INPLASY PROTOCOL

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None declared.

Incidence and influencing factors of intracranial hemorrhage in premature infants:A protocol for meta-analysis and systematic review

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Review question / Objective: **P: premature baby I/E:Diagnosis of intracranial hemorrhage C: no O:The incidence and influencing factors of intracranial hemorrhage S:Case control study or cohort study**

Condition being studied: **Intracranial hemorrhage (ICH) is a common disease of newborn, which can lead to poor neurological function, disability and death, and significantly affect the long-term quality of life of the child. With the progress of perinatal medicine, the survival rate of premature infants increased, but the incidence of intracranial hemorrhage did not decrease. The incidence of the disease varies greatly from study to study, about 4%. In the past, mild intracranial hemorrhage received little attention due to its good short-term prognosis. However, studies have reported that from the perspective of long-term quality of life, mild intracranial hemorrhage will also cause adverse effects on children of school age and adolescence, and increase the economic and psychological burden of the family. At present, there is no specific treatment for ICH in premature infants. Therefore,; Understanding the status and influencing factors of ICH and making predictive intervention programs are of great significance for reducing the incidence of intracranial hemorrhage or reducing the severity of the disease.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 February 2023 and was last updated on 17 February 2023 (registration number INPLASY202320081).

INTRODUCTION

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METHODS

Search strategy: A search strategy will be developed using a combination of medical subheadings (MeSH) words and key words related to premature infant, Intracranial hemorrhage, incidence rate, and Related factors. The MeSH words include "Infant, Premature" and "Intracranial Hemorrhages".PubMed database as an example, the search strategy is as follows: #1 Infant, Premature OR premature infant OR preterm infant OR neonatal prematurity.#2 Intracranial Hemorrhages OR Intracranial hemorrhage OR periventricular intraventricular hemorrhage OR subdural hemorrhage OR subarachnoid hemorrhage OR intracerebellar hemorrhage OR ICH OR PIVH OR SDH OR SAH OR ICEH.#3 Incidence rate OR Incidence of a disease.#4 Risk factors OR relevant factors OR associate factors OR influence OR effect OR predictor.#5 #1 AND #2 AND #3 AND #4.

Participant or population: Premature infant.

Intervention: No.

Comparator: No.

Study designs to be included: Case control study or cohort study.

Eligibility criteria: Papers were screened using the following inclusion criteria: (a) The research object is newborns of gestational age < 37 weeks, (b) Study contents: Influencing factors or predictors of intracranial hemorrhage in premature infants, (c) Case control study or cohort study, (d) The literature has clear diagnostic criteria for intracranial hemorrhage.The initial assessment was made by considering the inclusion criteria and reading the title and abstract. Articles that met the criteria were thoroughly read in full and screened according to the exclusion criteria. The exclusion criteria were as follows: (a) Studies of repeated publications, reviews, and abstracts of meetings, (b) Studies with incomplete or inaccessible data. (c) The full text of the literature is still not available through various ways.

Information sources: The following electronic databases will be searched from the inception through the present to fifind studies that live up to our standard: PubMed, EMBASE, Web of Science, Cochrane Library, CNKI, Wanfang, and VIP.First, the fifirst batch of documents that meet the standards are determined through the selection of titles and abstracts, then further screening is 2 reviewers selecting by reading the full text and recording the cause of excluded literature. If 1 standard research is not available online, we will send an email to the author to get the full text or the required data.

Main outcome(s): The literature provides the prevalence of intracranial hemorrhage in preterm infants or corresponding data, which can be calculated; To report the

influencing factors of intracranial hemorrhage; Logistic regression analysis data were provided to study related factors, including 95%CI.

Quality assessment / Risk of bias analysis: Refer to American health research and The quality management department (AHRQ) scored by two researchers Don't cross check the included documents after quality evaluation, if any The two sides discuss the diffffferences or consult the third researcher to solve them. Mark There are 11 items in total, with a total score of 0 ~11, 0 ~ 3 = low quality, 4 ~ 7 = medium quality and 8 ~11 = high quality.

Strategy of data synthesis: Meta-analysis was carried out with Stata 15. 1 software. OR(95%CI) indicates the combined effffective value of each research. P50%, and p of q test < 0.05, then the heterogeneity of each study was analyzed and the random effects model was used.

Subgroup analysis: Subgroup analysis was conducted according to population region, gestational age and intracranial hemorrhage grade.

Sensitivity analysis: We conduct the sensitivity analysis by excluding literature successively. When the system review contains >10 articles, the Egger test will be conducted to evaluate publication bias.

Country(ies) involved: China.

Keywords: premature infant; Intracranial hemorrhage; incidence rate; influence factor.

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