INPLASY PROTOCOL

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Conflicts of interest: None declared.

The effects of different bathing methods on physiological status and behavior of premature infants: a meta-analysis

Sun, X[1]; Xu, JY[2]; Gu, ZJ[3].

Review question / Objective: To investigate the effects of different bathing methods on physiological status and behavior of premature infants S: randomiized controlled trials.
Condition being studied: Neonatal bathing is a common care practice in neonatal intensive care units (NICU). It is essential to prevent infection and protect skin integrity by removing secretions and dirt from the body to promote health. Postpartum bathing poses little risk to healthy neonates. However, it will have adverse effects on the physiological state of premature infants, resulting in hypoglycemia, apnea, nerve damage, acidosis, pulmonary hemorrhage and other complications . Bathing can also lead to increased pressure of premature infants, which is specifically manifested as: disorder of sleep pattern, backward growth and development, and backward nervous system development . At present, there are three ways for premature infants to bath, which are swaddle bathing,tub bathing and sponge bathing. The guidelines of the American Association of Women's Health, Obstetric and Neonatal Care and the World Health Organization both recommend delaying the first bathing time of newborns to 24 hours after birth, or at least 6 hours after birth , but there is no recommendation on the optimal bathing method.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 November 2022 and was last updated on 21 November 2022 (registration number INPLASY2022110103).

INTRODUCTION

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intensive care units (NICU). It is essential to prevent infection and protect skin integrity by removing secretions and dirt from the body to promote health. Postpartum bathing poses little risk to healthy neonates. However, it will have adverse effects on the physiological state of premature infants, resulting in hypoglycemia, apnea, nerve damage, acidosis, pulmonary hemorrhage and other complications . Bathing can also lead to increased pressure of premature infants, which is specifically manifested as: disorder of sleep pattern, backward growth and development, and backward nervous system development . At present, there are three ways for premature infants to bath, which are swaddle bathing,tub bathing and sponge bathing. The guidelines of the American Association of Women's Health, Obstetric and Neonatal Care and the World Health Organization both recommend delaying the first bathing time of newborns to 24 hours after birth, or at least 6 hours after birth , but there is no recommendation on the optimal bathing method.

METHODS

Participant or population: Premature infants.

Intervention: One of three bathing methods: swaddle bathing sponge bathing and tub bething.

Comparator: The other bathing method.

Study designs to be included: Randomiized controlled trials

Eligibility criteria: Current bathing methods.

Information sources: Pubmed, Embase, Cochrane Library, Web of science, CINAHL, SinoMed, CNKI, Wanfang databases.

Main outcome(s): The physiological status and behavior of premature during bathing.

Quality assessment / Risk of bias analysis: Cochrane bias risk assessment tool.

Strategy of data synthesis: Meta-analysis was performed using RevMan5.4 statistical software. First, the heterogeneity test was performed on the references. If P50%, the heterogeneity among the included references was significant. The random effects model was used for analysis, and the sensitivity analysis was performed by excluding references one by one to determine the stability of the meta-analysis results. If P≥0.1 and I2 ≤50%, there was no significant heterogeneity among the included references. All the data in this study were measurement data, and Mean Difference (MD) was used as the effect indicator. In case of inconsistent measurement units, standardized mean difference (SMD) was used as the effect indicator. 95% confidence interval (CI) was used to estimate each effect size. P<0.05 was considered statistically significant. The Egger's test of body temperature and crying duration was carried out by Stata16.0 software, and publication bias was determined by P<0.05.

Subgroup analysis: According to different bathing time and different country

Sensitivity analysis: Using RevMan 5.4 software to judge the sensitivity analysis method by excluding literatures one by one

Country(ies) involved: China.

Keywords: infants, premature; bath; swaddle bathing; tub bathing; sponge bathing; Meta-analysis.

Contributions of each author:
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Author 3 - Gu Zejuan.