

111年實證醫學競賽



實證醫學在三總



三軍總醫院實證醫學中心

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陳田育醫師

許志雄醫師

黃莊彥醫師

葉爵榮藥師

胡子宇企劃師



開心地微笑





EBM @PSY

好棒棒呢!!!



陳婉亭 醫師



黃志中 醫師



臨床情境

李先生，**54歲**的男性，腰圍**120公分**(**BMI 32.5**)，多次測量血壓超過**160/110mmHg**、三酸甘油之**340mg/dl**、空腹血糖**105mg/dl**。他進行藥物治療後，減重效果不佳。



臨床情境

他想知道，使用Saxenda能達到多大的效果、它的經濟效益與另一核可的Orlistat有什麼好處與壞處？另外他的膽結石會因為使用Saxenda而增加發作風險嗎？



病人的主要問題及治療意願

1. 使用**Saxenda**的減重效果與副作用
2. 運動對於減重的好處與壞處



臨床問題 PICO-1

1. 使用減重藥物的副作用

P 54歲 男性合併新陳代謝症候群(高血壓、高血糖、高血脂) 有**過重(BMI>30)**

I **Orlistat**

C **其他FDA approved減重藥物**

O 副作用的發生率、嚴重度 (Nausea and vomiting, diarrhea, constipation, decreased appetite, dizziness, headache, heartburn, fatigue, dizziness, stomach pain, gas, dry mouth, low blood sugar in type 2 diabetes, elevated heart rate, increased lipase.)

問題類型

治療 / 預防型

診斷型

預後型

傷害 / 病因型



臨床問題 PICO-2

2.使用Saxenda的減肥效果與副作用

P 54歲 男性合併新陳代謝症候群(高血壓、高血糖、高血脂) 有**過重(BMI>30)**

I Saxenda (Regimen: 3 mg subcutaneously once daily)

C 依病人情境選擇此 PICO 的原因：

Conservative treatment (無減重藥物介入)

O 影響後續醫療決策

主要：體重減低、體脂率變化

O 影響個案治療意願

O 個案目前關心問題

主要：藥物副作用：噁心，便秘，嘔吐，腹瀉

O 關乎個案生活品質

主要：藥物費用、藥物順從性

問題類型

治療 / 預防型

診斷型

預後型

傷害 / 病因型



Weight Loss Medications for Obesity in Adults

Medications FDA Approved for Weight Loss

Overview of medications FDA-approved for weight loss

- liraglutide, naltrexone ER/bupropion ER, orlistat, and phentermine/topiramate ER are FDA approved for long-term use ²
- phentermine, benzphetamine, phendimetrazine, and diethylpropion, are FDA approved for short-term use (a few weeks), but are not generally recommended for long-term management of obesity (see [section on these medication](#) for details) ²
- physicians in the United States should be aware of their state's prescribing laws for off-label use of any substance for weight loss, as there may be severe penalties that vary by location (such as in Ohio where penalties may include loss of medical license and/or felony charges) ([Diabetes Metab Syndr Obes 2017;10:223](#) [full-text](#))
- if weight loss at 12 weeks is < 5% of baseline body weight, re-evaluate benefit of medication and consider discontinuing use ²

Dynamed提及Saxenda是有效的，建議等級Class Iia，證據等級A，然而此藥在台灣為自費療法。



Measuring Outcomes in Adult Weight Loss Studies That Include Diet and Physical Activity: A Systematic Review

[Abstract](#)

[Go to: ▶](#)

Background. Measuring success of obesity interventions is critical. Several methods measure weight loss outcomes but there is no consensus on best practices. This systematic review evaluates relevant outcomes (weight loss, BMI, % body fat, and fat mass) to determine which might be the best indicator(s) of success. *Methods.* Eligible articles described adult weight loss interventions that included diet and physical activity and a measure of weight or BMI change and body composition change. *Results.* 28 full-text articles met inclusion criteria. Subjects, settings, intervention lengths, and intensities varied. All studies measured body weight (−2.9 to −17.3 kg), 9 studies measured BMI (−1.1 to −5.1 kg/m²), 20 studies measured % body fat (−0.7 to −10.2%), and 22 studies measured fat mass (−0.9 to −14.9 kg). All studies found agreement between weight or BMI and body fat mass or body fat % decreases, though there were discrepancies in degree of significance between measures. *Conclusions.* Nearly all weight or BMI and body composition measures agreed. Since body fat is the most metabolically harmful tissue type, it may be a more meaningful measure of health change. Future studies should consider primarily measuring % body fat, rather than or in addition to weight or BMI.

Weight、BMI、body fat mass為常用結果指標






臨床問題之關鍵字/同義字/MeSH

	英文關鍵字/Free text	MeSH/ 同義詞	中文關鍵字(繁/ 簡體)
P	<ul style="list-style-type: none"> Obesity Overweight 	<ul style="list-style-type: none"> Obesity Adipose tissue hyperplasia Body weight, excess 	<ul style="list-style-type: none"> 肥胖 體重·超重 体重·超重
I	<ul style="list-style-type: none"> Liraglutide 	<ul style="list-style-type: none"> Liraglutide recombinant Glucagon like peptide N26 (hexadecanoyl gamma glutamyl) glucagon like peptide 1 [7-37] [34 arginine] 	<ul style="list-style-type: none"> 利拉魯肽重組體 胰高血糖素樣肽 利拉魯肽
C	<ul style="list-style-type: none"> Conservative treatment 	<ul style="list-style-type: none"> Placebo treatment No medication 	<ul style="list-style-type: none"> 安慰劑治療 沒有藥物 安慰劑
O	<ul style="list-style-type: none"> Weight loss Adverse drug reaction Relapse 	<ul style="list-style-type: none"> Body weight decrease Body weight loss Weight decrease Quality of Life Treatment Outcome 	<ul style="list-style-type: none"> 體重減輕 質量 治療結果 全因死亡率 藥物副作用

搜尋策略及語法設定

首先以『**P**』、『**I**』、『**O**』做搜尋，再依據結果適當加入關鍵字及同義詞

限定搜尋範圍	Free text、Within 5 years 、Human species
限定研究類型	優先Systematic review、Meta-analysis
限定語言地區	不限 (English、繁體中文、簡體中文.....)
適當檢索策略	適當運用 布林邏輯 (AND, OR, NOT)、 截斷字元 (*)等

			
使用 周全性語法 增加搜尋範圍。	() .ti, SO, AU exp "" /	() :ti,ab,de,kw "" /exp	() :ti,ab,kw [mh ""]

搜尋資料庫

運用次級、初級、中英文等多種類資料庫搜尋

次級資料庫

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使用布林邏輯、截切字元、MeSH、Limits進行搜尋

Search limits ✕

Content type

- Cochrane Reviews
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- All dates
- The last month
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- The last 9 months
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CENTRAL Trials only

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Search word variations

(e.g. "paid" will find pay, pays, paying, payed)

Cochrane Group

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Search

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Medical terms (MeSH)

PICO search

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+						
-	+	#1	(LIRAGLUTIDE):ti,ab,kw	S	MeSH	Limits 2146
-	+	#2	[mh "LIRAGLUTIDE "]			Limits 0
-	+	#3	(lose weight):ti,ab,kw			Limits 1417
-	+	#4	[mb "lose weight"]			Limits 0
-	+	#5	#1 AND #3			Limits 20

✕ Clear all

Highlight orphan lines

再適時使用篩選器(Review, Date, Type)等檢索功能限制搜尋範圍
共搜尋到 0 篇文章

Embase含較多歐洲文獻，使用布林邏輯、截切字元等進行更全面的搜尋

Default strategy: /exp ▼

Population e.g. diabetes

obesity /exp ▼

Intervention e.g. insulin

liraglutide /exp ▼

Comparison e.g. placebo

placebo /exp ▼

Add 3 synonyms

Outcome e.g. risk

Emtree

- anatomical concepts
- biological functions
- biomedical disciplines, science and art
- chemical, physical and mathematical phenomena
- chemicals and drugs
 - miscellaneous drugs and agents
 - placebo
- diseases
- geographic names
- groups by age and sex
- health care concepts
- named groups of persons
- organisms
- procedures, parameters and devices
- social and environmental

使用預設的搜尋(exp) → 搜尋到782篇文章

使用Emtree term移除不相關詞彙增加精確性 → 搜尋到436篇文章



使用內建Synonyms系統擴大搜尋範圍

○ obesity /exp ▾ 11 synonyms :all ▾ ×

Intervention e.g. insulin

○ liraglutide /exp ▾ 12 synonyms :all ▾ ×

Comparison e.g. placebo

○ placebo /exp ▾ 3 synonyms :all ▾ ×

Outcome e.g. risk

Study design e.g. randomized controlled trial

▽ Limit to ↻ Reset form

擴大搜尋範圍共搜尋到1118篇文章

Show 1,118 results



使用篩選器(Date, EBM, Animal)等檢索功能限制搜尋範圍

Devices 119 results for search #3 [Set email alert](#) [Set RSS feed](#) [Search details](#) [Index miner](#)

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Age Child (1-12 years) 1
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 Adult (18-64 years) 119
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Gender

Study types human 119
 controlled study 102
 randomized controlled trial 90
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Select number of items Selected: 0 (clear) Show all abstracts | Sort by: Relevance Author Publication Year Entry Date

1 Exploratory analysis of eating- and physical activity-related outcomes from a randomized controlled trial for weight loss maintenance with exercise and **liraglutide** single or combination treatment
 Jensen S.B.K., Janus C., Lundgren J.R., Juhl C.R., Sandsdal R.M., Olsen L.M., Andresen A., Borg S.A., Jacobsen I.C., Finlayson G., Stallknecht B.M., Holst J.J., Madsbad S., Torkov S.S.
Nature Communications 2022 13:1 Article Number 4770
 Embase MEDLINE Abstract Index Terms [View Full Text](#) [Similar records >](#)

2 Effects of **liraglutide** on gastrointestinal functions and weight in **obesity**: A randomized clinical and pharmacogenomic trial
 Maselli D., Atieh J., Clark M.M., Eckert D., Taylor A., Carlson P., Burton D.D., Busciglio I., Harmsen W.S., Vella A., Acosta A., Camilleri M.
Obesity 2022 30:8 (1608-1620)
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3 Weight loss and β -cell responses following gastric banding or pharmacotherapy in adults with impaired glucose tolerance or type 2 diabetes: a randomized trial
 Utzschneider K.M., Ehrmann D.A., Arslanian S.A., Barengolts E., Buchanan T.A., Caprio S., Edelstein S.L., Hannon T.S., Kahn S.E., Kozedub A., Mather K.J., Nadeau K.J., Sam S., Tripputi M., Xiang A.H., El ghormli L.
 [In Process] *Obesity* 2022 30:8 (1579-1588)
 Embase MEDLINE Abstract Index Terms [View Full Text](#) [Similar records >](#)

4 **liraglutide** or **lorcaserin** treatment in humans with **obesity**
 Valenzuela-Vallejo L., Chrysafi P., Bello-Ramos J., Bsata S., Mantzoros C.S.
Metabolism: Clinical and Experimental 2022 133 Article Number 155237

限制搜尋範圍共搜尋到 **119** 篇文章



使用自然語言同步MeSH、布林邏輯、適當使用截切字元進行搜尋

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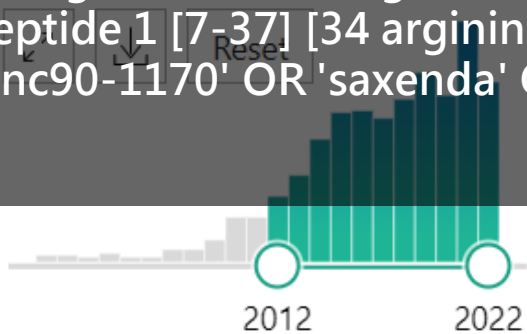
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關鍵字：

('obesity'/exp OR 'adipose tissue hyperplasia' OR 'adipositas' OR 'adiposity' OR 'alimentary obesity' OR 'body weight, excess' OR 'corpulency' OR 'fat overload syndrome' OR 'nutritional obesity' OR 'obesitas' OR 'obesity' OR 'overweight') AND ('liraglutide'/exp OR 'glucagon like peptide 1 [7-37] [26 (6 n hexadecanoyl gamma glutamyllysine) 34 arginine]' OR 'liraglutide' OR 'liraglutide recombinant' OR 'n26 (hexadecanoyl gamma glutamyl) glucagon like peptide 1 [7-37] [34 arginine]' OR 'nn 2211' OR 'nn2211' OR 'nnc 90 1170' OR 'nnc 90-1170' OR 'nnc90 1170' OR 'nnc90-1170' OR 'saxenda' OR 'victoza') AND ('placebo'/exp OR 'placebo' OR 'placebo gel' OR 'placebos')

找到 721 篇



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Rubino DM, Greenway FL, Khalid U, O'Neil PM, Rosenstock J, Sørrig R, Wadden TA, Wizert A, Garvey WT; STEP 8 Investigators.

JAMA. 2022 Jan 11;327(2):138-150. doi: 10.1001/jama.2021.23619.

PMID: 35015037 **Free PMC article.** Clinical Trial.

OBJECTIVE: To compare the efficacy and adverse event profiles of once-weekly subcutaneous semaglutide, 2.4 mg, vs once-daily subcutaneous **liraglutide**, 3.0 mg (both with diet and physical activity), in people with overweight or **obesity**. ...CONCLUSIONS AND RELEVANCE: ...

TEXT AVAILABILITY

Abstract

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All (20)

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- clinical trial (7)
- Costs/Narrow (1)
- Diagnosis/Broad (3)
- Economics/Narrow (0)
- Etiology/Broad (17)
- Etiology/Narrow (4)
- Meta-analysis (2)
- Observational Study (1)
- Practice Guideline (0)
- Prognosis/Broad (2)
- Prognosis/Narrow (2)
- Randomized Controlled Trial (7)
- Therapy/Broad (14)
- Therapy/Narrow (7)

■ 根據**臨床問題**類型篩選

『治療型問題』 『診斷型問題』 『預後型問題』 『病因型問題』

■ 利用**Synthesis** 搜尋

『Systematic[sb] OR meta-analysis[PT]』

■ 找尋有無**Cochrane review**之文章

限制搜尋範圍共搜尋到 **257** 篇文章
『"Cochrane Database Syst Rev." [jour]』

■ 同時注意含有**經濟效益分析**之文章

『Costs/Narrow』 『Economics/Narrow』

■ 找出可能含**亞洲族群**文獻納入考慮

『Chinese OR Asia』



使用中英文關鍵字、進階檢索(語言、類型、地區、年代)進行文獻搜尋

期刊文章 0	會議論文 0	碩博士論文 0	電子書 0
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簡 繁

全部 期刊 學位 會議 專利 科技報告 成果 標準 法規 地方志 視頻 更多>>

万方智搜

減重 膳纤达

搜論文

搜期刊

高級檢索
檢索歷史

- 年份
 - 2022 (9)
 - 2021 (15)
 - 2020 (14)
 - 更多...
- 學科分類
 - + 醫藥、衛生 (46)
 - + 工業技術 (28)
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- 核心
 - CSTPCD (84)

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題名 作者 关键词 刊名 起始年 - 結束年 結果中檢索

排序: 相關度 ↓ 出版時間 被引頻次 下載

獲取範圍 顯示 20 條

找到 115 條結果

批量選擇 (已選擇 0 條) 清除 批量引用 結果分析 只看核心期刊論文

1. 膳食纖維在減重減脂中的作用研究

[期刊論文] 周敏 張新 鄧慧君 等 - 《糖尿病天地》 2020年3期

摘要: 在這個快捷便利時代,交通發達,信息便捷,社會快速發展,居民在手機上動動手指就可以采購到新鮮又營養的食品,我國居民生活質量和生活水準得到了明顯提升,萬事有利皆有利,生活條件的提高,營養過剩,加上各種電子產品的誘惑與吸引,人們很少有時間運動鍛煉身體,肥胖人口逐年增多.有研究發現,膳食纖維在減重減脂中效果不錯,有利于肥胖人...

膳食纖維 減重減脂

下載: 159

2. 早期腸內營養聯合膳食纖維對重癱肺炎患者腸道微生態的作用研究

[期刊論文] 管智慧 肖小榮 周靈敏 等 - 《中國中西醫結合急救雜誌》 CSTPCD 北大核心 2021年4期

摘要: 結論 早期EN聯合膳食纖維有助於重癱肺炎患者腸道菌群調節,保護胃腸道黏膜屏障功能,減輕機體炎癥反應,降低應用EN時胃腸道不良反應發生率.

展開更多

搜尋結果

輸入關鍵字
並搭配各資料庫限定
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選擇『Systematic
Review』之文章

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之文章

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23 篇(SR)

2 篇(SR)

10篇標題重複
6篇標題不符合我們情境的PICO
5篇閱讀摘要不符合PICO

收錄人數/Trails數最多
且有做統合分析的2篇



收納文章的比較

選出**最佳文獻**，並依是否符合**臨床問題**等提出我們的理由

文獻	研究方法	P	I	C	O	T
Association of Pharmacological Treatments for Obesity With Weight Loss and Adverse Events: A Systematic Review and Meta-analysis. 2016	SR of RCTs	●	●	●	●	●
Effects of Weight-Loss Medications on Cardiometabolic Risk Profiles: A Systematic Review and Network Meta-analysis. 2018	SR of RCTs	●	●	●	●	●





是否遺漏重要、最新的RCT

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Healthy Weight Loss Maintenance with Exercise, Liraglutide, or Both Combined

Julie R. Lundgren, M.D., Ph.D., Charlotte Janus, Ph.D., Simon B.K. Jensen, M.Sc., Christian R. Juhl, M.D., Lisa M. Olsen, M.Sc., Rasmus M. Christensen, B.Sc.Med., Maria S. Svane, M.D., Ph.D., Thomas Bandholm, Ph.D., Kirstine N. Bojsen-Møller, M.D., Ph.D., Martin B. Blond, M.D., Ph.D., Jens-Erik B. Jensen, M.D., Ph.D., Bente M. Stallknecht, M.D., D.M.Sc., Jens J. Holst, M.D., D.M.Sc., and Signe S. Tørekov, Ph.D.

符合之SR收錄文章到2016/7
因此再度搜尋 Pubmed 限縮時間2016~2022年

BACKGROUND

Weight regain after weight loss is a major problem in the treatment of persons with obesity.

METHODS

In a randomized, head-to-head, placebo-controlled trial, we enrolled adults with obesity (body-mass index [the weight in kilograms divided by the square of the height in meters], 32 to 43) who did not have diabetes. After an 8-week low-calorie diet, participants were randomly assigned for 1 year to one of four strategies: a moderate-to-vigorous-intensity exercise program plus placebo (exercise group); treatment with liraglutide (3.0 mg per day) plus usual activity (liraglutide group); exercise program plus liraglutide therapy (combination group); or placebo plus usual activity (placebo group). End points with prespecified hypotheses were the change in body weight (primary end point) and the change in body-fat percentage (secondary end point) from randomization to the end of the treatment period in the intention-to-treat population. Prespecified metabolic health-related end points and safety were also assessed.

RESULTS

After the 8-week low-calorie diet, 195 participants had a mean decrease in body weight of 13.1 kg. At 1 year, all the active-treatment strategies led to greater weight loss than placebo: difference in the exercise group, -4.1 kg (95% confidence interval [CI], -7.8 to -0.4; $P=0.03$); in the liraglutide group, -6.8 kg (95% CI, -10.4 to -3.1; $P<0.001$); and in the combination group, -9.5 kg (95% CI, -13.1 to -5.9; $P<0.001$). The combination strategy led to greater weight loss than exercise (difference, -5.4 kg; 95% CI, -9.0 to -1.7; $P=0.004$) but not liraglutide (-2.7 kg; 95% CI, -6.3 to 0.8; $P=0.13$). The combination strategy decreased body-fat percentage by 3.9 percentage points, which was approximately twice the decrease in the exercise group (-1.7 percentage points; 95% CI, -3.2 to -0.2; $P=0.02$) and the liraglutide group (-1.9 percentage points; 95% CI, -3.4 to -0.5; $P=0.009$). Only the combination strategy was associated with improvements in the glycated hemoglobin level, insulin sensitivity, and cardiorespiratory fitness. Increased heart rate and cholelithiasis were observed more often in the liraglutide group than in the combination group.

CONCLUSIONS

A strategy combining exercise and liraglutide therapy improved healthy weight loss maintenance more than either treatment alone. (Funded by the Novo Nordisk Foundation and others; EudraCT number, 2015-005585-32; ClinicalTrials.gov number, NCT04122716.)



Original Investigation

June 14, 2016

Association of Pharmacological Treatments for Obesity With Weight Loss and Adverse Events

A Systematic Review and Meta-analysis

Rohan Khera, MD¹; Mohammad Hassan Murad, MD, MPH^{2,3}; Apoorva K. Chandar, MBBS, MPH⁴; [et al](#)

» [Author Affiliations](#) | [Article Information](#)

JAMA. 2016;315(22):2424-2434. doi:10.1001/jama.2016.7602

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最符合臨床情境
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收納較多病人數
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Impact Factor

157.3



適當文獻評讀工具

Critical Appraisal Skills Programme (2018)

CASP (insert name of checklist i.e. Systematic Review) Checklist

選用
Systematic
Reviews
Checklist



HOME ABOUT US TRAINING KNOWLEDGE HUB EVENTS CONTACT US ONLINE LEARNING

CASP CHECKLISTS

艱澀難懂的数据

- ✎ CASP Randomised Controlled Trial Checklist
 - PDF Form
 - Print & Fill
 - Word
- ✎ CASP Systematic Review Checklist
 - PDF Form
 - Print & Fill
 - Word
- ✎ CASP Qualitative Studies Checklist
 - PDF Form
 - Print & Fill
- ✎ CASP Cohort Study Checklist
 - PDF Form
 - Print & Fill

評讀題數適中
涵蓋面相全面
國際通用評讀



1. 此回顧是否問了一個**清楚明確**的臨床問題？

Did the review address a clearly focused question?

June 14, 2016

Association of Pharmacological Treatments for Obesity With Weight Loss and Adverse Events

A Systematic Review and Meta-analysis

Rohan Khera, MD¹; Mohammad Hassan Murad, MD, MPH^{2,3}; Apoorva K. Chandar, MBBS, MPH⁴; [et al](#)

此文**清楚定義PICO內容**。包括選定族群、使用介入以及欲評估之結果，
同時也有比較對於**安慰劑**或是**藥物間兩兩相互比較**

Secondary: 10%weight loss, weight loss in kilograms, drug adverse effect

評讀結果

YES

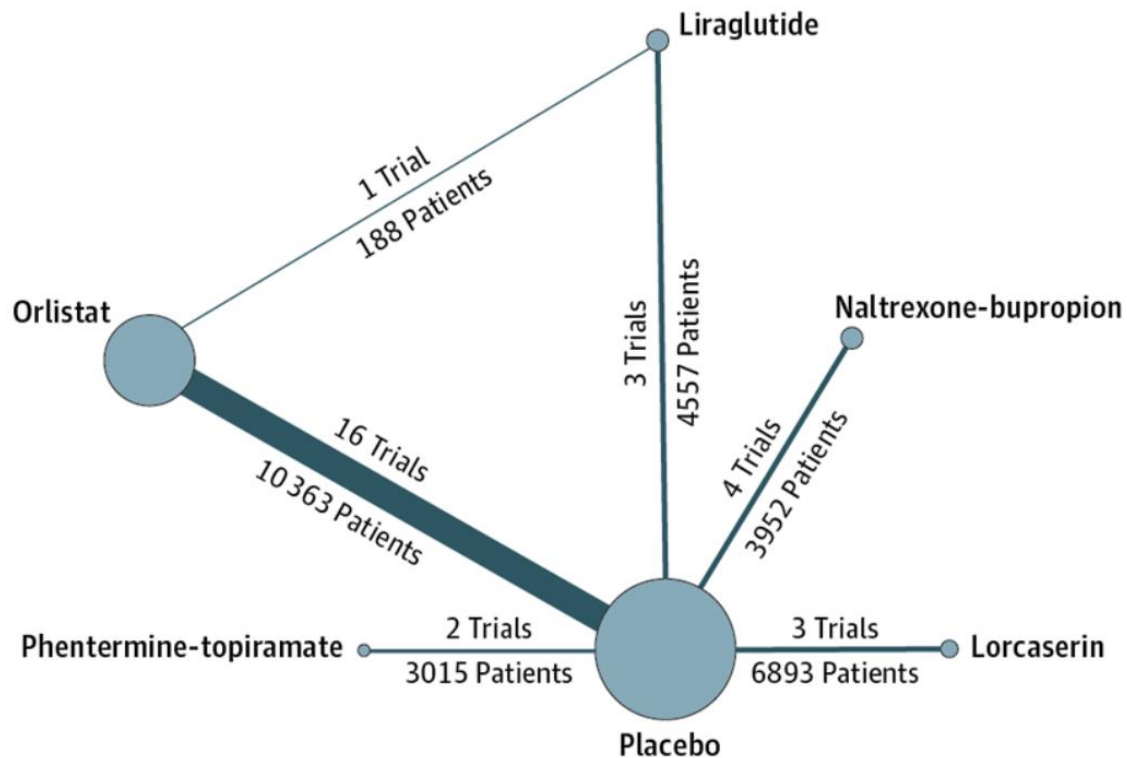
NO

Can't tell



1. 此回顧是否問了一個**清楚明確**的臨床問題？

Did the review address a clearly focused question?



C Adults not taking drugs or taking two different drugs

評讀結果

YES

NO

Can't tell



2. 作者是否尋找適當研究類型的文獻？

Did the authors look for the right type of papers?

NIHR | National Institute for Health Research

PROSPERO
International prospective register of systematic reviews

Print | PDF

Comparative effectiveness of weight loss medications: a systematic review and network meta-analysis

Rohan Khera, Siddharth Singh, Apoorva Chandar, Parambir Dulai, M. Hassan Murad, Michael Camilleri, Zhen Zhen Wang, Larry Prokop, Rohit Loomba

Types of study to be included

Randomized controlled trials using at least 1 active agent in the population specified above with at least 1 year of follow up. We will treat studies within 3 months of the 1 year time point to be equivalent to 1 year of follow up. We will exclude the following studies: (1) Non-RCT, comparative studies (2) Studies of weight loss diet, exercise (3) Studies of non-approved agents – metformin, rimonabant (4) Combinations of above agents in the same active arm (5) Combination of any of the above agents with another medication which is not approved by FDA for weight loss. (6) Duration of study < 9 months (7) Animal studies

優點

- 註冊於NIH priori-established protocol
- 清楚定義收納的研究類型
- 有收錄符合治療型問題的RCT文章
- 收錄之 RCTs 皆有適當的隨機序列產生及分派隱匿
- 使用PRISMA流程
- 清楚定義了納入條件
- 清楚定義了排除條件

缺點

- 僅收錄一篇藥物互比之RCT文章

評讀結果

YES

NO

Can't tell

3. 重要、相關的研究是否皆被納入？

Do you think all the important, relevant studies were included?

Search Strategy

The search strategy was designed and conducted by an experienced medical librarian with input from study investigators using various databases from inception to March 23, 2016. The databases included Ovid MEDLINE, EMBASE, Scopus, Web of Science, and Cochrane Central Register of Controlled Trials. Clinical trial registries (<http://www.clinicaltrials.gov> and <http://www.clinicaltrialsregister.eu>), conference proceedings, and published systematic reviews were screened for additional studies. Details of the search strategy and study selection procedures are shown in the eAppendix in the [Supplement](#).

優點

- 搜尋了重要的初級和次級資料庫
Medline
Embase
Scopus
Pubmed
Web of Science
AMED
- 搜尋註冊但尚未發表的試驗
ClinicalTrials.gov
WHO ICTRP
UK Clinical Trial
- 完整MeSH term搜尋並未限制語言
- 從重要試驗的 reference 尋找相關研究

缺點

- 語言侷限於英文文章
- 未說明有無亞洲資料庫之文獻

評讀結果

YES

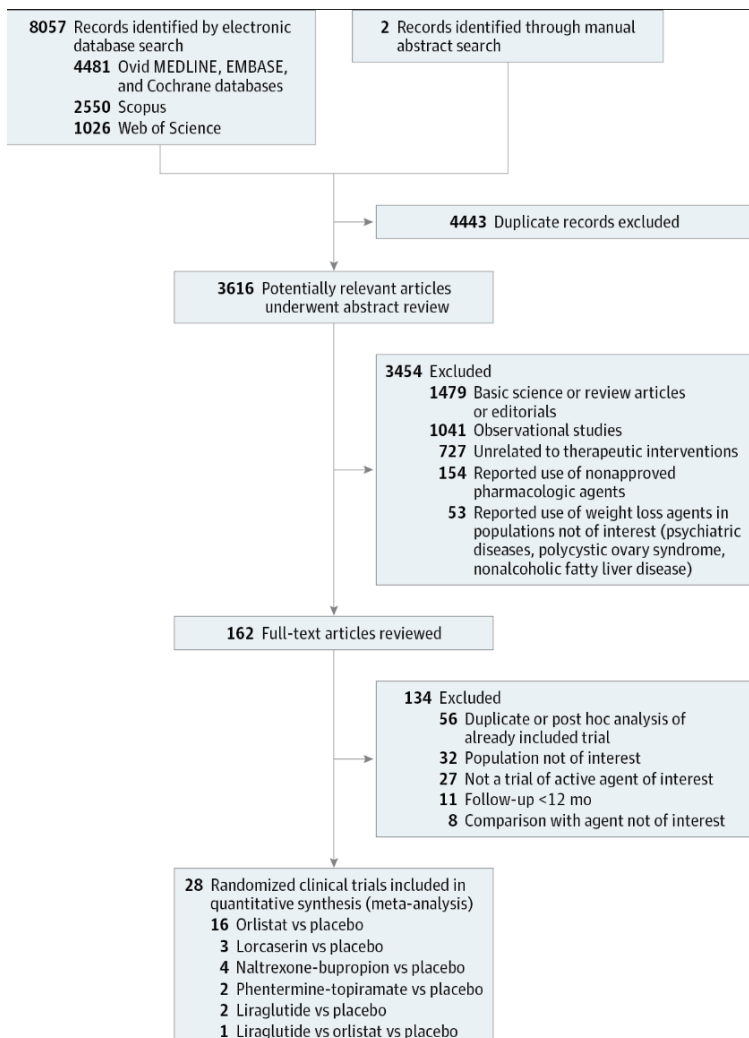
NO

Can't tell



3. 重要、相關的研究是否皆被納入？

Do you think all the important, relevant studies were included?



優點

- 流程圖(Flow chart)詳盡說明納入、排除理由
- 有提供Funnel plot
- 有使用Egger' s model

缺點

- 缺少亞洲資料庫
- 侷限於英文文章
- possible publication bias indicated by Egger test ($p < 0.05$)

評讀結果

YES

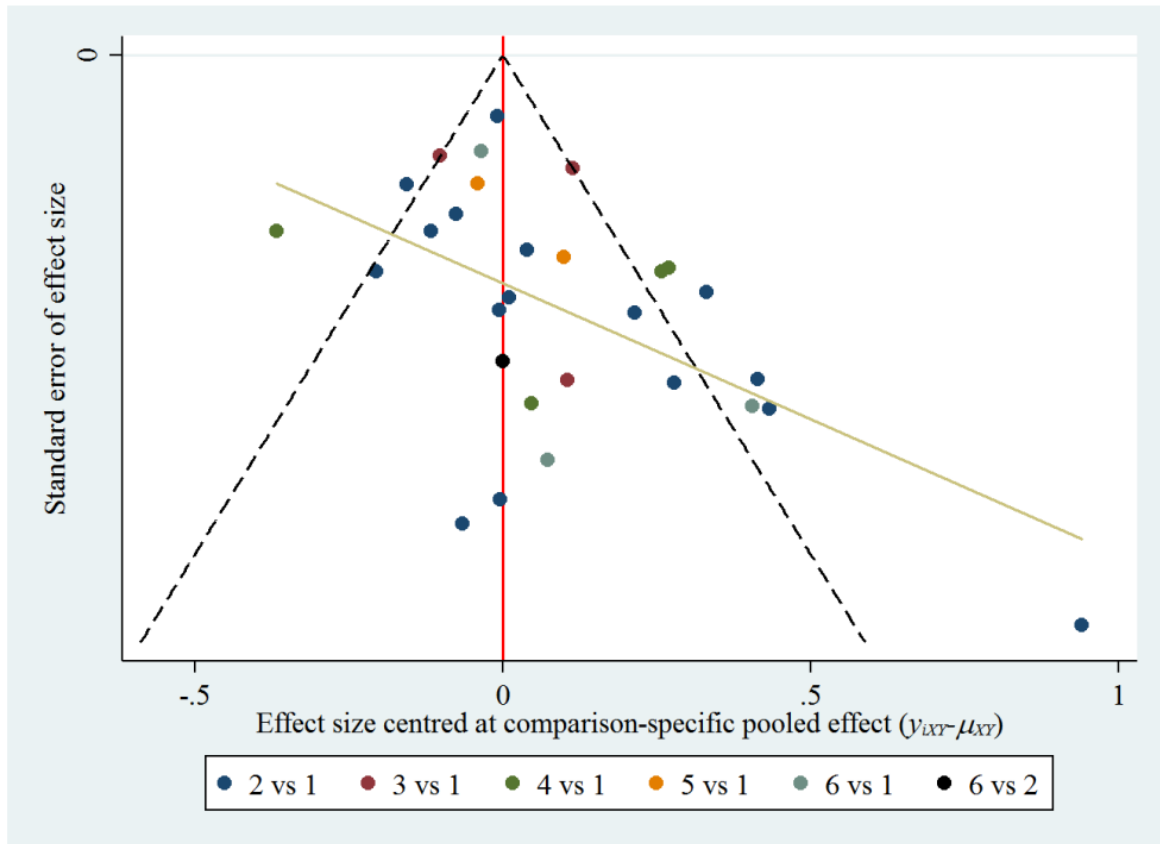
NO

Can't tell

3. 重要、相關的研究是否皆被納入？

Do you think all the important, relevant studies were included?

eFigure 4. Publication Bias Assessed Via Funnel Plots Assessed for the 5% Weight Loss Outcome



優點

- 流程圖(Flow chart)詳盡說明納入、排除理由
- 有提供Funnel plot
- 有使用Egger's model

缺點

- 缺少亞洲資料庫
- 侷限於英文文章
- possible publication bias indicated by Egger test ($p < 0.05$)

評讀結果

YES

NO

Can't tell



4. 作者是否評估收納研究的品質？

Did the review's authors do enough to assess quality of the included studies?

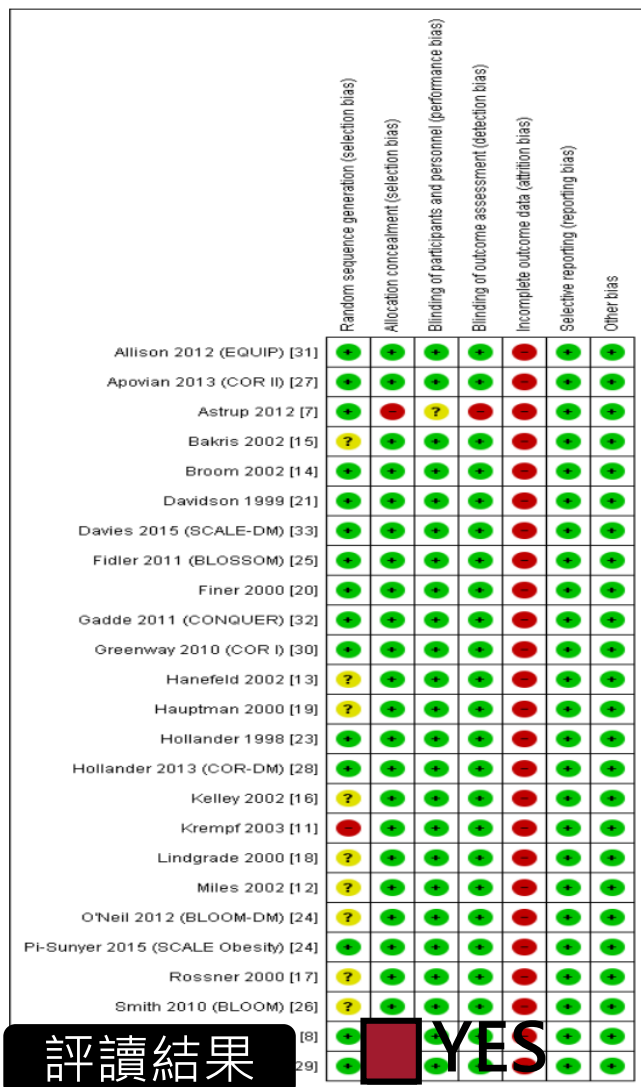


Figure 2. Quality Assessment of 28 RCTs Included in the Analysis

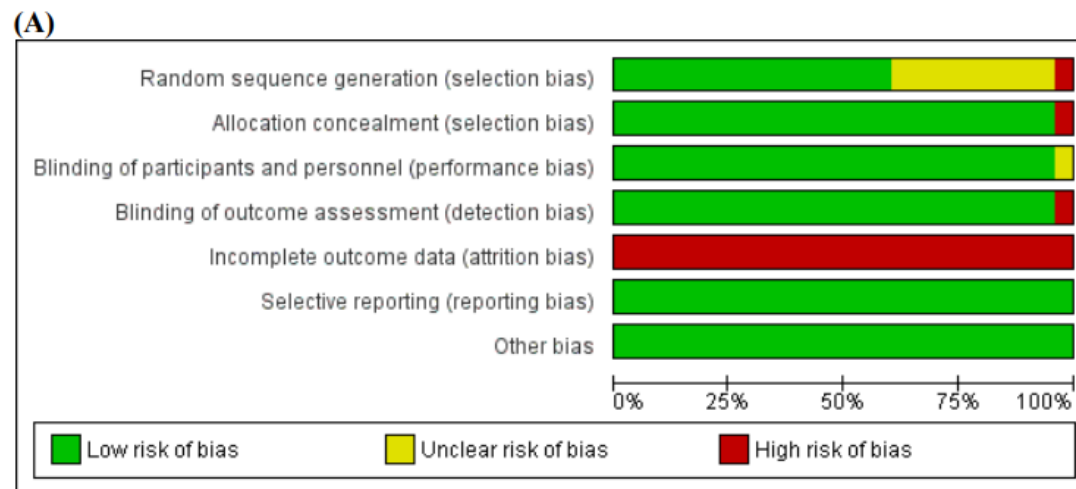


Table 10. Overall GRADE Quality of Evidence From Network Meta-analysis

Pharmacological Intervention	≥5% weight loss
Compared with Placebo	
Orlistat	Moderate
Lorcaserin	Moderate
Naltrexone-Bupropion	Moderate
Phentermine-Topiramate	Moderate
Liraglutide	Moderate
Compared with Orlistat	
Lorcaserin	Low
Naltrexone-Bupropion	Moderate
Phentermine-Topiramate	Moderate
Liraglutide	Moderate
Compared with Lorcaserin	
Naltrexone-Bupropion	Low
Phentermine-Topiramate	Moderate
Liraglutide	Moderate
Compared with Naltrexone-Bupropion	
Phentermine-Topiramate	Moderate
Liraglutide	Low
Compared with Phentermine-Topiramate	
Liraglutide	Moderate

評讀結果

YES

- 優點**

 - 三位作者獨立選擇及萃取文獻，衝突討論解決
 - 其中收納的RCTs文章，有兩位作者使用 **Cochrane risk of bias tool** 獨立評讀
 - 適當說明各 RCT High risk之原因

缺點

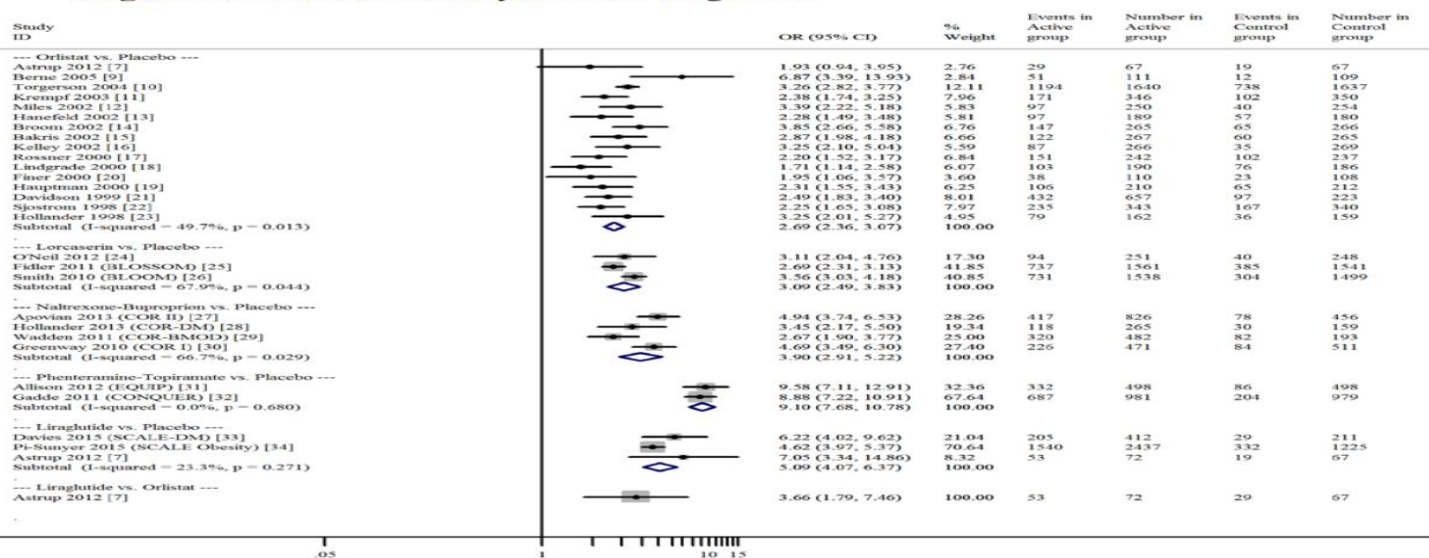
 - 未使用最新的 **Cochrane risk of bias tool 2.0** (可能發表時間在2016)



5. 作者是否將結果**合併**？**合併**是否**合理**？

If the results of the review have been combined, was it reasonable to do so?

eFigure 3A. Direct Meta-analysis of 5% weight loss



- 有依照各個subgroup進行**合併**各個研究結果
- 有進行 **Chi-squared** 異質性分析
- 有定義 I square > 50% 為顯著異質
- 以 **Random effect model** 降低大 trial 的影響比重，以全面呈現各個 trial 的介入效果

評讀結果

YES

NO

Can't tell



6. 此篇回顧呈現什麼**結果**？

What are the overall results of the review?



7. 結果**精準**嗎？

How precise are the results?

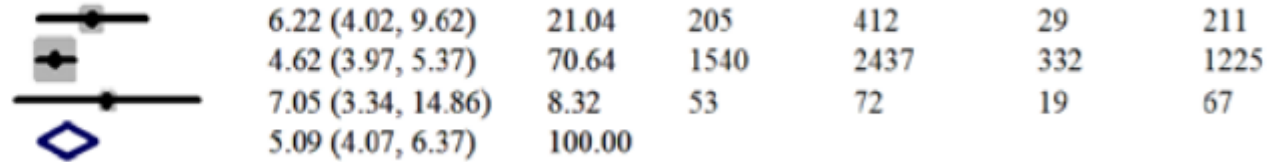
--- Liraglutide vs. Placebo ---

Davies 2015 (SCALE-DM) [33]

Pi-Sunyer 2015 (SCALE Obesity) [34]

Astrup 2012 [7]

Subtotal (I-squared = 23.3%, p = 0.271)



Direct Meta-analysis of 5% weight loss

Comparison

Liraglutide versus Placebo

Duration

at least 1 year of follow up

Heterogeneity

P=0.271, I²=23.3%, 屬於低異質性

Result

OR=5.09[4.07, 6.37] 95%CI

評讀結果

YES

NO

Can't tell

--- Liraglutide vs. Orlistat ---
Astrup 2012 [7]



Direct Meta-analysis of 5% weight loss

Comparison

Liraglutide versus Orlistate

Duration

at least 1 year of follow up

Heterogeneity

僅收錄一篇

Result

OR=3.66[1.79, 7.46] 95%CI

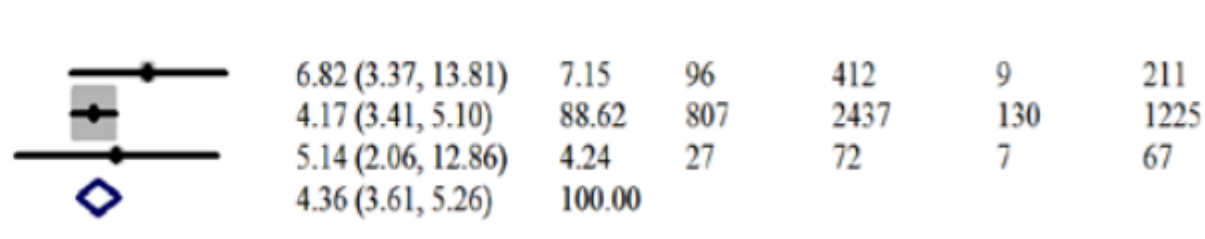
評讀結果

YES

NO

Can't tell

--- Liraglutide vs. Placebo ---
 Davies 2015 (SCALE-DM) [33]
 Pi-Sunyer 2015 (SCALE Obesity) [34]
 Astrup 2012 [7]
 Subtotal (I-squared = 0.0%, p = 0.394)



Direct Meta-analysis of 10% weight loss

Comparison
Duration
Heterogeneity
Result

Liraglutide versus **placebo**

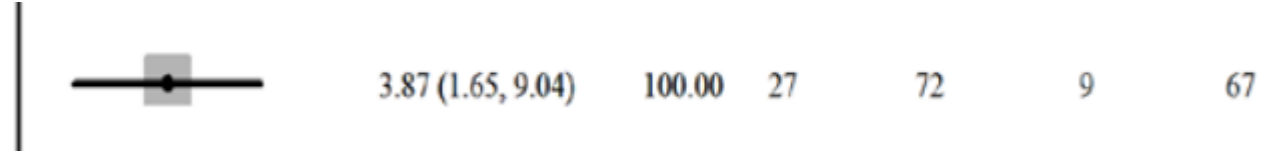
at least 1 year of follow up

P=0.394 · I²=0.0% · 屬於低異質性

OR=4.36[3.61, 5.26] 95%CI

評讀結果 YES NO Can't tell

--- Liraglutide vs. Orlistat ---
Astrup 2012 [7]



Direct Meta-analysis of 10% weight loss

Comparison

Liraglutide versus Orlistate

Duration

at least 1 year of follow up

Heterogeneity

僅收錄一篇

Result

OR=3.87[1.65, 9.04] 95%CI

評讀結果

YES

NO

Can't tell

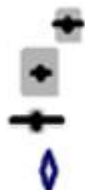
--- Liraglutide vs. Placebo ---

Davies 2015 (SCALE-DM) [33]

Pi-Sunyer 2015 (SCALE Obesity) [34]

Astrup 2012 [7]

Subtotal (I-squared = 82.8%, p = 0.003)



-4.20 (-4.90, -3.50)	27.14	412	-6.4	-7.1	-5.7	211	-2.2	-2.3	-2.1
-5.60 (-6.05, -5.15)	65.21	2437	-8.4	-8.7	-8.1	1225	-2.8	-3.2	-2.4
-5.80 (-7.12, -4.48)	7.64	72	-7.8	-8.7	-6.9	67	-2	-2.9	-1.1
-5.24 (-5.60, -4.87)	100.00								

Direct meta-analysis of **weight loss in kilograms**

Comparison

Liraglutide versus **placebo**

Duration

at least 1 year of follow up

Heterogeneity

P=0.003 · I²=82.8% · 屬於**高**異質性

Result

OR=-5.24[-5.60, -4.87] 95%CI

評讀結果

YES

NO

Can't tell

--- Liraglutide vs. Orlistat ---
Astrup 2012 [7]



-3.90 (-5.18, -2.62) 100.00 72 -7.8 -8.7 -6.9 67 -3.9 -4.8 -3

Direct Meta-analysis of weight loss in kilograms

Comparison

Liraglutide versus Orlistate

Duration

at least 1 year of follow up

Heterogeneity

僅收錄一篇

Result

OR = -3.90 [-5.18, -2.62] 95%CI

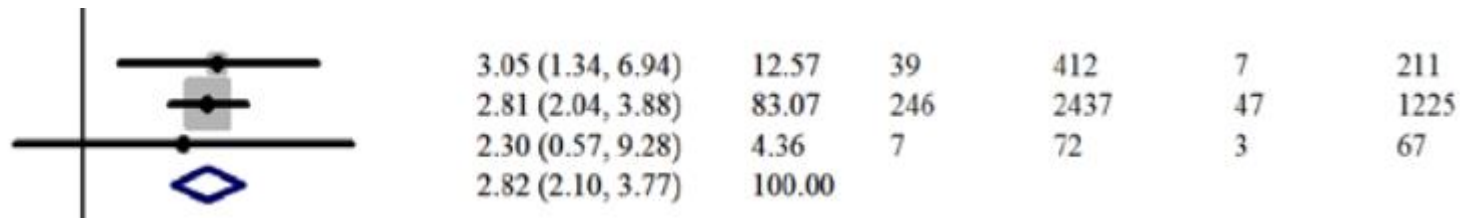
評讀結果

YES

NO

Can't tell

--- Liraglutide vs. Placebo ---
 Davies 2015 (SCALE-DM) [33]
 Pi-Sunyer 2015 (SCALE Obesity) [34]
 Astrup 2012 [7]
 Subtotal (I-squared = 0.0%, p = 0.943)



Direct meta-analysis of withdrawal from study due to **drug adverse effect**

Comparison

Liraglutide versus **placebo**

Duration

at least 1 year of follow up

Heterogeneity

P=0.943 · I²=0.0% · 屬於**低**異質性

Result

OR=2.82[2.10, 3.77] 95%CI

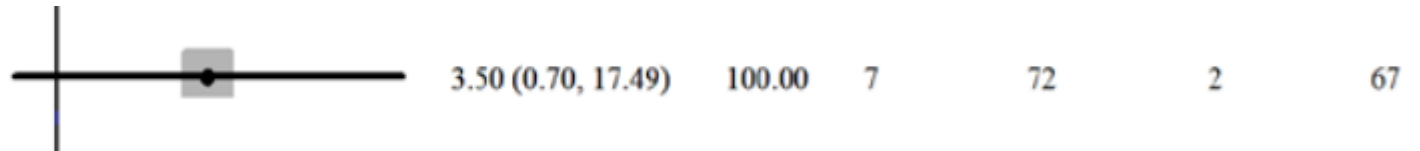
評讀結果

YES

NO

Can't tell

--- Liraglutide vs. Orlistat ---
Astrup 2012 [7]



Direct meta-analysis of withdrawal from study due to **drug adverse effect**

Comparison

Liraglutide versus **Orlistate**

Duration

at least 1 year of follow up

Heterogeneity

僅收錄一篇

Result

OR=3.50[0.70, 17.49] 95%CI

評讀結果

YES

NO

Can't tell



證據品質-GRADE

GRADEpro GDT

臨床問題: **Liraglutide vs Placebo**

- LOW RISK
- SOME CONCERN
- HIGH RISK

主要結果
5% weight loss

次要結果
10% weight loss

OR (95%CI)
5.54[4.16, 7.78]

OR (95%CI)
4.36 [3.61, 5.26]

研究設計

RCTs(3篇)

RCTs(3篇)

降階

1. 存在誤差風險



2. 結果不一致



3. 證據不具直接性



4. 結果不精準
(小於400人，信賴區間寬>25%)



5. 存在發表誤差



升階

1. 效果顯著

非常顯著

顯著

2. 降低干擾

YES

YES

3. 具劑量-反應效應

NO

NO

Cochrane RoB Criteria (Edwin Chan):

At least one but $\leq 25\%$ 紅, And $\leq 25\%$ 黃

證據品質



證據品質-GRADE

GRADEpro GDT

臨床問題: **Liraglutide vs Placebo**

- LOW RISK
- SOME CONCERN
- HIGH RISK

主要結果
5% weight loss

次要結果
10% weight loss

OR (95%CI)
5.09[4.07, 6.37]

OR (95%CI)
4.36 [3.61, 5.26]

研究設計

RCTs(3篇)

RCTs(3篇)

降階

1. 存在誤差風險
2. 結果不一致
3. 證據不具直接性
4. 結果不精準
(小於400人·信賴區間寬>25%)
5. 存在發表誤差



● (I2: 23.3%)



● (I2: 0.0%)



升階

1. 效果顯著
2. 降低干擾因素
3. 具劑量-反應效應

非常顯著

YES

NO

顯著

YES

NO

證據品質





證據品質-GRADE

GRADEpro GDT

臨床問題: **Liraglutide vs Placebo**

- LOW RISK
- SOME CONCERN
- HIGH RISK

次要結果
Weight loss in kilograms

次要結果
Drug adverse effect

WMD (95%CI)
-5.24 [-5.60, -4.87]

OR (95%CI)
2.82 [2.10, 3.77]

研究設計

RCTs(3篇)

RCTs(3篇)

降階

1. 存在誤差風險



2. 結果不一致

● (I²: 82.8%)

● (I²: 0.0%)

3. 證據不具直接性



4. 結果不精準
(小於400人，信賴區間寬>25%)



5. 存在發表誤差



升階

1. 效果顯著

顯著

顯著

2. 降低干擾因素

YES

YES

3. 具劑量-反應效應

NO

NO

Cochrane Handbook(2018): 75-100% → considerable heterogeneity

證據品質



證據品質-GRADE

GRADEpro GDT

臨床問題: **Liraglutide vs Placebo**

- LOW RISK
- SOME CONCERN
- HIGH RISK

次要結果
Weight loss in kilograms

次要結果
Drug adverse effect

WMD (95%CI)
-5.24 [-5.60, -4.87]

OR (95%CI)
2.82 [2.10, 3.77]

研究設計

RCTs(3篇)

RCTs(3篇)

降階

1. 存在誤差風險
2. 結果不一致
3. 證據不具直接性
4. 結果不精準
(小於400人·信賴區間寬>25%)
5. 存在發表誤差



● (I2: 82.8%)



● (I2: 0.0%)



升階

1. 效果顯著
2. 降低干擾因素
3. 具劑量-反應效應

顯著

YES

NO

顯著

YES

NO

證據品質





8. 此研究是否適用於本案例或類似的病人？

Can the results be applied to the local population?

SCRAP	評讀文獻	情境案例	相似性
疾病	過重	過重	✓
介入	Liraglutide, orlistat, lorcaserin, naltrexone-bupropion	Liraglutide	✓
對照	Placebo	Conservative treatment	✓
結果	Least 5% and at Least 10% Weight Loss, excess weight loss		✓
年齡	>18歲	54歲	✓
性別	男性、女性	男性	✓
種族	白人、非白人	台灣	
共病	糖尿病、高血壓、高血脂	高血壓、高血脂	✓

此項治療在台灣、本院可行

評讀結果

YES

NO

Can't tell



9. 是否所有重要結果都被考量到？

Were all important outcomes considered?

	臨床重要Outcomes	評讀文獻Outcomes
Efficacy	<u>Weight loss</u> <u>Decreased appetite</u> <u>Decreased waist circumference</u>	✓
Adverse Effects	<u>GI upset</u> abdominal pain, nausea, cholecystitis <u>Cost and burden</u>	✓
Serious Adverse Effects	<u>Hypoglycemia</u> <u>GI upset, TTP, breast Ca</u> thrombotic thrombocytopenic purpura, anal abscess, and liver disorder) <u>Mortality</u>	✓

評讀結果

YES

NO

Can't tell



10. 這些好處隨之而來的**傷害和花費**是否值得？

Are the benefits worth the harms and costs?

利益- 5% weight loss	利益- 10% weight loss	風險- Drug adverse effect
<p><u>NNT = 3</u> [3, 4]</p>	<p><u>NNT = 5</u> [4, 6]</p>	<p><u>NNT = 17</u> [11, 26]</p>

每治療3位病人，有1位可因 Liraglutide 治療減少 5%體重
 每治療5位病人，有1位可因服用 Liraglutide 治療減少 10%體重
 每治療17位病人，有1位可因服用 Liraglutide 治療造成 副作用

評讀結果

YES

NO




Can't tell



10. 這些好處隨之而來的**傷害和花費**是否值得？

Are the benefits worth the harms and costs?

效益評估：**風險與利益**、以**病人觀點**為中心的選擇方案

	醫療觀點：利益	醫療觀點：風險	病人觀點：喜好/花費
藥物- Liraglutide	 效果較佳(可減少體重) 減少	 服藥順從性 未成年、飲食障礙不適用 藥物副作用	需 自費 給付 擔心 藥物副作用
未使用 (保守治療)	減少藥物副作用	過重造成共病症 未來重症風險，增加住院 社會價值觀	 擔心體重無法控制

評讀結果

YES

NO

Can't tell



10. 這些好處隨之而來的**傷害和花費**是否值得？

Are the benefits worth the harms and costs?

效益評估：**成本效益**(Cost-effectiveness Analysis)

		藥物-Liraglutide	保守
有形成本	藥費/醫材費	單價 1508元，頻率1# QD，45240元月 COPE: 135720	-
	門診/病房	門診：掛號及部分負擔費520	住院：健保房1,388/日
	檢驗檢查	-	基本心肺檢查、抽血生化檢查(SMA)
	交通費	公車來回30元	-
	照護人力	-	家屬照護、看護2,500/日
無形成本	生產力	改善心情、增加工作效率增加生產力	增加無法工作及養病時間收入損失 基本工資：時薪168元，40,320/月
	時間成本	舟車勞頓	住院減少陪伴家人時間及增加擔心

評讀結果

YES

NO

Can't tell



其他可行的醫療方案

效益評估：成本效益(Cost-effectiveness Analysis)

藥物/方式	說明	時間	費用/無形成本	易達
運動	NEJM 2021: -1.7 kg	60分/次	運動裝備費用	易
飲食+運動	NEJM 2021: -4.1 kg	60分/次	運動裝備費用	易
藥物+飲食	NEJM 2021: -6.8 kg	1次/天	採買飲食費用	易
藥物+運動+飲食	NEJM 2021: -9.5 kg	60分/次 1次/天	採買飲食費用 運動裝備費用 藥物施打	中

ORIGINAL ARTICLE

Healthy Weight Loss Maintenance with Exercise, Liraglutide, or Both Combined

Julie R. Lundgren, M.D., Ph.D., Charlotte Janus, Ph.D., Simon B.K. Jensen, M.Sc., Christian R. Juhl, M.D., Lisa M. Olsen, M.Sc., Rasmus M. Christensen, B.Sc.Med., Maria S. Svane, M.D., Ph.D., Thomas Bandholm, Ph.D., Kirstine N. Bojsen-Møller, M.D., Ph.D., Martin B. Blond, M.D., Ph.D., Jens-Erik B. Jensen, M.D., Ph.D., Bente M. Stallknecht, M.D., D.M.Sc., [et al.](#)



個案確定性-知情價值偏好



SHARE Approach

Assess+Reach

個案價值偏好 |

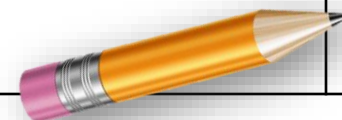
您每個考量所在意的程度

病人偏好	非常重要	重要	普通	不重要	很不重要
治療有效性	5	4	3	2	1
副作用程度	5	4	3	2	1
自理方便性	5	4	3	2	1
經濟成本	5	4	3	2	1

個案了解程度 |

您對治療的認識有多少？

Liraglutide可改善最大行走距離和生活品質？	YES	NO
Liraglutide可能會有腸胃道等副作用風險	YES	NO





整體評估好處風險、證據品質、病人偏好、經濟面等後
對於過重合併新陳代謝症候群
使用Liraglutide介入

薄弱推薦

執行醫病共享決策

Share-Decision Making(SDM)



Clinical Practice Guidelines

		臨床利弊的確定性	
		YES	NO
個案知情偏好 確定性	YES	Strong recommendation Recommend doing 解釋行動方案	Weak recommendation Suggest doing 解釋行動方案
	NO	Weak recommendation Suggest doing 提供選項決策輔助 Choosing wisely	Weak recommendation Suggest doing 提供選項決策輔助 Share Decision Making





醫病共同決策 (Share Decision Making)

現有證據 Evidence

證據等級(GRADE)：Low
根據系統性回顧現有文獻，Liraglutide 比起保守治療：

- 在5%體重減輕有顯著的臨床改善
- 在10%體重減輕有顯著的臨床改善
- 在副作用有顯著的臨床改善

臨床經驗 Experience

- 歐醫師：Liraglutide 可以做減肥選擇，但須考慮潛在腸胃道副作用，台灣有此治療可以協助
- 黃醫師：除藥物服用，也須該善生活品質
- 陳醫師：使用藥物須考量服藥順從性

病人期待 Expectations

- 病人經濟有能力且願意負擔
- 看重療效與副作用，少吃藥擔心副作用
- 改善家庭關係、溝通能力

現行情況 Environments

- 台灣現行醫療環境，許多治療院所有此藥可提供
- 目前沒有健保給付，需自費使用



李先生您好

目前您詢問治療肥胖合併新陳代謝症候群的問題，經過我們團隊嚴謹的文獻查證後，目前現有最佳證據是由**系統性回顧文章**支持。

低等確定性證據表明，

Liraglutide是有幫助的，比起保守治療能有體重減輕效果。文獻上顯示副作用主要有腸胃道症狀。

因此與您討論在**經濟、時間**等許可下，**Liraglutide**確實是一個可以考慮的選項，價格為每月45000元；我們也提供其他治療的選擇供您參考。

提醒您平日不可任意停藥，維持規律**生活作息及調整飲食**，才能有效的預防及未來併發症。

我們也提供**醫病共同決策輔助QR code連結**供您及家人們做參考，您可以討論後再決定，我們都會支持與協助後續醫療計畫，祝早日康復。



您現在決定好醫療方式了嗎？

個案最後決定的方式

謝謝各位評審聆聽

我已經決定好了，我要使用

我目前還無法決定

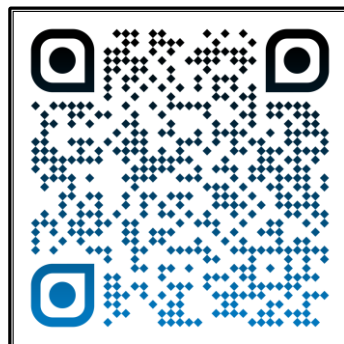
我想再與我的主治醫師討論
我想再與其他人討論 (包含配偶、家人、朋友.....等)
對於以上方式，我想要了解更多，我的問題是：
我不想使用，原因：

了解更多資訊及資源



醫病共同決策輔助工具

<https://forms.gle/XBhmjm5AGrCxsrPU7>



實證團隊LINE機器人

<https://liff.line.me/1645278921-kWRPP32q/?accountId=447gurip>