

# INPLASY PROTOCOL

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**Corresponding author:**  
Yiru Wang

wangyiruen@163.com

**Author Affiliation:**  
Longhua Hospital affiliated to  
Shanghai University of  
Traditional Chinese Medicine

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**Conflicts of interest:**  
The authors declare that they  
have no competing interests.

## INTRODUCTION

**Review question / Objective:** Does omega-3 lower blood pressure?

**Condition being studied:** Thirty - one percent of Americans are hypertensive,

## Does omega-3 lower blood pressure? a protocol for systematic review and meta-analysis

Tao, LY<sup>1</sup>; Wang, YR<sup>2</sup>; Zhang, YF<sup>3</sup>; Liu, P<sup>4</sup>; Chen, XH

**Review question / Objective:** Does omega-3 lower blood pressure?

**Condition being studied:** Thirty-one percent of Americans are hypertensive, 30% are prehypertensive, and approximately 20% are hypertensive yet unaware of their status. Omega-3 fatty acids could help ameliorate proteinuria among hypertension who received omega-3 supplementation.

**Information sources:** PubMed, Cochrane Library, Web of Science, China National Knowledge Infrastructure, Chinese Biological and Medical database and Wanfang Database.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 July 2020 and was last updated on 23 July 2020 (registration number INPLASY202070103).

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## METHODS

**Participant or population:** Hypertension patient.

**Intervention:** Omega-3.

**Comparator:** Without omega-3.

**Study designs to be included:** Randomized controlled trial.

**Eligibility criteria:** Participants: All patients should meet the diagnostic criteria of hypertension established by the American College of Cardiology (ACC)/ American Heart Association (AHA): all people with blood pressure >130/80 mmHg have hypertension.

**Information sources:** PubMed, Cochrane Library, Web of Science, China National Knowledge Infrastructure, Chinese Biological and Medical database and Wanfang Database.

**Main outcome(s):** Systolic blood pressure and diastolic blood pressure (mmHg).

**Quality assessment / Risk of bias analysis:** Cochrane Collaboration's tool will be used to evaluate the risk of bias by two independent reviewers (LYT and YRW). The assessment contains seven points: sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessors, incomplete outcome data, selective outcome reporting, and other bias. There are three levels of each bias according to the Cochrane Handbook for Systematic Reviews of Interventions (Version 5.3): low, unclear and high level. The disagreements cannot be resolved in this review will search for a third author (XHC) as required. Or else, we will ask the Cochrane Professional Group for a final decision.

**Strategy of data synthesis:** We will use Chi-squared test to assess homogeneity of the included studies. If I<sup>2</sup> statistic >50%, we will consider that there is a significant heterogeneity of the test and use a random effect model; If I<sup>2</sup> statistic <50%, it means

that there is no statistical heterogeneity or heterogeneity is small relatively, therefore we will use a fixed effect model.

**Subgroup analysis:** We will perform subgroup analysis to measure and cope with the heterogeneity due to the following reasons: (1) Clinical consideration: different age and race; different frequency and course of omega-3 (2) Methodology consideration: tests with unclear or high risks of bias.

**Sensibility analysis:** We will perform the sensitivity analysis to test if possible low-quality studies included. The detailed method is to remove each included article or some types of articles, then test the I<sup>2</sup> value. This is the main method to assess the robustness and reliability of the synthesized meta-analysis results.

**Language:** English.

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

**Keywords:** omega-3; blood pressure; hypertension; review; meta-analysis.

### Contributions of each author:

Author 1 - Liyu Tao.

Author 2 - Yiru Wang.

Author 3 - Yifan Zhang.

Author 4 - Ping Liu.

Author 5 - Xiaohong Chen.