中文題目：非侵入性腦刺激術與減重效果: 從網路統合分析的角度出發

英文題目：Which central non-invasive brain stimulation interventions can reduce the most body weight in obese subjects? From the view of network meta-analysis

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Background: The obesity had resulted in numerous cardiovascular and multiple organ complication and associated mortality. Several strategies had been developed to reduce body weight in obese patients. The central non-invasive brain stimulation interventions (cNIBS) had been found to reduce the body weight in the obese patients according to the previous randomized controlled trials (RCTs). However, there was lack of sufficient RCTs of direct comparison of different protocols of cNIBS to provide the evidence of superiority of individual cNIBS in obese patients to help in weight reduction.

Method: This network meta-analysis (NMA) aimed to provide the comparative evidence of the efficacy and acceptability between different protocols of cNIBS for obesity management through the frequentist model of NMA.

Result: In this NMA of 10 RCTs, it demonstrated that repetitive transcranial magnetic stimulation (rTMS) over left dorsolateral prefrontal cortex (DLPFC) (F3 region in 10–20 system EEG) provided the highest benefit in the weight reduction in obese patients (standardized mean difference=-1.28, 95% confidence interval: -1.89 to -0.66).

Discussion: This pilot NMA threw around a potential issue developing future RCT investigating the potential benefit of cNIBS in obesity management.