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### 一、臨床情境描述

63 歲男性，3 個月前因為呼吸困難急診入院（多次發作），被診斷為 COPD(慢性阻塞性肺臟疾病)，肺功能 FEV<sub>1</sub>pred 40%，屬於重度 COPD。醫師轉介他做肺部復健，做完 6 週肺部復健後，個案呼吸較為順暢，也能上下樓梯，並能走得較遠，但因家中距離醫院較遠，無法持續來院運動，向您詢問：「一定得來醫院做復健嗎？住家附近公園有人在打太極，我能否打太極來取代？太極運動對我適不適合？對我的日常活動是否有幫忙？」

### 二、PICO

描述性問題：實施太極運動是否可以增進 COPD 患者的活動耐力？

結構性問題：

Patient problem:	COPD 患者
Intervention:	太極運動
Comparison:	沒有執行太極運動
Outcome:	活動耐力或活動無耐力

### 三、最佳文獻

於 2014 年 5 月 8 日以 Tai-Chi/Qi Gong/Qi AND COPD/pulmonary disease AND tolerance/intolerance 為關鍵字 (表 1)，進行相關資料庫文獻搜尋 (表 2)，共尋得文獻 16 篇；再由每位小組成員分別逐筆閱讀文獻標題及摘要，去除非實證研究及非英文的文獻，共得 12 篇(參考資料)。

最佳文獻之選擇分二階段進行。第一階段為全文閱讀階段，由 3 位小組成員進行閱讀，澄清文獻內容是否符合情境之 PICO，若 2 位成員意見不一致，則由第 3 位成員進行仲裁，最後有 8 篇 RCT 與 1 篇 Meta-analysis 等文獻進入第二階段之評析。在此階段，因 Meta-analysis 文獻屬於等級較高之文章，故予以保留，並以 PRISMA checklist 進行評析。另外，以 PEDro scale 評析 RCT 文獻，選取得分最高的 4 篇，最後共選擇 5 篇為最佳文獻(表 3)。

### 參考資料 (\*為最佳文獻)

Chan, A. W. K., Lee, A., Lee, D., Sit, J., & Chair, S. (2013). Evaluation of the sustaining effects of Tai Chi Qigong in the sixth month in promoting

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- Li, S. Y., Li, J. S., Xie, Y., Yu, X. Q., Wang, M. H., Sun, Z. K., . . . Hou, C. X. (2013). The effective evaluation on symptoms and quality of life of chronic obstructive pulmonary disease patients treated by comprehensive therapy based on traditional Chinese medicine patterns. *Complementary Therapies in Medicine*, 21(6), 595-602. doi: 10.1016/j.ctim.2013.09.006
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- \*Niu, R., He, R., Luo, B., & Hu, C. (2014). The effect of tai chi on chronic obstructive pulmonary disease: a pilot randomised study of lung function, exercise capacity and diaphragm strength. *Heart, Lung & Circulation*, 23(4), 347-352. doi:10.1016/j.hlc.2013.10.057
- \*Yan, J. H., Guo, Y. Z., Yao, H. M., & Pan, L. (2013). Effects of Tai Chi in patients with chronic obstructive pulmonary disease: preliminary evidence. *Plos One*, 8(4), e61806. doi:10.1371/journal.pone.0061806
- Yeh, G.Y., Roberts, D. H., Wayne, P. M., Davis, R. B., Quilty, M. T., & Phillips, R. S. (2010). Tai chi exercise for patients with chronic obstructive pulmonary disease: a pilot study. *Respiratory Care*, 55(11), 1475-1482.

表一、PICO 及關鍵詞一覽表

	中文	關鍵字
Patient/problem	慢性阻塞性肺疾病患者 (COPD)	COPD、chronic obstructive pulmonary diseases、pulmonary diseases、EXP COPD/、EXP chronic obstructive pulmonary diseases/、EXP pulmonary diseases/
Intervention	太極運動	Tai Chi、Tai-Ji、Qi Gong、Exp Tai Chi /、Exp Tai-Ji/、Exp Qi Gong/
Comparison	非太極運動	
Outcome	活動耐力或活動無耐力	enduran\$、toleran\$、intoleran\$、Exp endurance/、Exp tolerance/、Exp intolerance/

表二、資料庫搜尋統計一覽表

資料庫 (Database)	搜尋筆數 (Articles identified through database searching)	刪除重複 筆數 (Excluded based on repetition)	依照題目及摘要 刪除不符合筆數 (Excluded based on the titles and abstracts)	符合全文評選 筆數 (Studies included in RCT & Meta-analysis)
<b>MEDLINE (EBSCO)</b>	11	0	2	9
<b>PubMed</b>	5	3	0	2

AgeLine	2	0	2	0
CINAHL	3	1	2	0
ProQuest	9	4	4	1
Google Scholar	21	0	21	0
CEPS	0	0	0	0

表三、最佳文獻評析一覽表

作者及年代	文獻	研究類型	結果	等級	研究品質評比
Yan, Guo, Yao, & Pan (2013)	Effects of Tai Chi in patients with chronic obstructive pulmonary disease: preliminary evidence	Meta Analysis	Eight randomized controlled trials involving 544 patients met the inclusion criteria. The pooled WMDs were 34.22 m (95% CI 21.25–47.20, $P < 0.00001$ ) for 6 Minutes Walking Distance (6MWD).	1A	25/27 分 (PRISMA checklist)
Chan, Lee, Suen, & Tam (2011)	Tai chi Qigong improves lung functions and activity tolerance in COPD clients: a single blind, randomized controlled trial	RCT	Results of repeated measures of analysis of covariance demonstrated that there were significant interaction effects between time and group in walking distance ( $p < .001$ ), and at 3 months. Tai chi Qigong was able to improve activity tolerance level in COPD clients.	1B	8/11 分 (PEDro Scale)
Leung, McKeough, Peters, & Alison (2013)	Short-form Sun-style t'ai chi as an exercise training modality in	RCT	Short-form Sun-style t'ai chi (SSTC) significantly increased endurance shuttle walk time (mean difference 384 s, 95% CI 186-510).	1B	8/11 分 (PEDro Scale)

	people with COPD				
Ng, Chiang, Tang, et al. (2014)	Effectiveness of incorporating Tai Chi in a pulmonary rehabilitation program for Chronic Obstructive Pulmonary Disease (COPD) in primary care—A pilot randomized controlled trial	RCT	Statistical improvements were seen in exercise capacity both groups at 6-month post-intervention. Although more favorable improvements in physiological outcomes and health status were demonstrated in Tai Chi group, only the functional exercise capacity showed statistical improvement between groups at 6 months post-intervention ( $\beta = 12.786$ m; 95% CI = 3.794, 21.777; $p = 0.006$ ).	1B	10/11 分 (PEDro Scale)
Niu, He, Luo, & Hu (2014)	The effect of tai chi on chronic obstructive pulmonary disease: A pilot randomized study of lung function, exercise capacity and diaphragm strength	RCT	6MWD ( $476 \pm 15$ ) were found to be significantly increased in participants who successfully completed the six-month Tai Chi program compared to participants in the control group who only received routine care ( $p < 0.05$ ).	1B	8/11 分 (PEDro Scale)