

论著·循证医学

婴幼儿尿布性皮炎预防策略的最佳证据总结

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[摘要] **目的**·检索、评价和整合预防婴幼儿尿布性皮炎的最佳证据, 为减少婴幼儿尿布性皮炎提供循证依据。**方法**·系统检索BMJ Best Practice、UpToDate、英国国家卫生与临床优化研究所网站、苏格兰校级指南网、加拿大安大略护理学会最佳实践指南、澳大利亚乔安娜布里格斯研究所循证卫生保健中心数据库、Database of Abstracts of Reviews of Effectiveness、Cochrane Library、Campbell协作网、医脉通、PubMed、中国生物医学文献数据库、中华护理学会网站、中华医学会儿科学分会网站中有关预防婴幼儿尿布性皮炎的相关证据, 包括临床决策、指南、证据总结、系统评价及专家共识。检索年限为建库至2021年6月。由2名研究者对文献质量进行独立评价, 同时提取和汇总相关证据。**结果**·共纳入8篇文献, 包括2篇临床决策、1篇证据总结、4篇系统评价、1篇专家共识。共总结了26条证据, 内容包括尿布部位的暴露、屏障制剂的应用、清洁、尿布的选择和更换、教育与培训等方面。**结论**·临床医护人员应在循证依据的基础上结合文化特点、资源配置和患者特征等情况, 优化临床预防尿布性皮炎的流程, 重视家庭健康教育, 以降低婴幼儿尿布性皮炎发生率。

[关键词] 婴幼儿; 尿布性皮炎; 预防; 循证护理

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Summary of the best evidence summary on prevention strategies for diaper dermatitis in infants

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[Abstract] **Objective**·To search, appraise and retrieve the best evidence on prevention strategies for diaper dermatitis in infants, and provide evidence-based guidance for reducing the diaper dermatitis. **Methods**·BMJ Best Practice, UpToDate, National Institute for Health and Care Excellence, Scottish Intercollegiate Guidelines Network, Registered Nurses' Association of Ontario, Joanna Briggs Institute (JBI) Center of Evidence-Based Healthcare Database, Database of Abstracts of Reviews of Effectiveness, Cochrane Library, Campbell, Medline, PubMed, SinoMed, Chinese Nursing Association, and Chinese Pediatric Society, Chinese Medical Association were systematically searched to collect relevant evidence on preventing diaper dermatitis in infants. The evidence including clinical decisions, guidelines, evidence summaries, systematic reviews and expert consensus published from database construction to June 2021. Two researchers evaluated the quality of the literature, and extracted recommendations and research conclusions from the included literature. **Results**·Totally 8 articles were involved, including 2 clinical decisions, 1 evidence summary, 4 systematic reviews and 1 expert consensus. Finally, 26 pieces of best evidence about air, barrier, cleaning, diaper and education were summarized. **Conclusion**·Pediatric professionals should optimize the clinical process to prevent diaper dermatitis, which is on the basis of evidence, cultural characteristics, resource allocation and patient characteristics. Family education is also important, aiming at reducing the incidence rate of diaper dermatitis in infants.

[Key words] infant; diaper dermatitis; prevention; evidence-based nursing

尿布性皮炎是婴幼儿常见病及多发病, 是会阴 (如肛周、会阴部、臀部等) 潮红、破损或斑丘疹, 区域皮肤的急性炎症反应^[1], 表现为尿布接触部位 可伴有溃疡、脓性分泌物和糜烂^[2]。在9~12个月的

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婴儿中尤为常见^[3-4]。国内外研究表明,婴幼儿尿布性皮炎发生率在7%~40%^[5-7],其中新生儿发病率在43.8%~50%^[8-9]。据报道^[5],约52%的人群在婴幼儿时期经历过尿布性皮炎。这不但会引起不适,增加护理人员工作负担和家属的焦虑情绪,处理不当还会引起感染,甚至导致败血症^[10]。本研究基于循证的方法,总结婴幼儿尿布性皮炎预防策略的最佳证据,以期临床婴幼儿尿布性皮炎预防提供可靠依据。

1 资料与方法

1.1 检索方法

按照“6S”数据证据模型^[11],自上而下进行证据检索。以“尿布性皮炎/尿布相关性皮炎/尿布疹/红臀”“评估/管理/预防”“婴幼儿/新生儿/婴儿/儿童”等为中文检索词,以“diaper dermatitis/nappy rash/napkin-area dermatitis/diaper rash/napkin dermatitis”“prevention/assessment”“toddler/neonatal/infant/child/children/pediatric”等为英文检索词,结合主题词检索和自由检索,检索范围包括BMJ Best Practice、UpToDate、英国国家卫生与临床优化研究所网站、苏格兰校级指南网、加拿大安大略护理学会最佳实践指南、澳大利亚乔安娜布里格斯研究所(Joanna Briggs Institute, JBI)循证卫生保健中心数据库、Database of Abstracts of Reviews of Effectiveness、Cochrane Library、Campbell协作网、医脉通、PubMed、中国生物医学文献数据库、中华护理学会网站、中华医学会儿科学分会网站。检索时限为建库至2021年6月。

1.2 文献纳入及排除标准

纳入标准:对象(population)为0~3岁的婴幼儿;干预措施(intervention)包含婴幼儿尿布相关性皮炎预防策略;证据临床转化的实施者(professional)包括医生、护士和家长;结局指标(outcome)包括护士/家长对尿布性皮炎预防相关知识的掌握,执行情况、制定预防尿布性皮炎的工作标准和流程、尿布性皮炎的发生率和严重程度;应用场景(setting)包括医院和居家环境;证据类型(type)包括临床决策、指南、专家共识、证据总结和系统评价。文献发表语种限定为中文或英文。排除标准:信息不全;重复发表或翻译版本;无法获取全文;已有更新版本;文献质量评价较低的研究。

1.3 文献质量评价标准

①采用AMSTER^[12](Assessment of Multiple Systematic Reviews, AMSTER)对系统评价进行评价。该工具共包含11个条目,分为是、否、不清楚或未提及4个评价选项,根据各个条目的评价结果将系统评价分为极低至高4个等级。②采用JBI循证卫生保健中心意见和共识类的评价标准(2016)^[13]对专家共识和意见进行评价。该标准共6个条目,分为是、否、不清楚或未提及4个评价选项。③临床决策、证据总结等追溯纳入证据的原始文献,根据原始文献的设计类型选择相应的评价标准。

1.4 文献质量评价过程

由2名具有硕士学历、接受过循证护理实践及证据转化方法学系统培训并通过考核任证的儿科专科护士独立进行文献质量评价,如有争议,则交由院内循证护理小组讨论决定。若有来自不同文献的结论互相冲突时,遵循“循证证据优先,高质量证据优先,最新发表证据优先”的原则。

1.5 证据分级标准

根据澳大利亚JBI循证卫生保健中心证据预分级系统将证据按照I~V级划分。原文献中已有证据等级的,应结合其评价标准,追溯原始研究进行评价^[14]。

2 结果

2.1 纳入文献的一般特征

共检索到296篇文献,最终纳入8篇,包括1篇证据总结^[15]、4篇系统评价^[16-19]、1篇专家共识^[20]和2篇临床决策^[21-22]。文献筛选过程见图1,纳入文献的一般情况见表1。

2.2 文献质量评价结果

2.2.1 系统评价的质量评价结果 系统评价的质量评价由16个条目组成,结果如表2所示。

2.2.2 专家共识的评价结果 本研究纳入1篇专家共识^[20],对条目3“所提出的观点是否以研究相关的人群利益为中心”、条目6“所提出的观点与以往文献是否有不一致的地方”评价为“不清楚”,其余条目评价均为“是”,准予纳入。

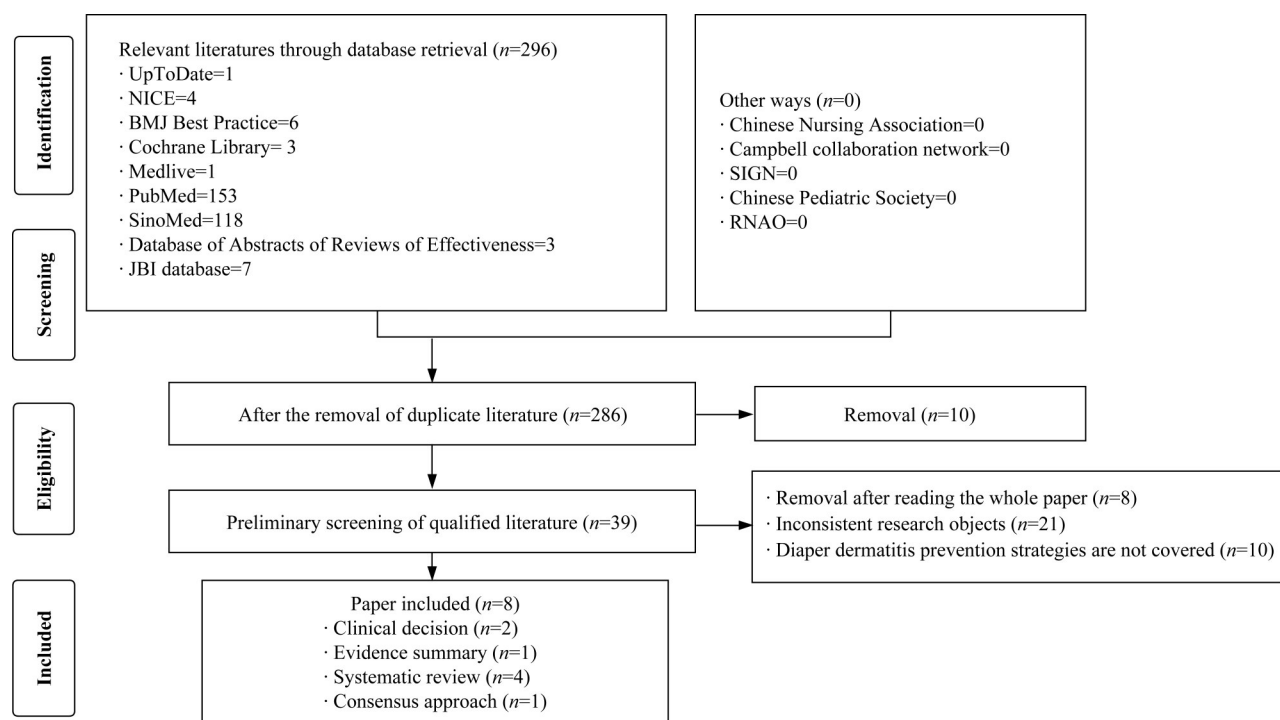


图1 文献筛选过程及结果

Fig 1 Literature screening process and results

表1 纳入文献的一般特征

Tab 1 Characteristics of included studies

Study	Year	Resource	Type	Theme
MATHEW ^[15]	2021	JBI	Evidence summary	Management of diaper dermatitis in infants and preschool children
BAER ^[16]	2006	Cochrane	Systematic review	Application of disposable diapers in prevention of infant diaper dermatitis
DAVIES ^[17]	2005	Cochrane	Systematic review	Role of topical vitamin A or its derivatives in the treatment and prevention of infant diaper dermatitis
ROWE ^[18]	2008	JBI	Systematic review	Effect of barrier preparation on prevention/treatment of diaper dermatitis in infants and preschool children
BLUME-PEYTAVI ^[19]	2014	DARE	Systematic review	Prevention of diaper dermatitis in infant: a literature review
ZHANG ^[20]	2020	Medlive	Consensus approach	Expert consensus on nursing practice of infant diaper dermatitis
HORII ^[21]	2019	UptoDate	Clinical decision	Clinical decision making in the management of diaper dermatitis
BMJ ^[22]	2018	Best Practice	Clinical decision	An overview of dermatitis

表2 系统评价的质量评价结果

Tab 2 Quality evaluation of systematic reviews

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
BAER ^[16]	Y	Y	Y	Y	Y	Y	Y	P	Y	Y	Y	Y	Y	N	Y	Y
DAVIES ^[17]	Y	Y	Y	Y	Y	Y	P	Y	Y	N	Y	Y	Y	N	Y	Y
ROWE ^[18]	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y
BLUME-PEYTAVI ^[19]	Y	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	N	N	N

Note: Q1—Whether the PICO part was included in research questions and inclusion criteria? Q2—Were the method of the system evaluation defined before the implementation of system evaluation? Are inconsistencies in research protocols explained? Q3—Whether the types of studies were stated when the literature was included? Q4—Whether a comprehensive retrieval strategy is used? Q5—Is double repetition literature selection adopted? Q6—Is two-person repetitive data extraction used? Q7—Is a list of excluded literature and the reason provided? Q8—Are included studies described in detail? Q9—Are appropriate tools used to assess the risk of bias for each study? Q10—Are funding sources included in each study reported? Q11—Were appropriate statistical methods used to combine research results in meta-analysis? Q12—During the meta-analysis, was the potential impact of the risk of bias for each included study on the meta-analysis results or other evidence synthesis results assessed? Q13—Is the risk of bias included in each study considered when interpreting or discussing the results? Q14—Is any heterogeneity in the findings properly discussed and explained? Q15—If quantitative consolidation is undertaken, whether publication bias (small sample bias) has been adequately investigated and its possible impact on the results discussed? Q16—Are all sources of potential conflicts of interest reported? Y—yes; N—no; P—partial.

2.2.3 临床决策和证据总结的评价结果 本研究纳入1篇证据总结^[15]和2篇临床决策^[21-22], 追溯本文提取证据来源, 共有1篇随机对照研究^[23]和2篇横截面调查研究^[5,24]。采用JBI循证卫生保健中心对随机对照试验评价标准^[25]进行质量评价, 除条目2

“是否做到了分配隐藏?”为“不清楚”, 条目4“是否对研究对象实施了盲法?”为“不适用”, 条目5“是否对干预者实施了盲法?”为“否”, 其余条目评价均为“是”, 予以纳入。采用JBI对分析性横断面研究的质量评价工具^[26]进行评价, 见表3。

表3 横断面研究评价结果

Tab 3 Evaluation of cross-sectional studies

Evaluation criterion	Result	
	LI ^[5]	ADALAT ^[24]
1. Whether the inclusion criteria of the sample are clearly defined	Y	N
2. Whether the research object and the research site are described in detail	Y	Y
3. Whether the measurement method of exposure factors has reliability and validity	Y	N/C
4. Whether diseases or health problems are defined by objective and consistent criteria	Y	Y
5. Whether confounding factors are identified	N	N
6. Whether measures are taken to control confounding factors	N	N
7. Whether the measurement method of outcome index has reliability and validity	Y	Y
8. Whether the data analysis methods are appropriate	Y	Y

Note: Y—yes; N—no; N/C—not clear.

2.3 最佳证据汇总

对纳入的文献进行分析, 提取证据并汇总, 最终纳入26条证据, 参考BOIKO等^[28]提出的ABCDE 5个方面总结预防策略, 包括暴露 (Air)、屏障 (Barrier)、

清洁 (Cleaning)、尿布 (Diaper)、教育 (Education)。采用JBI证据分级系统, 根据不同的研究设计类型和严谨性, 将证据分为5个等级, 见表4。

表4 婴幼儿尿布性皮炎风险筛查和预防策略的最佳证据总结

Tab 4 Summary of the best evidence on risk screening and prevention strategies for diaper dermatitis in infants

Prevention strategy	Evidence	Grade
Air	1. There should be a period of nappy-free time each day ^[21] , and diaper area should be exposed fully for 30–60 min every time, 3 times daily, and kept warm ^[20] .	Vb
Barrier	2. Apply protectant at each diaper change to protect skin from irritants, such as urine and feces ^[21-22] , and emollient cream, vaseline and tannic acid ointment can be used ^[20,22] .	Ic
	3. It is better to choose a barrier preparation or medicine for external usage with the fewest ingredients, avoiding irritating or allergenic ingredients, such as aromatic agent, preservative, neomycin, boric acid, camphor, phenol, benzocaine and salicylate. Otherwise, it may result in systemic toxicity or methemoglobinemia ^[20-22] .	Ic
	4. Pastes and ointments are usually better than creams and lotions; the adhesion of creams and emulsions is poor and the sealing degree is very low. They often contain aromatics and preservatives as well ^[22,27] . We prefer protective agent in the form of paste (such as ZnO) if diarrhea happens ^[20,22] .	Ib
	5. Sucralfate can also act as a physical barrier against irritants. It has antibacterial activity, which is useful in the treatment of severe or intractable irritant diaper dermatitis ^[22] .	IVd
	6. Olive oil and marigold ointment have similar effect on preventing diaper-related dermatitis ^[15] .	Ic
	7. The effect of vitamin A in the prevention of diaper dermatitis is unclear ^[17,19] .	Ic
Cleaning	8. Dry manure can be gently removed by dipping a cotton ball in paraffin oil ^[28] .	Vc
	9. Barrier paste doesn't need to be completely removed at each diaper change, and paraffin oil can be used to assist when necessary ^[29] .	Ia
	10. Excessive use of cleaners and excessive friction should be avoided ^[21] .	
	11. Warm water (37–40 °C) and soft cloth can be used to clean the skin, and baby wipes with the least additive and no aromatic agent, ethanol, fluorescent agent, dyes, and preservatives can be chosen. You should scrub and pat gently on the undamaged skin ^[15,19-22] .	Ia
	12. Baby wipes should be discontinued if irritation or breakage occurs ^[22] .	Vc

Continued Tab

Prevention strategy	Evidence	Grade
	13. The diaper area should be cleaned with a small amount of a gentle cleanser with a physiological pH ^[22] .	Vc
	14. In preterm and term newborns, the use of wipe will reduce skin pH value, percutaneous moisture loss and less skin erythema ^[23] .	Ic
	15. A separate baby bath should be used to reduce diaper red spots and rough, dry skin ^[19] .	Ic
	16. In the case of bathing twice a week, bathing with water alone can improve newborn skin conditions and reduce the incidence of nappy-related dermatitis compared to bathing with water and body gel ^[19] .	Ic
Diaper	17. Disposable diapers are recommended ^[20,22] .	Ia
	18. Nappies with hydroscopicity gel are superior to cellulose core nappies, cellulose core diapers are better than cloth diapers, air permeable nappies are superior to air tight nappies, and diapers with permeability stains are better than regular diapers ^[15-16,20,22] .	Ia
	19. Using plastic underwear over diapers should be avoided ^[21] .	Vc
	20. Diapers should at suitable size and tightness ^[20] .	Vb
	21. If the baby is allergic to diapers, a different brand or a soft cotton diaper should be chosen ^[20] .	Vb
	22. Frequent diaper changes are effective measures to prevent diaper dermatitis ^[15,22] .	Ia
	23. Diapers should be changed every 2 h (or checked for soiled at least every 2 h), and newborns and children with diarrhea should be changed more frequently ^[21] , with newborns for every 2 h and infants for every 2–3 h. Children with sensitive skin should be replaced more frequently ^[20] .	Vb
	24. Diapers after defecation immediately should be changed ^[20,24] .	Vb
	25. The diaper should be replaced 1 h after diuretic application ^[20] .	Vb
Education	26. Parents and healthcare personnel should be educated on appropriate exposure, selection of barrier agents, skin cleaning, diaper selection, and timing of diaper change ^[15,21-22] .	Vb

3 讨论

3.1 证据的实用性分析

本研究总结的证据包括暴露、屏障、清洁、尿布和教育5个方面共26条。依据金字塔“6S”证据模型,对涉及婴幼儿尿布性皮炎的预防策略相关研究进行回顾,提取并整合最佳证据。根据不同研究的类型,采用相应的文献质量工具进行评价,以确保纳入高质量的证据。婴幼儿尿布性皮炎的预防策略包括多个方面的内容,在同一临床问题的研究中,筛选纳入质量较高的文献。本研究纳入的8篇文献中,仅有1篇专家共识来自中国,但从已提取的最佳证据来看,国内外研究的差异性不大,均存在一定的临床指导意义。目前我国尚无统一的婴幼儿尿布性皮炎预防管理规范,因此,在应用最佳证据的过程中,应充分结合本土化情境,以制定更适合本地区的临床策略。未来也可进一步探索中国婴幼儿的特点,验证尿布性皮炎的最佳预防策略。

3.2 适当暴露是重要的预防措施

国内外研究均表明,应每日安排一段“无尿布时间”^[20-21],通过暴露尿布区域的皮肤来减少与尿液或粪便等成分的接触,以减少刺激和摩擦,从而

保护皮肤正常的屏障功能。但在具体暴露的时间上尚未达成统一。中国专家认为,应该每日充分暴露臀部3次,每次30~60 min^[20]。而FURBER等^[30]则认为应每日暴露尿布区皮肤10 min至数小时。在临床证据转化过程中,应充分考虑可行性和安全性,并在暴露的同时注意保暖。鉴于该条证据在居家环境更易实施,应在家庭健康教育中强调尿布区皮肤暴露的重要性。此外,在临床医疗情境下,可开展相关研究,探索最佳的暴露时间和频次,在考虑到临床工作量的同时,更有效地预防婴幼儿尿布性皮炎的发生。

3.3 推荐使用屏障制剂,首选糊剂

第2条到第7条证据汇总了屏障制剂的选择和使用。研究^[10]表明,当尿布区皮肤和污染物长期接触时,皮肤的pH值增加,使皮肤渗透性增加,对刺激物和微生物的屏障功能减退,更易发生尿布性皮炎。因此选择合适的屏障制剂,减少皮肤和污染物的直接接触,是降低尿布性皮炎的有效举措。在选择合适的屏障制剂时,避免刺激性或致敏成分^[20-22]。在剂型方面,糊剂和软膏黏附性好,封闭度低,优于乳液或乳膏,因此当婴幼儿存在腹泻时,糊剂(如氧化锌)则为首选^[20,22]。



3.4 清洁应适度

证据8到证据16对婴幼儿尿布区皮肤的清洁方法进行汇总。保证尿布区皮肤清洁,减少刺激是预防尿布性皮炎的重要措施,但婴幼儿皮肤的角质层薄,易脱落,结缔组织发育不完全,应避免过量使用清洁剂和过度摩擦^[21]。因此,并不需要在每次更换尿布时对尿布区域进行清洁,也不建议完全将屏障制剂去除^[31]。当摩擦不可避免时,可以使用石蜡油进行辅助^[26-27],在皮肤已经破损的情况下,可以使用流水冲洗,再轻轻拍干或沾干皮肤,以减少摩擦^[15,19-22]。应选择添加剂最少的湿巾或软布。但当皮肤出现刺激性反应或已经破损时,则应停止使用湿巾^[22]。在选择相应的清洁产品时,也应避免含有芳香剂、乙醇、荧光剂或防腐剂的成分,应选择生理性pH值的清洁产品^[15,19-22]。

3.5 首选一次性尿布,及时更换

证据17到证据25汇总了尿布选择和使用的最佳证据。一次性尿布因其具备方便、清洁、便携的特点,已成为大部分家庭的首选。一次性尿布吸水性强,避免了尿布区皮肤过度水和,增加透气性^[16]。同时一次性尿布材料可塑性高,辅以屏障制剂涂层,能更好地保护局部皮肤。而及时更换尿布同样重要。据报道,更换尿布的频次与婴幼儿尿布性皮炎发生率密切相关^[15,20,22]。ROY等^[32]对更换尿布不同间隔时间开展研究,发现与2~3 h和3~4 h相比,更换间隔超过4 h时,尿布性皮炎发生率明显上升,可高达

84.6%,因此及时更换尿布至关重要。我国专家共识提出^[20],新生儿建议每2 h更换尿布,婴幼儿每2~3 h更换尿布,敏感性皮肤患儿应增加更换频次。同时提醒临床护理人员,在患儿使用利尿剂1 h后应及时对一次性尿布进行更换。

3.6 家长的健康教育同样重要

第26条证据强调了对婴幼儿健康管理人员的教育。其中不仅仅包括临床医护人员,更重要的是家长。医务人员在掌握尿布性皮炎相关知识、预防策略和处理流程,及时评估尿布性皮炎发生的风险的基础上,还应负责家庭健康教育的全面和完整性,应确保家长了解婴幼儿尿布性皮炎相关知识,掌握预防的技能,充分调动其主观能动性,鼓励其开展以家庭为中心的护理^[33],增强其照护能力,减少婴幼儿尿布性皮炎的发生率^[34]。

3.7 小结

本研究通过循证的方法,总结了预防婴幼儿尿布性皮炎的26条最佳证据,包括暴露、屏障、清洁、尿布、教育5个方面。该证据总结可为指导婴幼儿尿布性皮炎的预防提供循证依据。本研究纳入的文献大部分为国外文献,在进行证据转化和应用时,要充分考虑医疗卫生机构或居家环境的实际情况,对证据的适用性和可行性进行评估,充分分析证据应用的促进因素和障碍因素,重视家庭健康教育,结合以家庭为中心的护理制定更适合我国医疗卫生条件的临床决策。

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