, Weight reduction strategies, Lifestyle modification, Diet