


Maternal feelings regarding the kangaroo mother care and the neonatal intensive unit care

  <https://doi.org/10.56238/devopinterscie-139>

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ABSTRACT

Objective - To know the perception of mothers of premature babies about Kangaroo Mother Care. Method - Qualitative, descriptive, exploratory study, carried out with mothers of premature infants admitted to a tertiary neonatal ICU at a University Hospital in

Southern Brazil. Results - Seven mothers, aged between 19 and 43, participated in semi-structured interviews. Maternal feelings ranged between fear and security about the baby and the joy of skin-to-skin contact. The mothers emphasize the importance of the practice and considered the hospitalization itself, having their children away from home and commuting so that they could be with them as the greatest difficulty. Conclusions - The CM and the kangaroo position are important for mothers and babies, with benefits for both, and it is essential to expand it among health professionals who work with these patients.

Keywords: Kangaroo mother care, caregivers, perception

1 INTRODUCTION

Premature newborns represent about 11% of births in Brazil¹ and all babies born at less than 37 weeks of gestational age are considered premature². Prematurity is responsible for the increase in morbidity and mortality of newborns, being greater the lower their gestational age. There are several complications resulting from premature birth, with problems that manifest themselves throughout life, such as cerebral palsy, learning difficulties, and visual and hearing deficits².

The vast majority of premature children need intensive care and the Kangaroo Mother Care (KM) is a humane way of treating these babies, as it aims to reduce hospitalization time and the complications inherent to this time, and increase the rate of breastfeeding. The method is a low-cost application technology, as it only depends on technical knowledge and the presence of the mother¹.

Being a mother and father of a premature newborn is being inserted in an environment that is far from what one imagines when waiting for the baby's arrival, as the baby will have to be hospitalized and under medical care. Insecurity and fear of what might happen are frequent, in addition to the feeling that

your child does not belong³. KM emerged as a care strategy in places with a lack of equipment, but it has shown that its benefits go beyond and ensure humanized care for babies and their families⁴.

Studies on the CM began in the 1970s in Colombia by researchers Drs. Edgar Rey and Hector Martinez. Due to the lack of resources and materials for the treatment of preterm infants, researchers were looking for a low-cost alternative. The CM emerged as a way to provide warmth and love to premature newborns and over the years it has proven to bring many other benefits to these babies and their families⁵.

The increase in the prevalence of exclusive and prolonged breastfeeding was observed in the 1990s, through a randomized clinical trial carried out in three hospitals in Ethiopia, Mexico, and Indonesia. In this study, patients with birth weights between 1,000 and 1,999 grams were selected. They were randomly separated into two groups: one performed skin-to-skin contact and the other remained in the incubator. The first group had a lower incidence of hypothermia, higher average daily weight gain, were discharged earlier, and had a higher prevalence of exclusive breastfeeding at discharge. The method had a lower cost and greater preference by mothers⁶.

In the 1990s, the biological and behavioral benefits of MC began to be studied. It was identified that babies in CM maintained body temperature more adequately, there was no difference in heart and respiratory rates and oxygen saturation remained stable or even higher⁷. The early initiation of the kangaroo position increased mothers' sense of competence through a better state of readiness to recognize and respond to their babies' warning signs⁸.

In the 2000s, KM began to be adopted internationally as a routine in hospitals and became a basic right of low-weight and full-term newborns. The method promotes behavioral organization, reduces irritability, and improves mental and psychomotor development⁵. As of 2000, it is instituted in Brazil as a public policy through the Norm for Humanized Attention to Low Weight Newborns, Ordinance No. 693 of July 5, 2009. This pointed to a paradigm shift in neonatal care, with greater attention to the ambiance, such as lights, and noise for the protection and development of the brain, promotion of bonding, and breastfeeding. It has also been shown to reduce the risk of serious infection and the mortality rate at discharge, as well as increase rates of breastfeeding, weight gain, and length increase¹⁰.

In Brazil, KM is characterized by humanized care for newborns and is centered on the family. It has three stages, the first of which starts in the prenatal care of the pregnant woman who needs specific care, goes through the birth, and continues during hospitalization in the Neonatal Intensive Care Unit (NICU) and the Conventional Neonatal Intermediate Care Unit (NICU). At this stage, breastfeeding support is offered, environmental stimuli such as noise and sounds are reduced, parents are encouraged to stay in the NICU for as long as possible, and early contact with the newborn is provided, from touch to position kangaroo. This position is performed through skin-to-skin contact, with the newborn only in a diaper and in a vertical position next to the parents' chest¹.

Parents' experiences and feelings were studied at a Danish university hospital. Based on a qualitative and descriptive study, a semi-structured interview was conducted with 16 parents of extremely premature

infants about the immediate experience after skin-to-skin contact and the practice. Feelings ranged from ambivalence to a sense of benefit for both parents and NBs. According to the parents, the bond was facilitated through the use of the KM and they began to feel useful to their children. One of the mothers interviewed for this study reported that from that moment the NB became her daughter³. A 2020 study, carried out with Turkish mothers, divided them into two groups: one in which they performed the kangaroo position and another in which no form of intervention was provided. As a result, the author points out that CM positively affects maternal attachment¹¹.

MC awakens several positive feelings both in parents and in professionals who work in the neonatal ICU and, therefore, deserves special attention. Due to all the observed benefits, Brazil developed KM as a more comprehensive and humane way of caring for NBs. However, even today we do not have much data that speak about the difficulties and feelings for the practice of KM, both for parents and for professionals. In this sense, it is important to better understand how the method is seen by parents of premature infants in the neonatal ICU. Thus, the objective of this study was to know the perception of mothers of preterm infants and describe their feelings about such an experience with the KM.

2 METHOD

This is a qualitative, exploratory, and descriptive study, which included seven mothers who were hospitalized with their premature babies in the neonatal ICU of a University Hospital in the Metropolitan Region of Porto Alegre/RS in November 2022. This University Hospital in Canoas is a reference for high-risk pregnant women for several municipalities in the region, with an average of 350 births per month. It has a tertiary Neonatal ICU consisting of 20 beds in the Neonatal ICU (NICU), 10 beds in the Conventional Intermediate Care Unit (UCINCo), and five beds in the Kangaroo Intermediate Care Unit (UCINCa). The ICU is the Kangaroo Method Reference Center in the State of Rio Grande do Sul, the Ministry of Health. The average number of hospitalizations is 44 per month, 53.6% of which are premature.

Seven mothers of premature patients (gestational age between 23 and 36 weeks) admitted to the neonatal ICU in November 2022 and who had started skin-to-skin contact for at least one week were invited to participate in the study. For the sociodemographic characterization of mothers, age, parity, number of living children, schooling in years, profession/occupation, marital status, income, and the city where they live were used. For babies, gestational age and birth weight were used. After being informed of the objectives of the study and agreeing to participate, they signed the Free and Informed Consent Form (TCLE). To ensure the secrecy of the interviewees' identity, they were identified as M1, M2, and so on.

Then, semi-structured interviews were conducted with the following guiding questions: the feeling of having a child hospitalized in a neonatal ICU; when you first touched your baby and how it was; how does it feel to do the kangaroo position for the first time and what is the biggest difficulty during your child's hospitalization. The interviews took place according to the availability of the mothers and in a reserved room at the HU and were carried out by the author of this study, a pediatrician and neonatologist

and a former employee of the institution, having worked there for nine years and tutor of the Kangaroo Method. Mothers were personally invited during a visit to the neonatal ICU, with no refusal.

Data were recorded, transcribed, and submitted to qualitative content analysis¹². This stage included pre-analysis of the material when it was chosen and organized; "fluctuating reading", when the hypotheses and objectives of the research were elaborated; creation of indicators; coding of aggregated data in units; and final interpretation.

This research was submitted to the Research Ethics Committee and approved with the opinion 5.607.732 of the Lutheran University of Brazil, ULBRA/RS, and with the CAAE 61103122.0.0000.5349. All participants who agreed to take part by signing the TCLE were aware of the possibility of withdrawing from the research at any time, with no implication of burden or bonus.

3 RESULTS AND DISCUSSION

Interviews were conducted with seven mothers of preterm infants, all admitted to the neonatal ICU, as shown in the table below.

Table 1 – Characterization of mothers according to age, number of children, education, profession, marital status, the city where they live, and gestational age

	Age	Living children	Education	Profession/occupation	Marital status	City	Gestational Age
M1	43	1	11 years	Firefighter	Married	Canoas	29
M2	36	2	11 years	Saleswoman	Single	Parobé	34
M3	25	1	4 years	Autonomous	Single	Canoas	34
M4	19	1	11 years	Housewife	Married	Jacuzinho	36
M5	37	5	5 years	Charwoman	Single	Canoas	25
M6	33	4	6 years	Housewife	Single	Sapucaia do Sul	32
M7	26	1	8 years	General Services	Married	Sapucaia do Sul	31

In the table above, it is observed that the age of the mothers ranged from 19 to 43 years and the number of living children was between one and five children, with the majority having only one. Schooling ranged from 4 to 11 years of study. Of the interviewees, three were married and only three lived in the city where the hospital was located. The babies' gestational age ranged from 25 to 36 weeks and the birth weight variation ranged from 750 to 2640 grams.

The analysis of the interviews indicated three thematic categories. They are 1) Feelings related to the hospitalization of the baby in the neonatal ICU; 2) Experience of the kangaroo position; 3) Difficulties experienced during the baby's hospitalization.

Feelings related to the hospitalization of the baby in the neonatal ICU

In this category, the feelings generated by having a child hospitalized in the neonatal ICU will be reported. The statements varied greatly in the reports of the mothers interviewed, as they had imagined a baby who would leave the hospital with them in good health. However, this was not the reality of these mothers, as this newborn cannot be discharged due to his weight and health status. He is a baby who needs care. As reported by one of the mothers, the feeling *"...it's good and it's not"*, because having a premature baby hospitalized surprises all existing expectations. *"Now it's been quiet, but when she was hospitalized here, the whole movie played in my head (due to the hospitalization of another child previously)"* (M7, 26 years old). A similar sensation was described by another when she said that *"it's a mixture of feelings. At first it's fear, now it's a feeling of peace when I see that she's getting better every day"* (M1, 43 years old). One of the mothers mentioned that being with the hospitalized baby brought *"...a feeling of helplessness, you want to protect (the baby)"* (M1, 43 years old). On the other hand, another M3 mother pointed out that *"...you win her and soon she will not be there with you going home". She says she wants "all this to end at once and I can take her home, stay with us"* (M3, 25 years old).

This ambivalent feeling was reported by mothers in a qualitative and descriptive study carried out in Pernambuco with 14 mothers and two fathers who reported that when they saw the baby with so many wires and equipment they felt horrified. However, at the same time that they were scared, they were happy that their children received the necessary care¹³.

One of the mothers reported that *"it's something out of the ordinary, I've never felt something like this. It's very different. On the one hand, it's very bad and on the other, you feel safe"* (M5, 37 years old). As noted in the interviews, the downside is seeing your child full of tubes and in need of care. A qualitative and descriptive study carried out in the United States and published in 2020 evaluated the experience of mothers when having their babies hospitalized in a family-centered neonatal ICU. It also reported maternal anxiety and fear of hurting their premature babies, even when they are considered stable¹⁴. This feeling seems to be shared by most mothers of premature babies, as they feel insecure and afraid of touching the child and hurting him. A qualitative, exploratory and descriptive study carried out in southern Brazil in 2015, interviewed 26 parents and sought to know the perspective of parents with hospitalized in the neonatal ICU. As a result, the parents' anxiety and insecurity were described, as well as the hope for the baby's discharge¹⁵.

Having a hospitalized baby is not easy for any family, as seeing the child suffering, with devices, very small and needing care 100% of the time is very stressful. However, they perceive that the health team is very attentive to the babies and this care was pointed out as a positive point of the hospitalization, but they do not overcome the feeling of having a hospitalized child. *"It was a horrible experience and now I'm close to taking her. The nurses take very good care of her, the doctors, everything. But just the fact that she's there is bad, horrible"* (M4, 19 years old). *"They do everything possible and impossible for everyone, but the feeling is very bad, a feeling of insecurity. I'll understand that she's fine the day she goes home"*

because while she's in here, everything can change" (M5, 37 years old). "When I saw that there were some very good nurses, I saw that their work is very good, so I started to calm down more. It was day by day, one day at a time" (M6, 33 years old).

As in the present study, the care provided by the health team was listed in an article from 2021, carried out in Ivory Coast, which interviewed mothers about facilitators and barriers concerning KM. It was reported that the mothers felt supported by the professionals mainly due to their ability to listen and the way they behaved. Similar to the statements cited in the present study, the mothers interviewed in Côte d'Ivoire pointed out that they felt anxious at first and were afraid of hurting the baby, but they were supported by health professionals and, with that, learned to deal with their baby¹⁶.

For some mothers, the mentioned feeling was one of security. One mother reported that she felt *"secure because of the care she has. Support. Very happy that she has all the assistance she needs, all the care" (M2, 36 years old)*. Still, on the safety that the health team passes, the mother reinforces that *"we do not have doubts because it is a situation like this, that we are not prepared, we do not know how to deal"* (M2, 36 years old). The team's care for the babies was pointed out in a qualitative study published in 2022 and carried out in a neonatal ICU in Recife. In this, the author mentioned that parents feel the affection and loving care that the nursing team had for their children¹³.

Having a child hospitalized in a neonatal ICU generated different feelings, but they all revolved around the fear that something would happen to this fragile baby and the security of seeing him well cared for. All these feelings reflected the lack that the expected baby by not staying with the parents after birth.

The feelings related to the experience of the KM and the contact with the baby will be listed below.

Kangaroo position experience

In this category, the experience of touching the baby and experiencing the kangaroo position will be reported. Most of the unpleasant feelings pointed out by the mothers during the baby's hospitalization began to be diluted by being able to touch him, strengthening the feeling of belonging. According to one of the mothers, the first touch *"was a feeling that they are there, alive. And for them to feel that I am there together" (M6, 33 years old)*. *"It went really well!" (M3, 25 years old)*. With her first pregnancy at the age of 43, one mother reported in tears that *"it was a wonderful feeling, feeling that everything was going to work out"*. *She reinforced that "... the time I'm with her is the best feeling in the world" (M1, 43 years old)*.

This moment of being able to touch your baby was very emotional. *"I shook, I cried and at the same time I didn't want to touch her because she was so tiny, so fragile, I really wanted to hold her" (M5, 37 years old)*. The baby's feeling of fragility was also highlighted in a qualitative study carried out with parents who performed KM in China. In it, the parents mentioned that at first, it was difficult to touch, because the children were very small and they thought it was inappropriate to touch such a small baby¹⁷. This was also described in a national article in which mothers reported that contact with their baby helps to overcome the fear of their fragile child¹⁵. This seems to be the moment when dreams start to materialize,

as quoted by one of the mothers: *"It was a very good feeling! Because my dream has always been to be a mother. And since I had this pregnancy that I lost, I thought I I couldn't get pregnant anymore"* (M7, 26 years old).

The feeling that was already very positive when touching, became even greater when having your baby placed skin-to-skin for the first time. The report of this being the best moment was unanimous. *"The best moment of the day. As much as you're playing there, the feeling of having her there close to you is the best in the world"* (M1, 43 years old). *"A thousand things come to mind. A feeling that you can protect yourself, a feeling that being close to you, nothing will happen."* (M1, 43 years old). These same feelings were described in a recently published Chinese study conducted with 752 women. Most mothers stayed for an hour with the baby in the kangaroo position and reported a great emotional bond, in addition to improvements in the babies' feeding. They also emphasized how important the support of the health team was¹⁸.

The moment of experiencing KM is reported by all the mothers interviewed for this study as the most important moment for bonding with the baby. *"It gives you strength! It's very good"* (M1, 43 years old). *"I thought I wasn't going to be a mother and God gave me my daughter. It was really good"* (M7, 26 years old). *"I never imagined feeling such a great love as I felt that day. Holding her, being able to feel her like this, so close"* (M4, 19 years old). *"She has a strength that God gives her all the time. It's my little miracle!"* (M1, 43 years old). In Spain, a cohort study carried out with mothers who experienced CM showed that performing the method reduces maternal stress, including a decrease in serum levels of cortisol, the stress hormone, in these mothers⁽¹⁹⁾. A 2021 systematic review, with 19 articles included, also showed a decrease in depressive symptoms and physiological stress in mothers who underwent the MC²⁰.

Very important, is the description of the decrease in the separation of mothers and babies. After a few months with your baby inside your belly, when faced with the suffering of seeing him inside an incubator, the kangaroo position comes as an encouragement to this separation. *"Our last contact had been inside my belly. So it was like we were connected again. The cord that had been broken had been established again"* (M2, 36 years old). The maternal bond related to the Kangaroo Method has been studied in a systematic review, which showed a positive result in strengthening the mother-baby bond without finding unfavorable factors for the method on this issue²¹.

The hope of seeing her baby well increased the mother's strength to continue fighting. This showed the importance of skin-to-skin contact for her as well. *"Seeing such a tiny thing there fighting like her, there's no way we can give up, there's no way we can't have hope"* (M5, 37 years old). A qualitative study carried out in Malawi with mothers and fathers who performed the CM showed a similar impact, at first the fear of putting the baby in the kangaroo position and, later, the happiness in seeing the improvement in weight gain and the baby's evolution and also the hope of a brief rise²².

Even with all the specialized care provided by the health team, which the mothers understood as important, they believed that this did not replace their presence in the babies' lives. *"You see that there are*

a lot of people taking care of them and they are very good. But the best feeling in the world is when we can hold them in our arms" (M5, 37 years old). "It was very good, both for me and for them. After we started doing it, their health improved a lot. They are not alone" (M6, 33 years old).

The MC shows that in addition to all the comfort, he begins to prepare this family for discharge. Parents know their baby best in every detail and become closer to him. "Because when he leaves the incubator, we don't know what he's like, if they cry, how to calm him down. Taking him in the arms, he can feel, he can see the details, the cry. He starts to know the baby" (M6, 33 years old). This feeling is common among mothers in a recent study, as they reported that skin-to-skin helps the baby to be close to them and they feel much more prepared just for being there with them¹⁴.

The numerous benefits of practicing the kangaroo position are perceived in the speeches of mothers who demonstrated a decrease in fear and consequent reduction in their levels of sadness and anxiety. In addition, the improvement of the babies was significantly reported by them.

Difficulties that mothers reported perceiving during hospitalization will be described below.

Difficulties experienced during the hospitalization of the baby

The greatest difficulty described by the mothers is the time of admission when they needed to go to the neonatal ICU. "I didn't know, I didn't know how, what was happening, when they would leave, how their improvement would be. Many doubts we have. It was very difficult at first" (M6, 33 years old). "Seeing the devices beeping. Every time they beeped I thought it was something serious" (M7, 26 years old). The arrival at the NICU and the beginning of hospitalization are also described as a bad moment, as mothers feel intimidated by the fact that the babies are very small, as well as by the noisy equipment and the incubator. All this is very frightening for them¹⁴.

Another difficulty experienced by the mothers was commuting to reach the ICU, as most of them lived in other cities. According to one of the mothers "...the greatest difficulty is coming from there to here" (M3, 25 years old) and another agreed that it was very difficult to come and go "Locomotion hinders a lot to come here. people are not from here" (M3, 25 years old). Even when getting around wasn't so difficult, the distance got in the way: "I think I spend a little time with her. We try to supply everything we need at that time and it's not enough. Now more than ever, she needs contact with me, even to help with breastfeeding" (M2, 36 years old). These data were similar to those of a qualitative study, in which the interviewed mothers reported difficulties with locomotion and also financial difficulties to pay for food and their stay in the neonatal ICU¹⁴.

The unpleasant news and moments of clinical worsening were also verbalized by one of the mothers, as she believed "... that the greatest difficulty is when they come to tell us the truth" (M5, 37 years old). "When the doctors come and tell us the truth. I create a block. They speak, I am aware, but at the same time I pretend that it is not true" (M5, 37 years old). Contrary to what is mentioned in this study, in an article carried out in a neonatal ICU in southern Brazil, mothers reported feeling less anxious and happier

with the information provided by health professionals¹⁵. For one of the mothers, the biggest difficulty was not being able to be with her baby all the time: "*leaving her here for a few moments. There are days when it seems like the day doesn't pass. It's all very slow, it's her little time and in her heart sometimes that anxiety hits*" (M1, 43 years old).

Considering that the hospitalization of their baby was considered bad by most mothers, the moment in which it occurs was extremely difficult, generating distress and fear due to all the uncertainties that are beginning. The desire to be with the baby throughout the entire period is hampered by the distance these mothers need to travel to be with them and often for a shorter period than desired.

4 CONCLUSION

From the present study, we can see the difficulties and anxieties of mothers when they see their child hospitalized in a neonatal ICU, as well as the feelings involved when they start to touch their child and hold him in their arms. Having a child hospitalized in a neonatal ICU generated feelings of fear and insecurity regarding the future of your baby. As the days went by, the perception of good practices carried out by the health team, as well as the affection transmitted by them, made them feel more secure with this hospitalization.

By being able to touch the baby and experience the CM through performing the kangaroo position with their children, the mothers began to feel joy and hope when feeling the baby in their arms. They reported that it was a sense of belonging, of feeling close to their son again. There was consensus on how much MC was good for them and their babies.

Among the difficulties listed by the mothers, the main one is the hospitalization itself and all the fears involved in it. Along with her, the distance for not being able to be with her baby at home and the displacement to go to the hospital.

All these feelings were very intense and fluctuated during hospitalization, but the benefits of early touch and skin-to-skin contact go beyond the moment of practice, bringing good sensations and a more accurate perception of the baby's improvement. Therefore, the health teams must reinforce the benefits of using the method for both the baby and the family. The shyness of mothers and the absence of mothers of babies who would be eligible for the study were limitations for carrying out this study. The time they were in the hospital was restricted and they wanted to stay with their children and the interview ended up taking them out of this contact. Future studies are needed based on this one so that maternal feelings about CM are elucidated in more depth to be able to help health teams to remain firm and willing to offer this practice to the greatest number of families.

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