

Comparison of dietary macronutrient patterns of 14 popular named dietary programmes for weight and cardiovascular risk factor reduction in adults: systematic review and network meta-analysis of randomised trials

Long Ge, Behnam Sadeghirad, Geoff D C Ball, Bruno R da Costa, Christine L Hitchcock, Anton Svendrovski, Ruhi Kiflen, Kalimullah Quadri, Henry Y Kwon, Mohammad Karamouzian, Thomasin Adams-Webber, Waleed Ahmed, Samah Damanhoury, Dena Zeraatkar, Adriani Nikolakopoulou, Ross T Tsuyuki, Jinhui Tian, Kehu Yang, Gordon H Guyatt, Bradley C Johnston

引言人：**李盈靜** 營養師
報告日期：**109年09月15日**



臨床情境

肥胖病人(BMI>27kg/m²)

- 體態
- 健康問題

糖尿病、代謝症候群及血脂異常：>3倍

高血壓、心血管疾病、膝關節炎及痛風：>2倍風險



全球肥胖情形

《刺蝟針》期刊的研究，2014年估有6.41億肥胖人口，比1975年的1.05億人高出許多。



▶ 1975至2014年間全球、區域與各國成人BMI趨勢分析

法新社

阿金飲食 (Atkins Diet)

生酮飲食 (Ketogenic Diet)

區域飲食 (The Zone Diet)

歐尼舒飲食 (Ornish Diet)

地中海飲食 (Mediterranean Diet)

得舒飲食 (DASH Diet)

低GI飲食 (Low GI Diet)

生食飲食 (Raw Food Diet)

素食飲食 (Vegetarian Diet)

體重觀察者飲食 (Weight Watcher Diet)



選用文獻

Comparison of dietary macronutrient patterns of 14 popular named dietary programmes for weight and cardiovascular risk factor reduction in adults: systematic review and network meta-analysis of randomised trials

Long Ge, Behnam Sadeghirad, Geoff D C Ball, Bruno R da Costa, Christine L Hitchcock , Anton Svendrovski, Ruhi Kiflen, Kalimullah Quadri, Henry Y Kwon, Mohammad Karamouzian, Thomasin Adams-Webber, Waleed Ahmed, Samah Damanhoury, Dena Zeraatkar, Adriani Nikolakopoulou, Ross T Tsuyuki, Jinhui Tian, Kehu Yang, Gordon H Guyatt, Bradley C Johnston

Journal impact factor: 4.28

★符合PICO

★證據等級最高

★年代最新 2020



FAITH快速評讀

系統性文獻回顧 Systematic Review

步驟 1

系統性文獻回顧探討的問題為何？



系統性文獻回顧探討的問題為何？

研究族群/問題
Population/problem

Obesity Patients (including with cardiovascular risk factors)

介入措施
Intervention

14 diets popular named dietary programmes for weight

比較
Comparison

Usual diet

結果
Outcomes

Reducing weight & Cardiovascular risk

問題類型 ○ 診斷型 ● 預後型 ○ 治療型 ○ 傷害型





臺北市立萬芳醫院

—委託財團法人臺北醫學大學辦理—

FAITH快速評讀

系統性文獻回顧 Systematic Review

步驟 2

系統性文獻回顧的品質為何？(FAITH)





F - 研究是否找到 (FIND) 所有的相關證據？

1. 良好的文獻搜尋至少應包括二個主要的資料庫
2. 文獻引用檢索、試驗登錄資料
3. 不限於英文，同時使用 MeSH字串及一般檢索詞彙



F - 研究是否找到 (Find) 所有的相關證據？

Methods

We searched Medline, Embase, CINAHL (Cumulative Index to Nursing and Allied Health Literature), AMED (Allied and Complementary Medicine Database), and the Cochrane Central Register of Controlled Trials (CENTRAL) from database inception until September 2018. Search terms included extensive controlled vocabulary and keyword searches related to randomised controlled trials, diets, weight loss, and cardiovascular risk factors. Appendix text S1 presents the Medline search strategy. We reviewed reference lists from eligible trials and related reviews for additional eligible randomised controlled trials.

Text S1: Search strategies

MEDLINE: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, MEDLINE Daily and MEDLINE 1946-Present

#	Searches
1	{atkins and (diet* or weight* or obes*)}.mp.
2	{ediet* and (diet* or weight* or obes*)}.mp.
60	limit 59 to english language
61	44 and 60
62	45 or 61

Embase Classic+Embase 1947 to Present

#	Searches
1	{atkins and (diet* or weight* or obes*)}.mp.
2	{ediet* and (diet* or weight* or obes*)}.mp.

✓ 至少二個主要資料庫

✓ 詳細搜尋策略的說明

× 僅限英文文獻

✓ 參考清單中再搜尋



F - 研究是否找到 (Find) 所有的相關證據？

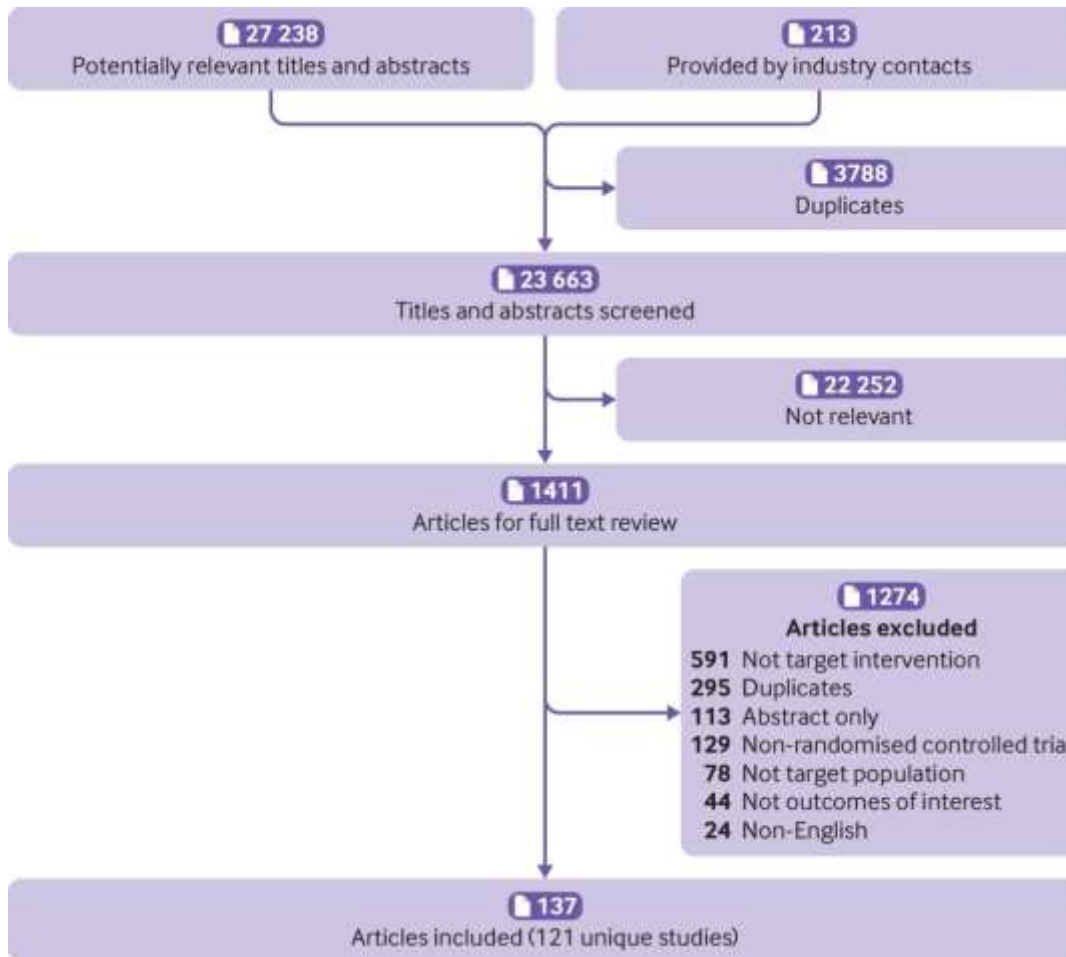


Fig 1 Flow diagram of literature selection

- randomised adults (≥ 18 years)
 - overweight (BMI=25-29)
 - obese (≥ 30)
- Popular named diet/ alternative active/ non-active control diet (usual diet)
- weight loss, changes in lipid profile, BP, or CRP
- duration ≥ 3 months follow-up

F - 研究是否找到 (Find) 所有的相關證據？

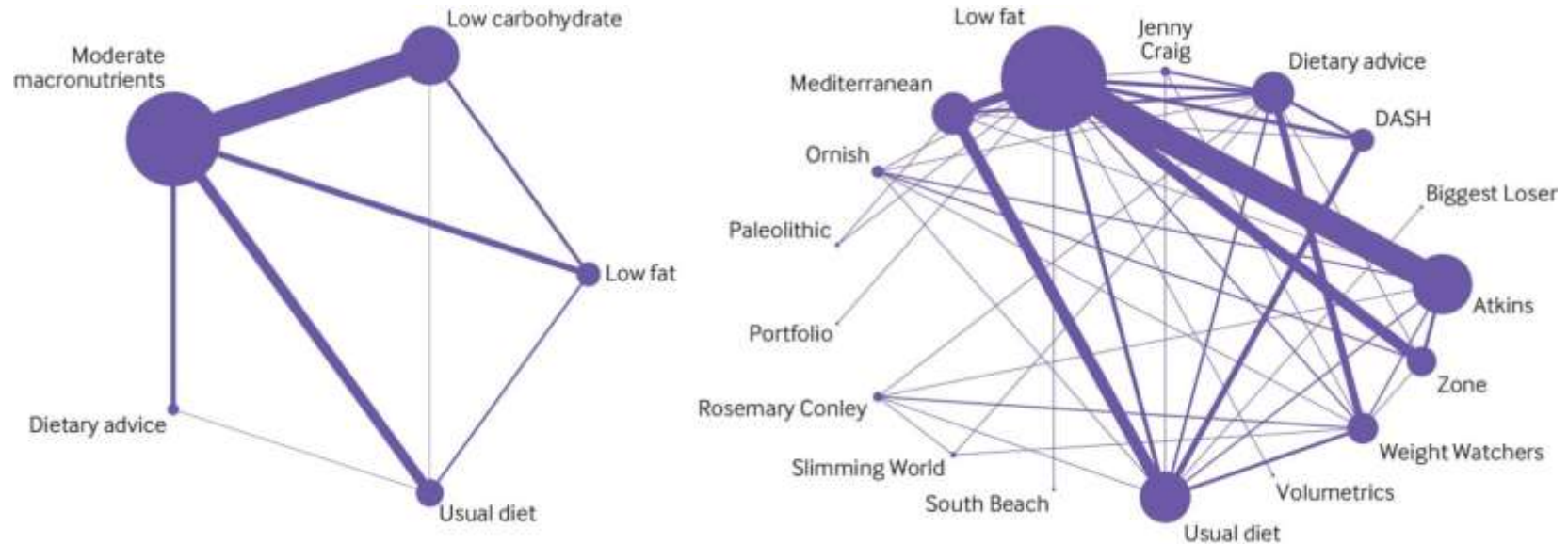


Fig 2 Network plots of all included studies for macronutrient patterns and popular named diets

Participant: 21 -1269 (total 21 942)
 median of mean
 Age: 49.0 years old
 BMI: 33.0 kg/m²
 BW:92.9kg
 proportion of women : 69.0%,
 intervention duration of 26 weeks.

CRP除外

Table S1: The characteristics of eligible dietary program study interventions

Dietary program*	Calorie & macronutrient recommendations	Exercise recommendations	Behavioral supports	Other co-interventions
Atkins	Though several studies incorporating this diet program did not recommend a specific caloric intake, among those that did the daily intake ranged from 1400-2200 and 1200-1600 calories for males and females, respectively. This program was often based on an Atkins manual, and typically involved an initial induction phase in which	Several studies encouraged exercise, consisting of at least 30 minutes per day, 3 days of the week.	Participants were offered supports such as individualized daily calorie targets; weekly calorie controlled, low-fat menu plans, grocery lists, and exercise plans; access to a web-	Among studies providing additional co-interventions, this typically consisted

Table 1 | Nutritional patterns based on macronutrient composition

Type of diet	Popular diets*	Carbohydrates, % kcal	Protein, % kcal	Fat, % kcal
Low carbohydrate	Atkins, South Beach, Zone	≤40	Approximately 30	30-55
Moderate macronutrients	Biggest Loser, DASH, Jenny Craig, Mediterranean, Portfolio, Slimming World, Volumetrics, Weight Watchers	Approximately 55-60	Approximately 15	20-40 21-30
Low fat	Ornish, Rosemary Conley†	Approximately 60	Approximately 10-15	≤20

1 kcal=4.18 kJ.

*A paleolithic diet was reported in two randomised controlled trials (Lindeberg 2007 and Mellberg 2014; appendix table S2), we categorised Lindeberg 2007 as moderate macronutrient based on energy intake (40.2±8.3% carbohydrate, 27.9±6.8% protein, 26.9±6.4% fat). Mellberg, 2014 was categorised as low carbohydrate (30% carbohydrate, 30% protein, 40% fat).

†We categorised Rosemary Conley diet (Truby 2006) as moderate macronutrient (42% carbohydrate, 16% protein, 37% fat).

	poultry rather than other meats. Olive oil was usually recommended. A few studies recommended moderate consumption of red wine with meals.	(typically walking or moderate aerobic activity).	moderate to high support, including nutritional counselling, menus, and shopping lists. Several studies demonstrated support using shared meals as part of the support.	supplements (olive oil, nuts or fish oil capsules). There were no additional co-interventions.
Ornish	A daily caloric recommendation was not clearly provided in this program. However, participants were encouraged to follow a macronutrient intake of 75% CHO, 15% protein, and 10% fats.	Participants engaged in twice-weekly supervised exercise sessions. Independent, daily exercise of at least 30 minutes per day was encouraged.	Participants were provided with sessions that included supervised exercise, stress management, a meal, lifestyle-related lecture and group support.	Participants were offered to supplement their diet with a multivitamin and omega-3 fatty acids.

評讀結果 ●是 ○否 ○不清楚





臺北市立萬芳醫院

·委託財團法人臺北醫學大學辦理·

A - 文獻是否經過嚴格評讀 ？

應根據不同臨床問題的文章類型，

- 1.選擇適合的評讀工具，
- 2.說明每篇研究的品質



A - 文獻是否經過嚴格評讀？

Data abstraction and risk of bias assessment

After pilot testing our data extraction forms, teams of two reviewers independently extracted demographic information, experimental and control interventions including exercise and behavioural support, and data on each outcome of interest. We focused on two sets of outcomes: weight loss and related markers of cardiovascular disease risk (systolic blood pressure,

Reviewers assessed the risk of bias for each individual randomised controlled trial independently and in duplicate using the Cochrane risk of bias tool.¹⁸ We assigned individual trials as high risk of bias if one of two key domains, allocation concealment or missing outcome data, was deemed high risk of bias; otherwise, we assigned individual trials as low risk of bias.

Assessing certainty of evidence

We rated the certainty of evidence for each network estimate using the GRADE framework, which classifies evidence as high, moderate, low, or very low certainty. The starting point for certainty in direct estimates for randomised controlled trials is high, but could be rated down based on limitations in risk of bias, imprecision, inconsistency (heterogeneity), indirectness, and publication bias.¹⁵

For the network estimate, we started with the certainty of evidence from the direct or indirect evidence that dominated the comparison and, subsequently, considered rating down our certainty in the network estimate for incoherence between the indirect and direct estimates for imprecision (wide credible intervals) around the treatment effect estimates. When serious incoherence was present, we used, as the best estimate, that with the higher certainty of the direct and indirect evidence.³² Appendix text S3 presents additional details of the GRADE assessment.

****使用GRADE 評讀，
且有說明每篇研究的品質**

評讀結果 ●是 ○否 ○不清楚



A - 文獻是否經過嚴格評讀(GRADE) ?

Table S5: Summary of risk of bias by network nodes

Popular diets		Atkins (n=36)				DASH (n=18)				Jenny Craig (n=4)	
	Overall RoB	Low RoB (n=23)		High RoB (n=13)		Low RoB (n=17)		High RoB (n=1)		Low RoB (n=4)	
Individual RoB item		n	%	n	%	n	%	n	%	n	%
Sequence generation	Low	17	47.2%	8	22.2%	14	77.8%	1	5.6%	3	75.0%
	Unclear	6	16.7%	5	13.9%	3	16.7%	0	0.0%	1	25.0%
	High	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Allocation concealment	Low	15	41.7%	0	0.0%	9	50.0%	0	0.0%	1	25.0%
	Unclear	8	22.2%	13	36.1%	7	38.9%	1	5.6%	3	75.0%
	High	0	0.0%	0	0.0%	1	5.6%	0	0.0%	0	0.0%
Blinding (participants and personnel)	Low	5	13.9%	2	5.6%	7	38.9%	0	0.0%	2	50.0%
	Unclear	12	33.3%	8	22.2%	4	22.2%	0	0.0%	1	25.0%
	High	6	16.7%	3	8.3%	6	33.3%	1	5.6%	1	25.0%
Blinding (outcome assessors)	Low	7	19.4%	4	11.1%	10	55.6%	0	0.0%	1	25.0%
	Unclear	12	33.3%	7	19.4%	7	38.9%	1	5.6%	2	50.0%
	High	4	11.1%	2	5.6%	0	0.0%	0	0.0%	1	25.0%
Incomplete outcome data	Low	16	44.4%	0	0.0%	15	83.3%	0	0.0%	3	75.0%
	Unclear	2	5.6%	0	0.0%	2	11.1%	1	5.6%	1	25.0%
	High	5	13.9%	13	36.1%	0	0.0%	0	0.0%	0	0.0%



A - 文獻是否經過嚴格評讀 (GRADE)?

Table S29: GRADE assessment for 6-month weight loss in individual popular diets NMA

Comparisons		Direct evidence												
Arm 1	Arm 2 (Ref)	No. of study	No. of patients	I-square, %	MD (95%CrI)	RoB	Inconsistency	Indirectness	Publication bias	Direct rating without imprecision	Imprecision	Direct rating with imprecision	Direct is more precise than indirect?	Need to rate indirect?
Dietary advice	Usual diet	4	482	0.0	-0.231 (-2.31, 1.86)	No	No	No	Undetected	High	Serious	Mod	No	Yes
Low fat	Usual diet	6	916	86.0	4.87 (3.42, 6.36)	No	Serious	No	Undetected	Mod	No	Mod	Yes	Yes
Atkins	Usual diet	1	80	NA	9.78 (1.07, 18.5)	Serious	No	No	Undetected	Mod	Serious	Low	No	Yes
DASH	Usual diet	8	1119	88.0	3.15 (1.93, 4.37)		Serious	Serious	Undetected	Low	No	Low	Yes	Yes
Jenny Craig	Usual diet	1	47	NA	5.42 (-6.32, 17.2)	No	No	No	Undetected	High	V serious	Low	No	Yes
Mediterranean	Usual diet	8	725	91.2	2.11 (0.791, 3.49)	No	Serious	No	Undetected	Mod	No	Mod	Yes	Yes
Ornish	Usual diet													
Paleolithic	Usual diet													
Portfolio	Usual diet													
Rosemary Conley	Usual diet	2	233	53.1	4.05 (-0.430, 8.54)	No	Serious	No	Undetected	Mod	Serious	Low	NA	No
Slimming World	Usual diet	1	157	NA	1.29 (-2.42, 5.01)	No	No	No	Undetected	High	Serious	Mod	NA	No
South Beach	Usual diet													
The Biggest Loser	Usual diet	1	260	NA	2.88 (2.25, 3.50)	No	No	No	Undetected	High	Serious	Mod	NA	No
Volumetrics	Usual diet													
Weight Watchers	Usual diet	5	795	72.7	4.99 (2.78, 7.16)	Serious	Serious	No	Undetected	Mod	No	Mod	No	Yes
Zone	Usual diet													
Low fat	Dietary advice	4	331	86.7	5.63 (3.76, 7.47)	No	Serious	No	Undetected	Mod	No	Mod	Yes	Yes
Atkins	Dietary advice													

A - 文獻是否經過嚴格評讀 (GRADE) ?

Table S29 continued: GRADE assessment for 6-month weight loss in individual popular diets NMA

Comparison groups		Indirect evidence							Network evidence					
Arm 1	Arm 2 (Ref)	MD (95%CrI)	First order loop of the most contribution	Low est of C1 and C2	Intransitivity	Indirect rating without imprecision	Imprecision	Indirect rating with imprecision	MD (95%CrI)	Incoherence, P-value	Higher rating of direct and indirect without imprecision	Incoherence	NMA Imprecision	Final network rating
Dietary advice	Usual diet	0.73 (-0.75, 2.22)	Weight Watchers	Mod	No	Mod	Serious	Low	0.31 (-0.94, 1.59)	0.516	High	No	Serious	Mod
Low fat	Usual diet	2.76 (1.33, 4.24)	DASH	Low	No	Low	No	Low	3.76 (2.70, 4.86)	0.046	Mod	Serious	No	Low
Atkins	Usual diet	5.35 (4.07, 6.66)	Low fat	Mod	No	Mod	No	Mod	5.46 (4.19, 6.75)	0.209	Mod	No	No	Mod
DASH	Usual diet	4.59 (2.65, 6.55)	Low fat	Mod	No	Mod	No	Mod	3.63 (2.52, 4.76)	0.233	Mod	No	No	Mod
Jenny Craig	Usual diet	8.12 (5.79, 10.50)	Dietary advice	High	No	High	No	High	7.77 (5.51, 10.00)	0.559	High	No	No	High
Mediterranean	Usual diet	4.69 (2.12, 7.26)	Low fat	Mod	Serious	Low	No	Low	2.87 (1.60, 4.21)	0.103	Mod	No	No	Mod
Ornish	Usual diet	3.64 (1.33, 5.99)	Low fat	Mod	No	Mod	No	Mod	3.64 (1.33, 5.99)	NA	Mod	No	No	Mod
Paleolithic	Usual diet	5.31 (1.89, 8.82)	Mediterranean	Mod	No	Mod	No	Mod	5.31 (1.89, 8.82)	NA	Mod	No	No	Mod
Portfolio	Usual diet	3.64 (-0.68, 7.96)	Low fat	Mod	Serious	Low	Serious	V low	3.64 (-0.68, 7.96)	NA	Low	No	Serious	V low
Rosemary Conley	Usual diet	NA							3.76 (1.13, 6.45)	NA	Mod	No	No	Mod
Slimming World	Usual diet	NA							2.15 (-0.78, 5.11)	NA	High	No	Serious	Mod
South Beach	Usual diet	9.86 (5.64, 14.08)	Low fat	Mod	No	Mod	No	Mod	9.86 (5.64, 14.08)	NA	Mod	No	Serious	Low
The Biggest Loser	Usual diet	NA							2.88 (-0.44, 6.18)	NA	High	No	Serious	Mod
Volumetrics	Usual diet	5.95 (1.97, 9.98)	Low fat	Mod	No	Mod	No	Mod	5.95 (1.97, 9.98)	NA	Mod	No	No	Mod

評讀結果 ●是 ○否 ○不清楚





臺北市立萬芳醫院

·委託財團法人臺北醫學大學辦理·

I - 是否只納入 (INCLUDED) 具良好效度的文章？

系統性文獻回顧只納入至少要有一項研究結果是極小偏誤的試驗



I - 是否只納入(Included)具良好效度的文章？

Methods

Eligible studies randomised adults (≥ 18 years) who were overweight (body mass index 25-29) or obese (≥ 30) to an eligible popular named diet or an alternative active or non-active control diet (eg, usual diet), and reported weight loss, changes in lipid profile, blood pressure, or C reactive protein levels at three months' follow-up or longer.

We included dietary programmes with structured advice for daily macronutrient, food, or caloric intake for a defined period (≥ 3 months). Eligible studies could or could not provide exercise (eg, walking, strength training) or behavioural support (eg, counselling, group support online or in person), and could include meal replacement products, but had to consist primarily of whole foods and could not include drugs.

Teams of two reviewers independently screened titles and abstracts for possible inclusion. If either reviewer considered a study potentially eligible, reviewers obtained and screened the full text. Reviewers resolved disagreements by discussion and, when necessary, through adjudication by a third reviewer.

✓ 所有納入文獻都是RCT

✓ 兩位作者獨立審查

✓ 當意見不同時，討論直到有一致的結果，或由第三位評斷，達成共識

評讀結果 ●是 ○否 ○不清楚





T - 作者是否以表格和圖表「總結」(TOTAL UP)試驗結果?

1. 至少 1 個摘要表格呈現所納入的試驗結果。
2. 結果相近：進行統合分析(meta-analysis)，以「森林圖」(forest plot)呈現研究結果，最好再加上異質性分析



T - 作者是否以表格和圖表「總結」(Total up) 試驗結果?

Table S2 Characteristics of Included Studies

Study	Country	Network node	Population Description	Number of patients	Age, mean (SD), years	Women, number (%)	Body weight, mean (SD), kg	Study duration (wk)
Wing, 1998	USA	Low fat, Dietary advice, Usual diet	Obese and nondiabetic, 30-100% overweight; one or both parents with Type 2 diabetes	154	45.7 (4.4)	122 (79.0)	98.7 (15.1)	104
Iqbal, 2010	USA	Atkins, Low fat	Obese, Type 2 diabetes	144	59.4 (9.2)	15 (10.4)	116.9 (18.9)	104
Burke, 2005	Australia	DASH, Dietary advice	BMI>25, medicated hypertension	241	56.2 (7.3)	134 (55.6)	85.5 (11.7)	68
de Lorgeril, 1994	France	Mediterranean, Usual diet	MI within 6 months of enrolment	605	53.5 (10.0)	56 (9.3)	73.9 (11.1)	260
Edwards, 2011	USA	DASH, Usual diet	Elevated BP	52	46.4 (9.6)	27 (51.9)	NR	12
Droste, 2013	Luxembourg	Mediterranean, Usual diet	Carotid atherosclerosis	122	63.6 (9.5)	36 (33.0)	79.4 (16.3)	20
Dunn, 2014	Australia	Mediterranean, Usual diet	Volunteer premenopausal and recreationally active but untrained women	32	22.0 (4.4)	30 (100.0)	72.1 (11.6)	12
Ijzelenberg, 2012	The Netherlands	Mediterranean, Dietary advice	Stable established CVD and at least one lifestyle-related risk factor	146	59.9 (10.9)	33 (22.6)	87.0 (18.0)	24

✓列出所收納文獻的摘要表格



T - 作者是否以表格和圖表「總結」(Total up) 試驗結果?

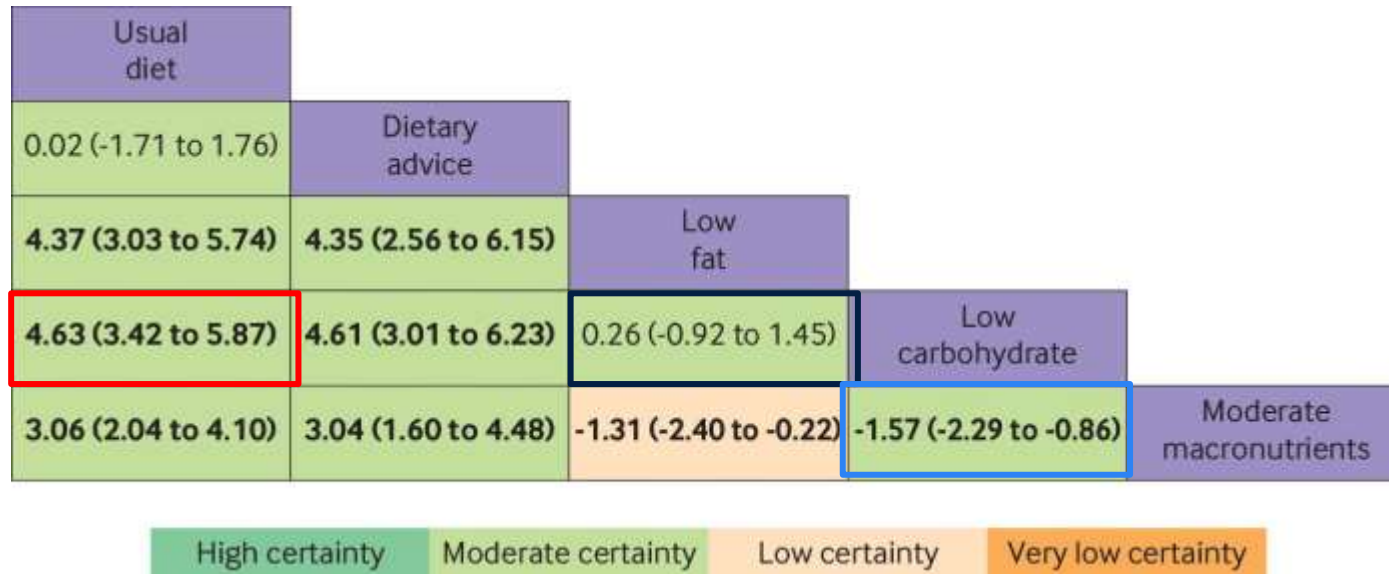


Fig 3 Macronutrient pattern network meta-analysis results with corresponding GRADE (grading of recommendations, assessment, development, and evaluation) certainty of evidence for six month weight loss (kg).

Low fat diets had estimated effects similar to those of low carbohydrate diets

Moderate macronutrient diets had slightly smaller effects than low carbohydrate diets

T - 作者是否以表格和圖表「總結」(Total up) 試驗結果?

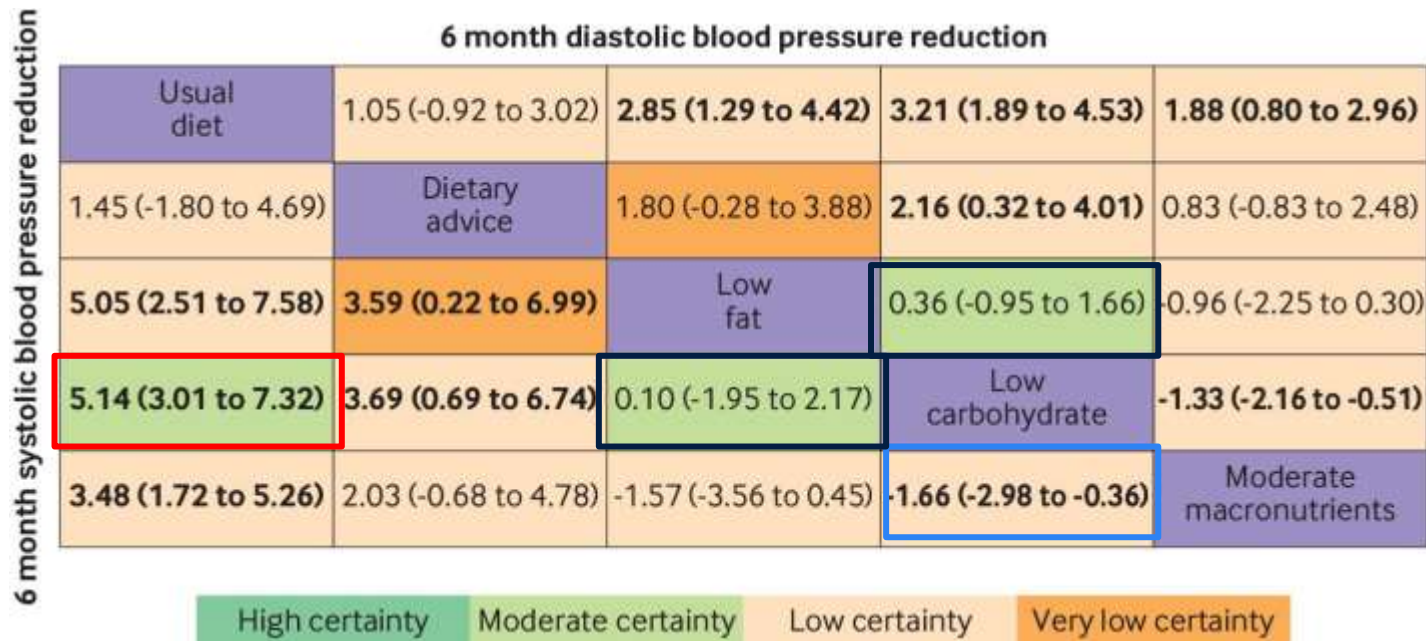


Fig 4 Macronutrient pattern network meta-analysis results with corresponding GRADE (grading of recommendations, assessment, development, and evaluation) certainty of evidence for six month systolic blood pressure (SBP) and diastolic blood pressure (DBP) reduction (mm Hg).

Low fat diets had estimated effects similar to those of low carbohydrate diets for blood pressure

Moderate macronutrient diets had slightly smaller effects than low carbohydrate diets

T - 作者是否以表格和圖表「總結」(Total up) 試驗結果?

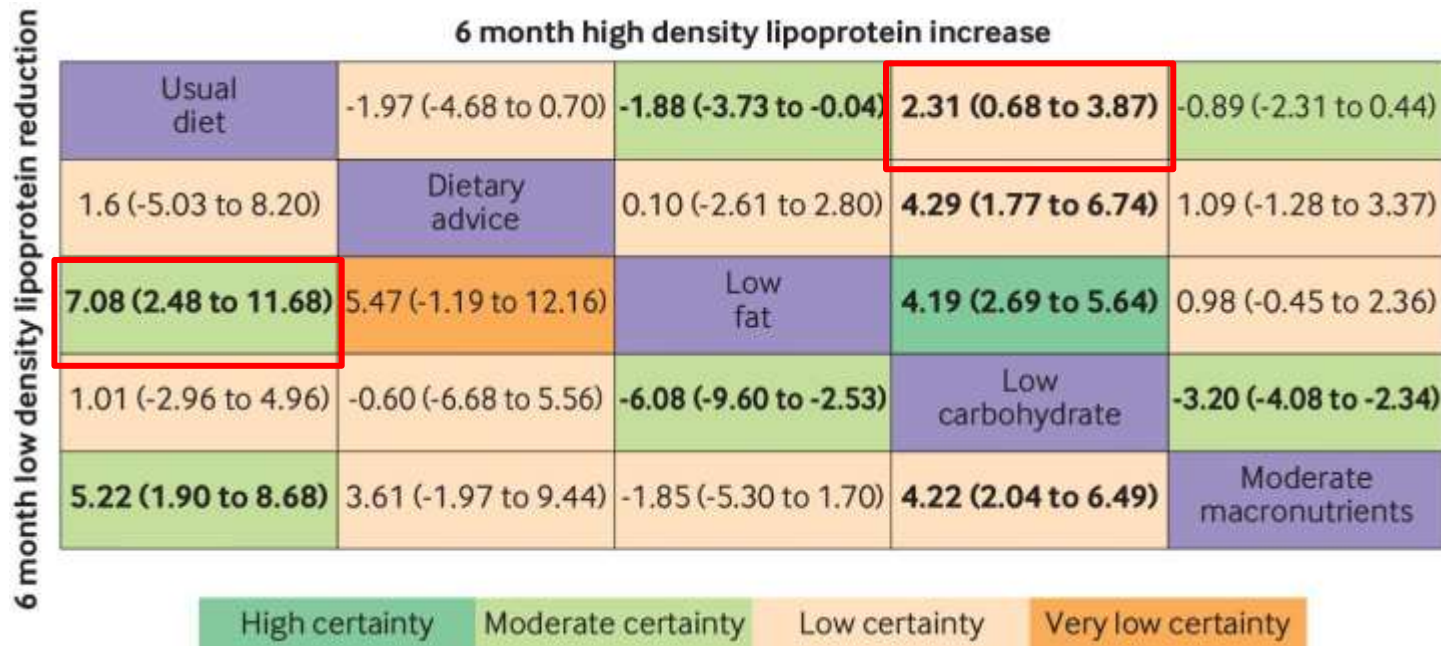


Fig 5 Macronutrient pattern network meta-analysis results with corresponding GRADE (grading of recommendations, assessment, development, and evaluation) certainty of evidence for reduction in low density lipoprotein (LDL) cholesterol and increase in high density lipoprotein (HDL) cholesterol (mg/dL) at six months.

Low fat diets had great effects to those of low carbohydrate diets on LDL cholesterol reduction

T - 作者是否以表格和圖表「總結」(Total up) 試驗結果?

	12-mo CRP reduction (n=8)				
6-mo CRP reduction (n=25)	Usual Diet				
	-2.7 (-6.73, 1.33)	Dietary Advice	0.86 (-1.18, 3.00)	0.01 (-1.21, 1.38)	0.15 (-0.90, 1.33)
	0.38 (-1.22, 2.04)	3.08 (-1.06, 7.23)	Low Fat	-0.85 (-2.62, 0.93)	-0.70 (-2.51, 1.08)
	0.29 (-0.80, 1.42)	2.99 (-0.98, 6.96)	-0.09 (-1.43, 1.24)	Low CHO	0.15 (-0.57, 0.83)
	0.09 (-0.81, 1.02)	2.79 (-1.14, 6.71)	-0.29 (-1.65, 1.05)	-0.20 (-0.82, 0.41)	Moderate Macronutrient

High certainty	Moderate certainty	Low certainty	Very low certainty
----------------	--------------------	---------------	--------------------

Table S12: Macronutrient composition NMA results for 6- and 12- months CRP reductions

no statistically significant differences between diets.



T - 作者是否以表格和圖表「總結」(Total up) 試驗結果?

Diet v usual diet	Weight loss (kilograms)	Systolic blood pressure reduction (mm Hg)	Diastolic blood pressure reduction (mm Hg)	Low density lipoprotein reduction (mg/dL)	High density lipoprotein reduction (mg/dL)	C-reactive protein reduction (mg/dL)
Atkins	5.46	5.14	3.30	-2.75	3.41	0.64
Zone	4.07	3.46	2.33	-2.89	-0.33	0.27
DASH	3.63	4.68	2.84	3.93	-1.90	NA
Mediterranean	2.87	2.94	1.03	4.59	-0.61	0.25
Paleolithic	5.31	14.56	3.85	7.27	-2.52	0.52
Low fat	4.87	3.95	2.22	1.92	-2.13	0.33
Jenny Craig	7.77	7.86	7.81	0.21	-2.85	0.19
Volumetrics	5.95	2.93	1.95	7.13	-0.13	NA
Weight Watchers	3.90	2.80	1.03	7.13	-0.88	0.87
Rosemary Conley	3.76	2.39	1.44	7.15	-2.04	NA
Ornish	3.64	0.69	0.20	4.71	-4.87	1.11
Portfolio	3.64	5.97	3.98	21.29	-3.26	-0.37
Biggest Loser	2.88	3.17	2.20	3.90	-0.01	NA
Slimming World	2.15	NA	NA	NA	NA	NA
South Beach	9.86	NA	NA	-0.64	0.36	NA
Dietary advice	0.31	0.58	0.40	-2.01	-1.71	-1.15

- "Among the most effective" with moderate to high certainty
- "Inferior to the most effective/superior to the least effective" with moderate to high certainty
- "Among the least effective" with moderate to high certainty
- "Maybe among the most effective" with very low to low certainty
- "Inferior to the most effective/superior to the least effective" with very low to low certainty
- "Maybe among the least effective" with very low to low certainty
- "Maybe worse than usual diet"

Fig 6 Summary of results of popular named diets network meta 評讀結果 ●是 ○否 ○不清楚





臺北市立萬芳醫院

·委託財團法人臺北醫學大學辦理·

H - 試驗的結果是否相近？ 異質性 (Heterogeneity)

理想情況：個試驗的結果應相近或具同質性，
具有異質性：差異是否顯著(卡方檢定)。
探討造成異質性的原因。



H - 試驗的結果是否相近?異質性 (HETEROGENEITY)?

Table S6: GRADE assessment for 6-month weight loss in macronutrient composition NMA

Comparison groups		Direct evidence												
Arm 1	Arm 2 (Ref)	No. of study	No. of patients	I-square, %	MD (95%CrI)	RoB	Inconsistency	Indirectness	Publication bias	Direct rating without imprecision	Imprecision	Direct rating with imprecision	Direct is more precise than indirect?	Need to rate indirect?
Dietary advice	Usual diet	1	185	NA	-0.79 (-5.23, 3.65)	No	No	No	Undetected	High	V serious	Low	No	Yes
Low fat	Usual diet	4	854	88.9	5.10 (2.73, 7.47)	No	Serious	No	Undetected	Mod	No	Mod	No	Yes
Low CHO	Usual diet	1	168	NA	9.78 (-0.77, 20.30)	Serious	No	No	Undetected	Mod	V serious	V low	No	Yes
Moderate Macro	Usual diet	18	2373	92.9	2.80 (1.72, 3.91)	No	Serious	No	Undetected	Mod	No	Mod	Yes	Yes
Low fat	Dietary advice													
Low CHO	Dietary advice													
Moderate Macro	Dietary advice	9	2841	93.7	2.99 (1.51, 4.46)	No	Serious	No	Undetected	Mod	No	Mod	NA	NA
Low CHO	Low fat	6	436	0.0	0.73 (-1.16, 2.62)	No	No	No	Undetected	High	Serious	Mod	No	Yes
Moderate Macro	Low fat	11	963	92.6	-1.47 (-2.83, -0.11)	No	Serious	No	Undetected	Mod	Serious	Low	Yes	Yes
Moderate Macro	Low CHO	44	3533	73.1	-1.46 (-2.22, -0.72)	No	Serious	No	Undetected	Mod	No	Mod	Yes	Yes

評讀結果 ○是 ○否 ●不清楚



H - 試驗的結果是否相近?異質性 (HETEROGENEITY)?

Table S6 continued: GRADE assessment for 6-month weight loss in macronutrient composition NMA

Comparison groups		Indirect evidence							Network evidence					
Arm 1	Arm 2 (Ref)	MD (95%CrI)	First order loop of the most contribution	Low est of C1 and C2	Intransitivity	Indirect rating without imprecision	Imprecision	Indirect rating with imprecision	MD (95%CrI)	Incoherence, P-value	Higher rating of direct and indirect without imprecision	Incoherence	NMA Imprecision	Final network rating
Dietary advice	Usual diet	0.07 (-1.79, 1.94)	Moder Macro	Mod	No	Mod	Serious	Low	0.02 (-1.72, 1.78)	0.756	High	No	Serious	Mod
Low fat	Usual diet	3.98 (2.31, 5.69)	Moder Macro	Mod	No	Mod	No	Mod	4.36 (3.03, 5.73)	0.579	Mod	No	No	Mod
Low CHO	Usual diet	4.45 (3.22, 5.69)	Moder Macro	Mod	No	Mod	No	Mod	4.63 (3.42, 5.87)	0.145	Mod	No	No	Mod
Moderate Macro	Usual diet	6.02 (1.74, 10.30)	Low carb, low fat	Mod	Serious	Low	No	Low	3.06 (2.05, 4.10)	0.147	Mod	No	No	Mod
Low fat	Dietary advice	4.35 (2.56, 6.15)	Moder Macro	Mod	No	Mod	No	Mod	4.35 (2.56, 6.15)	NA	Mod	No	No	Mod
Low CHO	Dietary advice	4.61 (3.01, 6.23)	Moder Macro	Mod	No	Mod	No	Mod	4.61 (3.01, 6.23)	NA	Mod	No	No	Mod
Moderate Macro	Dietary advice								3.04 (1.60, 4.48)	NA	Mod	No	No	Mod
Low CHO	Low fat	-0.11 (-1.66, 1.45)	Moder Macro	Mod	No	Mod	Serious	Low	0.27 (-0.91, 1.44)	0.502	High	No	Serious	Mod
Moderate Macro	Low fat	-1.37 (-3.54, 0.79)	Low carb	Mod	No	Mod	Serious	Low	-1.30 (-2.40, -0.22)	0.935	Mod	No	Serious	Low
Moderate Macro	Low CHO	-2.46 (-5.06, 0.14)	Low fat	Mod	No	Mod	Serious	Low	-1.57 (-2.29, -0.86)	0.46	Mod	No	No	Mod

評讀結果 ○是 ○否 ●不清楚



FAITH快速評讀

系統性文獻回顧 Systematic Review

步驟 3

研究結果為何？



At the 12 month (± 3 months) follow-up

dietary macronutrient patterns compared with usual diet

- **average weight loss : 1 to 2 kg less** (low certainty evidence)
- SBP , DBPI, LDL-C ,and CRP reductions :
no significant differences
- HDL-C : significant adverse reductions in low fat and moderate macronutrients

Table S13: Macronutrient composition NMA results for 12-month weight loss

Usual Diet				
-2.13 (-4.35, -0.13)	Dietary Advice			
3.34 (1.71, 4.99)	5.47 (3.67, 7.50)	Low Fat		
3.17 (1.55, 4.72)	5.31 (3.64, 7.11)	-0.16 (-1.42, 1.00)	Low CHO	
1.90 (0.45, 3.30)	4.03 (2.57, 5.66)	-1.44 (-2.58, -0.37)	-1.27 (-2.06, -0.46)	Moderate Macronutrient

Table S14: Macronutrient composition NMA results for 12-month SBP and DBP reductions

12-mo SBP reduction (n=62)	12-mo DBP reduction (n=61)				
	Usual Diet	-1.06 (-3.97, 2.34)	0.23 (-2.17, 2.99)	0.77 (-1.60, 3.41)	0.14 (-1.99, 2.64)
	-0.53 (-4.18, 3.50)	Dietary Advice	1.28 (-1.44, 4.00)	1.83 (-0.75, 4.21)	1.19 (-0.98, 3.37)
	-0.29 (-3.43, 3.17)	0.23 (-3.15, 3.61)	Low Fat	0.54 (-1.34, 2.27)	-0.08 (-1.74, 1.57)
	1.33 (-1.61, 4.56)	1.86 (-1.20, 4.87)	1.64 (-0.72, 3.92)	Low CHO	-0.63 (-1.77, 0.66)
	0.51 (-2.15, 3.49)	1.04 (-1.57, 3.62)	0.81 (-1.37, 2.96)	-0.83 (-2.37, 0.77)	Moderate Macronutrient

Table S15: Macronutrient composition NMA results for 12-month LDL reduction and HDL increase

12-mo LDL reduction (n=62)	12-mo HDL increase (n=61)				
	Usual Diet	-4.32 (-7.88, -0.75)	-2.90 (-5.61, -0.15)	0.07 (-2.47, 2.65)	-2.81 (-5.09, -0.52)
	-0.7 (-6.82, 5.70)	Dietary Advice	1.41 (-1.90, 4.76)	4.38 (1.37, 7.45)	1.50 (-1.23, 4.25)
	3.81 (-1.63, 9.87)	4.47 (-0.72, 10.24)	Low Fat	2.97 (0.93, 5.04)	0.09 (-1.81, 1.98)
	1.19 (-4.01, 6.93)	1.85 (-2.55, 6.80)	-2.62 (-6.69, 1.31)	Low CHO	-2.88 (-4.21, -1.59)
	1.45 (-3.29, 6.78)	2.10 (-1.43, 6.43)	-2.37 (-6.2, 1.51)	0.28 (-2.32, 2.91)	Moderate Macronutrient

Appendix tables S16-S25 present sensitivity analyses showing that the findings were similar to those of the primary analyses. Network meta-regression accounting for both exercise and behaviour support also showed similar results (appendix tables S26-S28).

Individual popular named diets – Weight loss

Table S35: Summary of individual popular diets NMA for all outcomes at 6 months

Outcomes	Certainty of Evidence	Classification	Intervention	MD (95% CrI) vs usual diet
Weight loss (kilograms)	Higher (Moderate to High)	Among the most effective	Jenny Craig (H)	7.77 (5.51, 10.0)
			Atkins (M)	5.46 (4.19, 6.75)
		Inferior to the most effective / superior to the least effective	Volumetrics (M)	5.95 (1.97, 9.98)
			Paleolithic (M)	5.31 (1.89, 8.82)
			Low fat (M)	4.87 (3.42, 6.36)
			Zone (M)	4.07 (2.57, 5.60)
			Weight Watchers (M)	3.90 (2.52, 5.31)
			Rosemary Conley (M)	3.76 (1.13, 6.45)
			DASH (M)	3.63 (2.52, 4.76)
			Ornish (M)	3.64 (1.33, 5.99)
			Mediterranean (M)	2.87 (1.60, 4.21)
		Among the least effective	The Biggest Loser (M)	2.88 (-0.44, 6.18)
			Slimming World (M)	2.15 (-0.78, 5.11)
			Dietary advice (M)	0.31 (-0.94, 1.59)
	Low (Low to very low)	May be the most effective	South Beach (L)	9.86 (5.64, 14.08)
		May be the least effective	Portfolio (VL)	3.64 (-0.68, 7.96)

High certainty	Moderate certainty	Low certainty	Very low certainty
----------------	--------------------	---------------	--------------------

4-5kg at 6ms



Table S37: Individual popular diets NMA results for weight loss at 12 months (kg)

Usual diet													
-0.63 (-2.29, 1.00)	Dietary advice												
2.67 (1.07, 4.29)	-3.30 (-4.62, -2.03)	Low fat											
3.84 (2.10, 5.59)	4.48 (3.02, 5.95)	1.18 (0.25, 2.07)	Atkins										
3.08 (0.48, 5.66)	3.71 (0.66, 6.77)	0.41 (-2.65, 3.43)	-0.77 (-3.89, 2.34)	DASH									
7.18 (4.78, 9.56)	7.81 (5.88, 9.76)	4.51 (2.46, 6.51)	3.34 (1.15, 5.5)	4.11 (0.58, 7.61)	Jenny Craig								
2.80 (0.86, 4.72)	3.43 (1.56, 5.32)	0.14 (-1.37, 1.57)	-1.04 (-2.77, 0.65)	-0.27 (-3.51, 2.94)	-4.38 (-6.84, -1.91)	Mediterranean							
2.35 (0.06, 4.73)	2.99 (1.00, 5.07)	-0.31 (-2.22, 1.67)	-1.49 (-3.46, 0.57)	-0.73 (-4.13, 2.84)	-4.83 (-7.42, -2.10)	-0.45 (-2.79, 2.03)	Ornish						
6.97 (3.08, 10.90)	7.61 (3.85, 11.42)	4.31 (0.74, 7.88)	3.14 (-0.54, 6.82)	3.90 (-0.76, 8.61)	-0.20 (-4.26, 3.91)	4.18 (0.33, 8.07)	4.62 (0.55, 8.64)	Paleolithic					
2.80 (0.30, 5.34)	3.43 (1.18, 5.75)	0.13 (-2.23, 2.51)	-1.05 (-3.44, 1.39)	-0.28 (-3.84, 3.36)	-4.39 (-7.26, -1.44)	-0.01 (-2.69, 2.76)	0.44 (-2.47, 3.31)	-4.18 (-8.45, 0.11)	Rosemary Conley				
1.28 (-1.59, 4.18)	1.91 (-0.78, 4.66)	-1.39 (-4.24, 1.47)	-2.57 (-5.49, 0.39)	-1.80 (-5.65, 2.10)	-5.91 (-9.15, -2.59)	-1.53 (-4.65, 1.66)	-1.07 (-4.40, 2.19)	-5.70 (-10.25, -1.12)	-1.52 (-4.67, 1.63)	Slimming World			
4.17 (0.31, 8.04)	4.80 (1.07, 8.56)	1.49 (-2.03, 5.00)	0.32 (-3.31, 3.96)	1.09 (-3.54, 5.74)	-3.02 (-7.06, 1.07)	1.36 (-2.43, 5.19)	1.81 (-2.25, 5.79)	-2.81 (-7.83, 2.17)	1.37 (-2.88, 5.59)	2.89 (-1.66, 7.41)	Volumetrics		
2.98 (1.27, 4.65)	3.61 (2.53, 4.68)	0.31 (-1.08, 1.66)	-0.86 (-2.40, 0.63)	-0.09 (-3.20, 2.97)	-4.20 (-6.33, -2.08)	0.18 (-1.76, 2.10)	0.62 (-1.56, 2.70)	-4.00 (-7.85, -0.22)	0.18 (-2.14, 2.42)	1.70 (-1.09, 4.43)	-1.19 (-4.97, 2.57)	Weight Watchers	
3.25 (1.20, 5.33)	3.88 (2.11, 5.70)	0.58 (-0.79, 1.97)	-0.60 (-2.13, 0.99)	0.17 (-3.10, 3.51)	-3.93 (-6.31, -1.49)	0.45 (-1.52, 2.49)	0.9 (-1.26, 2.99)	-3.73 (-7.55, 0.10)	0.45 (-2.23, 3.12)	1.98 (-1.14, 5.10)	-0.92 (-4.68, 2.87)	0.27 (-1.54, 2.14)	Zone

12 month Vs. 6 month follow-up

- Decreased their estimated effects by, average : 1.5 kg

3kg at 12ms

The values correspond to the difference in mean weight lost between the row and column at 12 months (e.g., the difference in average weight lost between the Jenny Craig diet and usual diet at 12 months is 7.18 kg).



Individual popular named diets – SBP/DBP

Table S35: Summary of individual popular diets NMA for all outcomes at 6 months

Outcomes	Certainty of Evidence	Classification	Intervention	MD (95% CrI) vs usual diet
SBP Reduction (mm Hg)	Higher (Moderate to High)	The most effective	Paleolithic (M)	14.56 (7.34, 21.85)
		Inferior to the most effective / superior to the least effective	Portfolio (M)	5.97 (0.74, 11.18)
			Atkins (M)	5.14 (2.78, 7.57)
			DASH (M)	4.68 (2.83, 6.64)
			Low fat (M)	3.95 (1.81, 6.10)
			Zone (M)	3.46 (0.53, 6.44)
			Mediterranean (M)	2.94 (0.95, 5.02)
		Among the least effective	The Biggest Loser (M)	3.17 (-1.46, 7.81)
			Ornish (M)	0.69 (-3.06, 4.35)
	Low (Low to very low)	May be the most effective	Jenny Craig (L)	7.86 (1.52, 14.21)
		May be among the least effective	Volumetrics (L)	2.93 (-3.46, 9.29)
			Weight Watchers (L)	2.80 (-0.84, 6.61)
			Rosemary Conley (VL)	2.39 (-2.62, 7.39)
			Dietary advice (L)	0.58 (-1.85, 2.94)
DBP Reduction (mm Hg)	Higher (Moderate to High)	The most effective	Atkins (M)	3.30 (1.67, 4.99)
		Inferior to the most effective / superior to the least effective	DASH (M)	2.84 (1.58, 4.18)
			Zone (M)	2.33 (0.24, 4.48)
			Low fat (M)	2.22 (0.75, 3.75)
		Among the least effective	Paleolithic (M)	3.85 (-1.00, 8.75)
			The Biggest Loser (M)	2.20 (-1.11, 5.52)
			Mediterranean (M)	1.03 (-0.46, 2.53)
			Ornish (M)	0.20 (-2.45, 2.80)
	Low (Low to very low)	May be the most effective	Jenny Craig (L)	7.81 (3.35, 12.30)
		May be inferior to the most effective / superior to the least effective	Portfolio (L)	3.98 (0.36, 7.66)

High certainty

Moderate certainty

Low certainty

Very low certainty



Table S39: DBP reduction (above right) and SBP reduction (below left) at 12 months across individual popular diets with 95% credible intervals

12-month SBP reduction	12-month DBP reduction										
	Usual diet	-1.15 (-3.93, 1.62)	1.45 (-0.91, 4.26)	1.80 (-0.82, 4.65)	-1.50 (-4.86, 1.93)	2.06 (-2.81, 7.38)	1.27 (-1.57, 4.00)	-0.61 (-3.50, 2.55)	0.05 (-5.14, 5.71)	-0.25 (-2.74, 2.57)	1.69 (-1.33, 5.25)
	1.29 (-2.19, 5.08)	Dietary advice	2.60 (-0.03, 5.69)	2.95 (0.12, 6.05)	-0.34 (-4.51, 3.90)	3.21 (-1.8, 8.67)	2.42 (-1.11, 5.86)	0.55 (-2.33, 3.69)	1.21 (-4.13, 6.99)	0.90 (-0.56, 2.75)	2.85 (-0.29, 6.51)
	1.06 (-1.94, 4.64)	-0.24 (-3.65, 3.54)	Low fat	0.35 (-1.16, 1.67)	-2.94 (-7.04, 0.72)	0.61 (-3.78, 5.00)	-0.14 (-3.32, 2.22)	-2.05 (-4.67, 0.38)	-1.4 (-6.16, 3.4)	-1.68 (-4.54, 0.96)	0.24 (-1.99, 2.61)
	2.72 (-0.59, 6.41)	1.41 (-2.33, 5.31)	1.64 (-0.26, 3.41)	Atkins	-3.29 (-7.41, 0.62)	0.26 (-4.24, 4.95)	-0.51 (-3.74, 2.23)	-2.40 (-4.97, 0.21)	-1.75 (-6.60, 3.35)	-2.02 (-4.92, 0.84)	-0.10 (-2.43, 2.55)
	-3.74 (-8.23, 0.81)	-5.03 (-10.76, 0.43)	-4.81 (-10.26, 0.12)	-6.46 (-11.99, -1.29)	DASH	3.55 (-2.09, 9.58)	2.76 (-0.84, 6.23)	0.89 (-3.30, 5.29)	1.54 (-4.38, 7.93)	1.26 (-2.77, 5.50)	3.19 (-0.96, 7.85)
	-0.80 (-6.84, 5.81)	-2.10 (-8.41, 4.53)	-1.86 (-7.28, 3.55)	-3.51 (-9.14, 2.30)	2.94 (-4.30, 10.69)	Jenny Craig	-0.79 (-6.29, 4.11)	-2.66 (-7.81, 2.31)	-2.01 (-8.46, 4.47)	-2.29 (-7.58, 2.80)	-0.37 (-5.23, 4.67)
	2.32 (-1.13, 5.48)	1.04 (-3.64, 5.03)	1.33 (-2.69, 3.98)	-0.35 (-4.53, 2.82)	6.04 (1.10, 10.72)	3.13 (-3.72, 9.05)	Mediterranean	-1.89 (-5.12, 1.82)	-1.22 (-6.44, 4.62)	-1.51 (-4.73, 2.15)	0.40 (-2.73, 4.36)
	-0.67 (-4.56, 3.77)	-1.97 (-5.94, 2.31)	-1.75 (-5.04, 1.56)	-3.38 (-6.73, 0.10)	3.08 (-2.55, 9.19)	0.12 (-6.19, 6.46)	-3.02 (-6.97, 2.00)	Ornish	0.65 (-4.63, 6.14)	0.37 (-2.59, 3.31)	2.29 (-0.39, 5.31)
	0.68 (-5.76, 7.60)	-0.62 (-7.31, 6.34)	-0.39 (-6.23, 5.39)	-2.03 (-8.12, 4.09)	4.41 (-3.15, 12.50)	1.48 (-6.51, 9.36)	-1.65 (-7.96, 5.47)	1.35 (-5.40, 8.02)	Volumetrics	-0.28 (-5.90, 5.12)	1.65 (-3.60, 6.96)
	2.08 (-1.19, 5.89)	0.75 (-1.08, 2.96)	1.03 (-2.65, 4.54)	-0.63 (-4.41, 3.21)	5.81 (0.50, 11.60)	2.89 (-3.64, 9.29)	-0.26 (-4.13, 4.56)	2.76 (-1.42, 6.83)	1.40 (-5.46, 8.20)	Weight Watchers	1.93 (-1.19, 5.35)
	1.03 (-2.94, 5.69)	-0.28 (-4.44, 4.34)	-0.05 (-3.00, 3.07)	-1.69 (-4.80, 1.74)	4.76 (-0.86, 11.04)	1.81 (-4.29, 8.11)	-1.34 (-5.19, 3.80)	1.70 (-1.88, 5.47)	0.35 (-6.09, 7.04)	-1.07 (-5.29, 3.44)	Zone

The values correspond to the difference in median DBP reduction (above right) and SBP reduction (below left) between the column and row at 12-months (eg, the difference in median DBP reduction between Jenny Craig and usual diet at 12-months is 2.06 mm Hg; the difference in median SBP reduction between DASH and usual diet at 12-months is -3.74 mm Hg).

12 month Vs. 6 month follow-up
No statistically significant differences



Individual popular named diets – Blood lipoproteins

Table S35: Summary of individual popular diets NMA for all outcomes at 6 months

Outcomes	Certainty of Evidence	Classification	Intervention	MD (95% CrI) vs usual diet
LDL Reduction (mg/dL)	Higher (Moderate to High)	The most effective	Mediterranean (M)	4.59 (0.60, 8.73)
		Among the least effective	Ornish (M)	4.71 (-3.45, 12.99)
			DASH (M)	3.93 (-3.19, 11.20)
			The Biggest Loser (M)	3.90 (-5.64, 13.42)
			Low fat (M)	1.92 (-3.54, 7.38)
			Dietary advice (M)	-2.01 (-8.35, 4.35)
	Low (Low to very low)	May be the most effective	Portfolio (L)	21.29 (10.03, 32.55)
		May be among the least effective	Paleolithic (L)	7.27 (-7.71, 22.26)
			Rosemary Conley (VL)	7.15 (-4.66, 19.00)
			Volumetrics (L)	7.13 (-6.36, 20.53)
			Weight Watchers (VL)	7.13 (-6.36, 20.53)
			Jenny Craig (L)	0.21 (-8.54, 8.93)
			South Beach (L)	-0.64 (-16.96, 15.63)
			Atkins (L)	-2.75 (-8.56, 3.00)
			Zone (L)	-2.89 (-9.26, 3.47)
HDL Increase (mg/dL)	Higher (Moderate to High)	Not better than usual diet	The Biggest Loser (M)	-0.01 (-3.82, 3.81)
			Jenny Craig (M)	-2.85 (-5.86, 0.25)
	Low (Low to very low)	May be the most effective	Atkins* (L)	3.41 (0.83, 5.75)
		May be among the least effective	South Beach (VL)	0.36 (-5.85, 6.55)
			Volumetrics (L)	-0.13 (-5.18, 4.92)
			Zone (L)	-0.33 (-2.84, 2.19)
			Mediterranean (L)	-0.61 (-2.15, 0.87)
			Weight Watchers (L)	-0.88 (-3.11, 1.32)
			Dietary advice (L)	-1.71 (-3.72, 0.37)
		May be worse than usual diet	Paleolithic (VL)	-2.52 (-8.85, 3.83)
			Portfolio (VL)	-3.26 (-8.17, 1.68)
			Ornish (L)	-4.87 (-7.97, -1.77)
			Low fat (L)	-2.13 (-4.02, -0.17)

No statistically significant increase in HDL



Table S41: HDL increase (above right) and LDL reduction (below left) at 12 months across individual popular diets with 95% credible intervals

12-months HDL increase											
12-months LDL reduction	Usual diet	-2.50 (-4.95, -0.01)	-3.70 (-5.83, -1.65)	-0.25 (-2.59, 2.14)	-4.41 (-7.65, -1.05)	-0.04 (-3.38, 3.44)	-0.40 (-2.52, 1.74)	-5.28 (-8.18, -2.35)	-1.41 (-6.13, 3.23)	0.17 (-2.33, 2.64)	-2.87 (-5.75, 0.06)
	Dietary advice	-2.92 (-9.33, 4.30)	-1.21 (-3.54, 1.02)	2.25 (-0.24, 4.74)	-1.91 (-5.84, 2.08)	2.46 (-0.40, 5.43)	2.10 (-0.66, 4.82)	-2.78 (-5.53, 0.05)	1.08 (-3.74, 5.85)	2.67 (1.06, 4.20)	-0.38 (-3.30, 2.58)
	Low fat	-0.85 (-6.65, 5.88)	2.02 (-4.14, 8.64)	3.46 (2.21, 4.81)	-0.71 (-4.24, 3.02)	3.67 (0.72, 6.81)	3.29 (1.40, 5.31)	-1.58 (-3.94, 0.91)	2.29 (-1.91, 6.47)	3.87 (1.49, 6.32)	0.83 (-1.30, 3.06)
	Atkins	-1.77 (-8.13, 5.42)	1.11 (-5.66, 8.23)	-0.93 (-4.40, 2.46)	-4.17 (-7.92, -0.33)	0.20 (-3.00, 3.49)	-0.15 (-2.47, 2.12)	-5.03 (-7.54, -2.52)	-1.17 (-5.60, 3.18)	0.41 (-2.21, 2.99)	-2.63 (-4.95, 0.29)
	DASH	0.44 (-8.72, 9.49)	3.30 (-8.17, 14.14)	1.29 (-9.85, 11.34)	2.23 (-9.21, 12.67)	4.38 (-0.21, 8.94)	4.01 (0.53, 7.39)	-0.87 (-5.12, 3.31)	2.99 (-2.66, 8.44)	4.58 (0.55, 8.49)	1.54 (-2.64, 5.65)
	Jenny Craig	-7.65 (-16.00, 1.91)	-4.75 (-11.41, 2.54)	-6.77 (-14.47, 0.90)	-5.84 (-14.07, 2.51)	-8.04 (-19.94, 5.08)	-0.35 (-3.93, 3.05)	-5.24 (-8.88, -1.66)	-1.38 (-6.65, 3.72)	0.20 (-3.06, 3.32)	-2.83 (-6.50, 0.77)
	Mediterranean	6.17 (0.22, 11.88)	9.08 (1.05, 16.01)	7.14 (0.62, 11.43)	8.03 (0.87, 13.39)	5.70 (-4.19, 15.57)	13.82 (3.91, 22.14)	-4.89 (-7.85, -1.87)	-1.01 (-5.68, 3.56)	0.56 (-2.25, 3.37)	-2.47 (-5.30, 0.41)
	Ornish	5.36 (-2.27, 14.17)	8.23 (0.93, 16.23)	6.24 (0.03, 12.58)	7.14 (0.69, 13.83)	4.94 (-6.42, 17.51)	12.99 (3.87, 22.25)	-0.85 (-8.24, 8.28)	3.86 (-1.02, 8.65)	5.44 (2.54, 8.31)	2.41 (-0.31, 5.14)
	Volumetrics	10.66 (-3.08, 24.97)	13.52 (-0.37, 27.72)	11.46 (-1.07, 24.07)	12.39 (-0.52, 25.45)	10.20 (-5.64, 27.00)	18.21 (3.61, 32.91)	4.49 (-8.69, 18.73)	5.22 (-8.83, 19.24)	1.58 (-3.23, 6.46)	-1.45 (-6.12, 3.32)
	Weight Watchers	-0.86 (-7.07, 6.16)	2.05 (-2.08, 6.28)	0.03 (-6.74, 6.32)	0.96 (-6.29, 7.83)	-1.24 (-12.00, 10.16)	6.81 (-1.31, 14.30)	-7.02 (-13.99, 1.09)	-6.18 (-14.31, 1.28)	-11.46 (-25.69, 2.52)	-3.04 (-6.03, 0.03)
	Zone	-0.43 (-7.98, 8.07)	2.44 (-5.27, 10.58)	0.42 (-5.00, 5.83)	1.32 (-4.55, 7.31)	-0.88 (-12.02, 11.44)	7.16 (-2.03, 16.36)	-6.64 (-13.49, 1.86)	-5.80 (-12.98, 1.20)	-11.05 (-24.75, 2.63)	0.39 (-7.42, 8.63)

The values correspond to the difference in median HDL increase (above right) and LDL reduction (below left) between the column and row at 6 months (eg, the difference in median HDL increase between Atkins and usual diet at 12 months is -0.25 mg/dL; the difference in median LDL reduction between Mediterranean and usual diet at 12 months is 6.17 mg/dL).

12 month follow-up
No statistically significant increase



Individual popular named diets – CRP

Table S35: Summary of individual popular diets NMA for all outcomes at 6 months

Outcomes	Certainty of Evidence	Classification	Intervention	MD (95% CrI) vs usual diet
CRP Reduction (mg/dL)	Low (Low to very low)	Not better than usual diet	Ornish (VL)	1.11 (-1.62, 3.87)
			Weight Watchers (L)	0.87 (-0.88, 2.70)
			Atkins (L)	0.64 (-0.90, 2.26)
			Paleolithic (VL)	0.52 (-2.09, 3.17)
			Low fat (VL)	0.33 (-1.25, 1.93)
			Zone (VL)	0.27 (-1.54, 2.11)
			Mediterranean (L)	0.25 (-0.59, 1.13)
			Jenny Craig (VL)	0.19 (-2.08, 2.45)
			Portfolio (VL)	-0.37 (-3.61, 2.88)
			Dietary advice (VL)	-1.15 (-3.30, 0.93)

High certainty	Moderate certainty	Low certainty	Very low certainty
----------------	--------------------	---------------	--------------------

No statistically significant

Table S12: Macronutrient composition NMA results for 6- and 12- months CRP reductions

	12-mo CRP reduction (n=8)				
6-mo CRP reduction (n=25)	Usual Diet				
	-2.7 (-6.73, 1.33)	Dietary Advice	0.86 (-1.18, 3.00)	0.01 (-1.21, 1.38)	0.15 (-0.90, 1.33)
	0.38 (-1.22, 2.04)	3.08 (-1.06, 7.23)	Low Fat	-0.85 (-2.62, 0.93)	-0.70 (-2.51, 1.08)
	0.29 (-0.80, 1.42)	2.99 (-0.98, 6.96)	-0.09 (-1.43, 1.24)	Low CHO	0.15 (-0.57, 0.83)
	0.09 (-0.81, 1.02)	2.79 (-1.14, 6.71)	-0.29 (-1.65, 1.05)	-0.20 (-0.82, 0.41)	Moderate Macronutrient

High certainty	Moderate certainty	Low certainty	Very low certainty
----------------	--------------------	---------------	--------------------



Adverse events

- 18.2 % (22/12 1RCT , Low CHO: 12)
- Risk of headache : 25% vs. 8% at 3 ms,
no significant differences at 6 and 12 months
(low fat n=73 low CHO n=70)

Ann Intern Med 2014;161:309-18. doi:10.7326/M14-0180

- Adverse events 【 low CHO (n=60) than low fat(n=60) 】
 - constipation (68% v 35%; P=0.001),
 - headache (60% v 40%; P=0.03),
 - halitosis (38% v 8%; P=0.001), muscle
 - cramps (35% v 7%; P=0.001),
 - diarrhoea (23% v 7%;P=0.02),
 - general weakness (25% v 8%; P=0.01),
 - rash (13% v 0%; P=0.006).35

Ann Intern Med 2004;140:769-77. doi:10.7326/0003-4819-140-10-200405180-00006



Conclusions

Low carbohydrate, low fat & moderate macronutrient diets vs usual diet

- with larger reductions in BW and BP than a usual diet
- moderate macronutrient diets: slightly smaller
- both blood pressure and blood lipids **disappeared** almost completely **at 12 months**.
- **Mediterranean diet** showed a statistically significant difference in LDL reduction
- None of the diets were associated with a statistically significant increase in HDL or reduction in CRP at either the 6 or 12 month follow-up.

	Normal	20%	15%	10%	5%	2.5%
SBP	120 mm Hg	24	18	12	6	3 (MID)
DBP	80 mm Hg	16	12	8	4	2 (MID)
LDL	100 mg/dL	20	15	10	5 (MID)	2.5
HDL ↑	40 mg/dL	8	6	4	2 (MID)	1
CRP	10 mg/dL	2	1.5	1.0	0.5 (MID)	0.25

SBP/DBP: 2mmHg - based on epidemiology in relation to stroke, MI, etc.

LDL and HDL: 5% or 0.1mmol/L - based on FDA/Health Canada cholesterol-lowering health claims for foods

CRP: 0.5mg/L - based on Reynolds Risk score 0.5mg/L = 1% change in 10y CVD risk



【討論】

低醣飲食、低油飲食與適當熱量均衡飲食都具有減重效果，對於降低心血管危險因子的部分，你認為適當熱量均衡飲食優於其他兩種飲食嗎？



同意(綠牌)：0位 需更多文獻支持(黃牌)：12位 不同意(紅牌)：1位

