**Journal Club Research Article Critique Form**

Reviewer name: Karen Rush Date: July 2,2020

Research study: Ahn, Y., Lee, S., Young, A. (2020). Development of a nursing guideline for improving skin integrity in high-risk infants. *The Journal of Continuing Education in Nursing; Thorofare*, 51(5), 238-244. http://doi:10.3928/00220124-20200415-09

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| **1. Description of the study** |
| * The purpose of the research is to minimize complications of skin breakdown in high risk infants that are hospitalized in neonatal intensive care and well-baby units and promote optimal growth and development beyond just survival. This two-fold study involved the development of a neonatal skincare guideline and then the second part of the study evaluated nursing skin care knowledge and confidence in skincare regime as part of nursing practice. The effectiveness of the skin care guideline booklet and training was evaluated by questionnaires pre and post education to nurses.
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| * This problem is significant to nursing practice in that high-risk infants are susceptible to skin impairment caused by invasive procedures, radiant warmers, and phototherapy in addition to their intrinsic vulnerability. This leads to a cycle of increased risk of skin infections. Concerns have been raised in that nurses may not have the correct knowledge of current guidelines that will improve skin integrity of high-risk newborns.
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| **2. Evaluation of literature** |
| * The authors investigated how neonates adjusted to the abrupt exposure to an extrauterine environment. Studies reviewed the relevance of physiological adaptations of the dermis and physiological adaptations of the skin at birth in this context. A survey was conducted to determine nurses fundamental understanding of neonatal skin physiology. A literature search was conducted on existing skin care practices in neonates. The level of evidence of this research article is level V. The authors have systematically reviewed neonatal skin care and developed a guideline to improve neonatal skin care.
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| **3. Study sample** |
| * The study sample was obtained from: Nurses with greater than 6 months of experience in newborn units and NICU’s in three similar-sized hospitals located in metropolitan areas, where newborns with a wide variety of risk levels were hospitalized. Human subject protection was honored in this study as it was IRB approved and an informed consent was obtained from each nurse participant prior to the start of the study.
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| * The sample size was 46 nurses. 23 participated in the study from July 2018-August 2018, responded to the survey, received educational interventions and responded to a post survey 2 weeks after the educational session. The other 23 responded to the survey but did not attend the educational session and served as the control group.
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|  Part one of the study involved the development of a skin care guideline to educate nurses on the most current recommendations for skin care of the neonates. This six-month long process involved a literature search of the past ten years of existing data on skin care practices in neonates. Domestic and international search engines reviewed from the past ten years. Two major sources were reviewed for skin care guidelines in NICU practice.” *Guideline for Neonatal Intensive Care Nursing of the KANN (2015),* and *The Manuel of Neonatal Care* published by the Korean Society of Neonatology (Pie et al, 2014).” (p. 239) Phase two assessed the effects of training, using the skin care guidelines. The guidelines were: nurses that worked greater than six months in newborn or neonatal intensive care units. Nurses participated in the study by autonomous choice and independent of their official duties. No other selection criteria were applied. Inclusion criteria for participating nurses were greater than six months of experience in newborn or NICU nursing, and autonomous choice independent of official duties.  |
| * The only exclusion was that nurses that participated must have greater than six months of experience in newborn or NICU nursing in their current position.
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| **4. Study methods/design** |
| The study was a quasi-experimental design with 46 nurses. This interventional study reviewed the impact of neonate skin care guideline education. The evaluation was in the terms of the nurse’s knowledge and confidence in preforming at-risk neonate skin care.  |
| Twenty-three nurses received a pretest, training on skin care and a post test. The control group of twenty-three nurses did not participate in training, were provided a skin care guideline booklet and completed a post test. A full explanation of the purpose of the study was given to each participant and consent was obtained prior to data collection. |
| **5. Results** |
| * The practice guideline for improving neonatal skin integrity was developed based on knowledge about epidermal physiology and was presented in booklet form with illustrations. A section of the booklet included skin integrity knowledge and skin integrity practice based on evidence-based practice. There is information on the skin layers and skin barrier function. The skin integrity practice reviewed skin care and use of products associated with skin care.
* The second phase results confirmed the nurses’ level of knowledge improved significantly as a consequence of the training sessions using illustrations. No significant improvement in nursing confidence in neonatal skin care was noted which implies one educational session is not enough to improve nursing level of confidence. The survey suggests the need to have a six month follow up survey to allow time for nurses to put education into practice. The study was validated as advantageous and reflects evidence based neonatal skin care enhanced clinical level of skin care knowledge.
* There was a graph that categorized the results of the questionnaire that demonstrates an increase in knowledge of neonatal skin care by the 46 nurses separated into 2 groups of 23.
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| **6. Clinical significance** |
| I work on a mom/baby unit and often float to the neonatal intensive care unit. I have witnessed many issues with skin break down while working on both units. Changing skin care practices to reflect current evidence-based research would improve the hospital health journey of at-risk neonates. I would be willing to present this article for a journal club that is already established on the units I work on but will have to wait as all meetings have been cancelled since March. I found it helpful to use this research critique form to organize the review information. |

**Fishbone diagram**

**Quality improvement in skin care for at-risk neonates**

**Materials**

**MAN**

**High-risk neonates are susceptible to skin breakdown**

* Power Point
* Teaching booklet on improving neonatal skin integrity practice guidelines.
* Evaluation of guidelines in practice on effectiveness
* Family education materials
* Pretest/ posttest
* Design comparison to evaluate nursing knowledge and confidence in neonatal skin care practices.
* Policy update on skin care of neonates
* Mentor nurses on updated skin care guidelines and discuss rationale.

**Measurement**

Parents preforming cares may hinder nurses from observing the beginnings of skin breakdown.

* Safe staffing ratios required.
* Need equal learning opportunities for all nurses
* Evaluation of guidelines in practice.
* Track skin infection rates and compare pre and post implementation of skin care guidelines.

**Environment**

* Not trained
* lack of educational materials

**Method**

If staffing ratios are poor, then nurses are not always available to implement prevention measures.

On my unit, mom-baby nurses do not receive equal educational opportunities as the NICU nurses do.

Nurses may have little fundamental understanding of the adaptations of the skin at birth.