

實證競賽報告

組別：B組

團隊成員：林本庭、陳琬儒、謝宜珍

日期：2024.12.06

臨床情境

小莊是一位30出頭的年輕醫療工作者，由於工作的性質，常常需要長時間在電腦前坐著。忙碌的醫院生活讓他幾乎沒有時間運動，下班後總是覺得身心疲憊，只想吃點鹹酥雞來犒賞自己，然後早早洗洗睡。然而，隨著年齡增長，小莊漸漸感受到體力的下降和代謝的變慢。最近的公司健檢報告顯示出讓他頗為擔心的結果：體重已屬於肥胖範疇，還出現了脂肪肝的跡象，血脂也有異常—HDL偏低，三酸甘油酯居高不下。雖然血糖還在正常範圍，HbA1C 也僅有5.3%，但這些指標讓小莊覺得自己必須採取一些行動。

看著周遭朋友開始嘗試各種方法減重，如間歇性斷食、生酮飲食，甚至還有開始使用健身房會員的，小莊不免感到壓力，心想：「難道我也該改變一下生活方式了？」在查閱資料的過程中，他注意到一些新的降血糖藥物，如 GLP-1 類的 liraglutide 和 semaglutide，以及 SGLT2 抑制劑，這些藥物似乎不僅能控制血糖，對減重也有良好的效果。對於不常運動的他來說，這些藥物看起來相當吸引人。另外，他也考慮一些傳統療法，如中藥或針灸，希望能在改變生活習慣前，嘗試看看其他的治療選擇。

因此，小莊找到您這位熱愛實證醫學的同事，想知道是否有研究支持這些藥物和療法在肥胖、脂肪肝患者中的減重效果，以及它們和運動或飲食控制相比的優劣之處。他希望能夠了解哪一種方式最適合他的情況，以便做出更有科學依據的選擇。

臨床情境

- 病人想了解：
- 傳統療法是中藥或針灸治療。兩個新藥分別是GLP-1 類及 SGLT2 抑制劑，要用傳統中藥治療還是新的藥物呢？
- 研究中藥或針灸對他減重有沒有幫助？
- 病人期望：
- 知道何種治療方式對小莊的體重控制效果較好。

背景資料

肥胖是一種由過多脂肪積累引起的慢性代謝性疾病，與心血管疾病、2型糖尿病及某些癌症的風險增加密切相關。根據世界衛生組織（WHO）的定義，成人 BMI（體重指數） $\geq 30 \text{ kg/m}^2$ 即可診斷為肥胖。肥胖的診斷除基於 BMI 外，還包括腰圍測量和體脂分析，這有助於更準確地判斷體內脂肪的分布【1】【2】。

肥胖的治療首先是生活方式的改變，包括飲食調控和規律運動。對於 BMI ≥ 30 或 BMI ≥ 27 且伴有肥胖相關併發症的患者，藥物治療和代謝手術也是治療方案的一部分。常見藥物包括 GLP-1 受體激動劑（如 liraglutide）和脂肪吸收抑制劑（如 orlistat），這些藥物能有效幫助減重和改善代謝指標【3】【4】。

【1】World Health Organization (WHO) - Obesity and overweight

【2】Centers for Disease Control and Prevention (CDC) - Adult Obesity Facts

【3】UpToDate: Obesity in adults: Overview of management

【4】American Heart Association - Obesity and Heart Disease

背景資料

然而，針灸作為一種傳統中醫療法，近年來也在肥胖治療中受到了關注。針灸的機制認為通過刺激特定的腧穴，改善身體的能量代謝，調節食欲並增進新陳代謝。研究顯示，針灸可能對減重具有一定的輔助作用，尤其是在與其他治療方法（如飲食控制和運動）結合使用時。針灸有助於減少脂肪積累，調節內分泌功能，並能改善肥胖相關的代謝異常，如胰島素抵抗和血脂異常【5】【6】。

針灸在減重方面的效果雖然尚需更多大規模的隨機對照試驗來確證，但已有一些小型研究和臨床觀察表明，針灸能改善部分患者的體重管理，尤其是在短期內。然而，針灸的治療效果常需與其他生活方式改變結合使用，以達到最佳效果。對於不願意或無法進行運動的肥胖患者，針灸可能作為一種補充療法提供一定的幫助【7】。

【5】Li, X. et al. "The effect of acupuncture on obesity and its metabolic comorbidities." Obesity Reviews.

【6】Park, J. et al. "Acupuncture for obesity: a systematic review and meta-analysis of randomized controlled trials." Obesity Surgery, 2021.

【7】Lee, J.H., Choi, T.Y., Lee, M.S., Lee, H., Shin, B.C., & Ernst, E. "Acupuncture for acute low back pain: a systematic review." The Clinical Journal of Pain, 2013.

背景資料

肥胖與多種併發症有關，這些併發症包括 2型糖尿病、高血壓、冠心病、脂肪肝和某些癌症(如乳腺癌、大腸癌)。肥胖還與睡眠呼吸中止症、骨關節炎以及心理健康問題(如抑鬱症和焦慮症)密切相關。這些併發症不僅影響患者的生理健康，還會對生活質量造成重大影響【2】【4】。

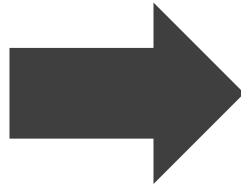
總結來說，肥胖的治療需要多方面的預防措施，包括生活方式的改變、藥物治療、手術治療，以及對輔助療法如針灸的探索。針灸可能對部分患者有效，但仍需更多證據來支持其在肥胖治療中的常規使用。

【2】Centers for Disease Control and Prevention (CDC) - Adult Obesity Facts

【4】American Heart Association - Obesity and Heart Disease

報告大綱

情境摘要
背景搜尋



1A - 提出問題

2A - 查詢研究

3A - 嚴謹評讀

4A - 結合臨床

5A - 執行決策



臨床問題1 (第一個PICO)

	中文	英文
P	“obesity”	肥胖
I	acupuncture	針灸
C	Sham-acupuncture	假針灸
O	“body weight” “body mass index”	體重 身體質量指數

這是一個 ☒ 治療型、☐ 診斷型 ☐ 預後型 ☐ 傷害型 問題

臨床問題 2(第二個 PICO)

中文		英文
P	“obesity” “fatty liver disease”	肥胖 脂肪肝
I	exercise	運動
C	“intermittent fasting”	間歇性斷食
O	“body weight” “body mass index”	體重 身體質量指數

這是一個 ☒ 治療型、☐ 診斷型 ☐ 預後型 ☐ 傷害型 問題

關鍵字

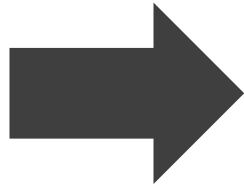
✓ 我們選擇第一個 PICO, 使用關鍵字為:

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	英文關鍵字	MeSH同義字	中文關鍵字
P	obesity OR overweight OR “high body mass index”	“obesity” “overweight” “Obesity Paradox”	肥胖
I	acupuncture OR “traditional chinese medicine acupuncture”	Acupuncture	針灸
C	Sham-acupuncture	-	假針灸
O	“body weight” OR “weight loss” OR “body mass index”	“body weight” “Weight loss” “body mass index”	體重 身體質量指數

報告大綱

情境摘要
背景搜尋



- 1A - 提出問題
- 2A - 查詢研究**
- 3A - 嚴謹評讀
- 4A - 結合臨床
- 5A - 執行決策



294篇

—

Title Abstract Keyword ▾

obesity OR overweight OR "High body mass index"

—

AND ▾

Title Abstract Keyword ▾

Acupuncture OR "Traditional Chinese Medicine Acupuncture"

—

AND ▾

Title Abstract Keyword ▾

"body weight" OR "Weight loss" OR "body mass index"

(Word variations have been searched)



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Cochrane Central Register of Controlled Trials
Issue 11 of 12, November 2024

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1 ☐

Effect of Acupuncture Therapy on Body Compositions in Patients with Obesity

HM Zhang, XL Wu, C Jiang, RX Shi

Zhen Ci yan jiu = acupuncture research, **2017**, 42(2), 173-177 | added to CENTRAL: 31 January 2018 | 2018

Issue 1

2A-查詢研究

36篇

PubMed®

((obesity OR overweight OR "High body mass index") AND (Acupuncture OR

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☒ Meta-Analysis

☐ Randomized Controlled Trial

☐ Review

☒ Systematic Review

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Filters applied: Full text, Meta-Analysis, Systematic Review, Humans. Clear all

1 Efficacy and safety of once-weekly semaglutide in adults with **overweight** or **obesity**: a meta-analysis.

Cite Zhong P, Zeng H, Huang M, Fu W, Chen Z. Endocrine. 2022 Mar;75(3):718-724. doi: 10.1007/s12020-021-02945-1. Epub 2022 Jan 4. PMID: 34981419

Share The primary outcomes were the percentage change and absolute change in **body weight**. Secondary outcomes included achievement of categorical **weight loss** targets (at least 5, 10, 15, or 20%), cardiometabolic risk profiles, and **health**-related quality of li ...

2 Comparison of **weight loss** and adverse events of **obesity** drugs in children and adolescents: a systematic review and meta-analysis.

Cite Zhao G, Zhang Q, Wu F, Yin S, Xie Y, Liu H. Expert Rev Clin Pharmacol. 2022 Sep;15(9):1119-1125. doi: 10.1080/17512433.2022.2117152. Epub 2022 Sep 7. PMID: 36039827

Share Randomized clinical trials (RCTs) comparing pharmacological interventions in children with **obesity** are scarce; therefore, we aimed to analyze the relative efficacy and adverse reactions of these drugs and compare the effects of each drug on **body mass index** ...

3 Complementary and Alternative Therapies for **Weight Loss**: A Narrative Review.

Cite Lua PL, Roslim NA, Ahmad A, Mansor M, Aung MMT, Hamzah F. J Evid Based Integr Med. 2021 Jan-Dec;26:2515690X211043738. doi: 10.1177/2515690X211043738. PMID: 34496677 Free PMC article. Review.

Share Studies whereby CATs were not utilized for reducing **body weight** were excluded. Eight systematic reviews and meta-analyses and 11 additional RCTs with 765 participants (50.2% **overweight** and 49.8% **obese**) related to hypnotherapy, **acupuncture** and di ...

4 **Acupuncture** for the treatment of **obesity** in adults: a systematic review and meta-analysis.

Cite Zhang RQ, Tan J, Li FY, Ma YH, Han LX, Yang XL. Postgrad Med J. 2017 Dec;93(1106):743-751. doi: 10.1136/postgradmedj-2017-134969. Epub 2017 Jul 8. PMID: 28689171 Review.

Share OBJECTIVE: Meta-analysis was used to assess the clinical efficacy of **acupuncture** treatment for simple **obesity** and to provide evidence-based medical data for treating **obesity** with **acupuncture**. ...We

24篇

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Floating Subheadings



Age



☐ Adolescent (13-17 years)

1

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24

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1

☐ Aged (65+ years)

2

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Gender



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☐ human

24

☐ systematic review

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☐ #3 #2 AND [adult]/lim

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☐ #2 #1 AND ('meta analysis'/de OR 'systematic review'/de)



Edit



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☐ #1 ('obesity'/exp OR obesity OR 'overweight'/exp OR overweight OR 'high body mass index') AND ('acupuncture'/exp OR acupuncture OR 'traditional chinese medicine acupuncture') AND ('body weight'/exp OR 'body weight' OR 'weight loss'/exp OR 'weight loss' OR 'body mass index'/exp OR 'body mass index')

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☐ Entry Date

☐ 1 The impact of 3 different dietary interventions on overweight or obese adults: A network meta-analysis

Liao T., Su J., Quan T., Luo Y., Zeng Y., Chen D., Tang H.

Medicine (United States) 2024 103:42 (e39749-)

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Abstract

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☐ 2 Comparing verum and sham acupoint catgut embedding for adults with obesity A systematic review and meta-analysis of randomized clinical trials

Yue J.-H., Li X.-L., Zhang Y.-Y., Yang G.-H., Mah J.Z.-X., Li A., Zhao W.-W., Wang Y.-L., Zhang Q.-H., Huang J.-Q.

Medicine (United States) 2024 103:4 (E36653-)

Embase MEDLINE

Abstract

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☐ 3 Efficacy of Baduanjin for obesity and overweight: a systematic review and meta-analysis

Gao H., Li X., Wei H., Shao X., Tan Z., Lv S., Pan L., Yu T., Ye Q., Zhang H., Zhu X.

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☐ FULL TEXT ARTICLE

☆ ✉ 🖨 📄

Effects of auriculotherapy on weight and body mass index reduction in patients with overweight or obesity: Systematic review and meta-analysis 📄

AbstractObjectiveAuriculotherapy is based on the stimulation of reflex points in the ear.

However, little is known about its weight-reducing effects. The aim of the present systematic review and meta-analysis was to investigate the effects of auri...

Complementary Therapies in Clinical Practice

Mendonça, Carolina Rodrigues; Coelho dos Santos, Larissa Silva; ...Show all. Published February 1, 2020. 8. Article 101069-101069. © 2019.

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((([ALL3]=(肥胖) AND [ALL3]=(針灸)) AND [ALL3]=(體重)) OR [ALL3]=(身體質量指數))



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楊榮森

《健康世界》 537期 (2021 / 09) Pp. 12-13

12http://www.health-world.com.tw醫學新知 ▼諸多相關研究顯示，身體質量指數 (BMI, kg/m²) 較高者，常會合併慢性疾病和

篩選結果

檢索5個電子資料庫符合文獻(n=521)



(n=294)



(n=36)

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(n=24)

ClinicalKey

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之文獻

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2. 動物研究及非研究性文章
3. 無針灸措施及結果指標不符合

納入評析的文獻(n = 1)



Review

Acupuncture versus sham acupuncture for simple obesity: a systematic review and meta-analysis

Yu-Mei Zhong,¹ Xiao-Chao Luo,¹ Yang Chen,¹ De-Li Lai,^{1,2} Wen-Ting Lu,¹
Ya-Nan Shang,¹ Lin-Lin Zhang,¹ Hai-Yan Zhou ¹

► Additional material is published online only. To view, please visit the journal online (<http://dx.doi.org/10.1136/postgradmedj-2019-137221>).

¹Acupuncture and Tuina School, Chengdu University of Traditional Chinese Medicine, Chengdu, China

²The Affiliated Hospital, School of Medicine, UESTC, Chengdu Women's and Children's Central Hospital, Chengdu, China

Correspondence to
Dr Hai-Yan Zhou, Acupuncture and Tuina School, Chengdu University of Traditional Chinese Medicine, Chengdu 610075, China;
zhouhaiyan@cdutcm.edu.cn

Received 16 October 2019
Revised 8 December 2019
Accepted 20 December 2019
Published Online First 3 February 2020

ABSTRACT

Obesity is a growing chronic health problem worldwide. Studies about acupuncture for obesity treatment are many. But there are some doubts about the effectiveness of acupuncture versus sham acupuncture in treating obesity due to its lack of medical evidence. Therefore, the aim of this study is to assess the efficacy of acupuncture for obesity treatment and provide clinic evidence. Four English databases (PubMed, EMBASE, Web of Science and Cochrane Central Register of Controlled Trials) and four Chinese databases (China National Knowledge Infrastructure, Chinese BioMedical Database, Chinese Scientific Journal Database and Wan-Fang Data) were searched from their receptions to August 2019. Randomized controlled trials (RCTs) using the comparison between acupuncture and sham acupuncture to treat simple obesity were included. The primary outcome of body mass index (BMI) would be used to measure the effect of acupuncture on obesity. According to the trial data extraction form based on the Cochrane Handbook, two reviewers separately extracted the data. Risk of bias of the RCTs was assessed by the Cochrane Risk of Bias

mainly caused by sedentary lifestyle, coupled with a high-calorie diet.¹ The survey demonstrated that the world's mean BMI increased by >55% from 1985 to 2017.² Despite decades of efforts to slow down the progress of the epidemic, 39% of the world's people are obese or overweight at the present time.² The main problem is that obesity is not limited to a certain period of age or to one group of people, but it is common among people of all ages and ethnic groups, leading to an increase of other diseases such as cardiovascular disease, hypertension, osteoarthritis, type 2 diabetes and dyslipidaemia.^{3–6}

The diagnosis of obesity depends on the level of BMI. According to WHO's definition, a BMI over 25 kg/m² is taken as overweight and a BMI over 30 kg/m² as obese.⁷ In addition, WHO considered the physique of the population in the Asia-Pacific region and agreed to define a BMI exceeding 23 kg/m² as overweight and a BMI over 25 kg/m² as obese. As obesity is a health problem worldwide, there is an increasingly global awareness of the need for effective strategies to prevent and control obesity. Therapeutic strategies for

選擇理由

1.符合PICO

2.2020發表

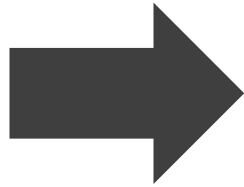
3.最佳研究設計 (治療型 RCT)

4.SR of RCT



報告大綱

情境摘要
背景搜尋



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- 4A - 結合臨床
- 5A - 執行決策



使用文獻評讀工具為 **CASP** SR critical appraisal tool

CNSP
Critical Appraisal
Skills Programme



問題一：此研究是否問了一個清楚明確的問題？

✓ PICO都有寫到

☒ Yes ☐ No ☐ Can't tell

I Acupuncture versus sham acupuncture for simple **P** obesity: a systematic review and meta-analysis

Data) were searched from their receipt **O** 2019. Randomized controlled trials (RCTs) using the comparison between acupuncture and sham acupuncture to treat simple obesity were included. The primary outcome of body mass index (BMI) would be used to measure the effect of acupuncture on obesity. According to the trial data extraction form based on the Cochrane Handbook, two reviewers separately extracted the data. Risk of bias of the RCTs was assessed by the Cochrane Risk of Bias Tool. The study included 8 RCTs with 403 patients. When compared with sham acupuncture, acupuncture showed obviously effect in BMI reduction (MD=1.0kg/m², 95% CI=0.6 to 1.4, P<0.001). There was also significant reduction in body weight (MD=1.85kg, 95%CI=0.82 to 2.88, p<0.001), WC (MD=0.97cm, 95%CI=0.24 to 1.71, p=0.01) and body fat mass percentage (MD=1.01, 95%CI=0.25 to 1.77, p<0.05). However, WHR (MD=0.01, 95%CI=0 to 0.03, p>0.05) was not statistically and significantly different between the

問題二：作者是否尋找適當研究類型的文獻？

- ✓ 收納RCT
- ✓ 清楚說明納入及排除條件

☒	Yes
☐	No
☐	Can't tell

Inclusion criteria

Articles selected should be about RCTs that compared acupuncture with control group (sham acupuncture, placebo acupuncture or no treatment) to assess the efficacy of acupuncture treatment on obesity. Quasi-randomised, comments, case reports, technical reports, animal studies, self-control studies or non-RCTs were excluded. There was no language restriction on studies selection.

Exclusion criteria

The following situations were excluded: (1) the reported data were not sufficient to support the results (eg, less number of participants, the means and the SD); (2) the data were duplicate or unextracted; (3) the full text of the article could not be obtained. Studies that combined acupuncture with other therapies such as diet, moxibustion, exercise, medication or message were excluded. Studies with lifestyle intervention such as diet changes and exercise were also excluded, because the aim of this review was to assess the effects of acupuncture treatment alone on obesity.

問題三：你認為所有重要且相關的研究都被納入？

☒ Yes ☐ No ☐ Can't tell

Search strategy

To appraise the efficacy of acupuncture for the treatment of simple obesity, four English databases (EMBASE, PubMed, Cochrane Central Register of Controlled Trials and Web of Science) and four Chinese databases (China National Knowledge Infrastructure, Chinese Scientific Journal Database, Chinese BioMedical Database and Wan-Fang Data) were searched. The study collected randomised controlled trials (RCTs) published from inception to August 2019 without restriction on form and language. We combined the method of Medical Subject Headings term and free words by applying the following terms from English databases: obesity, fat, overweight, acupuncture, electro acupuncture, laser acupuncture auricular acupuncture and needle. Items searched from Chinese databases were Zhen Ci (means acupuncture in Chinese) and Fei Pang (means obesity in Chinese). We also scanned the relevant published references carefully to identify further publications. When there were questions related to the results of the study or the trial design, corresponding authors would be contacted to confirm the information that we extracted from their studies or to eliminate any ambiguity.



檢索範圍的全面性：
該研究檢索了八個數據庫（包括四個英文和四個中文數據庫），且無語言限制，關鍵詞和主題詞組合合理。這表明研究者盡量避免遺漏相關文獻。



檢索截止於 2019年8月

✓ 列出FLOW CHART, 並清楚說明排除及納入理由

納入標準的清晰性

研究明確納入針對單純性肥胖的隨機對照試驗(RCT), 並排除了:

- ✓ 非RCT設計(如自控試驗、技術報告等)。
 - ✓ 未僅使用針灸作為干預的研究(如針灸聯合飲食、運動等)。
 - ✓ 無法獲取完整數據或無效應量數據的研究。
- 這些標準旨在確保納入研究的質量和針灸效應的單一性。

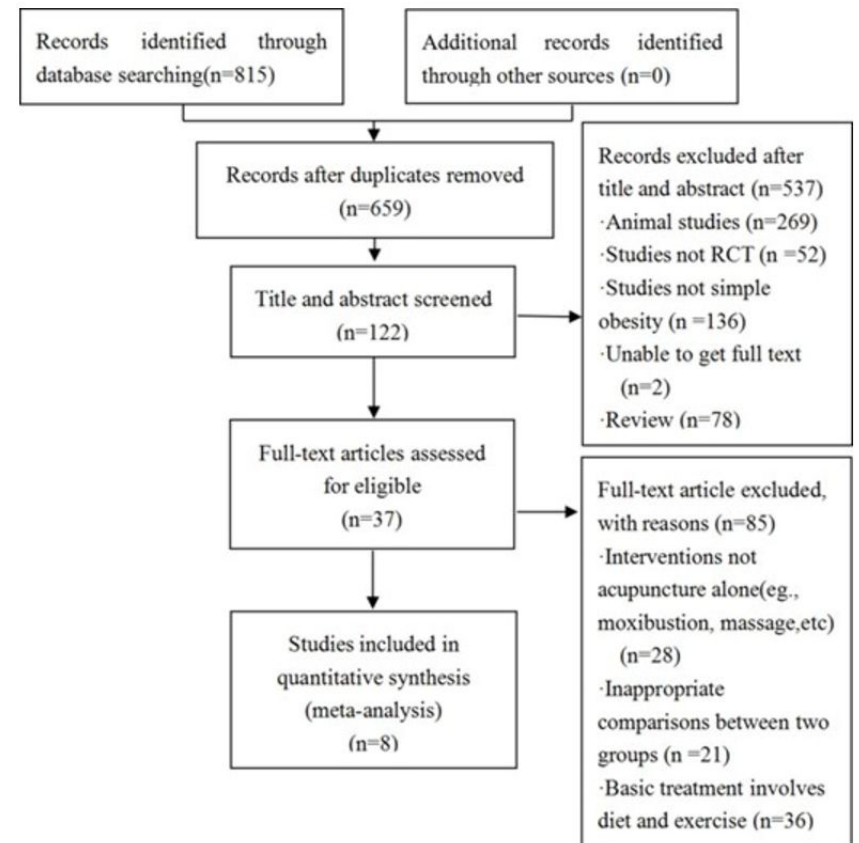


Figure 1 Flow diagram of the number of studies included and excluded. RCT, randomised controlled trial.

問題四：作者是否評估所納入研究文獻的品質？

Data extraction

☒ Yes ☐ No ☐ Can't tell

All articles retrieved were imported into endnoteX8 to remove the duplicate studies. The two authors (Y-NS and W-TL) independently scanned the title and the abstract of every record to exclude irrelevant articles. The full text of the qualified articles was investigated and then the authors selected articles that met the inclusion criteria. Every discrepancy was solved by team discussion or consultation with the third reviewer (YC).

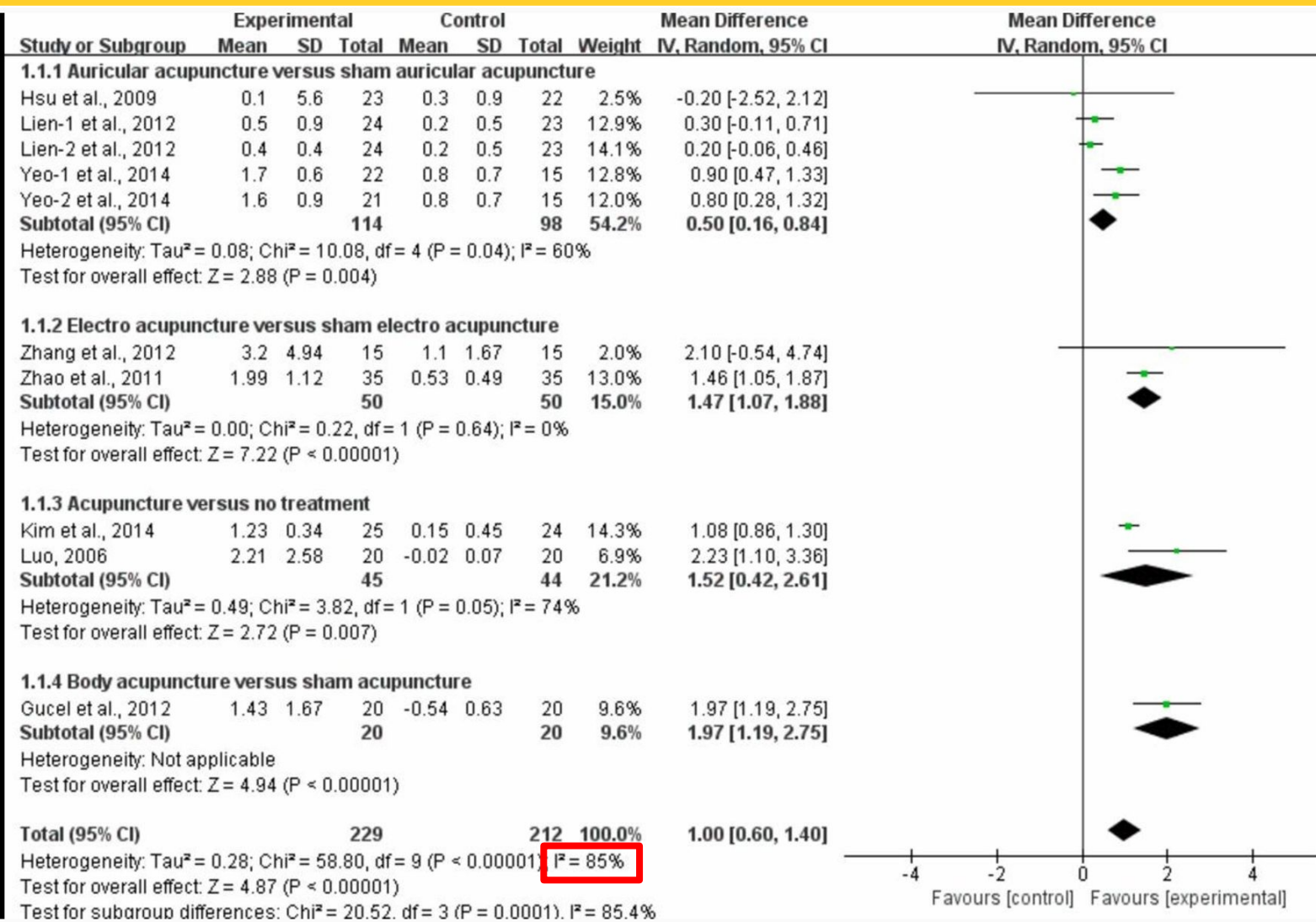


2位作者獨立評估，不一致時
由第三位研究者評讀
評估方式：使用 RoB



Author	Guo et al., 2012	Hsu et al., 2009	Kim et al., 2014	Lien et al., 2012	Luo, 2006	Yeo et al., 2014	Zhang et al., 2012	Yao et al., 2011
Random sequence generation (selection bias)	+	+	+	+	+	+	+	+
Allocation concealment (selection bias)	+	+	+	+	+	+	+	+
Blinding of participants and personnel (performance bias)	?	?	?	?	?	?	?	?
Blinding of outcome assessment (detection bias)	?	?	?	?	?	?	?	?
Incomplete outcome data (attrition bias)	+	+	+	+	+	+	+	+
Selective reporting (reporting bias)	+	+	+	+	+	+	+	+
Other bias	+	+	+	+	+	+	+	+

問題五：如果作者將研究結果進行合併，是否合理？

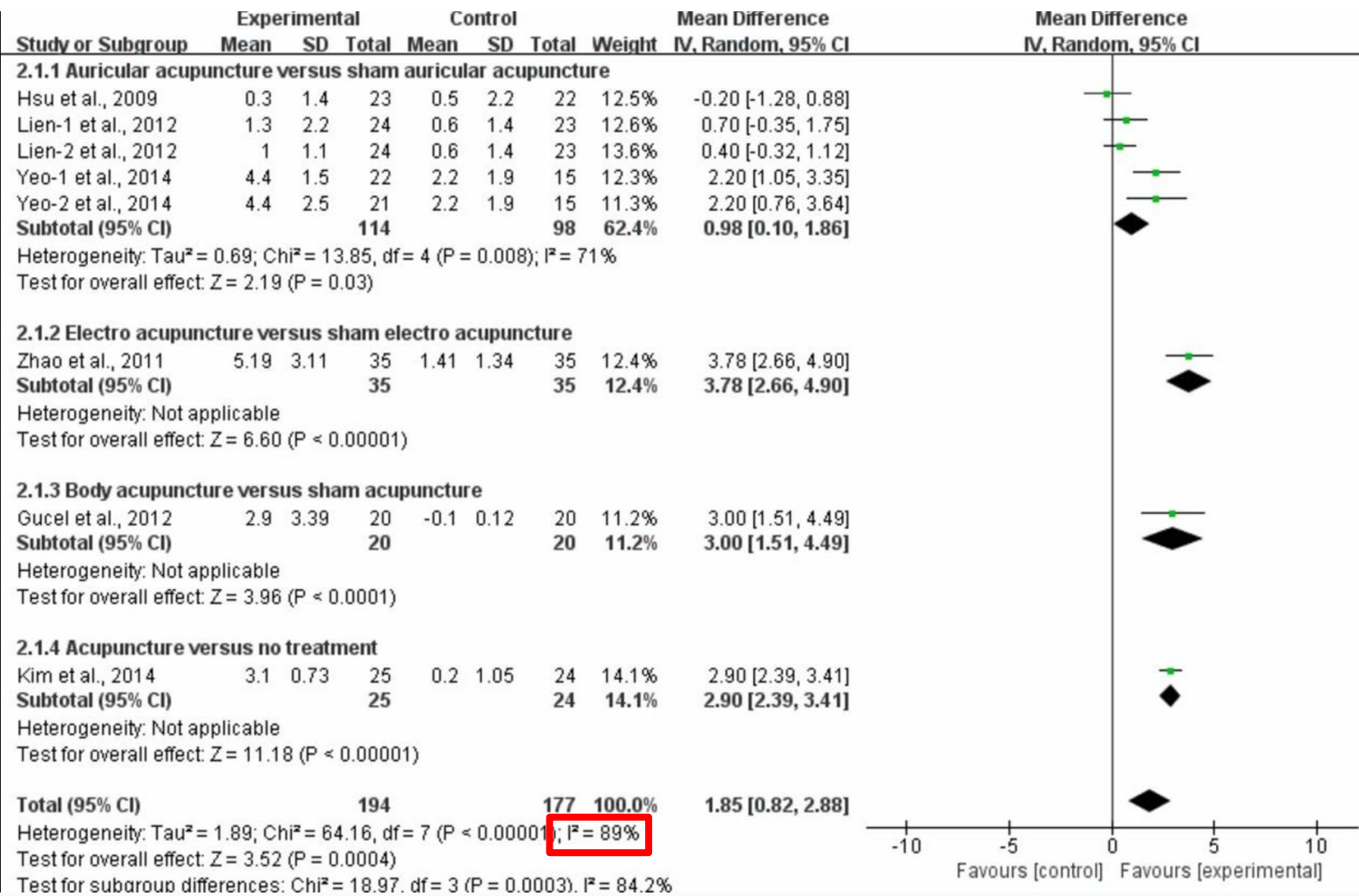


☒ Yes ☐ No ☐ Can't tell

數據的同質性分析

- ✓ 針對主要結果 (BMI 和體重減少)，作者進行異質性檢測，發現部分數據存在較高異質性 (如 BMI $I^2 = 85\%$ ，體重 $I^2 = 89\%$)。
- ✓ 異質性高的情況下，作者選擇了隨機效應模型進行合併，這是統計上合理的做法。

問題五：如果作者將研究結果進行合併，是否合理？

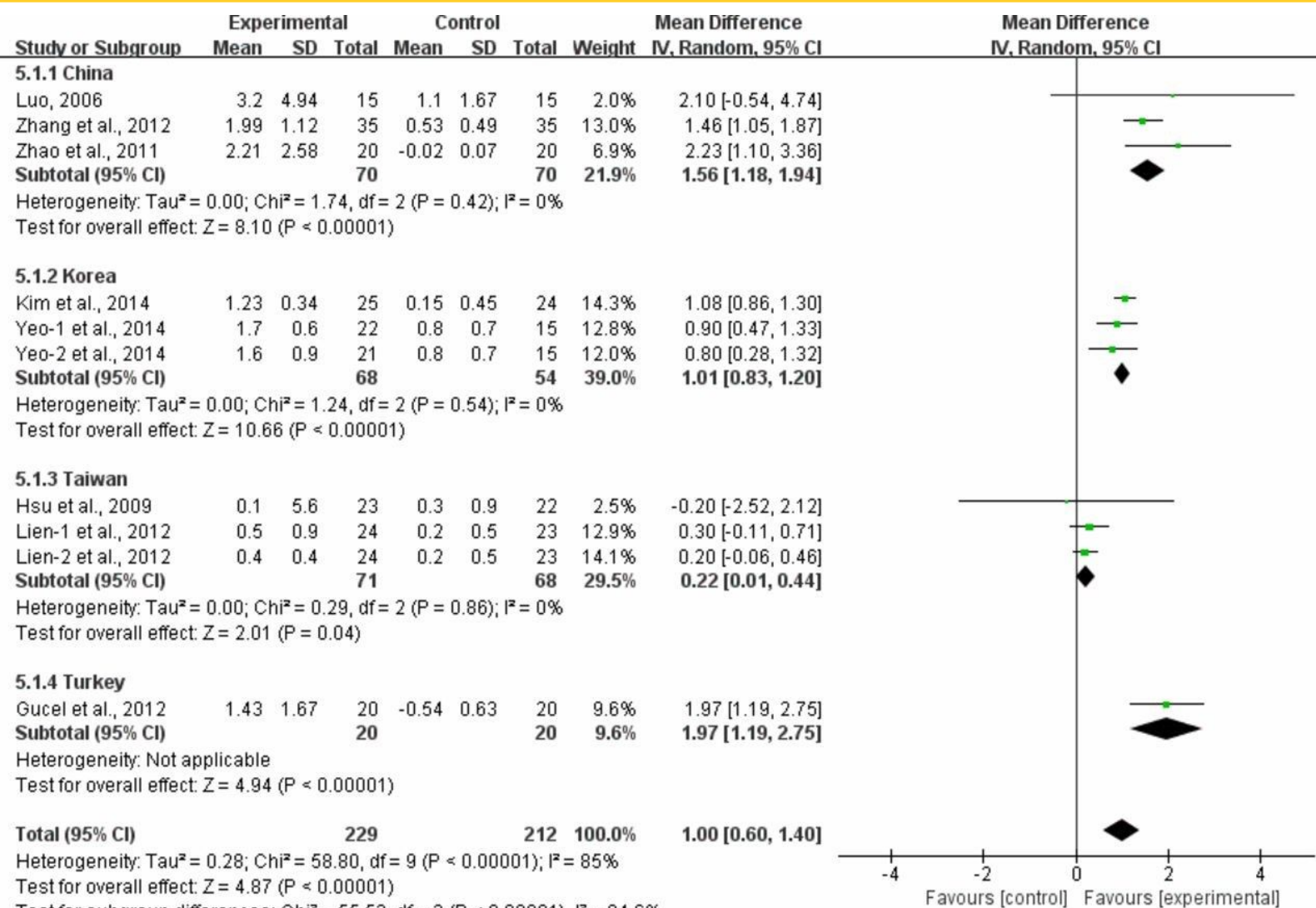


☒ Yes ☐ No ☐ Can't tell

數據的同質性分析

- ✓ 針對主要結果 (BMI 和體重減少)，作者進行了異質性檢測，發現部分數據存在較高異質性 (如 BMI $I^2 = 85\%$ ，體重 $I^2 = 89\%$)。
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問題五：如果作者將研究結果進行合併，是否合理？



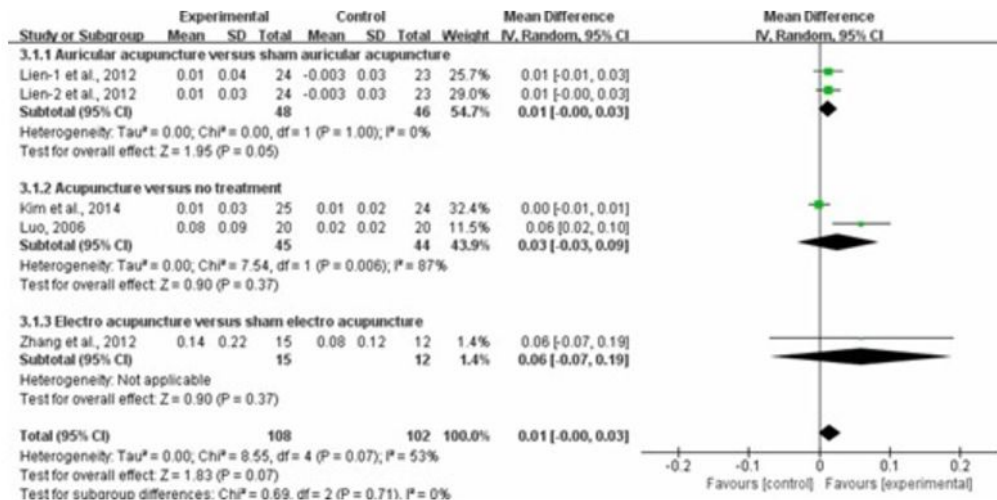
☒ Yes ☐ No ☐ Can't tell

- ✓ 結果分層分析
- ✓ 為應對異質性，作者進行次群組分析(根據針灸類型和國家/地區劃分)，減少異質性的影響。
- ✓ 結果顯示不同類型針灸(如耳穴針灸和體針)對 BMI 的影響存在一致性，這支持合併結果的合理性。

問題六：這篇系統性文獻回顧的整體結果為何？

Waist-to-hip ratio

Of the eight records, four records²⁶⁻²⁹ showed that acupuncture did not reduce WHR at all compared with control group (MD=0.01, 95% CI=0 to 0.03, $p>0.05$). There was significant heterogeneity among studies ($I^2=53\%$, $p<0.1$), so the random effects model was used to analyse the WHR. Subgroup analyses showed that auricular acupuncture, EA, acupuncture did not improve the WHR compared with control group (MD=0.01, 95% CI=0 to 0.03, $p>0.05$; MD=0.03, 95% CI=-0.03 to 0.09, $p>0.05$; MD=0.06, 95% CI=-0.07 to 0.19, $p>0.05$) (figure 5).



☒ Yes ☐ No ☐ Can't tell

針灸在治療單純性肥胖方面比安慰劑針灸更有效。

✓ 與安慰劑針灸相比，針灸顯著降低身體質量指數 (BMI)、體重 (Body Weight, BW) 和腰圍 (Waist Circumference, WC)。

✓ 針灸對**腰臀比 (WHR)**未顯示出顯著影響。

Figure 5 Pooled estimates of waist-to-hip ratio decrements after acupuncture treatment.

問題七：結果精準嗎？

☐ Yes ☒ No ☐ Can't tell

- ✓ 異質性仍存：
雖然通過隨機效應模型進行合併，但 BMI和體重的異質性依然較高（BMI $I^2=85\%$ ，體重 $I^2=89\%$ ）。文獻呈現的介入措施、療程長度及安慰劑對照方式存在差異，可能影響結果的解釋。

問題七：結果精準嗎？



樣本量不足：



納入的RCT樣本量小(每組 15-48人)，整體受試者數量為403人。樣本量不足可能導致效應量的置信區間較寬(如 BMI MD=1.0 kg/m², 95% CI: 0.6 to 1.4)，降低結果的精準性。

☐ Yes ☒ No ☐ Can't tell

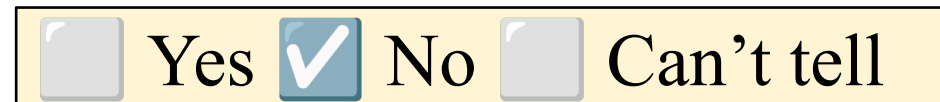
Table 1
Characteristics of the included studies

Literature	Country	Number of participants	Interventions	Control	Duration of treatment (week)	Adverse reactions	Outcomes
Güçel <i>et al</i> ²⁴	Turkey	20 20	Body acupuncture	Sham acupuncture	5	Not reported	BMI, BW
Hsu <i>et al</i> ²⁵	Taiwan	23 22	Auricular acupuncture	Sham auricular acupuncture	6	One minor inflammation, eight mild tenderness	BMI, BW, WC,
Kim <i>et al</i> ²⁶	Korea	25 24	Auricular acupressure	No treatment	2	None	BMI, BW, WHR, body fat mass %
Lien, <i>et al</i> ²⁷	Taiwan	48 23	Auricular stimulation	Sham auricular acupuncture	8	One dizziness	BMI, BW, WC, WHR
Luo ²⁸	China	20 20	EA	No treatment	3	Not reported	BMI, WHR
Zhang <i>et al</i> ²⁹	China	15 15	EA	Sham EA	4	One bleeding	BMI, WHR, body fat mass %
Zhao <i>et al</i> ³⁰	China	35 35	EA	Sham EA	4	No reported	BMI, BW
Yeo <i>et al</i> ³¹	Korea	43 15	Auricular acupuncture	Sham auricular acupuncture	8	No reported	BMI, BW, WC, body fat mass %

BMI, body mass index; BW, body weight; EA, electro-acupuncture; WC, waist circumference ; WHR, waist-to-hip ratio.

問題七：結果精準嗎？

- ✓ 盲法不足：
僅有2項研究實施參與者和研究者雙盲設計，其他研究的盲法不足可能導致偏倚，進一步影響結果的精準性。
- ✓ 報告偏倚：
雖然未執行正式的發表偏倚檢測，但由於研究數量少（僅8篇），未完全排除選擇性報告的可能。



Methodological quality

Figure 2 shows the risk of bias of the included studies. The majority of the included RCTs had more or less methodological weakness according to the quality criteria applied. All records had random allocation. Seven studies^{24-27 29-31} used allocation concealment. Blinding of participants and practitioners was performed only in two included studies^{27 29} due to the particularity of acupuncture therapy. Moreover, one²⁹ mentioned the blinding of outcome data and five²⁴⁻³⁰ had a low risk of bias of selective reporting. In addition, all included RCTs provided complete outcome data and seven^{24-29 31} had a low risk of bias in other bias.

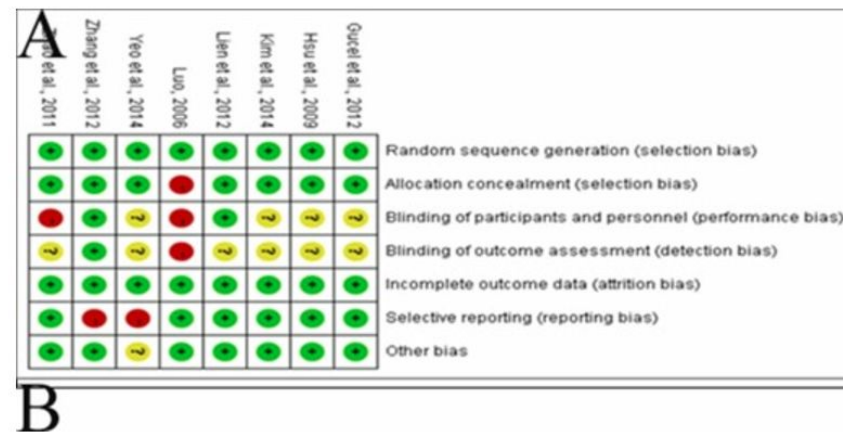


Figure 2 Risk of bias graph (A) and risk of bias summary (B) of studies included in the meta-analysis.

問題八：此研究結果是否可應用到當地的族群？

- ✓ 文獻研究族群：年齡 18歲、診斷為肥胖，亞洲人。
- ✓ 本個案為 30歲男性，診斷為肥胖，故可將此研究應用在個案。

☒ Yes ☐ No ☐ Can't tell

This meta-analysis has some limitations. First, obesity is a global phenomenon, but the studies we included are all from Asian countries or regions, which may not be representative. Second, the different forms of acupuncture (auricular acupuncture, EA and body acupuncture), acupoints and duration of treatment increased the heterogeneity. Third, many of the studies included were of low quality and lacked sufficient levels of blindness. Although blinding of the therapist would be difficult, blinding of participants and outcome assessment should be conducted to minimise the performance and evaluation bias of the trials. Fourth, the number of samples in each trial is small, which might lead to the insufficient sample size for analysis and test efficacy. Therefore, further studies with a larger sample size are required to verify our results.

All participants were aged over 18 years and were diagnosed with simple obesity (primary, not secondary to other diseases) irrespective of gender. All appropriate definitions of obesity based on BMI that exceeds the normal level were accepted. Pregnancy, patients with serious medical conditions and secondary obesity such as polycystic drug-induced obesity, ovarian syndrome and anterior hypopituitarism were excluded. There was no restriction on race.

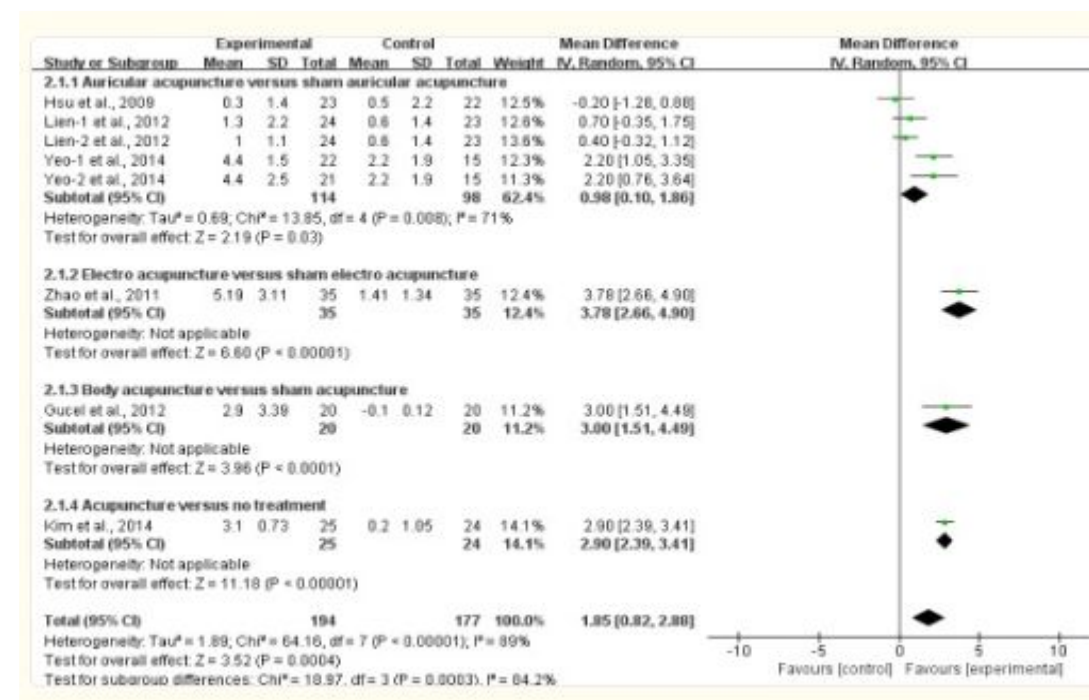
問題九：是否所有重要的臨床結果都有被考量到？

✓ 結果都有列入，其結果聚焦、明確

☒ Yes ☐ No ☐ Can't tell

Body weight

A total of six records^{24-27 30 31} reported the decrease of BW. Because of the significant heterogeneity among studies ($I^2=89.0\%$, $p<0.1$), the random effects model was applied to analyse the BW reduction in obesity (MD=1.85 kg, 95% CI=0.82 to 2.88, $p<0.001$). Subgroup analyses were used to further explore the effects of different acupuncture on BW. Forest plots indicated that auricular acupuncture, EA and body acupuncture reduced BW compared with control group (MD=0.98 kg, 95% CI=0.10 to 1.86, $p=0.03$; MD=3.78 kg, 95% CI=2.66 to 4.90, $p<0.001$; MD=3.00 kg, 95% CI=1.51 to 4.49, $p<0.001$; MD=2.90 kg, 95% CI=2.39 to 3.41, $p<0.001$, respectively) (figure 4).



問題十：這些好處隨之而來的傷害和花費是否值得？

☒ Yes ☐ No ☐ Can't tell

Control	Duration of treatment (week)	Adverse reactions	Outcomes
acupuncture	5	Not reported	BMI, BW
auricular acupuncture	6	One minor inflammation, eight mild tenderness	BMI, BW, WC,
treatment	2	None	BMI, BW, WHR, body fat mass %
auricular acupuncture	8	One dizziness	BMI, BW, WC, WHR
treatment	3	Not reported	BMI, WHR
EA	4	One bleeding	BMI, WHR, body fat mass %
EA	4	No reported	BMI, BW
auricular acupuncture	8	No reported	BMI, BW, WC, body fat mass %

內文表示針灸少數案例有頭暈、出血之副作用，但仍可達到減重效果，故值得應用於臨床個案上

No	問題	Yes/No
1	此篇系統性文獻回顧是否問了一個清楚、明確的問題？	Yes
2	作者是否尋找適當研究型態的文獻？	Yes
3	你認為所有重要且相關的研究都被納入？	Yes
4	系統性文獻回顧的作者是否評估所納入研究文獻的品質？	Yes
5	如果作者將研究結果進行合併，這樣的合併是否合理？	Yes
6	這篇系統性文獻回顧的整體結果為何？	Yes
7	結果精準嗎？	No
8	此研究結果是否可應用到當地的族群？	Yes
9	是否所有重要的臨床結果都有被考量到？	Yes
10	這些好處隨之而來的傷害和花費是否值得？	Yes

證據等級

Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence

Question	Step 1 (Level 1*)	Step 2 (Level 2*)	Step 3 (Level 3*)	Step 4 (Level 4*)	Step 5 (Level 5)
How common is the problem?	Local and current random sample surveys (or censuses)	Systematic review of surveys that allow matching to local circumstances**	Local non-random sample**	Case-series**	n/a
Is this diagnostic or monitoring test accurate? (Diagnosis)	Systematic review of cross sectional studies with consistently applied reference standard and blinding	Individual cross sectional studies with consistently applied reference standard and blinding	Non-consecutive studies, or studies without consistently applied reference standards**	Case-control studies, or "poor or non-independent reference standard**	Mechanism-based reasoning
What will happen if we do not add a therapy? (Prognosis)	Systematic review of inception cohort studies	Inception cohort studies	Cohort study or control arm of randomized trial*	Case-series or case-control studies, or poor quality prognostic cohort study**	n/a
Does this intervention help? (Treatment Benefits)	Systematic review of randomized trials or <i>n</i> -of-1 trials	Randomized trial or observational study with dramatic effect	Non-randomized controlled cohort/follow-up study**	Case-series, case-control studies, or historically controlled studies**	Mechanism-based reasoning
What are the COMMON harms? (Treatment Harms)	Systematic review of randomized trials, systematic review of nested case-control studies, <i>n</i> -of-1 trial with the patient you are raising the question about, or observational study with dramatic effect	Individual randomized trial or (exceptionally) observational study with dramatic effect	Non-randomized controlled cohort/follow-up study (post-marketing surveillance) provided there are sufficient numbers to rule out a common harm. (For long-term harms the duration of follow-up must be sufficient.）**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning
What are the RARE harms? (Treatment Harms)	Systematic review of randomized trials or <i>n</i> -of-1 trial	Randomized trial or (exceptionally) observational study with dramatic effect			
Is this (early detection) test worthwhile? (Screening)	Systematic review of randomized trials	Randomized trial	Non-randomized controlled cohort/follow-up study**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning

證據品質

運用 GRADE 評分系統進行證據品質評析 (研究設計 RCT)

	內容	結果
降階	偏差風險	● 納入的RCT中，僅有2篇實施了雙盲設計，其餘多數研究的盲法執行不足，可能導致執行偏倚 (Performance Bias) 和檢測偏倚 (Detection Bias)。 ● 部分研究的樣本量較小，可能增加選擇偏倚 (Selection Bias)。 ● 部分研究未充分報告不良反應等完整結果，可能存在選擇性報告偏倚 (Reporting Bias)。
	結果不一致	● 異質性高: BMI減少 ($I^2=85\%$) 和體重減少 ($I^2=89\%$) 顯示試驗結果之間存在顯著異質性，可能由於干預形式 (耳針、電針、體針)、療程長度 (2至8週)、對照組類型 (假針位置不同) 等因素導致。 ● 子組分析後，結果在不同針灸類型間具有一致性，但仍需謹慎解讀。
	間接性	● 研究對象多為亞洲族群，且針灸在亞洲的醫療環境中有更高的接受度，可能導致結論在非亞洲地區的適用性受到限制。 ● 措施 (如耳針、電針) 和療程設計在某些地區的醫療環境中可能不易複製。
	結果不精確性	● 雖然BMI和體重的效應量顯著，但置信區間 (CI) 相對較寬 (如 BMI減少MD=1.0 kg/m², 95% CI: 0.6 to 1.4)，特別是次要結果 (如體脂百分比) 的數據更為不精確。 ● 納入研究的樣本量總計僅 403人，單一試驗的樣本量偏小 (每組 15-48人)，降低了統計效力。
	發表偏差	● 納入研究僅有8篇，數量較少，無法有效進行發表偏倚檢測 (如漏斗圖分析)。 ● 針灸領域可能存在發表偏倚，未顯示療效的試驗可能未被發表。發表偏倚的可能性存在，但未提供直接證據，不需要降階。

證據品質

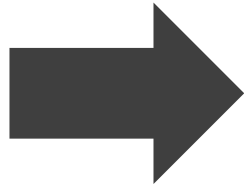
運用GRADE評分系統進行證據品質評析 (研究設計 RCT)

	內容	結果
升階	結果顯著	-
	干擾因素可能減少效果	-
	證據顯示存在劑量效應關係	-

- 本研究GREAD證據品質結果：隨機試驗起始等級為「高」，偏倚風險高、不一致性和間接性是主要降階原因，這三項均支持降一階。結果不精確性進一步降低證據品質，再降一階。因此，故將證據品質降級為「低」等級。

報告大綱

情境摘要
背景搜尋



- 1A - 提出問題
- 2A - 查詢研究
- 3A - 嚴謹評讀
- 4A - 結合臨床**
- 5A - 執行決策



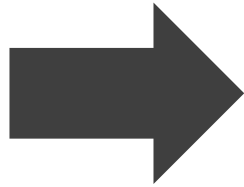
臨床應用

✓ 成本效益 (減重選擇)

選擇	好處	壞處	價格
針灸	1.可以調節內分泌功能, 改善新陳代謝 2.透過針灸刺激副交感神經系統, 降低壓力和焦慮	針灸減重的效果往往需要與飲食控制和運動配合	健保費用第一次150元, 其他5次為50元/次
liraglutide 0.6mg/day	1.有助於減輕體重 2.穩定血壓。 3.降低心血管事件的發生風險。	1食慾、嘔吐、腹瀉、便秘 2.胰臟炎、腎功能損傷、膽囊疾病	0.6mg/劑/4000元 30,000 -40,000 元／每月
運動	1.心血管健康、增強肌肉 2.減少壓力	1.運動過度的風險 2.成本問題	1,088 元起／月

報告大綱

情境摘要
背景搜尋



- 1A - 提出問題
- 2A - 查詢研究
- 3A - 嚴謹評讀
- 4A - 結合臨床
- 5A - 執行決策**



共享決策

醫療現況 (實證醫學)	病人的治療偏好
證據等級: CEBM(Level I) 建議等級: 弱	希望藉由針灸達到減重效果
利弊平衡	費用資源
使用針灸治療可減輕體重, 效果顯著。 副作用: 少數案例有頭暈、出血 作用: 透過刺激經絡腧穴, 加快身體基礎代謝率, 從而促進脂肪分解, 基礎代謝增加。	針灸治療一週需3次, 健保費用第一次150元, 其他5次為50元/次, 可顯著減少體重及降低BMI、腰圍、腰臀比。 而且肥胖族群易造成心肌梗塞、血管硬化等, 慢性疾病風險高, 所產生醫療成本將遠大於預防, 平常除要針灸, 也要搭配飲食控制及運動。

共享決策

小莊先生您好，經過我們團隊縝密的實證搜尋後，目前現有最佳證據是由系統性回顧文獻的研究支持，使用針灸(acupuncture)可預期有效透過刺激經絡腧穴，加快身體基礎代謝率，從而促進脂肪分解，且花費是一週200元，因為您本身血脂和血糖都有偏高，屬血管硬化的高危險族群，所以建議您可以接受一週3次的針灸減重的治療。另外平常仍須注重飲食與運動習慣，這樣才能讓減重維持良好的效果性噢！



謝謝聆聽

