**INTRODUCTION**

**Review question / Objective:** What are the risk factors of schizophrenia complicated with metabolic syndrome compared with schizophrenia without metabolic syndrome? To summarize and analyze the risk factors of schizophrenia complicated with metabolic syndrome, in order to provide evidence for identifying the risk of metabolic syndrome in schizophrenia and preventing the progression of metabolic abnormalities.

**Condition being studied:** The risk factors of schizophrenia complicated with metabolic syndrome.

**Information sources:** China national knowledge infrastructure (CNKI), China Biology Medicine disc, (CBMdisc), PubMed, Embase, the Cochrane database and Web of science.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 April 2021 and was last updated on 05 April 2021 (registration number INPLASY202140023).
METHODS

Participant or population: Patients diagnosed with schizophrenia.

Intervention: Schizophrenia complicated with metabolic syndrome.

Comparator: Schizophrenia without metabolic syndrome.

Study designs to be included: Case-control study and cohort study.

Eligibility criteria: The diagnosis of schizophrenia is consistent: international Classification of diseases, ICD; Diagnostic and statistical manual of mental disorders(Vor IV); Chinese Classification and Diagnostic Criteria of Mental Disorders(III); metabolic syndrome: Guidelines for the prevention and control of adult blood lipids in China; The International Diabetes Federation(IDF).

Information sources: China national knowledge infrastructure (CNKI), China Biology Medicine disc, (CBMdisc), PubMed, Embase, the Cochrane database and Web of science.

Main outcome(s): Results showed that the risk factors of schizophrenia complicated with metabolic syndrome such as family history of diabetes or Smoking history, ect. This is just an example, actual outcomes will be given in paper.

Quality assessment / Risk of bias analysis: Newcastle-Ottawa Scale.

Strategy of data synthesis: RevMan software was used, Odds rations (ORs) and their 95% CIs were extracted when reported or calculated from available data in the paper, Cochrane Q test was used to analyze the heterogeneity among the studies, and I^2 was used to evaluate the heterogeneity among the included studies. When P > 0.1 and I^2 < 50%, there was no statistical heterogeneity among the studies, and the fixed effect model was used. On the contrary, the random effects model is used to combine the effect sizes.

Subgroup analysis: When the heterogeneity was large, we performed subgroup analysis. According to the characteristics of the included articles, we performed subgroup analysis, such as the differences in diagnostic criteria.

Sensitivity analysis: If I^2 ≥ 50% for the primary outcome, sensitive analysis was conducted by removing one article with an outlying effect size.

Country(ies) involved: China.

Keywords: Schizophrenia; Metabolic syndrome; Risk factors; Case-control study; Cohort study; Meta-analysis.

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