

# INPLASY PROTOCOL

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The authors have no  
conflicts of interest to  
disclose.

## Effect of exercise intervention on health-related quality of life in people with systemic lupus erythematosus: A protocol for a systematic review and meta-analysis of Randomized Controlled Trials

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**Review question / Objective:** Whether exercise can effectively improve health-related quality of life in people with systemic lupus erythematosus?

**Condition being studied:** Survival of patients with systemic lupus erythematosus (SLE) has significantly improved over the past decades. As SLE patients live longer they inevitably experience a range of clinical manifestations and somatic symptoms. Quality of life may also be impacted through a range of subjective indicators. Non-pharmacologic therapies have been deemed as potentially beneficial for patients with SLE, especially for exercise. However, their real effects are not known.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 04 December 2020 and was last updated on 04 December 2020 (registration number INPLASY2020120022).

### INTRODUCTION

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related quality of life in people with systemic lupus erythematosus?

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erythematosus (SLE) has significantly improved over the past decades. As SLE patients live longer they inevitably experience a range of clinical manifestations and somatic symptoms. Quality of life may also be impacted through a range of subjective indicators. Non-pharmacologic therapies have been deemed as potentially beneficial for patients with SLE, especially for exercise. However, their real effects are not known.

## METHODS

**Participant or population:** Systemic lupus erythematosus.

**Intervention:** The intervention included exercise.

**Comparator:** The control intervention included verbal information about a healthy lifestyle, which included physical activity guidelines and basic nutritional information.

**Study designs to be included:** Only randomized controlled trials will be included.

**Eligibility criteria:** According to our aims, we designed the following inclusion criteria: (1) All randomized controlled trials (RCTs) which were performed to investigate the exercise efficacy in SLE patients will be considered for eligibility; (2) SLE patients under 65 years old; (3) Patients with confirmed SLE; (4) Clinical and treatment stability during the 3 previous months. (5) Not performing regular exercise.

**Information sources:** We will assign two independent reviewers to perform a systematic search in several electronic databases including PubMed, Web of Science, Embase, and the Cochrane Library, China National Knowledge Infrastructure (CNKI), Wanfang database, Chinese BioMedical Literature Database (CBM) and Chinese sci-tech periodical full-text database (VIP). We will examine the bibliographies of pertinent systematic reviews and meta-analyses for additional

related studies. We will not limit the language of publication or publication period.

**Main outcome(s):** The outcome included fatigue, depressive and quality of life. All symptom survey scores are reported by patients.

**Quality assessment / Risk of bias analysis:** The Cochrane Risk of Bias Tool will be used to appraise the risk of bias for individual studies. The evaluation of each study mainly includes the following seven aspects: random sequence generation, allocation hiding, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, selective outcome reporting, and other bias. Disagreements between the two authors will be resolved by discussion. If the disagreement persists, a senior investigator (Lifen Jin) will be consulted to reach consensus. The quality of each eligible study will be assessed using RevMan V.5.3.0. In the end, the bias of the study will be rated on 3 levels: "low bias," "high bias," and "ambiguous bias."

**Strategy of data synthesis:** Two investigators independently extracted information from the included literature. The extracted content includes (first author, publication year, study year, number of centres and country), patient characteristics (sample size and mean age), intervention details for each treatment group (number of intervention groups, exercise modality and the detailed description, frequency and duration of the intervention and the duration of follow-up) and outcome measures (fatigue, depression and SF-36). If there is not enough data in a study, we will contact the corresponding author for more detailed data. If the methodological details are not told in papers, we will contact for more explanation.

**Subgroup analysis:** In order to exclude the impact of important confounding factors on all statistical analyses, we will perform subgroup analyses according to the results

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of heterogeneity and inconsistency, if sufficient data are available.

**Sensibility analysis:** Sensitivity analyses is used to assess how a single study affects the combined effect amount. Especially for that eliminate eligible studies with low quality or high risk of bias in turn and recombine the effects to evaluate the influence of the elimination of a single study on the overall results.

**Language:** English and Chinese.

**Country(ies) involved:** China.

**Keywords:** systemic lupus erythematosus; exercise; health-related quality of life; systematic review; meta-analysis.

**Contributions of each author:**

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Author 2 - Yi Dai.

Author 3 - Kai Liu.

Author 4 - Changyan Sun.

Author 5 - Sha Ma.

Author 6 - Lifen Jin.

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