

# **Singing to preterm infants during kangaroo care reduces maternal anxiety and supports the mother-infant relationship**

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Premature births are stressful experiences that increase the risk of anxiety for mothers and may hinder the development of interaction

between mother and infant. A new study indicates that the combination of singing and kangaroo care boosts the wellbeing of the mothers of preterm infants, also making it easier for them to establish a connection with their baby.

When a child is born before term, the mother and baby are physically separated due to the hospital care required by the latter. Mothers of preterm [infants](#) often experience stress in the hospital, and their worry for the baby's survival may be considerable. This heightens their risk of anxiety and depression, particularly among [mothers](#) of infants whose birth weight is very low or who are born very early. Maternal stress and depressive symptoms can also pose a risk to the infant's further development.

Researchers from the University of Helsinki contributed to a study investigating the effects of singing during [kangaroo](#) care on maternal wellbeing and the mother–infant relationship after preterm birth.

In kangaroo care, the preterm infant is placed on the parent's chest to establish skin-to-skin contact. Due to its developmentally supporting outcomes, the method has consolidated its position as part of the standard care for preterm infants in Finland, and it is often initiated already during intensive care immediately after the infant's physical condition makes kangaroo care possible.

'Singing Kangaroo' study conducted at the University of Helsinki observed 24 mothers who sang or hummed over the course of kangaroo care to their preterm infants during a period corresponding with weeks 33 to 40 of pregnancy. A music therapist guided the parents in the [intervention group](#) to sing in a manner appropriate for the age of the preterm infant and also provided them with singing material.

In the control group, 12 mothers carried out kangaroo care as standard

practice up to week 40 without any specific encouragement to sing. Maternal anxiety was measured at the beginning and end of the intervention. After the singing period, the mothers in the singing group completed a questionnaire on their singing experiences. The mothers in both groups kept a journal where they recorded the duration of their daily interventions, while the control group mothers also recorded information on the auditory environment associated with kangaroo care.

"Prior research has shown that the mother's voice and singing have positive effects on the development of preterm infants, among them the potential to stabilize their physiological state. In addition, several music therapy studies have demonstrated that music therapy and singing by mothers in conjunction with kangaroo care already in intensive care can positively affect the mothers in particular by reducing their anxiety," says doctoral student Kaisamari Kostilainen from the University of Helsinki.

## **Singing relaxes both mother and child—All mothers continued singing after the study**

According to the findings, anxiety had been statistically reduced in the group of singing mothers after the intervention period compared to the mothers in the [control group](#), who, according to their journals, did not sing during kangaroo care.

The results of the questionnaire show that singing also had a positive effect on maternal mood and general wellbeing. A total of 18 mothers (85%) reported that singing improved their mood, and 14 mothers (67%) felt singing helped them cope in a difficult situation. Sixteen respondents (76%) said that singing improved their wellbeing in general.

Furthermore, the mothers felt that singing relaxed both themselves and their babies, as well as supported the establishment of the mother–infant

relationship. A total of 19 mothers (90%) reported in the questionnaire that their baby reacted to their singing in kangaroo care by relaxing.

Seventeen mothers (80%) said their babies fell asleep while listening to the singing. Nearly all mothers (95%) felt singing promoted interaction with their infants and made it easier to establish an emotional connection.

Mothers sang the most during the intervention, but 16 mothers (76%) reported that the other parent sang to their preterm baby as well. In all of the families included in the dataset, the other parent was the father. Not enough data concerning the fathers was obtained for analysis.

All of the mothers in the singing group reported they had continued singing at home after the study, with singing established as an element of daily family routines.

"The results show that singing in kangaroo care after preterm birth can support maternal wellbeing and the mother–infant relationship by creating interactive situations and promoting an emotional connection. However, mothers may need support, guidance and privacy for singing. According to our findings, mothers may benefit from support and guidance provided by a trained music therapist in singing and using their voice in support of wellbeing and interaction while in [hospital care](#)," Kostilainen says.

'Singing Kangaroo' (Laulava Kenguru) is a longitudinal study which investigates the effects of singing by the parents during [kangaroo care](#) on the auditory discrimination of preterm infants at term age, their later cognitive development and maternal anxiety and wellbeing as well as the mother–infant relationship during care on the ward.

**More information:** Kaisamari Kostilainen et al. Effects of maternal

singing during kangaroo care on maternal anxiety, wellbeing, and mother-infant relationship after preterm birth: a mixed methods study, *Nordic Journal of Music Therapy* (2020). [DOI: 10.1080/08098131.2020.1837210](https://doi.org/10.1080/08098131.2020.1837210)

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