INPLASY PROTOCOL

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None declared.

A network meta-analysis of different skin protectants for the prevention and treatment of incontinence-associated dermatitis

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Review question / Objective: **This study will use the method of network meta-analysis to compare the effects of different skin protectants in the treatment and prevention of IAD, and provide reference for clinical care.**
Eligibility criteria: **prevention Population/Patient: Urinary incontinence, fecal incontinence and secondary incontinence in adults, etc.Intervention: RCTs including different skin protectants for the prevention of IAD. The intervention was one of the skin protectants or a combination of skin protectants.Comparison: can be any intervention, such as other forms of skin protectants, blanks, routine care, etc.Outcome: In this study, the incidence of IAD and the occurrence time of IAD were used as the main outcome indicators, and the severity of IAD after the occurrence of IAD, nursing cost, and satisfaction were the secondary outcome indicators.Study Design: RCTs.treatPopulation/Patient: IAD patients.Intervention: RCTs including different skin protectants for IAD. The intervention was one of the skin protectants or a combination of skin protectants.Comparison: can be any intervention, such as other forms of skin protectants, blanks, routine care, etc.Outcome: In this study, the IAD cure rate and IAD cure time were used as the main outcome indicators, and the recurrence rate after the occurrence of IAD, nursing costs, satisfaction, comfort, and skin condition scores were used as secondary outcome indicators. Healing is defined as:Study Design: RCTs.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 March 2022 and was last updated on 19 March 2022 (registration number INPLASY202230091).

INTRODUCTION

Review question / Objective: **This study will use the method of network meta-analysis to compare the effects of different skin protectants in the treatment and prevention of IAD, and provide reference for clinical care.**

Condition being studied: **Globally, incontinence-associated dermatitis (IAD) is a significant health challenge. IAD as a new**

term of dermatology, was proposed by Gray M et.al at the consensus in 2007, manifested as redness with or without blistering, erosion, or skin barrier function loss that occurs as a consequence of chronically or repeated exposure of the skin to urine or feces. (Gray et al., 2007) IAD is one of irritant contact dermatitis found in patients with urinary incontinence (UI) and/or fecal incontinence (FI). IAD is also considered as a part of a broader group of skin conditions which is referred to as Moisture-Associated Skin Damage (MASD). (Beeckman, 2015, Gray et al., 2011) The term IAD is used more widely than the term MASD as it directly describes urine and/or fecal incontinence as source of skin problems. (Beeckman, 2015) IAD is a complex health care problem that reduces quality of life of patients, increases health care costs, and prolongs hospital stays. (Junkin and Selekof, 2007) It is reported that IAD patients often experience itching, tingling, and pain, which can affect sleep quality and impede mobility. (Van Damme et al., 2017) In addition, IAD is an independent risk factor for the development of pressure injury, increasing the substantial health care costs for treatment. Therefore, if unaddressed, IAD can lead to a detrimental sequalae of deterioration. (Glass et al., 2021) There are many types of skin protectants used in clinical care. Existing studies have found inconsistencies in the efficacy of various types of skin protectants in the prevention and treatment of IAD. A number of studies have compared the efficacy of skin protectants in the prevention and treatment of IAD. It is impossible to determine which skin protectant is better for prevention or treatment.

METHODS

Participant or population: Adults over 18 years of age were included.

Intervention: Any type of skin protectant.

Comparator: Skin protectant, usual care, or blank control.

Study designs to be included: Randomised controlled trial.

Eligibility criteria: preventionPopulation/Patient: Urinary incontinence, fecal incontinence and secondary incontinence in adults, etc.Intervention: RCTs including different skin protectants for the prevention of IAD. The intervention was one of the skin protectants or a combination of skin protectants.Comparison: can be any intervention, such as other forms of skin protectants, blanks, routine care, etc.Outcome: In this study, the incidence of IAD and the occurrence time of IAD were used as the main outcome indicators, and the severity of IAD after the occurrence of IAD, nursing cost, and satisfaction were the secondary outcome indicators.Study Design: RCTs.treatPopulation/Patient: IAD patients.Intervention: RCTs including different skin protectants for IAD. The intervention was one of the skin protectants or a combination of skin protectants.Comparison: can be any intervention, such as other forms of skin protectants, blanks, routine care, etc.Outcome: In this study, the IAD cure rate and IAD cure time were used as the main outcome indicators, and the recurrence rate after the occurrence of IAD, nursing costs, satisfaction, comfort, and skin condition scores were used as secondary outcome indicators. Healing is defined as:Study Design: RCTs.

Information sources: PubMed, EMBASE.com, Web of Science, China National Knowledge Infrastructure (CNKI), Chinese Biomedical Literature Database (CBM), and Wanfang data.

Main outcome(s): Cure rate; healing time; Incidence of IAD; When the IAD occurred.

Quality assessment / Risk of bias analysis: For each eligible trial, we used a revision of version 2 of the Cochrane risk of bias tool (RoB 2.0) to assess risk of bias in RCTs.

Strategy of data synthesis: We plotted the network for each outcome of interest using the igraph package of R version 4.0.3 (RStudio, Boston, MA).We fitted the

Bayesian NMA model and generated posterior samples of parameters using the Markov chain Monte Carlo (MCMC) algorithm. The treatment effects of eligible skin protectant were evaluated in terms of the odds ratio (OR) estimated by the posterior mean and corresponding equal-tailed 95% credible interval (CrI). To obtain direct and indirect estimates for treatment effects and assess local inconsistency in the network, we considered the node-splitting method (18). The MCMC sampling was performed using the jagsUI (19, 20) package, and further network analyses were performed using the gemtc (21) package of R.

Subgroup analysis: We plan to perform a subgroup analysis of mild IAD, moderate IAD, and severe IAD.

Sensitivity analysis: We performed a sensitivity analysis by treating these multi-arm RCTs as separated two-arm trials.

Language: We searched electronic databases without language limitations.

Country(ies) involved: China.

Keywords: Incontinence-associated dermatitis; skin protectant, prevention, treatment; Network Meta-Analysis.

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