Topical Skin Care in Aged Care Facilities

Technical report

Brent Hodgkinson
Rhonda Nay
Joanna Briggs Institute Evidence Based Publications

The Joanna Briggs Institute is involved in the development and dissemination of a number of publications that inform health professionals about clinical practice and specifically what constitutes best practice in health care. These serials include the International Journal of Evidence Based Healthcare (formerly JBI Reports) published by Blackwell Publishing and available online at http://www.blackwell-synergy.com. Systematic reviews conducted by Collaborating Centres of the Joanna Briggs Institute are published in the International Journal of Evidence Based Healthcare. These systematic review reports are further abstracted and published by Blackwell Publishing as the series Best Practice Information Sheets for Health Professionals. All Best Practice Information Sheets are derived from systematic reviews of health care research literature either conducted by the Joanna Briggs Institute Collaborating Centres or in some cases by an external source.

Aims and scope of the Technical Report

The conduct of systematic reviews and the development of Best Practice Information Sheets involve rigorous, standardised methods to ensure that all information provided to health professionals is of the highest standard and constitutes best practice. The conduct of a systematic review and development of the corresponding Best Practice issue are two parts of a staged process. All aspects of the conduct of the systematic review and the development of the accompanying Best Practice issue are documented so that these methods may be scrutinised. The processes involved in conducting Joanna Briggs Institute systematic reviews, including review methods are documented within the systematic review report. The format of Best Practice precludes it from including detailed information regarding the abstraction of evidence and development of recommendations embodied in the publication. For this reason JBI Best Practice Technical Reports are provided as a complementary publication to document all aspects of the development of Best Practice Information Sheets. In determining the quality of the Joanna Briggs Institute Best Practice Information Sheets the information provided in the Technical Report and the Systematic Review Report should also be considered.

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Disclaimer

"The procedures described in Best Practice must only be used by people who have appropriate expertise in the field to which the procedure relates. The applicability of any information must be established before relying on it. While care has been taken to ensure that this edition of Best Practice summarises available research and expert consensus, any loss, damage, cost, expense or liability suffered or incurred as a result of reliance on these procedures (whether arising in contract, negligence or otherwise) is, to the extent permitted by law, excluded".

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Topical Skin Care in Aged Care Facilities

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Introduction

The aim of Joanna Briggs Institute evidence publications is to provide the best available evidence relating to clinical questions that are important to health professionals and consumers. Although the publications relate to the same clinical question/s and are therefore complementary they serve different purposes and so are of a different scope and format. The Best Practice Information Sheets are targeted to base level health professionals and are restricted to a six-page format, recognising the time constraints on today’s clinicians. This prevents details of the development process being presented in the Best Practice Information Sheets. The Best Practice Information Sheet Technical Report provides this detail to allow scrutiny of the development process. The development of these publications is essentially a stepped process involving first the identification and synthesis of the evidence (Systematic Review) and then the abstraction of the evidence and development of recommendations for practice (Best Practice Information Sheets). In examining the methods and processes that ultimately produce practice recommendations the reader should consider the information available in the both the Systematic Review Report and the Best Practice Information Sheet Technical Report for a given information sheet.

This technical report details the development process for the following Best Practice Information sheet.

Joanna Briggs Institute (2007) Topical skin care in aged care facilities. Best Practice Evidence Based Information Sheets for Health Professionals. 11(3); 1-4.

Best Practice Information Sheets development methods

All Joanna Briggs Best Practice Information Sheets are developed by staff of the Joanna Briggs Institute in collaboration with staff from one of the Joanna Briggs Collaborating Centres with the assistance of an advisory panel of clinicians and other experts.

Acknowledgements

Best Practice Information Sheet developers
Phillip Thomas, Collaboration Support Unit, Joanna Briggs Institute, Adelaide, SA.
Brent Hodgkinson, Research Fellow, University of Queensland and Blue Care Research and Practice Development Centre, Milton, Queensland.
Identification and synthesis of the evidence

All Best Practice Information Sheets are derived from systematic reviews of the best available evidence. The review upon which this BPIS is based is:

All Joanna Briggs Institute systematic reviews are conducted by trained reviewers with the assistance of expert review panels. The review protocols and reports are subjected to a rigorous internal and a blinded external review process.

The executive summary of the systematic review is presented below. (Refer to the full systematic review report for additional information about the review processes followed):

Executive summary

Background

The 2001 Australian census revealed that adults aged 65 years and older constituted 12.6% of the population, up from 12.1% in 1996. It is estimated that this figure will rise to 21% or 5.1 million Australians by 2031. In 1998, 6% (134 000) of adults in Australia aged 65 years and over were residing in nursing homes or hostels and this number is also expected to rise. Generally, placement in a long-term care facility indicates an inability of the older person to perform all of the activities of daily living such as skin care. As skin ages, there is a decreased turnover and replacement of epidermal skin cells, a thinning subcutaneous fat layer and a reduced production of protective oils. These changes can affect the normal functions of the skin such as its role as a barrier to irritants and pathogens, temperature and water regulation. Further, in nursing homes, a very real problem for residents is incontinence for urine and/or faeces. Therefore, skin care management protocols should be available to reduce the likelihood of skin irritation and breakdown and ultimately promote comfort of the older person.
Objectives
The objective of this review was to determine the best available evidence for the effectiveness and safety of topical skin care regimens for older adults residing in long-term aged care facilities. The primary outcome was the incidence of adverse skin conditions with patient satisfaction considered as a secondary outcome.

Search strategy

Selection criteria
Systematic reviews of randomised controlled trials, randomised and non-randomised controlled trials evaluating any non-medical intervention or program that aimed to maintain or improve the integrity of skin in older adults were considered for inclusion. Participants were 65 years of age or over and residing in an aged care facility, hospital or long-term care in the community. Studies were excluded if they evaluated pressure-relieving techniques for the prevention of skin breakdown.

Data collection and analysis
Two independent reviewers assessed study eligibility for inclusion. Study design and quality were tabulated and relative risks, odds ratios, mean differences and associated 95% confidence intervals were calculated from individual comparative studies containing count data.

Results and Reviewers’ conclusions
The resulting evidence of the effectiveness of topical skin care interventions was variable and dependent upon the skin condition outcome being assessed. The strongest evidence for maintenance of skin condition in incontinent patients found that disposable bodyworn incontinence protection reduced the odds of deterioration of skin condition compared with non-disposable bodyworns. The best evidence for non-pressure relieving topical skin care interventions on pressure sore formation found the no-rinse cleanser Clinisan to be more effective than soap and water at maintaining healthy skin (no ulcers) in elderly incontinent patients in long-term care. The quality of studies examining the effectiveness of topical skin care interventions on the incidence of skin tears was very poor and inconclusive. Topical skin care for prevention of dermatitis found that Sudocrem could reduce the redness of skin compared with zinc cream if applied regularly after each pad change, but not the number of lesions. Topical skin care on dry skin found the Bag Bath/Travel Bath no-rinse skin care cleanser to be more effective at preventing overall skin dryness and most specifically flaking and scaling when compared with the traditional soap and water washing method in residents of a long-term care facility.

Information on the safety of topical skin care interventions is lacking. Therefore, due to the lack of evidence, no recommendation on the safety on any intervention included in this review can be made.

Key Words: aged, geriatric, long-term care, nursing home, skin, systematic review

Abstraction of the evidence and development of practice recommendations
All Joanna Briggs Institute Best Practice Information Sheets are a standardised format that includes a background to the clinical question, a summary of the evidence
from the systematic review, recommendations and/or implications for practice (graded using the Joanna Briggs Institute Feasibility, Appropriateness, Meaningfulness and Effectiveness scale). The recommendations arising from the evidence in the systematic review and embodied in the Best Practice Information Sheets are developed by the Best Practice Information Sheets developers with the assistance of the expert advisory panel. Essentially, the recommendations for Best Practice Information Sheets are where possible evidence-based. The developers and the advisory panel consider the evidence and the context in which the evidence may be used and then develop recommendations for practice. Where no evidence is identified in the systematic review the developers and the expert panel develop consensus statements to inform practice. At this point the Best Practice Information Sheet is subjected to an extensive review process external to the developers and advisory panel.

Peer review

All Joanna Briggs Institute evidence publications are subjected to a rigorous peer review process. This process begins with the submission of the protocol for the systematic review to the Joanna Briggs Institute Collaboration Support Unit. The protocol is peer reviewed. When the systematic review is at draft report stage it is peer reviewed by the Collaboration Support Unit who appraised the protocol initially. In addition the systematic review report is subjected to external blinded peer review before publication by Blackwell Publishing.

The draft Best Practice Information Sheet is also reviewed by nominated Joanna Briggs Collaborating Centres. The Best Practice Information Sheet is then distributed to all other Joanna Briggs Collaborating Centres for comment with regard to cultural, professional and organisational issues that may impact on the implementation of the Best Practice recommendations within their constituency.

Best Practice Information Sheets ongoing review/update

All Joanna Briggs Institute evidence publications are based on the best available evidence at the time of publication. When using the publications to inform practice the reader should consider the date of publication and the possibility that recent research may have implications about the strength or direction of recommendations. All Joanna Briggs Institute systematic reviews on which the Best Practice Information Sheets are based are assessed for update at five years post publication and at this time the relevant Best Practice Information Sheets is also reviewed.

Funding

Although the majority of Joanna Briggs Institute systematic reviews and Best Practice Information Sheets are funded by corporate membership funds and/or by the Joanna Briggs Collaborating Centres, external funding is occasionally used. In these cases the internal and external peer review processes ensure that editorial independence from the funding body is maintained.

Conflict of interest

Any conflict of interest by Joanna Briggs Collaborating Centre staff and/or advisory panel members is declared in a statement within the systematic review report.
Appendix 1 – Grades of Recommendation and Implications for Practice

It is the policy of the Joanna Briggs Institute that all Best Practice Information Sheets will utilise the Joanna Briggs Institute Grades of Recommendation with the specific hierarchy corresponding to the implication for practice provided. See recommendation tables below.

<table>
<thead>
<tr>
<th>Implications for Practice</th>
<th>Feasibility</th>
<th>Appropriateness</th>
<th>Meaningfulness</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Strong support that merits application</td>
<td>Strong support that merits application</td>
<td>Strong support that merits application</td>
<td>Strong support that merits application</td>
</tr>
<tr>
<td>B</td>
<td>Moderate support that warrants consideration of application</td>
<td>Moderate support that warrants consideration of application</td>
<td>Moderate support that warrants consideration of application</td>
<td>Moderate support that warrants consideration of application</td>
</tr>
<tr>
<td>C</td>
<td>Not supported</td>
<td>Not supported</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
</tbody>
</table>

The following implications for this Best Practice Information Sheet are based on the JBI developed Grades of Effectiveness (column far right above):

- Disposable bodyworn absorbent products should be favoured for use to protect skin condition in incontinent older adults in long term care (B)
- A no-rinse cleanser containing the ingredients described for Clinisan can be applied during daily care for at least 14 days to reduce the risk of pressure ulcer formation in patients in long term care (B)
- Emollient soaps are more effective in prevention of skin tears than non-emollient (B)
- The zinc cream, Sudocrem, if used for at least 14 days can reduce skin redness caused by incontinence in older adult patients in long term care (B)
- The no-rinse cleansing product Bag Bath/Travel Bath can be used to reduce the overall dryness of skin and most specifically flaking and scaling when used for normal bathing practice over a period of at least 6 weeks (B)
### Appendix 2 - Table of included studies from the systematic review

<table>
<thead>
<tr>
<th>Author/date</th>
<th>Study Design</th>
<th>Study Population</th>
<th>Outcomes</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazelli et al. 2003</td>
<td>Systematic review of randomised or quasi-randomised trials</td>
<td>Adults with urinary or faecal incontinence</td>
<td>Skin condition; skin alteration; skin colour; skin integrity</td>
<td>None</td>
</tr>
<tr>
<td>Anthony et al. 1987</td>
<td>Double blind RCT</td>
<td>67 subjects, gender mix unknown, all requiring incontinence pads; Sudocrem treatment</td>
<td>Skin colour; Lovibond tintometer to measure degree</td>
<td>None</td>
</tr>
<tr>
<td>Byers et al. 1995</td>
<td>Randomised cross-over trial</td>
<td>12 white female residents with urinary and faecal incontinence and risk of pressure sores</td>
<td>Transepidermal water loss; skin pH; Erythema</td>
<td>None</td>
</tr>
<tr>
<td>Cooper &amp; Gray 2001</td>
<td>Multicentre RCT</td>
<td>93 residents with urinary or faecal incontinence, or both with catheterised residents</td>
<td>Skin integrity, measured by Stirling Pressure Sore Severity Scale</td>
<td>None</td>
</tr>
<tr>
<td>Sheppard &amp; Brenner 2000</td>
<td>Controlled trial</td>
<td>32 residents (all &gt;65) in a 179-bed long-term care facility</td>
<td>Skin condition; resident satisfaction; nurse satisfaction</td>
<td>8 weeks</td>
</tr>
<tr>
<td>Whittingham &amp; May 1998</td>
<td>Unblinded controlled trial</td>
<td>29 patients in a 50-bed nurse-led unit for aged frail, highly dependent</td>
<td>Skin condition; staff assessment; patient assessment</td>
<td>8 weeks</td>
</tr>
<tr>
<td>Clever et al. 2002</td>
<td>Historical matched case control</td>
<td>64 faecal and/or urine incontinent residents (65-100 years) in a long-term nursing home</td>
<td>Incidence of nosocomial ulcers in sacral/buttock area</td>
<td>7 months</td>
</tr>
<tr>
<td>Birch &amp; Coggins 2003</td>
<td>Retrospective</td>
<td>29 bed-bound residents (av. age 79.9)</td>
<td>Prevalence/incidence of skin tears</td>
<td>4 months</td>
</tr>
<tr>
<td>Dealey 1995</td>
<td>Repeated measures</td>
<td>22 residents in 2 elderly care units</td>
<td>Skin condition; change in skin condition</td>
<td>2 months</td>
</tr>
<tr>
<td>Study</td>
<td>Design</td>
<td>Participants</td>
<td>Outcomes</td>
<td>Duration</td>
</tr>
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<tr>
<td>Lyder et al. 1992</td>
<td>Historical controlled trial</td>
<td>15 patients: 6 males/9 females mean age 71 in geriatric psychiatry unit</td>
<td>Incidence of perineal dermatitis</td>
<td>10 weeks</td>
</tr>
<tr>
<td>Mason 1997</td>
<td>Interrupted time series</td>
<td>43 residents in 173-bed long-term care facility; 39 females/4 males</td>
<td>Incidence of skin tears</td>
<td>4 months</td>
</tr>
</tbody>
</table>
Appendix 3 - References

These include references from the systematic review and additional references used in the development of the Best Practice information sheet.


