

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Effect of traditional Asian exercise on patients with chronic heart failure: a protocol for network meta-analysis of randomised controlled trials
AUTHORS	Xu, Jianglin; Zhang, Zhuo; Li, Yan; LIU, Jing; Wan, Jie; Feng, RuLi; Jin, Jialin; Huang, Cong; Mao, Tianshi; Ji, Xiang; Zhou, Kun; qian, lin

VERSION 1 – REVIEW

REVIEWER	Dibben, Grace University of Glasgow, MRC/CSO Social and Public Health Sciences Unit
REVIEW RETURNED	02-May-2021

GENERAL COMMENTS	<p>Thank you for the opportunity to review this protocol manuscript. The protocol presents a proposal for an interesting systematic review and network meta-analysis aiming to assess the effect of traditional Asian exercise in patients with chronic heart failure of different types, causes and severity. In adherence to the PRISMA-P guidelines, the authors present the appropriate methodological steps to be carried out during the review process.</p> <p>Major comments:</p> <p>Background: The study aims to compare the efficacy of TAE for different types of HF patients, but the justification for why efficacy may differ depending on the type of HF, cause of HF and NYHA class is not clear.</p> <p>Methods:</p> <p>Intervention/control: the authors state that interventions involving education components are eligible for inclusion, what about interventions that have psychosocial elements? Could the authors please provide information on whether any minimum follow-up time is considered for primary and secondary outcomes.</p> <p>Data extraction: details of cointerventions should also be extracted, as per inclusion criteria, studies with education components will be included. Also there is no mention of details to be extracted for the control/comparator arms.</p> <p>Risk of bias assessment: Will authors use Cochrane ROB version 1 or 2?</p> <p>Page 11: Make sure that the wording of GRADE assessments is correct – it should be to assess the certainty of evidence rather than the quality of evidence.</p>
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	<p>Subgroup analysis and sensitivity analysis: is there a minimum amount of sufficient data required to perform these analyses? What will the authors do if there is insufficient data?</p> <p>Minor comments: Abstract line 34 - typo "common disease in the worldwide" – remove "in the" Abstract line 49 – typo "tolerate exercise tolerance" Page 5, line 29 - What is meant by "high health expenditure"? Page 6 line 4-7 "...positive effects of TAE on exercise load and QOL in CHF patients." Please provide references for these. Page 7, line 19 – typo "included" Page 11, line 58 – looks like "Taichi, Baduanjin and Yoga" has been added at the start of the discussion in error.</p>
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REVIEWER	Bowen, T
REVIEW RETURNED	University of Leeds 04-May-2021

GENERAL COMMENTS	<p>This is an interesting question, although one may question how many studies may be included given the specific focus on the exercises. A couple of other things - it would seem more appropriate to include VO₂peak as major outcome (this seems more objective and rigorous as gold standard for assessment of VO₂peak). Secondly, HF should be diagnosed with appropriate LVEF cut off criteria (as %), otherwise currently it reads rather too broad.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1

Comment 1: Background: The study aims to compare the efficacy of TAE for different types of HF patients, but the justification for why efficacy may differ depending on the type of HF, cause of HF and NYHA class is not clear.

Reply 1: Thank you for your suggestion. Your suggestions are very important to the logic of the article. We have added more details for why efficacy may differ depending on the type of HF, cause of HF and NYHA class.

Changes in the text: Please see Page 4, Line 10-21 "Exercise intensity is closely related to the pumping ability of the heart, endothelial system and mitochondrial function in skeletal muscle, which is the cause for influencing peak VO₂. 14 Taichi and Baduanjin can be classified as a mild to moderate form of exercise intensity, while Yoga is as moderate form of exercise intensity. 15 16 Moreover, participants of Yoga may only perform breathing exercises or meditate at the same time. This is different from Tai Chi and Baduanjin, which emphasis on the coordination of breathing and exercise. Recently, a large cohort studies showed that a strong and dose-dependent association of physical activity with HF with preserved ejection fraction (HFpEF) but not with HF with reduced ejection fraction (HF_rEF). 17 Further consider the diversity of the etiology of HF_rEF and HFpEF. Therefore, TAE may have different effects on different types, different causes and different New York Heart Association (NYHA) heart function classifications of CHF".

Comment 2: Methods: Intervention/control: the authors state that interventions involving education components are eligible for inclusion, what about interventions that have psychosocial elements?

Reply 2: Thank you for your suggestion. Psychosocial elements are also very important, we have already added changes in “Intervention/control”! Thank you for your suggestion, your suggestion is very useful!
Changes in the text: Please see Page 5, Line 22 “non-active (e g, usual care, pharmacologic therapy, dietary, exercise counseling, education sessions and psychosocial interventions) ...”.

Comment 3: Could the authors please provide information on whether any minimum follow-up time is considered for primary and secondary outcomes.

Reply 3: Thank you for your suggestion. According to the reference “9. Effects of Yoga in Patients with Chronic Heart Failure: A Meta-Analysis”, we set the minimum follow-up time for 4 weeks and 10. Tai Chi and Qigong Practices for Chronic Heart Failure: A Systematic Review and Meta-Analysis of Randomized Controlled Trials.

Changes in the text: Please see Page 5, Line 19 “with or without education or usual care, understood as repeated bouts of exercise over time involving more than 4 weeks at least will be included”.

Comment 4: Data extraction: details of cointerventions should also be extracted, as per inclusion criteria, studies with education components will be included. Also there is no mention of details to be extracted for the control/comparator arms.

Reply 4: Thank you for your suggestion. We have added more details of data extraction. Thank you!
Changes in the text: Please see Page 8, Line 2-6 “Intervention: intervened measures (type of exercise, length, frequency, number of sessions, and duration of each session), cointerventions, studies with education components and comparators [both active (e g, aerobic exercise, endurance training (cycling and walking)) or non-active (e g, usual care, pharmacologic therapy, dietary, exercise counseling and psychosocial interventions)]”.

Comment 5: Will authors use Cochrane ROB version 1 or 2?

Reply 5: Thank you for your suggestion. We will use Cochrane ROB 2.

Changes in the text: Please see Page 8, Line 17-23. “Three reviewers (JL, XJ, JW) will assess risk of bias in the included studies using the Cochrane Collaboration’s Risk of Bias tool (RoB2).¹⁹ We will resolve any disagreements by discussion or another review author. The risk of bias in the following domains will be evaluated: randomisation process, deviations from intended interventions, missing outcome data, measurement of the outcome selection of the reported result and overall risk”.

Comment 6: Page 11: Make sure that the wording of GRADE assessments is correct – it should be to assess the certainty of evidence rather than the quality of evidence.

Reply 6: Thank you for your suggestion. Sorry for the inaccuracy of our wording. We have already corrected made corrections. Thank you!

Changes in the text: Please see Page 9, Line 34 “to assess the certainty of evidence contributing to each network estimate”.

Comment 7: Subgroup analysis and sensitivity analysis: is there a minimum amount of sufficient data required to perform these analyses? What will the authors do if there is insufficient data?

Reply 7: Thank you for your suggestion. Your question is very professional and it is very helpful to us! At present, some meta-analysis for a certain TAE has been published: such as “9. Effects of Yoga in Patients with Chronic Heart Failure: A Meta-Analysis”, so the data can be used for subgroup analysis and sensitivity analysis and 10. Tai Chi and Qigong Practices for Chronic Heart Failure: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. If data extraction is insufficient, we will create a qualitative synthesis. Thank you!

Changes in the text: Please see Page 9, Line 27 “If data extraction is insufficient, a qualitative synthesis will be created”.

Comment 8: Minor comments:

Comment 8.1: Abstract line 34 - typo “common disease in the worldwide” – remove “in the”

Reply 8.1: Thank you! We have removed “in the”.

Changes in the text: Please see Page 1 Line 1 “Chronic heart failure (CHF) is a common disease worldwide”.

Comment 8.2: Abstract line 49 – typo “tolerate exercise tolerance”

Reply 8.2: Thank you! We have removed “tolerate”.

Changes in the text: Please see Page 1 Line 9 “health status of the body and exercise tolerance.”

Comment 8.3: Page 5, line 29 - What is meant by “high health expenditure”?

Reply 8.3: Thank you! It means that it will lead to high expenses. We have changed it to “high cost”.

Changes in the text: Please see Page 3 Line 4 “CHF is usually associated with high cost and significant”.

Comment 8.4: Page 6 line 4-7 “...positive effects of TAE on exercise load and QOL in CHF patients.”

Please provide references for these.

Reply 8.4: Thank you! We have provided references for these.

Changes in the text: Please see reference 9 and 10.

Comment 8.5: Page 7, line 19 – typo “included”

Reply 8.5: Thank you! We have changed it to “included”.

Changes in the text: Please see Page 5 Line 22 “TAE will be eligible for included”.

Comment 8.6: Page 11, line 58 – looks like “Taichi, Baduanjin and Yoga” has been added at the start of the discussion in error.

Reply 8.6: Thank you! We have removed “Taichi, Baduanjin and Yoga”.

Reviewer 2

Comment 1: This is an interesting question, although one may question how many studies may be included given the specific focus on the exercises. A couple of other things - it would seem more appropriate to include VO₂peak as major outcome (this seems more objective and rigorous as gold standard for assessment of VO₂peak).

Reply 1: Thank you for your suggestion. Your suggestion is very useful for the article! We have include VO₂peak as major outcome.

Changes in the text: Please see Page 5, Line 27 “1. Peak oxygen uptake (peak VO₂);”.

Comment 2: Secondly, HF should be diagnosed with appropriate LVEF cut off criteria (as %), otherwise currently it reads rather too broad.

Reply 1: Thank you for your suggestion. We have added the LVEF cut off criteria, thank you!

Changes in the text: Please see Page 2, Line 7-9 “HF_rEF [left ventricular ejection fraction (LVEF)<40%), HF with mid-range ejection fraction (HF_{mr}EF, 40%≤LVEF≤49%) and HF_pEF (LVEF≥50%) will be included”.

VERSION 2 – REVIEW

REVIEWER	Bowen, T
REVIEW RETURNED	University of Leeds 14-Jul-2021
GENERAL COMMENTS	My queries have been addressed