EVIDENCE FOR AN IMPROVED DIAPER FOR EXTREMELY PREMATURE BABIES

Nurses Agree: Diaper Design Matters For Extremely Premature Babies
Overview

Globally, an estimated 15 million babies are born preterm annually, and their numbers are increasing. The shorter the term of pregnancy, the greater the risks of mortality and health problems for the baby, putting extremely premature (<26 weeks) babies at particular risk. Recognizing the many unique needs of premature babies, particularly those with extremely low birth weight, this in-use based survey of Neonatal Intensive Care Unit (NICU) nurses at 4 hospitals assessed nurse reactions to a smaller diaper and its potential to improve care of preemies approximately 800 grams or less. Results revealed that 92% of nurses surveyed preferred the new Pampers Preemie Swaddlers size P-3 diaper for extremely low birth weight babies compared to the diaper currently being used by their NICU.

Background

Unique Preemie Needs

Healthcare providers in the Neonatal Intensive Care Unit (NICU) are essential to ensuring positive outcomes for the most vulnerable babies both by providing the support they need to survive, grow, and develop, and by minimizing disruptions that may cause stress or disturb their development. Key needs of premature babies include:

- **Developmental Positioning:** The development of the musculoskeletal system of extremely premature babies is dependent on positioning in the NICU. Developmental positioning may also be used to support babies’ pulmonary, digestive and autonomic systems.

- **Protected Sleep and Minimized Stress:** Premature babies need an environment as similar to the womb as possible, but the NICU can be loud and stressful. Promoting sleep and a calm state is critical for proper growth.

- **Skin Care and Protection:** Preemie skin at birth is translucent, thin and shiny. Because the skin has not fully developed, it is very fragile.

Diapers in the NICU

More than half of NICU nurses believe that the products they currently use for extremely premature babies do not properly fit, according to a 2016 survey of neonatal nurses. The product in this study, Pampers size P-3, was designed based on NICU nurses’ feedback to meet the needs of premature babies, with the following features:

- **Contour Fit Core:** A narrow diaper core between the legs helps allow baby’s hips and legs to rest comfortably and develop properly.

- **All-Over Fastening:** Helps to minimize disruption and allow customized fit around lines and leads.

- **Gentle Flex Cuffs:** Helps maximize comfort to gently seal around baby’s delicate legs.

- **All-Around-Absorbency:** Equal absorbency and graphics in front and back help allow diapering in any baby position.

Key Study Findings

This in-use study for the P-3 diaper found that NICU nurses:

- **Prefer the size P-3 diaper for caring for extremely low birth weight babies**
  92% preferred the Pampers size P-3 diaper over the diaper they normally used.

- **Would recommend the size P-3 diaper for extremely low birth weight babies**
  95% would recommend the Pampers size P-3 diaper to other nurses.

- **Believe that the size P-3 diaper provides the best care for extremely low birth weight babies**
  92% agreed that this diaper allowed them to provide the best care for this sized baby versus other diapers they had used.

*Nurse/hospital participation does not serve as an endorsement of the product*
Results

As healthcare professionals work to provide a supportive, caring and secure environment for premature babies in the NICU, diapers can help serve to support their developmental needs instead of getting in the way. In this study, NICU nurses showed an overwhelming preference for the size P-3 diaper for extremely low birth weight babies over other diapers, as indicated by their preference, recommendations and assessment of features.

Fit & Flexibility to Support Positioning
More than 90% of nurses (93%) agreed that size P-3 diaper was appropriately sized, which better supports skin to skin contact. The vast majority (86%) of nurses also believed the diaper’s optimal fit did an excellent or very good job of promoting proper development. Specifically, more than nine in 10 (93%) agreed that the diaper’s narrower crotch fostered proper hip growth.

**Pampers Size P-3 Diaper Fit is Appropriate for Developmental Care Nurses Evaluation After Use**

- Promoting developmentally appropriate care: 82%
- Easy to apply to accommodate baby’s position: 83%
- Fitting well between legs: 84%
- Optimal fit to promote healthy growth: 87%

**Protected Sleep and Minimized Stress**
Excessive handling of premature babies can result in unnecessary stress, and almost four in five nurses (78%) said the diaper was very good or excellent for supporting minimal handling. Moreover, more than nine in 10 (91%) agreed that the superior absorbency offered by the size P-3 diaper allowed for protected sleep.

Skin Care
According to more than nine in 10 (93%) of the nurses surveyed, the size P-3 diaper provided the best care for preemie skin and locked away mess, better allowing the skin to breathe. In fact, 88% of nurses rated the diaper as very good or excellent for being gentle on babies’ skin.

**Pampers Size P-3 Diaper Helps Protect Skin and Sleep Nurses Evaluation After Use**

- This diaper is appropriately sized which better supports skin to skin contact: 93%
- This diaper’s superior absorbency allows for protected sleep: 93%
- This diaper locks away mess from the skin- better allowing the skin to breathe: 91%
- The diaper provides the best care for preemie skin: 93%

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** The survey questions used a 1-5 scale ranging from “poor” to “excellent”
*** The survey questions used a 1-5 scale with answers ranging from “strongly disagree” to “strongly agree”
About the Study

This longitudinal, multicenter in-use based survey of NICU nurses was conducted in the NICU of four hospitals*: Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio; Good Samaritan Hospital, Cincinnati, Ohio; Children’s Hospital of the King’s Daughters, Norfolk, Virginia; and University of Cincinnati Hospital Medical Center, Cincinnati, Ohio. Babies participating were extremely low birth weight male and female babies in hospital NICU units weighing up to or approximately 800 grams, with a mean weight of 667 grams and ranging from 23 to 30 weeks gestational age. The diaper (Pampers Preemie Swaddlers size P-3) was used at the discretion of the NICU nurse.

The study included 16 babies who exclusively wore up to 60 of the Pampers size P-3 diapers. The NICU nurse completed a survey at the end of each shift (64 total nurses). The study included 76 unique nurse-baby pairs. During data analysis, the primary comparison was the statistical comparison between the nurses’ preference for the product they would have typically used versus the P-3 diaper using a binomial test with p<0.05. The questionnaire data was tabulated separately for each question.

References


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