

# INPLASY PROTOCOL

To cite: Yang et al.  
Comparative efficacy of  
multiple psychological  
interventions for psychological  
crisis in people affected by  
COVID-19: a bayesian  
network meta-analysis. Inplasy  
protocol 202050076. doi:  
10.37766/inplasy2020.5.0076

Received: 20 May 2020

Published: 20 May 2020

**Corresponding author:**  
yang yang

20162107036@stu.gzucm.edu.cn

**Author Affiliation:**  
Jinan University

**Support:** State Administration of  
TCM

**Review Stage at time of this  
submission:** Formal screening of  
search results against eligibility  
criteria.

**Conflicts of interest:**  
None conflicts of interest to  
declare.

## Comparative efficacy of multiple psychological interventions for psychological crisis in people affected by COVID-19: a bayesian network meta-analysis

Yang, Y<sup>1</sup>; Zhang, YM<sup>2</sup>; Hu, SW<sup>3</sup>; Tang, CZ<sup>4</sup>; Lin, HB<sup>5</sup>.

**Review question / Objective:** The objective of our current research is to compare the different psychological interventions and determine the most effective way to treat psychological crisis in people affected by COVID-19. No previous systematic review has provided a comprehensive overview by performing a Bayesian network meta analysis of this current topic.

**Condition being studied:** The acute respiratory infectious disease caused by the outbreak of COVID-19 spread quickly to all parts of the world. The World Health Organization (WHO) points out that the COVID-19 is the disease with the highest mortality rate among the new-onset infectious diseases. Because little is known about the disease, it is difficult to form a complete routine work process in a short period of time. So, there are many people who are affected by COVID-19 are having psychological crisis to varying degrees. It is easy to feel helpless and lack of security, and even psychological problems such as anxiety, insomnia, fear, panic, blind disinfection, disappointment, irritability, aggressive behavior and blind optimism, etc. Therefore, timely and effective psychological intervention can play a positive role in protecting the physical and mental health for them. However, which intervention can better treat the psychological crisis has not been studied. So far, there is no meta-analysis on the efficacy of different psychological intervention in the treatment of psychological crisis. So this meta-analysis will systematically compared the efficacy of multiple psychological interventions for psychological crisis in people affected by COVID-19.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 May 2020 and was last updated on 20 May 2020 (registration number INPLASY202050076).

### INTRODUCTION

**Review question / Objective:** The objective of our current research is to compare the different psychological interventions and determine the most effective way to treat

psychological crisis in people affected by COVID-19. No previous systematic review has provided a comprehensive overview by performing a Bayesian network meta analysis of this current topic.

**Condition being studied:** The acute respiratory infectious disease caused by the outbreak of COVID-19 spread quickly to all parts of the world. The World Health Organization (WHO) points out that the COVID-19 is the disease with the highest mortality rate among the new-onset infectious diseases. Because little is known about the disease, it is difficult to form a complete routine work process in a short period of time. So, there are many people who are affected by COVID-19 are having psychological crisis to varying degrees. It is easy to feel helpless and lack of security, and even psychological problems such as anxiety, insomnia, fear, panic, blind disinfection, disappointment, irritability, aggressive behavior and blind optimism, etc. Therefore, timely and effective psychological intervention can play a positive role in protecting the physical and mental health for them. However, which intervention can better treat the psychological crisis has not been studied. So far, there is no meta-analysis on the efficacy of different psychological intervention in the treatment of psychological crisis. So this meta-analysis will systematically compared the efficacy of multiple psychological interventions for psychological crisis in people affected by COVID-19.

## METHODS

**Participant or population:** Psychological crisis in people affected by COVID-19 , which includes direct interventions for confirmed patients, patients with suspected infection, and indirect for quarantined relatives, caregivers, and healthcare professionals, such as doctors, nurses, and health-related administrators.

**Intervention:** All types of psychological interventions were included. Including universal or targeted (selective or indicated) interventions were eligible if the explicit aim was to prevent anxiety ,depression, fear or any other type of psychological crisis.

**Comparator:** There will be no restrictions with respect to the type of comparator. The

comparators are likely to include usual care, placebo, no intervention and other therapeutic methods. And we will also include the studies which comparing any type of psychological treatments to each other.

**Study designs to be included:** Randomized controlled trials, nonrandomized controlled trials, case-control studies, cohort studies, cross-sectional studies.

**Eligibility criteria:** The inclusion criteria in this meta-analysis are as follows: (1) subjects in each study included people affected by COVID-19; (2) Studies assessed the efficacy of at least one psychological intervention in the treatment of psychological crisis in people affected by COVID-19; (3) At least one outcome reported psychological symptoms; (4) study sample was larger than 20. . Exclusion criteria: (1) the same patients were enrolled in different articles; (2) duplicate reports, conferences, commentary, editorials, case reports, letters and family-based studies.

**Information sources:** We searched the electronic databases MEDLINE, EMBASE, PsycINFO, Cochrane Library/Central Register of Controlled Trials, the ClinicalTrials.gov, as well as the Chinese databases such as Chinese Biomedicine Literature (CBM), Chinese Medical Current Content (CMCC) , Chinese Scientific Journal Database (VIP), WanFang Database and China National Knowledge Infrastructure (CNKI) from their inception to April 30, 2020. Searches were not restricted by language.

**Main outcome(s):** Knowledge of COVID-19, the General Health Questionnaire(GHQ-12), the PTSD Checklist-Civilian Version (PCL-C), the Simplified Copying Style Questionnaire(SCQC), Negative coping styles scale, the Diagnostic and statistical manual of mental disorders (DSM-5), Colaizzi's phenomenological method, Impact of Event Scale-Revised (IES-R), the Depression,Anxiety and Stress Scale (DASS-21), Generalized Anxiety Disorder-7 (GAD-7) scale, Center for Epidemiology

---

Scale for Depression (CES-D), Pittsburgh Sleep Quality Index (PSQI) scale, the Patient Health Questionnaire 9 (PHQ9), Self-rating-Anxiety Scale (SAS), Reinforcement sensitivity theory (RST) framework.

**Quality assessment / Risk of bias analysis:**

Two investigators will independently select the studies. The review of the main reports and supplementary materials, the extractions of the relevant information from the included trials with a predetermined data extraction sheet. The risk of bias assessments will perform at the outcome measure level during data collection. And different type of tool will be used according to the different study designs. Any disagreements will be resolved through discussion. When they could not reach a consensus, the final decision regarding each question will be made by other investigators within the review team.

**Strategy of data synthesis:** A network meta-analysis by using STATA V.14.0 and WinBUGS V.1.4.3. The I<sup>2</sup> statistic will be used to assess levels of the heterogeneity. Fixed effects models will be used if the I<sup>2</sup> value is 0.05 indicate good consistency. Bayesian inference will be analysed using the Markov chain Monte Carlo method. Iteration number will be set to 50,000, and the first 10 000 iterations for annealing will be set up to eliminate influences of the initial value. For indirect comparison, continuous outcomes will be calculated as SMDs, and binary outcomes will be calculated as ORs. Both types of effect sizes will be presented with 95% credible intervals, and values of  $p < 0.05$  will be regarded as statistically significant. The analysis of the network plot will show the evidence supporting the relationship between the included studies, Also the result figures and network meta-analysis graphs will be provided.

**Subgroup analysis:** Subgroup analyses will also be used to identify associations between relevant study characteristics if the data is sufficient and reliable or substantial heterogeneity existed, such as

sex, different ages, different occupation of people affected by COVID-19.

**Sensibility analysis:** After conducting a quality assessment of the included studies, we will conduct a sensitivity analysis if there are studies of low quality. Sensitivity analysis will also be performed when heterogeneity testing suggests significant heterogeneity between studies.

**Language:** English.

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

**Keywords:** psychological interventions; psychological crisis; COVID-19; bayesian network meta-analysis.

**Contributions of each author:**

Author 1 - Yang Yang - Author 1 extracted the data and drafted the manuscript.

Author 2 - Yimin Zhang - The author extracted the data.

Author 3 - Shaowen Hu - The author provided statistical expertise.

Author 4 - Chunzhi Tang - The author contributed to the development of the selection criteria, and the risk of bias assessment strategy.

Author 5 - Haibo Lin - The author read, provided feedback and approved the final manuscript.