INPLASY PROTOCOL

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Review Stage at time of this submission: **The review has not yet started.**

Conflicts of interest:
None.

Effect of cinnamaldehyde on Cav-1 and Survivin expression in epilepsy: a protocol of systematic review and meta-analysis

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Review question / Objective: **Does cinnamaldehyde have effect on Cav-1 and Survivin expression in epilepsy?**
Condition being studied: **Epilepsy; cinnamaldehyde; Cav-1; and Survivin.**
Information sources: **Electronic databases - We will carry out comprehensively search from Cochrane Library, PUBMED, EMBASE, CINAHL, Web of Science, Google Scholar, PsycINFO, WANGFANG, VIP, CBM, and CNKI. All these electronic databases will be searched from their inceptions to the March 31, 2020 without language and publication status restrictions. We will present a detailed search strategy for Cochrane Library in table 1. In addition, we will adapt similar detailed search strategy to the other electronic databases. Searching other resources - This study will also search ongoing studies, clinical registry, and reference lists of relevant studies.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 April 2020 and was last updated on 23 April 2020 (registration number INPLASY202040152).

INTRODUCTION

Review question / Objective: **Does cinnamaldehyde have effect on Cav-1 and Survivin expression in epilepsy?**

Condition being studied: **Epilepsy; cinnamaldehyde; Cav-1; and Survivin.**

METHODS

Participant or population: **This systematic review will include subjects who were diagnosed as epilepsy.**

Intervention: **In the experimental group, all epilepsy subjects received cinnamaldehyde in this study.**

Comparator: In the control group, all epilepsy subjects did not receive any treatment in this study.

Study designs to be included: This study will include consider case-controlled studies (CCSs) of cinnamaldehyde on Cav-1 and Survivin expression in epilepsy.

Eligibility criteria: This systematic review will only consider CCSs of effect of cinnamaldehyde on Cav-1 and Survivin expression in epilepsy. However, studies of non-clinical studies and non-controlled trials will be excluded in this study.

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Main outcome(s): Primary outcomes are gene and protein expressions of Cav-1 and Survivin. Gene expression was measured by real-time quantitative real-time polymerase chain reaction. Protein expression was detected by immunofluorescence or western blot test. Secondary outcomes are patch-clamp whole-cell mode voltage clamp recording, and survivin apoptosis factor, as measured by flow cytometry.

Data management: We will utilize a previous designed data collection form to extract the data. Two independent authors will conduct data collection, and any divergences between two authors will be solved by a third author though discussion. The following information will be extracted: study information, such as title, time of publication, first author, et al; patient characteristics, such as race, age, et al; study methods, such as sample size, randomization, blind, concealment, et al; intervention details, such as dose, duration, frequency, et al; and outcomes, such as primary and secondary outcomes, and safety.

Quality assessment / Risk of bias analysis: Two authors will independently conduct the risk of bias for each eligible study using Cochrane risk of bias. It has 7 domains, and each field is further assigned as low, unclear, and high risk of bias. Any disagreements between two authors will be solved by a third author through discussion. We will summarize the results of risk of bias assessments in Risk of Bias Tables.

Strategy of data synthesis: We will apply RevMan 5.3 software for statistical analysis in this study. A meta-analysis will be conducted if low heterogeneity exists among included studies on the same interventions and outcomes. A fixed-effects model will be utilized if the heterogeneity is low. On the other hands, a random-effect model will be employed if the heterogeneity is significant. Then, subgroup analysis and meta-regression test will be performed to explore its sources of substantial heterogeneity.

Subgroup analysis: We will undertake subgroup analysis based on the different interventions, controls, and outcome tools.

Sensibility analysis: We will exclude studies with high risk of bias to identify the robustness and stability of pooled outcomes.

Country(ies) involved: China.

Keywords: Epilepsy; cinnamaldehyde; Cav-1; Survivin; effect.