

The Experiences of Fathers Practicing Kangaroo Care

**The Effects of Kangaroo Care Pertaining to the Attitudes and Values of Fathers  
Caring for Their Premature Newborn**

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### **Abstract**

#### **Background:**

Maternal kangaroo care helps in thermoregulation, maintaining stable blood sugar, better sleep, and establishes a maternal-baby bond. However, there is a gap in kangaroo care for fathers that is not addressed in modern nursing care practices. This thesis will focus on the father's outlook relating to kangaroo care in terms of physiological and psychosocial attributes.

#### **Method:**

An Integrative review of the literature using the Russell model will be conducted to analyze the concept of kangaroo care and fathers. Using Salem State's online library, academic articles, and journals from the databases: CINAHL (Cumulative Index to Nursing and Allied Health Literature) Ultimate and Medline were collected. Articles that were chosen were published from dates only to 2018 to present day, written in English, and pertained to the relevancy of fathers about kangaroo care.

#### **Analysis:**

Three common themes resulted from the integrative review: KFC helped to strengthen the bonds with their premature newborn; KFC reduced the stress fathers have in feeling incompetent of being a father; KFC requires more promotion and awareness to encourage involvement of fathers while being in the NICU.

#### **Conclusion:**

KFC is a beneficial practice for fathers to promote in the NICU that strengthens bond with the baby and reduces stress. More guidance is needed to incorporate fathers in actively doing KC by increasing awareness and collaborating with the healthcare team.

### **Acknowledgements**

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To my family, thank you for believing in me that I will continue to grow and become the best version of myself. I cannot wait to show you what the future has to offer once we take this step together. I love you all!

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### **Introduction**

The term, “kangaroo care,” may or may not sound familiar to the general public. It is developmental care simply involving skin-to-skin contact with a parent and their newborn (CHI Saint Joseph Health, n.d.). Once a newborn has left their previous home in the uterus, they will now need to adapt to their new outside life. The outside world has many threats to a developing baby which includes risk of infection, ineffective thermoregulation, and new stressors. Kangaroo care is a solution to these problems during the recovery stage of labor. Premature babies can experience pain and it is known that kangaroo care (KC) can help. “KC has been shown to be efficacious in reducing the physiological and behavioural responses to pain in preterm infants 28 to 36 weeks’ gestation” (Jefferies & Canadian Pediatric Society, Fetus and Newborn Committee, 2012). It is estimated that 10% of U.S. births happen before 37 weeks’ gestation which stresses the need for more kangaroo care (Ennis, 2022). The wellbeing of the baby is advanced with kangaroo care which results in: “improved heart rate, breathing rate, improved sleep, and better brain growth and development” (Nationwide Children’s Hospital, 2018). According to the World Health Organization, “starting kangaroo mother care immediately after birth can save up to 150,000 more lives each year,” which makes it a vital process for parents (WHO, 2021). The frequency of this practice used in today's healthcare is a drastic difference between mothers and fathers. After learning about how powerful kangaroo care is, there is a need to spread more awareness that kangaroo care is beyond a maternal bond with the baby, it may also help establish the paternal bond.

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### **Purpose**

The research question focuses on the concept of kangaroo care and fathers that examines the psychological and emotional factors of incorporating that in their care plan. Within the postpartum care of nursing, there is little involvement with fathers being active in caring for their newborn. For the growth and development of the baby, it is important to build a bond with both parents beginning with immediate kangaroo care (Johns Hopkins All Children's Hospital, n.d.). This research question would advocate care to optimize bonding of fathers with their baby and prepare them for fatherhood. The research question is: What are the perceptions of kangaroo care with fathers?

### **Literature Review**

After experiencing the traumatic event of being a parent to a premature newborn, there are mixed emotions that the father faces: fear, excitement, and overwhelmment. Fathers are unfamiliar with the medical devices used in the NICU, and the idea of how weak their baby presents heightens their fear of whether they can properly care for their baby. "The principal source of stress is the infant's fragile appearance... premature infants are frequently less reactive and interactive, so this could cause additional stress to fathers and reinforce the fear of the role alteration as a parent." (Koliouli et al. 2022, p. 5)

Kangaroo care use is seen as a mother's duty in many foreign countries. Due to this belief, fathers are not seen practicing the care in fear of acting disgraceful. For instance, in China, kangaroo care is utilized for fathers in moments when mom is physically unfit to do so.

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KFC is to help with the stabilization of the premature newborn; stabilization of physiological indicators, reduced pain and stress levels, and nervous system development. Fathers rarely get the chance to hold their premature newborn until time of discharge. Getting to hold their infant for the first time by means of kangaroo care allows the father to express a sense of reality to be a father that is vital prior to going home. “After getting close to my son, I kind of felt like “father and son.” I felt I haven’t seen my child for a long time. Now he is in my arms, I feel real about him.” (Zeng et al, 2023, p. 658) Fathers had difficulty in being a familiar face to their baby prior to kangaroo care as the infants gradually accepted them from strangers to now acknowledging them as their fathers. Failure of perceiving their father as the caregiver, the premature newborn will have difficulty in adjusting to having another parental figure besides mom.

Like China, the frequency in practice of KFC in Anatolia, Turkey is lacking in that fathers have a role in supporting the household rather than looking after the children. There are limited circumstances to do KC practice but fathers who have done the practice convey positive feedback. Dads proclaim their role as a parent that their baby belongs to them, self confidence that they can perform their fatherhood roles, and expresses the happiness in the new father role from experiencing kangaroo care. (Gunay et al, 2021) As seen in Brazil, Kangaroo care implemented at a public hospital in Para, revealed high attachment scores for fathers committed to practicing skin to skin with their newborn. These results were developed using the “paternal postnatal attachment scale,” which disclosed that KC positively impacts attachment to dad and baby to strengthen the paternal role/bond. (Garnica-Torres et al, 2021)

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Fathers stated feeling incredibly stressed about how their babies breathe with the use of ventilators and wanted to do something but were unsure how. Implementing KC, fathers felt that their bond helped with developing their newborn into a stable condition leading to reduced stress levels. A study done at a Quebec hospital measured cortisol levels and blood pressure readings of 49 fathers after their first session of kangaroo care. Cortisol is a hormone in the body secreted by the adrenal glands that is released to regulate stress. The results of the study revealed a significant decrease in cortisol levels and blood pressures during and after skin-to-skin contact. The reasoning for the reduction in cortisol levels is believed to be that “this first physical contact helped the father to recover his role as a parent and gave them a sense of control that might be very significant for the future relationship.” (Valera et al, 2018) Infant physiologic responses to KC given by fathers that recorded heart rate variations and periodic breathing supported the use of KFC. There was a clear trend toward reduction in periodic breathing during KC and showed similar effects KMC has on the infants in comparison with KFC. (Vogl et al, 2023)

There is a lack of knowledge and awareness of KFC to be able to efficiently do the practice when fathers are needed. Many fathers have not heard of KC until they are notified that their premature newborn will require admission to the NICU. From the moment that their newborn is born, the interaction is very brief until they are taken away for resuscitation measures. The baby is placed on the mother’s chest while fathers can only watch the interaction and patiently wait until their turn. This delay in meeting their newborn negatively affects the father in trusting the staff and feeling forgotten. Fathers are often downplayed as caregivers for their newborn as the nurses and staff stress the importance of only mom to take care of the touching, the kangaroo position, the diaper change or feeding. (Garnica-Torres et al, 2021)

## Methodology

The methodology of this thesis is an integrative review (IR) based on the Russell Model. An IR is the collection of past research summarized by drawing conclusions from many studies to evaluate the strength of current research, identifying the gaps of current research, and bridging data from past to current research. What the Russell model entails for an IR contains five phases: problem formulation, data collection or literature search, evaluation of data, data analysis, and interpretation and presentation of results. (Russell, 2005, p. 1) Proceeding with an IR was decided due to the highly sensitive population of working with premature newborns that require strict protocol of care.

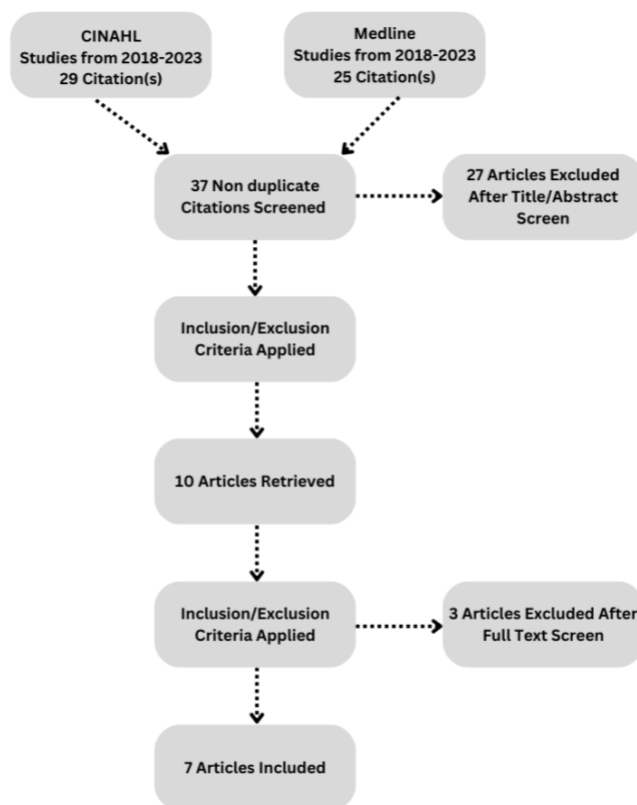
With the use of the Salem State online library, an advanced search had been done to research academic articles pertaining to kangaroo care with fathers. The databases chosen were Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Medline. Keywords such as: “kangaroo care”, “skin-to-skin contact”, “father”, “dad”, “premature infant”, and “premature baby” were used to search articles. To be up to date with nursing practices, only articles published from 2018 to present day were collected. After these conditions were met, there resulted in a total of 51 citations from CINAHL and Medline. Studies that were duplicated, articles that were not in English, and articles that were not relevant in discussing kangaroo care with fathers had been excluded in the literature review. At the end of the database search, a final count of 7 articles will be analyzed for the literature review.

Completing the thesis project will allow nursing practices to be advanced in postpartum care of mothers, fathers, and babies. What was once only centered along the maternal bond with

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the baby can possibly extend further along to include paternal bond as well. Nursing care with a delicate and sensitive population as premature newborns will need further research into improving their wellbeing at the beginning stages of their life.

### PRISMA DIAGRAM:



## Results

Once compiling all of the articles pertaining to the relevancy of kangaroo father care had led to seven studies. Within these studies included different geological regions to be culturally

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inclusive and deeply understand kangaroo care as a whole. The studies were collected from regions such as the United States, Europe, and Asia.

There were common themes that helped to understand the perceptions of fathers practicing kangaroo care:

- KFC helped to strengthen the bonds with their premature newborn
- KFC reduced the stress fathers have in feeling incompetent of being a father
- KFC requires more promotion and awareness to encourage involvement of fathers while being in the NICU.

*KFC helped to strengthen the bond with their newborn.*

The NICU is an intensive care nursery for newborns that require special medical attention such as ill or premature babies. These newborns are on high alert and entail continuous monitoring for signs of deteriorating conditions like needs of breathing support and heart complications. Parents must follow hospital protocol and have restrictions that might limit them from visiting their newborn as they pose a threat to their baby's very fragile state. Mothers are most likely to enter while fathers are considered "nonessential" in comparison as they are not needed for breastfeeding. Fathers then do not have an opportunity to build their relationship with their newborn until possibly weeks later depending on the severity of the baby's condition. It is not until the first kangaroo care practice experience for fathers that reveals the immediate benefit at the initiation of skin-to-skin contact- strengthening the bond with their newborn.

*KFC reduced the stress fathers have in feeling incompetent of being a father.*

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The simplicity of kangaroo care that calls for the skin on skin contact amongst the baby and dad helped to drastically reduce stress levels. Physiological stress responses such as cortisol levels and systolic blood pressures were recorded to support the evidence on stress reduction. The fathers before starting kangaroo care had elevated stress responses but at the end showed significantly decreased values after just one session. Dads will be more confident in providing care for their premature newborn if frequency and duration of KC is increased. With less stress, dads can build upon their competency of filling into their fatherhood role to care for their new added life to the world.

*KFC requires more promotion and awareness to encourage involvement of fathers in the NICU.*

Nursing care around post-delivery of a newborn is to look after baby and mom. The healthcare team is running multiple assessments and interventions to confirm that the status of both are within normal limits. Kangaroo care begins with mom first promoting breastfeeding and stimulating production of milk. During these critical moments for the baby, dads are more likely a bystander than acting as the other caregiver. Some of the hospital protocols do not incorporate dads and make use of their paternal role until they deem it is safe to do so. Fathers are sometimes unaware that they can provide KC as well because they are unknown of the benefits that KC provides. There is miscommunication and lack of education in regard to the postnatal practice that is missing the opportunity to include dad in the first few moments of life.

## Discussion

The perception of kangaroo care seen by dads is a positive experience yet an underpromoted practice that should be implemented more in the NICU. Kangaroo Father Care

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has proven to be similar in benefits to that of Kangaroo Mother Care. Fathers as a result of kangaroo care have increased paternal confidence with the physical and emotional connection during the first session. Reports of decreased stress from kangaroo care instill competency of being able to care for their newborn despite their premature status. Hospitals and staff should work towards getting more involvement in postnatal interventions with fathers as well as non-birth partners. There is a need for further research to be done for inclusion of same sex partners caring for premature newborns. The lack of opportunities in participating with kangaroo care and social prejudice from different cultural views can be a major barrier for KFC. There is a need for improving nursing care to acknowledge the father as essential personnel in the promotion of health in the wellbeing of their newborn.

### **Conclusion**

This integrative review explored fathers' perception of kangaroo care in terms of psychosocial and emotional factors. As KFC is beneficial to enhance paternal bonding and increases the competency of fathers to engage with their newborn, it can only be effective when put into action. There are boundaries and restrictions that must be overcome to popularize KFC globally. In addition to KFC, all-inclusive care involving non-birthing partners should be further studied to promote equality of care in the NICU setting.

### **Limitations**

The research done for this integrative review relied on limited studies. Most of these studies had very small sample sizes that propose complications to generalization. More research

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will need to be done to incorporate more fathers to participate in the study to get a better understanding of the matter.

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**Appendix of Studies for Kangaroo Father Care with Premature Newborns**

Citation, Author(s), Year	Koliouli, F. et al. (2022) <i>Parental sense of competence, parental stress and perceived construction of the relationship with the premature newborn: A mixed method study</i> . Early Human Development, 168, 105576.
Theoretical/Conceptual Framework	Investigating the father's perception of competency, stress, and construction of the relationship with their baby during hospitalization in the NICU.
Research Question(s)/Hypothesis	Fathers lack the resources and opportunity to engage with their newborn to build upon the competency of being a father that leads to high stress levels. Through skin-to-skin contact, fathers can strengthen the paternal bond and instill confidence of being a parent to a premature newborn.
Methodology	Cross-Sectional mixed methods study using a convergent design. Forty-eight French fathers of premature infants completed self-reported questionnaires in the NICU at the Toulouse University Hospital.
Analysis & Results	Fathers have come to believe that the building of the first relationship they have with their newborn is via skin-to-skin contact. Skin to skin allows the father to connect not just by physical means but also emotionally to establish the feelings of competency to be a father. There was significant evidence after completing the "Parental Sense of Competence Scale," that resulted in high internal consistency of self-efficacy and satisfaction. Parental Stress was measured by the "Parental Stressor Scale:NICU" that resulted in an "acceptable internal consistency of $\alpha = 0.70$ "
Conclusions	There concluded two subthemes: perceived first bond with the baby through skin to skin and eye contact. Fathers have revealed that skin to skin helped them understand their role as a parent and strengthened their bond.
Implications for Future Research	The study was conducted at a university hospital known to have clients who have very vulnerable premature infants and offer Family-Centered Programs targeted to this group of people that might hinder generalization.
Implications for Practice	"Participants who agreed to participate were present on a regular basis and they could be considered as highly implicated."

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Citation, Author(s), Year	Zeng, X. et al. (2023) <i>Qualitative study on the experience of fathers involved in kangaroo care of premature infants</i> . <i>Journal of Neonatal Nursing</i> , 657-661.
Theoretical/Conceptual Framework	A study that focuses on the exploration of fathers involved with kangaroo care of their premature infants. There is a cultural difference in care of premature newborns that does not promote kangaroo father care (KFC) as much as kangaroo mother care (KMC).
Research Question(s)/Hypothesis	This study is aimed to understand the father's perspective and feelings of participating in KC with their premature infant.
Methodology	The use of a semi-structured interview method was used to talk with fathers face-to-face or via telephone to ask about KC practice. A sample of twelve fathers who were parents to premature newborns in the NICU at a tertiary Children's hospital in Shanghai were asked about their experience of having completed their very first KC.
Analysis & Results	The data was analyzed using the Colaizzi phenomenological method and Nvivo software to elicit key words to compile themes. The analysis identified two themes that included positive experience: creating the feeling of being a father, deepening the correlation between the father and the child, enhancing confidence in parenting, reducing stress and gaining happiness, and internalizing care. Yet there was also a negative experience from the lack of education around KC and the fear of doing it alone.
Conclusions	Fathers who participated in KC revealed many benefits that helped them connect with their baby and strengthen their role as a father. However, there is a lack of promotion given to fathers that educate them on this type of kangaroo care that leads to doubt and hesitancy to do this out of the hospital alone at home.
Implications for Future Research	Fathers who were selected to participate in this study were not of high vulnerability since critically ill premature infants were not allowed to initiate KC until they were stabilized. This study omits these fathers as a safety precaution due to hospital protocol and restricts the generalization of dads' view on KFC.
Implications for Practice	There is a need for further research to be done as information is limited within China about KFC due to different cultural beliefs.
Citation, Author(s), Year	Varela, N. et al. (2018) <i>Cortisol and blood pressure levels decreased in fathers during the first hour of skin-to-skin contact</i>

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	<i>with their premature babies</i> . Foundation Acta Paediatrica, 0803-5253.
Theoretical/Conceptual Framework	Study to observe the physiological stress responses of fathers during their first skin-to-skin contact with their first premature newborn.
Research Question(s)/Hypothesis	Determining the effect skin to skin contact has on the physiological stress responses of fathers who held their premature baby for the first time.
Methodology	This study was a Quasi experimental study. The sample included parents of preterm infants whose gestational age was within preterm limits of less than 37 weeks. The intervention group had 74 fathers and the control group had 70 fathers. The study took place in the NICU at a Quebec Hospital and measured the physiological stress responses of the fathers including cortisol levels and blood pressures before and after they had done skin to skin contact with their premature baby.
Analysis & Results	After the skin-to-skin contact (SSC), fathers had decreased cortisol level before skin to skin at 10.55 nmol/L and 8.26 nmol/L after 75 minutes with their baby. The blood pressures showed statistically significant values of decreasing systolic pressure after 60 minutes of SSC.
Conclusions	In conclusion, there is a significant and gradual decrease in cortisol levels of fathers and their blood pressures after the initiation of SSC. Time was a key factor during this engagement, in that more time the father held their newborn would result in a greater decrease in cortisol levels and blood pressures. The duration and frequency of skin-to-skin contact is beneficial to reduce the fathers' stress levels of being a parent to a premature baby and enhances their competency of being a father.
Implications for Future Research	Participation was limited in that the fathers selected for the sample were voluntary. There was no randomized control selection and so generalization would not be accurately captured for this study.
Implications for Practice	The sample size is too small and would need a larger collection of dads to best capture data for KFC. The population of premature babies in critical condition were excluded from the study, so data capture from these dads was not included because they were unable to do SSC.

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Citation, Author(s), Year	Vogl, J. et al. (2021) <i>Kangaroo father care: A pilot feasibility study of physiologic, biologic, and psychosocial measures to capture the effects of father-infant and mother-infant skin-to-skin contact in the Neonatal Intensive Care Unit</i> . <i>Developmental Psychology</i> , 1521-1533.
Theoretical/Conceptual Framework	Examine the effects KFC has on premature newborns compared to that of KMC.
Research Question(s)/Hypothesis	Kangaroo care regarding fathers is limited and requires more promotion in the NICU setting. The study will evaluate the impact of KC on infants and parents in the NICU to determine if KFC produces the same physiological benefits that are known to be associated with the practice of KMC.
Methodology	A pilot study of KC in a level III NICU at Northwestern Medicine Prentice Women's Hospital in Chicago, Illinois. Collection of vital signs and saliva from parents and infants was used to determine the effects of implementing KC for 90-minute sessions over two consecutive days. The parents completed a set of questionnaires as well during their stay in the NICU that would be used to determine their insights on the KC practice.
Analysis & Results	The small pilot study resulted in "clear infant physiologic responses to KC which were similar in KMC and KFC." There was a clear trend toward reduction in periodic breathing while engaged in KC. The questionnaire revealed that there is normal parent-infant bonding after completion of the KC session. The findings supported the use of KFC as a postnatal intervention.
Conclusions	The findings of KFC were comparable to that of KMC in giving similar results. KFC was just as beneficial as KMC and therefore should be more utilized within the NICU. Promotion of the practice is needed, and further education of the practice should be accessible prior to admission on the NICU floor.
Implications for Future Research	The sample size of the KC was small, the gestational age for the premature newborns was narrow (included those who were deemed stable and over 30 weeks but under 37 weeks) and limited to heterosexual parental pairs.
Implications for Practice	The time constraints of the study limited the accessibility of the pre-kangaroo care period when data was collected that might have altered results.

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Citation, Author(s), Year	Gunay, U. et al. (2021) <i>Emotions and Experience of Fathers applying Kangaroo Care in the Eastern Anatolia Region of Turkey: A Qualitative Study</i> . <i>Clinical Nursing Research</i> , Vol (30)6, 840-846.
Theoretical/Conceptual Framework	Little incidences of kangaroo care are done in the Anatolia Region of Turkey due to social prejudice that KC is the mother's duty.
Research Question(s)/Hypothesis	Investigate the emotions and experiences of fathers who practice kangaroo care in the Anatolia Region of Turkey.
Methodology	Study adopted a qualitative descriptive design to survey fathers at a Turkey hospital who practices kangaroo care. (Open ended interview, face-to-face, and used inductive qualitative content analysis)
Analysis & Results	Resulted into three themes: Emotions of being a father, confidence in fathering roles, and happiness in the new father role
Conclusions	Fathers became happy and formed emotional bonds with their babies after practicing kangaroo care.
Implications for Future Research	Limitations in that there were a few fathers that participated in the study as the cultural beliefs in Turkey do not support kangaroo care practice.
Implications for Practice	Healthcare should move in a direction that promotes fathers into initiating kangaroo care and improve their policies accordingly.

Citation, Author(s), Year	Dongre, S. et al. (2020) <i>Kangaroo father care to reduce paternal stress levels: A prospective observational before-after study</i> . <i>Journal of Neonatal-Perinatal Medicine</i> , 13, 403-411.
Theoretical/Conceptual Framework	The study's objective is to assess the stress in fathers of preterm infants through the intervention of kangaroo father care.
Research Question(s)/Hypothesis	Kangaroo father care can bring out benefits to the baby and them by reducing stress while promoting bonding.
Methodology	This study was a prospective observational before-after study conducted within six months. The sample included 30 fathers in a level III NICU that recorded stress levels before and after three sessions of KFC. After the collection of data, the Wilcoxon signed rank sum test was used to analyze the stress levels using the 45 item scale that consisted of four subscales: the sights and sounds in

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	the unit, the appearance and behavior of the infant, the impact on the parents' role and their relationship with their infant, and the staff behavior and communication scored by the five-point Likert scale.
Analysis & Results	After the three sessions of KC, the total stress score was statistically significantly lower after KFC ( $p=0.006$ ). Before the implementation of KC, the stress levels in fathers were 112.5 but at the end was 98.5. There was statistically significant data on the subscale of staff behaviors and communication that resulted in a $p$ -value of 0.001. "After starting KC, there was better communication with the staff; with more time being spent in the NICU, the fathers appreciated the work and efforts of the staff towards the care of their sick infant."
Conclusions	KC is a beneficial practice that should be frequently implemented in the NICU, especially with fathers to help reduce stress in caring for a premature infant for the mom and the father.
Implications for Future Research	The sample size of the study was small with only 30 fathers and would need a larger sample to validate the reduction of stress findings to a larger population. There was limited access to KC sessions to gather data from in that having more sessions that were frequent and longer can potentially further reduce stress.
Implications for Practice	The study did not factor in other external stressors that can be of cause to high stress levels prior to KC; financial, social, and physical health that may construe data.

Citation, Author(s), Year	Garnica-Torres, Z. et al. (2021) <i>Attachment between father and premature baby in kangaroo care in a neonatal unit of a public hospital</i> . <i>Journal of Neonatal Nursing</i> , 27, 334-340.
Theoretical/Conceptual Framework	The aim of this study is to analyze the fathers' attachment with their premature newborn in the NICU after implementation of KC practice.
Research Question(s)/Hypothesis	Fathers have limited opportunities to engage with their newborn while being placed in the NICU that prolongs the feelings of poor attachment and causes weak bonding with their baby. After implementation of KC, fathers will be assessed on their level of attachment to see if there is any effect.

## The Experiences of Fathers Practicing Kangaroo Care

Methodology	This was a cross-sectional study that included 32 fathers of premature newborns that were in the NICU. The paternal postnatal attachment scale was used to measure three factors: patience, tolerance, and satisfaction; Pride and affection; interaction and transition to parenthood.
Analysis & Results	“When fathers perform the kangaroo position, it increases the sense and capacity to care for their babies, and it promotes the reduction of negative emotions caused by the traumatic event of premature birth.” Within the first hour of KC, there were evident positive effects towards the baby’s wellbeing as well as the strengthening of the father’s bond with their baby.
Conclusions	After participating in KC practice, fathers have higher attachment scores in comparison to fathers who did not. Kangaroo care is a nursing care promotion necessary to help fathers establish/promote attachment between the baby and them. Due to hospital policies, economic factors, and limitations on parental leave, these barriers cause restrictions on engagement with their preemie to inconsistency of KC.
Implications for Future Research	Limitations on small sample size conducted at a singular hospital to which future studies would benefit with a larger sized sample.
Implications for Practice	The tool used to evaluate the attachment score may need to be improved on for future studies as the “highest percentage of the variance is concentrated in the first three factors.”