



臺北市立萬芳醫院 - 委託財團法人臺北醫學大學辦理  
Taipei Municipal Wanfang Hospital (Managed by Taipei Medical University)

# 有氧運動是否能改善 乳癌患者癌因性疲憊？

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單位:9A病房



# 背景問題

- 9A病房 主要收治外科手術病人，**乳癌**為單位**疾病排行前三名**。
- 乳癌病人在治療期間，除了臨床常見的噁心、嘔吐症狀外，**疲憊**是癌症病人**最常經歷且歷時最久**的不適症狀。
- 臨床上病人若提起疲憊問題，護理人員也會因為認知不足，無法給予疲憊相關的評估和護理衛教，再加上病人極少主動向醫護人員表達其疲憊，是癌因性疲憊症造成病人生活品質低落的主因之一。

# 簡介-癌因性疲憊

- 是一種**自我主觀的感受與經驗**，與癌症或癌症治療有相關性，和近期活動量不成比例的疲累感，具有主觀、持續、令人感到困擾的不適，常被忽略，對病人生活品質有重大影響。
- **92%** 的癌症病人**飽受癌因性疲憊的困擾**，長時間感到疲累或精疲力竭的主觀感受，無法透過睡眠或休息緩解。

(癌因性疲憊之臨床指引，2017)



# 簡介-癌因性疲憊對癌症病人的影響

- 台灣癌症基金會針對癌症病友做了一份問卷調查，發現  
高達七成以上的病友常常感到疲憊  
近五成的病友無法藉由睡眠或休息緩解  
近三成的病友認為「疲憊」比掉髮、嘔吐或疼痛更困擾  
以上數據皆突顯「疲憊」已經成為多數病友的嚴重問題。
- 對身體功能的影響：最大的影響可能連處理日常家務都做不到。
- 對生活品質的影響：為全面性的，包括日常活動、家庭照護、以及人際關係。

財團法人台灣癌症基金會



# 台灣版簡明疲憊量表

透過「台灣版簡明疲憊量表測驗」來幫助自己了解癌因性疲憊症的現況與影響程度。

- 1) 你現在有任何累或疲憊的感覺嗎？
- 2) 如果有，從0到10分(0分為完全不累，10分為想像中最疲憊的狀態)找出一個適合描述您每天疲憊狀態的分數。
- 3) 這樣的疲憊是否有影響您日常生活的機能(例如工作、家務等)。

## 附件三

### 台灣版簡明疲憊量表(BFI-T)

在我們生活中，大多數我們有時會感到疲倦或疲憊。在過去一週中，您是否曾感到不尋常的疲倦或疲憊？是 ☐ 否 ☐

1.請在下面數字中圈選一個，以表示現在的疲倦(疲倦、疲勞)程度

無疲倦 0 1 2 3 4 5 6 7 8 9 10 能想像最嚴重的程度

2.請在下面數字中圈選一個，以表示過去24小時中一般疲倦(疲倦、疲勞)的程度

無疲倦 0 1 2 3 4 5 6 7 8 9 10 能想像最嚴重的程度

3.請在下面數字中圈選一個，以表示過去24小時中疲倦(疲倦、疲勞)最劇烈時的程度

無疲倦 0 1 2 3 4 5 6 7 8 9 10 能想像最嚴重的程度

4.請在下面數字中圈選一個，以表示過去24小時中，疲倦(疲倦、疲勞)影響您的程度

(1)一般活動

無疲倦 0 1 2 3 4 5 6 7 8 9 10 能想像最嚴重的程度

(2)情緒

無疲倦 0 1 2 3 4 5 6 7 8 9 10 能想像最嚴重的程度

(3)行走能力

無疲倦 0 1 2 3 4 5 6 7 8 9 10 能想像最嚴重的程度

(4)日常工作(包括外出工作及家事)

無疲倦 0 1 2 3 4 5 6 7 8 9 10 能想像最嚴重的程度

(5)與人交往

無疲倦 0 1 2 3 4 5 6 7 8 9 10 能想像最嚴重的程度

(6)生活樂趣

無疲倦 0 1 2 3 4 5 6 7 8 9 10 能想像最嚴重的程度

## 測驗結果

您的分數為 4.1 分

您目前的狀況呈現 中度疲憊

若您的分數 <3分可視為輕度疲憊，分數為4~6分為中度疲憊，分數 >7分則視為重度疲憊，若您的分數有達到中 / 重度疲憊，可能癌因性疲憊症已經影響到您的生活品質了喔！

該如何揮別癌因性疲憊症，(請點選進入本站「[揮別癌因性疲憊症](#)」進行了解。

同時，您可以點選填寫【[生活狀態確認單](#)】，來檢視您目前的狀態，找出疾病的癥結後，與您的醫師或護理師討論適合的處理方式。

| 分數                           | 疲憊程度 |
|------------------------------|------|
| < 3分                         | 輕度   |
| 4 ~ 6分                       | 中度   |
| > 7分                         | 重度   |
| 分數達中重度 (4~10分) → 表疲憊已經影響日常生活 |      |



# 簡介-癌因性疲憊的照護

2017 年 NCCN 最新的癌因性疲憊症處置指引：

- **輕度疲憊**：採用非藥物的治療-輔助療法、營養處置、心理社會支持、睡眠、**運動**。
- **中度疲憊**：除了採取非藥物的治療，建議合併藥物治療。

# 簡介-癌症與運動

- 癌症高居台灣十大死因，隨著早期癌症篩檢與醫療進步，癌症預後與存活率顯著改善，運動與癌症相關的實證醫學在蓬勃發展。
- **適當的運動訓練**融入癌症治療計畫被認為能**降低癌症與其治療副作用**並提升生活品質、**提升治療耐受性**。
- 美國運動醫學會於2018年召開「癌症生存者運動指南圓桌會議」，提及保持每周150分鐘中強度或75分鐘**高強度運動**，再加上每週2-3次的**阻力性運動**，可**有效且安全改善癌症患者的身體機能、生活品質及癌症相關的疲憊**。

(莊、曹、陳，2022)



# 簡介-運動強度

| 低強度                                                                                                             | 中強度                                                                                                                              | 高強度                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>•平地慢速行走</li><li>•平地慢速騎自行車</li><li>•彈奏樂器</li><li>•煮飯</li><li>•擦地</li></ul> | <ul style="list-style-type: none"><li>•快走</li><li>•慢跑</li><li>•騎自行車</li><li>•桌球</li><li>•爬樓梯</li><li>•游泳</li><li>•跳交際舞</li></ul> | <ul style="list-style-type: none"><li>•快跑</li><li>•快速騎自行車(或上坡騎)</li><li>•蛙式游泳</li><li>•拿重物爬樓梯</li><li>•登山</li></ul> |

理想的運動時間為最少每次連續 15~20 分鐘，

理想的運動時間達 45~60 分鐘。

**低強度運動**：不太費力的輕度身體活動。

**中強度運動**：持續10分鐘以上還能順暢地對話，但無法唱歌。會讓人覺得有點累，呼吸及心跳比平常快一些，也會流一些汗。

**高強度**：持續10分鐘以上時，無法邊活動邊跟人輕鬆說話。身體感覺很累，呼吸和心跳比平常快很多，也會流很多汗。

(衛生福利部國民健康署)



**選擇最適合自己的運動**

# 文獻

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## LITERATURE REVIEW

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# Exercise effects on fatigue in breast cancer survivors after treatments: A systematic review and meta-analysis

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# Appraisal sheets (FAITH)

## Appraisal Tool 【統合分析 Meta-analysis】

- 步驟1：研究探討的問題為何
- 步驟2：研究的品質如何(內在效度)
- 步驟3：研究結果之意義為何(效益)

# 步驟1:系統性文獻回顧探討的問題為何?

P.2

## 2.1 | Review questions

The PICO principle was used to formulate clinical questions that guided the search strategy. Key elements were population: breast cancer survivor, intervention: exercise, comparison: no exercise and outcome: fatigue. We followed the format of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher et al., 2009).

### 步驟 1：研究探討的問題為何？

|                         |      |
|-------------------------|------|
| 研究族群 / 問題<br>(Problems) | 乳癌病患 |
| 介入措施<br>(Intervention)  | 有氧運動 |
| 比較<br>(Comparison)      | 沒運動  |
| 結果<br>(Outcomes)        | 疲憊   |

# Appraisal sheets(FAITH)

## Appraisal Tool 【統合分析 Meta-analysis】

- 步驟1：研究探討的問題為何(PICO)
- 步驟2：研究的品質如何(內在效度)
- 步驟3：研究結果之意義為何(效益)

# FAITH-研究是否找到所有的相關證據？

P.2

良好的文獻搜尋至少應包括二個主要的資料庫 (如:Medline, Cochrane 考科藍實證醫學資料庫, EMBASE 等), 並且加上文獻引用檢索(參考 文獻中相關研究、Web of Science, Scopus 或 Google Scholar)、試驗登錄資料等。

文獻搜尋 應不只限於英文, 並且應同時使用 MeSH 字串及一般檢索詞彙(text words)。

## 2.2 | Search strategy

Eight popular scientific databases, including PubMed, Cochrane Central Register of Controlled Trials, EMBASE, Medline (ProQuest), CINAHL, PsycINFO, Chinese Electronic Periodical Service and Wan Fang Data, were used to search for relevant articles published from 1 January 2000 to 31 December 2019. Search terms were keywords or Medical Subject Headings (MeSH terms) such as 'breast cancer', AND 'exercise' OR 'physical fitness' OR 'aerobic exercise' OR 'physical activity' OR 'exercise therapy', AND 'survivors' AND 'fatigue'.

- ✓ 搜尋資料庫：**8 個**  
英文/中文資料庫
- ✓ 搜尋年限：  
**2000/01/01-**  
**2019/12/31**
- 語言：**英文或中文**

評讀結果：

■是    □否    □不確定

# FAITH-研究是否找到所有的相關證據？

P.3

## 納入標準

- (1) RCT design, published in English or Chinese
- (2) study patients are breast cancer survivors with stages 0–IIIc, who had completed adjuvant treatments(e.g., surgery, chemotherapy or radiotherapy)except hormonal therapy
- (3) the effects of exercise were evaluated

## 排除標準

- (1)participants with mixed cancer types, metastasis or under palliative treatment
- (2)exercise focused on the upper limb or arm and/or supervised exercise and cognitive-behavioural interventions

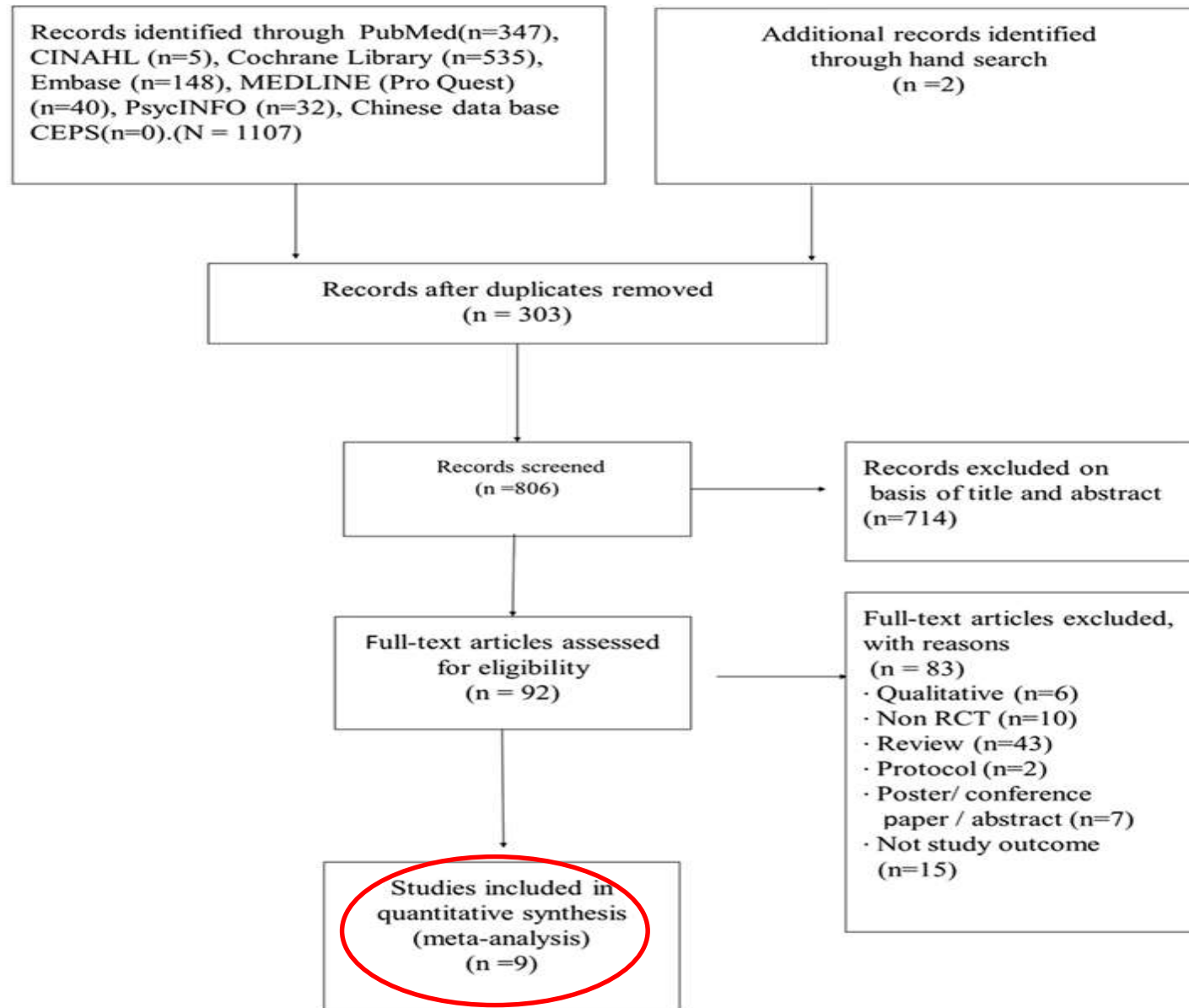


TABLE 2 Intervention characteristics of randomized controlled trials (RCTs) examining the effects of exercise on pulmonary fitness and fatigue in breast cancer survivors

| Primary author of the study No.      | Sample (X ± SD)<br>Age | EG1 (n)/<br>EG2 (n) | CG (n) | Exercise prescription                            |                                             | 運動頻率              |                                       | 結果<br>Outcomes measure            | 運動持續週數                    |                                                                                                 |
|--------------------------------------|------------------------|---------------------|--------|--------------------------------------------------|---------------------------------------------|-------------------|---------------------------------------|-----------------------------------|---------------------------|-------------------------------------------------------------------------------------------------|
|                                      |                        |                     |        | 運動方式<br>Mode of exercise/<br>programme           | 運動形式<br>Exercise format/<br>delivery mode   | 運動強度<br>Intensity | Duration<br>(min)/frequency<br>(week) |                                   | Post-test<br>F/U/<br>week | 結論<br>Results                                                                                   |
| Cantarero-Villanueva, 2013 (Spain)   | 48                     | 29                  | 32     | Aerobic activities (deep water aquatic exercise) | Fitness specialist/                         | Moderate          | 40/3                                  | PFS                               | 24                        | Behavioural severity<br>  Affective meaning<br>  Sensory<br>  Cognitive/mood<br>  Total fatigue |
|                                      |                        |                     |        | 有氧運動(游泳)                                         |                                             |                   |                                       |                                   |                           |                                                                                                 |
| Corulli, 2014 (Italy)                |                        | 10                  | 10     | Horseback riding                                 |                                             | -                 | 120/week                              | Cardiorespiratory fitness FACIT-F | 16                        | VO <sub>2max</sub>   Fatigue                                                                    |
|                                      |                        |                     |        | 騎馬                                               |                                             |                   |                                       |                                   |                           |                                                                                                 |
| Bower, 2014 (United States)          | 54 ± 5.4               | 16                  | 15     | Iyengar yoga                                     |                                             | -                 | 90/2                                  | FSI<br>MFSI                       | 12                        | Fatigue,   Vigour                                                                               |
|                                      |                        |                     |        | 愛楊格瑜珈                                            |                                             |                   |                                       |                                   |                           |                                                                                                 |
| Kiecolt-Glaser, 2014 (United States) | 51.6 ± 9.2             | 100                 | 100    | Hatha yoga                                       | /groups                                     | -                 | 90/?                                  | MFSI-SF                           | 12                        | Fatigue                                                                                         |
|                                      |                        |                     |        | 哈達瑜珈                                             |                                             |                   |                                       |                                   |                           |                                                                                                 |
| Star, 2016 (United States)           | 62.1 ± 8.1             | 16                  | 18     | Hatha yoga                                       |                                             | -                 | 90/week                               | MFSI-SF                           | 12                        | General,   Physical<br>  Emotional   Mental<br>  Vigour,   Total                                |
|                                      |                        |                     |        |                                                  |                                             |                   |                                       |                                   |                           |                                                                                                 |
| Milne, 2008 (Canada)                 | 55 ± 8.2               | 29                  | 29     | Aerobic exercise (cycling and rowing ergometers) | 2 exercise physiologists/one-on-one contact | -                 | 20/3                                  | SCFS                              | 24                        | Fatigue                                                                                         |
|                                      |                        |                     |        | 有氧+抗阻力                                           |                                             |                   |                                       |                                   |                           |                                                                                                 |
| Cuesta-Vargas, 2014 (Spain)          |                        | 22                  | 20     | Multimodal physiotherapy programmed (MMP)        | Individual                                  | Low               | 60/3 days/week                        | PFS-R                             | 8                         | Fatigue                                                                                         |
|                                      |                        |                     |        | 多模式物理治療                                          |                                             |                   |                                       |                                   |                           |                                                                                                 |
| Yagci, 2015 (Turkey)                 |                        | 19/21               |        | Aerobic exercise + yoga/aerobic exercise         |                                             | 60% to 70% HR     | 30/3 days/week                        | FSS, symptom scale                | 6                         | Fatigue EG1 > EG2                                                                               |
|                                      |                        |                     |        | 有氧+瑜珈                                            |                                             |                   |                                       |                                   |                           |                                                                                                 |
| Loh, 2014 (Malaysia)                 |                        | 32/31               | 32     | Kuala Lumpur qigong Line dance                   | Face to face/group activity                 | Low-moderate      | 70/2 90/week                          | FACIT-F                           | 8                         | Kuala Qigong:   Fatigue<br>Line dance fatigue (-)                                               |
|                                      |                        |                     |        | 氣功                                               |                                             |                   |                                       |                                   |                           |                                                                                                 |

Abbreviations: FACIT-F, Functional Assessment of Chronic Illness Therapy–Fatigue; FSI, Fatigue Symptom Inventory; FSS, Fatigue Severity Scale; MFSI-SF, Multidimensional Fatigue Symptom Inventory–Short Form; PFS, Piper Fatigue Scale; SCFS, Schwartz Cancer Fatigue Scale.

# FAITH-文獻是否經過嚴格評讀？

P.3

應根據不同臨床問題的文章類型，選擇適合的評讀工具，並說明每篇研究的品質(如針對治療型的臨床問題，選用隨機分配、盲法、及完整追蹤的研究類型)

## 2.3 | Data extraction

After confirming the eligibility of the studies, two reviewers independently extracted data from each study in the following areas: study population, intervention, and outcome. The form included the following items: (1) general information, including title, authors, source, setting and year of publication; (2) trial characteristics, including study design and randomization; (3) characteristics of participants, such as inclusion criteria, exclusion criteria, total number in intervention/control groups, mean age, diagnostic criteria, other baseline characteristics and dropouts; (4) intervention type, dose, intensity and frequency as well as duration of the trial; (5) outcomes specified in the methods; and (6) results. For continuous variables, we extracted sample size and baseline and post-intervention means with SD for the intervention and control groups. Disagreements were resolved through discussions between both reviewers (Authors A and B) by consensus with a third reviewer (Author C), if required. Fatigue data from generic or disease-specific fatigue questionnaires or fatigue scales (Canadian Society for Exercise Physiology, 2010; Dieli-Conwright & Orozco, 2015) were selected for meta-analysis. The parameters extracted for each study included study reference (author, year of publication), study design, setting, participants (number, mean and age), characteristics of exercise interventions (mode of training, length of follow-up, duration, and frequency), types of control group and outcome measurements. We performed meta-analysis when outcomes were measured in at least two studies (Lahart et al., 2015).

## 2.4 | Quality assessment

The methodological quality of the articles was assessed by Joanna Briggs Critical Appraisal Tool for Randomized Controlled Trials (Meta-Analysis of Statistics Assessment and Review Instrument; Joanna Briggs Institute, 2016). This instrument is used to assess methodological quality for RCTs studies. There are 13 items to respond with '1' as 'yes' and '0' as 'unclear' or 'not applicable'. The range of total score is 0-13 with the higher score indicating better methodological quality.

評讀結果：

■是 □否 □不確定

# FAITH-是否只納入 (Included) 具良好效度的文章？

## Joanna Briggs Institute (JBI) scale

是否分配隨機化

是否隱瞞治療組分配

治療組基準線是否相似

受試者/研究員/分析者  
是否盲化

|                                                                                                                                                                                           | Yes                      | No                       | Unclear                  | NA                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Was true randomization used for assignment of participants to treatment groups?                                                                                                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Was allocation to treatment groups concealed?                                                                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Were treatment groups similar at the baseline?                                                                                                                                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Were participants blind to treatment assignment?                                                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Were those delivering treatment blind to treatment assignment?                                                                                                                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Were outcomes assessors blind to treatment assignment?                                                                                                                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Were treatment groups treated identically other than the intervention of interest?                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Was follow up complete and if not, were differences between groups in terms of their                                                                                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Were participants analyzed in the groups to which they were randomized?                                                                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Were outcomes measured in the same way for treatment groups?                                                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Were outcomes measured in a reliable way?                                                                                                                                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Was appropriate statistical analysis used?                                                                                                                                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Was the trial design appropriate, and any deviations from the standard RCT design (individual randomization, parallel groups) accounted for in the conduct and analysis of the trial? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



# FAITH-是否只納入 (Included) 具良好效度的文章？

Joanna Briggs Institute (JBI) scale

| Author/year                        | Q 1 | Q 2 | Q 3 | Q 4 | Q 5 | Q 6 | Q 7 | Q 8 | Q 9 | Q 10 | Q 11 | Q 12 | Q 13 | Score | %    |
|------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-------|------|
| Cantarero-Villanueva et al. (2013) | Y   | Y   | Y   | Y   | Y   | Y   | Y   | Y   | Y   | Y    | Y    | Y    | Y    | 13/13 | 100  |
| Cerulli et al. (2014)              | Y   | U   | U   | U   | U   | U   | Y   | Y   | Y   | Y    | Y    | Y    | Y    | 8/13  | 61.5 |
| Bower et al. (2014)                | Y   | Y   | Y   | U   | U   | U   | Y   | Y   | Y   | Y    | Y    | Y    | Y    | 10/13 | 76.9 |
| Kiecolt-Glaser et al. (2014)       | Y   | Y   | Y   | Y   | Y   | U   | Y   | Y   | Y   | Y    | Y    | Y    | Y    | 12/13 | 92.3 |
| Stan et al. (2016)                 | Y   | Y   | Y   | U   | U   | U   | Y   | Y   | Y   | Y    | Y    | Y    | Y    | 10/13 | 76.9 |
| Milne et al. (2008)                | Y   | Y   | Y   | Y   | U   | U   | Y   | Y   | Y   | Y    | Y    | Y    | Y    | 11/13 | 84.6 |
| Cuesta-Vargas et al. (2014)        | N   | U   | Y   | U   | U   | Y   | Y   | Y   | Y   | Y    | Y    | Y    | Y    | 9/13  | 69   |
| Yagli et al. (2015)                | U   | Y   | N   | U   | U   | U   | Y   | Y   | Y   | Y    | Y    | Y    | Y    | 8/13  | 61.5 |
| Loh et al. (2014)                  | Y   | Y   | Y   | N   | U   | U   | Y   | Y   | Y   | Y    | Y    | Y    | Y    | 10/13 | 76.9 |

## 3.1 | Methodological quality

Quality of studies was evaluated with JBI-MASTARI by two reviewers independently. The range of total score of JBI-MASTARI is 0–13 with the higher score indicating better methodological quality (Meta-Analysis of Statistics Assessment and Review Instrument; Joanna Briggs Institute, 2016). The quality score of the selected ones in the present study varied widely ranging from 8 to 13, mean score of 10.1/13. There is potential high risk of performance bias in 85% of studies and a low risk in the remaining 23% of studies. Thus, all these studies were considered high quality (Table 1).

(Y):是、(N):不適用、Unclear(U):不清楚

評讀結果：

■是 □否 □不確定

FAITH-是否以表格和圖表總結試驗結果？

FAITH-試驗的結果是否相近-異質性？

應該用至少 1 個摘要表格呈現所納入的試驗結果。若結果相近，可針對結果進行統合分析(meta-analysis)，並以「森林圖」(forest plot) 呈現研究結果，最好再加上質性分析。

在理想情況下，各個試驗的結果應相近或具同質性，若具有異質性，作者應評估差異是否顯著(卡方檢定)。根據每篇個別研究中不同的 PICO及研究方法，探討造成異質性的原因。

FIGURE 2 Fatigue indicator after exercise intervention(a) Duration of follow-up

運動持續週數

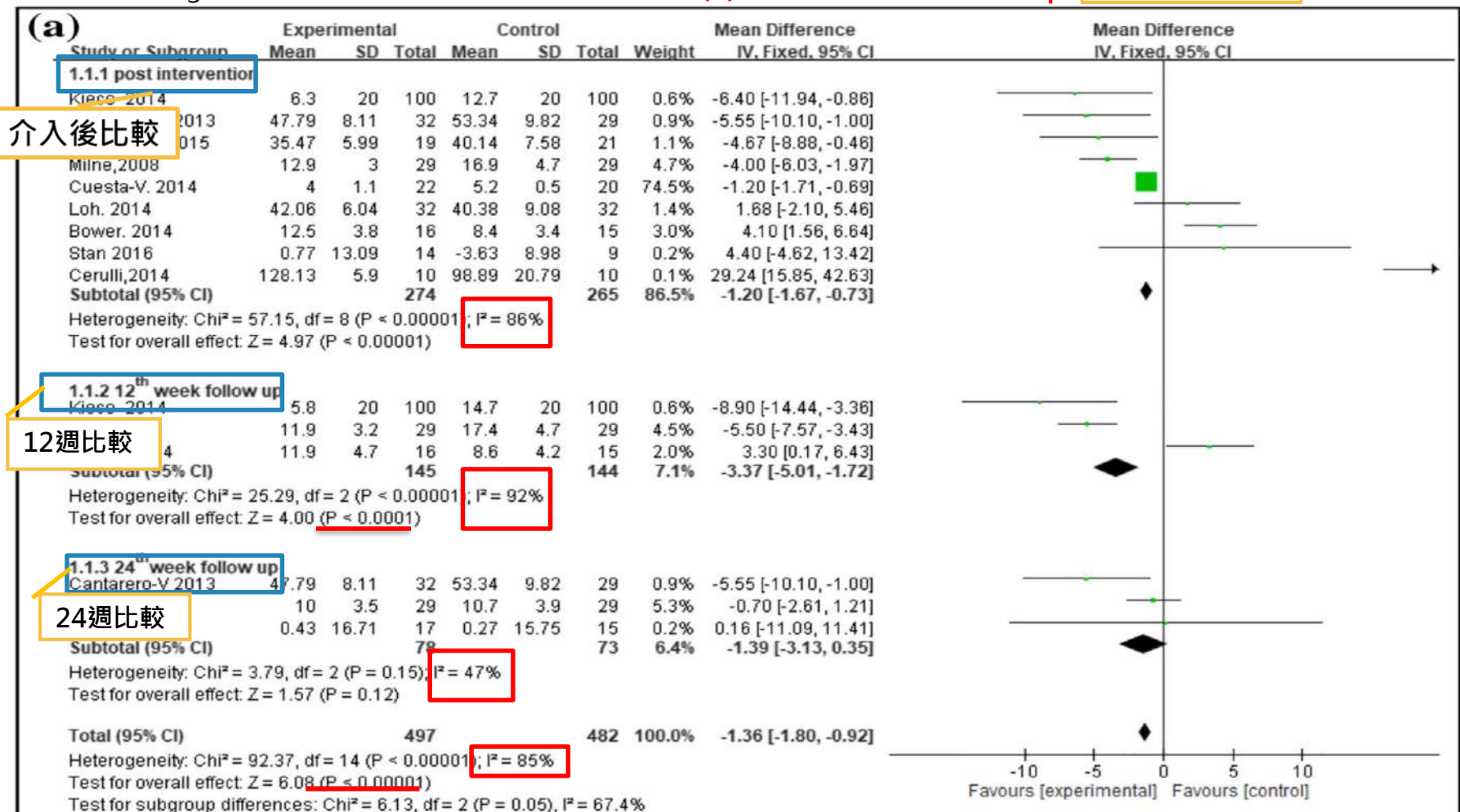


FIGURE 2 Fatigue indicator after exercise intervention (b)Type of exercise

運動型態

(b)

有氧運動

| Study or Subgroup                                                          | Experimental Mean | SD   | Total | Control Mean | SD   | Total | Weight | Mean Difference IV, Fixed, 95% CI |
|----------------------------------------------------------------------------|-------------------|------|-------|--------------|------|-------|--------|-----------------------------------|
| <b>1.2.1 Aerobic exercise</b>                                              |                   |      |       |              |      |       |        |                                   |
| 2013                                                                       | 47.79             | 8.11 | 29    | 53.34        | 9.82 | 32    | 1.1%   | -5.55 [-10.05, -1.05]             |
|                                                                            | 88.83             | 5.09 | 10    | 68           | 4.92 | 10    | 1.2%   | 20.83 [16.44, 25.22]              |
| Milne, 2008                                                                | 12.9              | 3    | 29    | 16.9         | 4.7  | 29    | 5.4%   | -4.00 [-6.03, -1.97]              |
| Subtotal (95% CI)                                                          |                   |      | 68    |              |      | 71    | 7.7%   | -0.47 [-2.18, 1.23]               |
| Heterogeneity: $\chi^2 = 107.04$ , $df = 2$ ( $P < 0.00001$ ) $I^2 = 98\%$ |                   |      |       |              |      |       |        |                                   |
| Test for overall effect: $Z = 0.54$ ( $P = 0.59$ )                         |                   |      |       |              |      |       |        |                                   |

1.2.2 yoga

瑜珈

|                                                                         |      |       |     |      |      |     |      |                       |
|-------------------------------------------------------------------------|------|-------|-----|------|------|-----|------|-----------------------|
| 2013                                                                    | 0.77 | 13.09 | 14  | 3.63 | 8.98 | 9   | 0.3% | -2.86 [-11.88, 6.16]  |
| Kieckhefer, 2014                                                        | 6.3  | 20    | 100 | 12.7 | 20   | 100 | 0.7% | -6.40 [-11.94, -0.86] |
| Bower, 2014                                                             | 12.5 | 3.8   | 16  | 8.4  | 3.4  | 15  | 3.5% | 4.10 [1.56, 6.64]     |
| Subtotal (95% CI)                                                       |      |       | 130 |      |      | 124 | 4.5% | 1.97 [-0.27, 4.20]    |
| Heterogeneity: $\chi^2 = 12.57$ , $df = 2$ ( $P = 0.002$ ) $I^2 = 84\%$ |      |       |     |      |      |     |      |                       |
| Test for overall effect: $Z = 1.73$ ( $P = 0.08$ )                      |      |       |     |      |      |     |      |                       |

1.2.3 Mixed type

混和型

|                                                                       |       |      |    |       |      |    |       |                      |
|-----------------------------------------------------------------------|-------|------|----|-------|------|----|-------|----------------------|
| 2014                                                                  | 42.06 | 60.4 | 32 | 40.38 | 9.08 | 32 | 0.1%  | 1.68 [-19.48, 22.84] |
| 2015                                                                  | 35.47 | 5.99 | 19 | 40.14 | 7.58 | 21 | 1.3%  | -4.67 [-8.88, -0.46] |
| Cuesta-V. 2014                                                        | 4     | 1.1  | 22 | 5.2   | 0.5  | 20 | 86.5% | -1.20 [-1.71, -0.69] |
| Subtotal (95% CI)                                                     |       |      | 73 |       |      | 73 | 87.8% | -1.25 [-1.75, -0.74] |
| Heterogeneity: $\chi^2 = 2.64$ , $df = 2$ ( $P = 0.27$ ) $I^2 = 24\%$ |       |      |    |       |      |    |       |                      |
| Test for overall effect: $Z = 4.84$ ( $P < 0.00001$ )                 |       |      |    |       |      |    |       |                      |

|                                                                                          |  |  |     |  |  |     |        |                      |
|------------------------------------------------------------------------------------------|--|--|-----|--|--|-----|--------|----------------------|
| Total (95% CI)                                                                           |  |  | 271 |  |  | 268 | 100.0% | -1.04 [-1.52, -0.57] |
| Heterogeneity: $\chi^2 = 130.29$ , $df = 8$ ( $P < 0.00001$ ) $I^2 = 94\%$               |  |  |     |  |  |     |        |                      |
| Test for overall effect: $Z = 4.32$ ( $P < 0.0001$ )                                     |  |  |     |  |  |     |        |                      |
| Test for subgroup differences: $\chi^2 = 8.05$ , $df = 2$ ( $P = 0.02$ ), $I^2 = 75.1\%$ |  |  |     |  |  |     |        |                      |

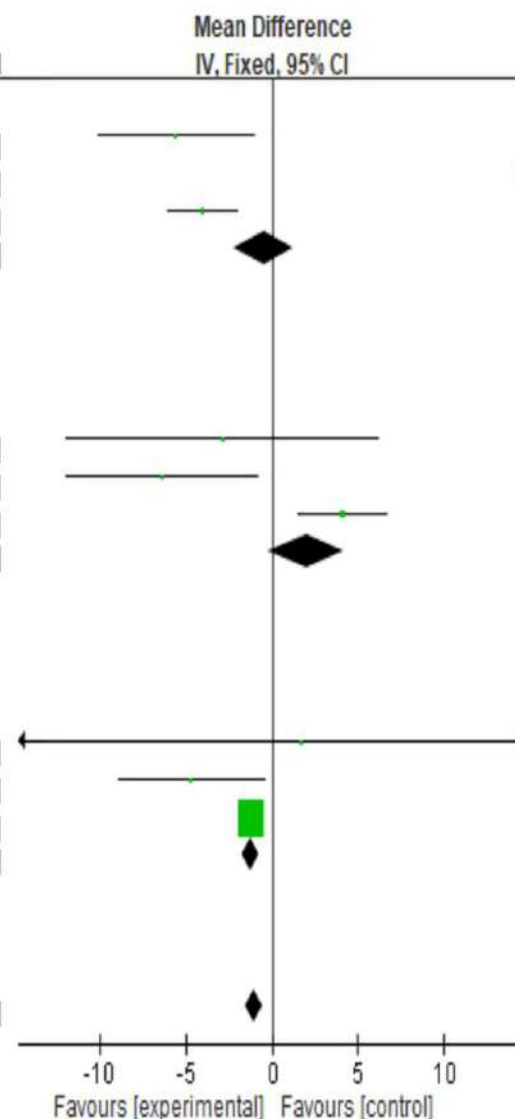
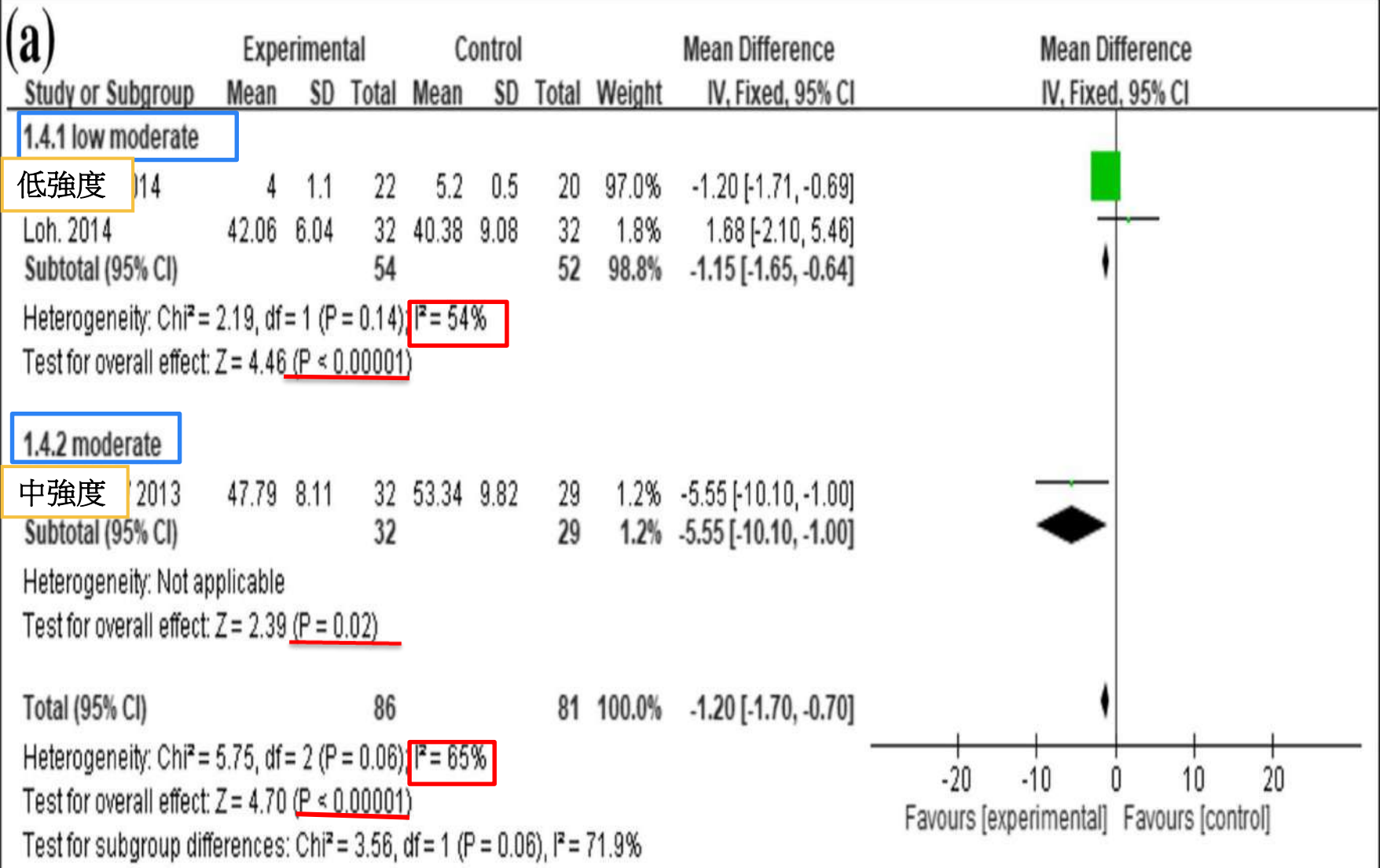
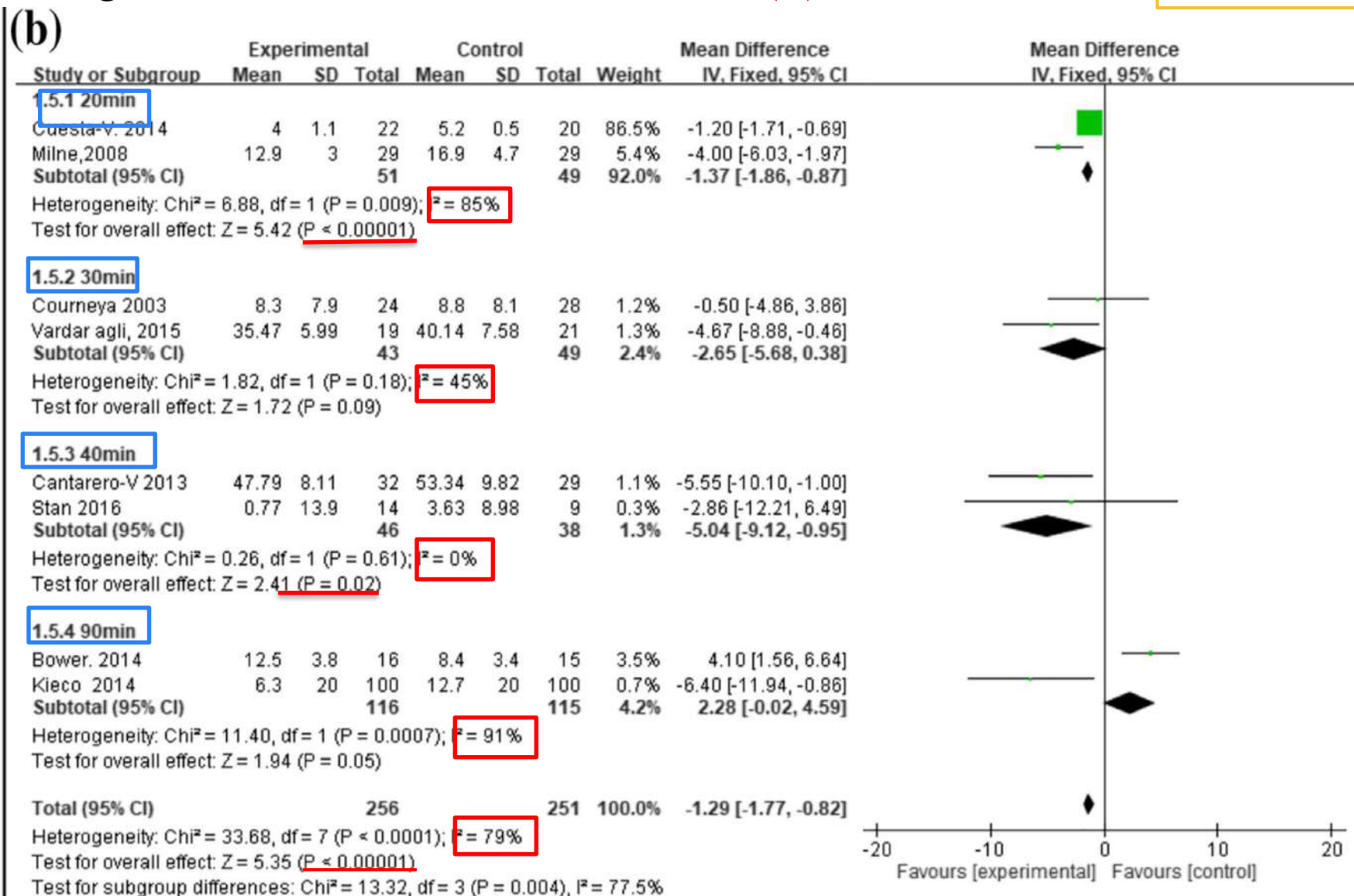


FIGURE 3 Fatigue indicator after exercise intervention(A) Exercise intensity

運動強度



# Fatigue indicator after exercise intervention **(B) Exercise duration** 運動持續時間



# Fatigue indicator after exercise intervention(C) Exercise frequency (times per week)

運動頻率

(c)

| Study or Subgroup          | Experimental |      |           | Control |      |           | Weight      | Mean Difference          |                                      |
|----------------------------|--------------|------|-----------|---------|------|-----------|-------------|--------------------------|--------------------------------------|
|                            | Mean         | SD   | Total     | Mean    | SD   | Total     |             | IV, Fixed, 95% CI        | Mean Difference<br>IV, Fixed, 95% CI |
| <b>1.6.1 2 times/weeks</b> |              |      |           |         |      |           |             |                          |                                      |
| Bower. 2014                | 12.5         | 3.8  | 16        | 8.4     | 3.4  | 15        | 3.5%        | 4.10 [1.56, 6.64]        |                                      |
| Loh. 2014                  | 42.06        | 6.04 | 32        | 40.38   | 9.08 | 32        | 1.6%        | 1.68 [-2.10, 5.46]       |                                      |
| <b>Subtotal (95% CI)</b>   |              |      | <b>48</b> |         |      | <b>47</b> | <b>5.0%</b> | <b>3.35 [1.24, 5.45]</b> |                                      |

Heterogeneity:  $\text{Chi}^2 = 1.09$ ,  $\text{df} = 1$  ( $P = 0.30$ )  $I^2 = 8\%$

Test for overall effect:  $Z = 3.12$  ( $P = 0.002$ )

## 1.6.2 3 times/week

|                          |       |      |            |       |      |            |              |                             |  |
|--------------------------|-------|------|------------|-------|------|------------|--------------|-----------------------------|--|
| Cantarero-V 2013         | 47.79 | 8.11 | 32         | 53.34 | 9.82 | 29         | 1.1%         | -5.55 [-10.10, -1.00]       |  |
| Courneya 2003            | 8.3   | 7.9  | 24         | 8.8   | 8.1  | 28         | 1.2%         | -0.50 [-4.86, 3.86]         |  |
| Cuesta-V. 2014           | 4     | 1.1  | 22         | 5.2   | 0.5  | 20         | 86.0%        | -1.20 [-1.71, -0.69]        |  |
| Milne, 2008              | 12.9  | 3    | 29         | 16.9  | 4.7  | 29         | 5.4%         | -4.00 [-6.03, -1.97]        |  |
| Vardaragli, 2015         | 35.47 | 5.99 | 19         | 40.14 | 7.58 | 21         | 1.3%         | -4.67 [-8.88, -0.46]        |  |
| <b>Subtotal (95% CI)</b> |       |      | <b>126</b> |       |      | <b>127</b> | <b>95.0%</b> | <b>-1.45 [-1.93, -0.96]</b> |  |

Heterogeneity:  $\text{Chi}^2 = 12.54$ ,  $\text{df} = 4$  ( $P = 0.01$ );  $I^2 = 68\%$

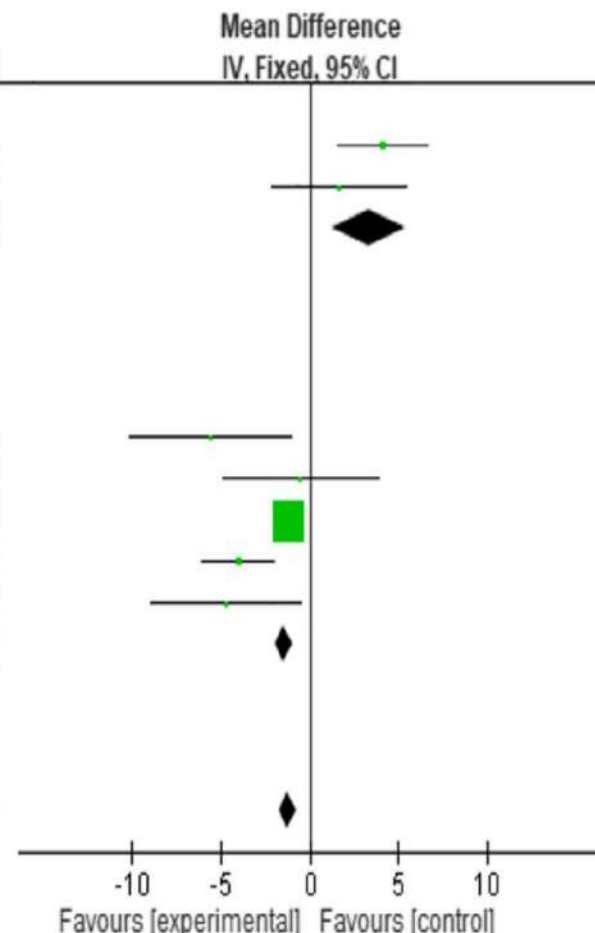
Test for overall effect:  $Z = 5.85$  ( $P < 0.00001$ )

**Total (95% CI)** 174 174 100.0% **-1.21 [-1.68, -0.73]**

Heterogeneity:  $\text{Chi}^2 = 32.55$ ,  $\text{df} = 6$  ( $P < 0.0001$ )  $I^2 = 82\%$

Test for overall effect:  $Z = 5.00$  ( $P < 0.00001$ )

Test for subgroup differences:  $\text{Chi}^2 = 18.93$ ,  $\text{df} = 1$  ( $P < 0.0001$ ),  $I^2 = 94.7\%$



評讀結果：

■是 □否 □不確定



# 評讀總表

## 系統性文獻回顧的品質

研究是否找到(Find) 所有的相關證據？

評讀結果：是

文獻是否經過嚴格評讀(Appraisal)？

評讀結果：是

是否只納入(Included)具良好效度的文章？

評讀結果：是

作者是否以表格和圖表「總結」(Total up) 試驗結果？

評讀結果：是

試驗的結果是否相近 - 異質性 (Heterogeneity)？

評讀結果：是

# Appraisal sheets(FAITH)

## Appraisal Tool 【統合分析 Meta-analysis】

- 步驟1:研究探討的問題為何(PICO)
- 步驟2:研究的品質如何(內在效度)
- 步驟3:研究結果之意義為何(效益)

# 結論

This systematic review and meta-analysis of RCTs shows that exercise has beneficial effects to reduce fatigue. In summary, breast cancer survivors could gain benefits by exercise. Our findings demonstrate that nurses can safely recommend prescription of low-moderate-intensity exercise, 20 min/day, three times per week for at least 12 weeks post treatment. The evidence in this article should help nurses and other health-care professionals integrate exercise interventions into management plans for women with breast cancer. However, this needs careful grading and delivery by the health-care professional. Fatigue is a complex symptom that commands additional research into an optimum management strategy for the individual person. Meanwhile, those under supervised exercise in clinics could be considered as a safe and effective strategy to improve the fatigue of breast cancer survivors.

- 運動具有減輕疲勞的有益作用。
- 中低強度的運動，每天 20 分鐘，每週 3 次，持續至少 12 週治療。

# 限制

In this study, fatigue was measured using different tools that made cross comparison difficult. Standardized measurement tools are necessary for further comparison.

- 使用不同的評估工具測量疲勞，使得比對困難，需要標準化統一的測量工具。

# 建議

- **運動頻率:**每週三次,每次20分鐘
- **運動強度:**  
最大心率 (  $220 - \text{年齡}$  ) 的60%—80%之間的運動。  
例如:  $(220 - 40) = 180$ , 心跳:108-144次/分,運動強度達最大心律,才是有效的運動
- **運動型態:**快走

謝謝聆聽  
敬請指教



# 討論時間



# 投票主題：是否同意將有氧運動納入 乳癌患者常規衛教？

同意

23票

遲疑

2票

不同意

0票

