

## The level of TH1 cytokines, TH2 cytokines and TH17 cytokines in patients with COVID-19 infection: A meta-analysis

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### ADMINISTRATIVE INFORMATION

**Support** - Scholarship.

**Review Stage at time of this submission** - Preliminary searches.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202380023

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 August 2023 and was last updated on 05 August 2023.

### INTRODUCTION

**Review question / Objective** The level of TH1 cytokines, TH2 cytokines and TH17 cytokines.

**Condition being studied** Read the extensive literature and learned about the methods of meta-analysis.

### METHODS

**Participant or population** Patients with COVID-19infection.

**Intervention** Patients with COVID-19infection.

**Comparator** Healthy people.

**Study designs to be included** All available clinical, prospective randomized and non randomized trials and retrospective comparative studies (cohort or case control series) comparing RRP vs ORP, RPN vs OPN, RRN vs ORN and RRC

vs ORC were included. Published between 2000 and 2022. No language restrictions meta analysis.

**Eligibility criteria** Inclusion criteria: (1) Clinical studies comparing the level of TH1 cytokines, TH2 cytokines and TH17 cytokines in patients with COVID-19 infection and healthy people. Randomized and semi-randomized controlled trials are preferred, regardless of whether blinding or allocation concealment is used. If relevant randomized controlled trials are not available, non-randomized concurrent controlled trials, prospective cohort studies, and case-control studies will be included.

**Information sources** using the three databases of Pubmed, Embase and web of science ,a systematic literature search was conducted in August 2023.

**Main outcome(s)** In this systematic review and meta-analysis, we conducted a comparative study of the level of TH1 cytokines, TH2 cytokines and

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TH17 cytokines in patients with COVID-19 infection.

**Quality assessment / Risk of bias analysis** We will use Egger's test and Begg's test to assess the risk of bias in the literature.

**Strategy of data synthesis** Using stata MP17 software for statistical analysis. The included data are continuous variables and the measurement methods are the same, so we choose WMD as the effect scale. Random-effects model was used for data analysis. Sensitivity analysis and subgroup analysis were used to find the sources of heterogeneity.

**Subgroup analysis** None planned.

**Sensitivity analysis** The sensitivity analysis was performed by Stata software, which reflected the sensitivity of the study by the change in the effect size after the deletion of one of the papers.

**Country(ies) involved** China.

**Keywords** TH1 ;TH2 ; TH17; cytokines; COVID-19 infection; meta analysis.

**Contributions of each author**

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