INPLASY PROTOCOL

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Effect of Probiotics treatment on patients and animals with COPD: a systematic review and meta-analysis of Randomized Control Trials

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Review question / Objective: **The subjects of this study were COPD patients and animals, and the efficacy of probiotics in treating COPD patients and animals was investigated. This study was based on randomized controlled trials.**
Condition being studied: **The prevalence of COPD has risen steadily over the past several decades. COPD has become the third leading cause of disease death worldwide with a significant economic burden.Recently, a growing body of evidence has demonstrated that gut microbiota are closely related to respiratory health and disease.At present, the effectiveness of probiotics in treating COPD is still controversial.Probiotics have been widely used in the treatment of respiratory diseases, but their clinical efficacy for COPD has not been well studied.Therefore, in order to evaluate the impact of probiotic therapy on COPD patients and animals, we conducted a systematic review and meta-analysis based on randomized controlled trials.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 07 April 2023 and was last updated on 07 April 2023 (registration number INPLASY202340023).

INTRODUCTION

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the effectiveness of probiotics in treating COPD is still controversial.Probiotics have been widely used in the treatment of respiratory diseases, but their clinical efficacy for COPD has not been well studied.Therefore, in order to evaluate the impact of probiotic therapy on COPD patients and animals, we conducted a systematic review and meta-analysis based on randomized controlled trials.

METHODS

Participant or population: Patients who meet any recognized diagnostic criteria for COPD (chronic obstructive pulmonary disease) and animals modeled as COPD type.

Intervention: Probiotics will be included regardless of dose, frequency of consumption, duration of treatment, route of administration,and administration regimen (either in combination or as a single preparation).

Comparator: Placebo, any effective treatment or non-drug treatment (regardless of dose, frequency, duration of treatment, route of administration, and administration regimen) will be included.

Study designs to be included: Randomized Control Trials.

Eligibility criteria: Experiments that meet PICOS will be included.Non-RCTs, repeated publications from the same trial, surgical intervention trials, cohort studies, case-control studies,and methodologically poor studies will beexcluded.

Information sources: pubmed,EMBASE, The Cochrane Library,the NIH clinical registry Clinical Trials.Gov

Main outcome(s): Improvement of COPD and changes in health-related quality of life, such as changes in lung function and inflammation.

Quality assessment / Risk of bias analysis: use the Cochrane Handbook for Systematic Reviews of Interventions to assess the quality of reviews.

Strategy of data synthesis: RevMan version 5.3 software (the Cochrane Collaboration) will be used for data synthesis. RRs with 95% CIs for dichotomous outcomes will be used to report effect size estimates. Continuous data will be presented as MDs with 95% CIs. The SMD statistic will be used to analyze continuous data if different measurement scales were reported. We will attempt to identify the causes of heterogeneity from various aspects and provide a narrative and qualitative summary.

Subgroup analysis: If the necessary data are available, subgroup analysis will be performed based on treatment time,blank controls, and method of delivery. We will explore the sources of any significant heterogeneity and will perform subgroup analysis based on those factors if they can be reliably identified.

Sensitivity analysis: Sensitivity analysis will be used to confirm the robustness of the primary results, and to determine how methodological weaknesses, study types, missing data, sample size, and heterogeneity affect the meta-analysis Chiresults.

Country(ies) involved: China.

Keywords: probiotic treatment, COPD, effect, meta-analysis.

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