WHAT DOES AFFECT THE EFFICACY OF SKIN-TO-SKIN CONTACT IN PRETERM INFANTS?

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Developmental care for preterm infants

**Developmental care** is an approach that uses a range of medical and nursing interventions with the aim to reduce the mismatches between extra- and intrauterine environment that decrease the stress of preterm neonates in neonatal departments, and therefore promote optimal healthy growth and neurobehavioral development of the infant

[Heidelise Als, 2004].

**KANGAROO MOTHER CARE (KMC) IS A CORNERSTONE OF DEVELOPMENTAL AND FAMILY-ORIENTED CARE FOR VERY LOW-BIRTH-WEIGHT PRETERM INFANTS**

Kangaroo mother care (KMC), originally defined as skin-to-skin contact between a mother and her newborn, frequent and exclusive or nearly exclusive breastfeeding, and early discharge from hospital, has been proposed as an alternative to conventional neonatal care for low birthweight (LBW) infants.

[Conde-Agudelo A, Díaz-Rossello JL., Cochrane Database of Systematic Reviews, 2016]
Historical remarks about skin-to-skin contact

- **1978** – pediatrician Edgar Rey Sanabria in Bogotá, Colombia firstly introduced Kangaroo care, the main component of which is SSC, as an alternative method of care for extremely premature infants in low-income countries.

- **1984** – UNICEF firstly reported: "Intriguing and incredible survival of “kangaroo babies” unparalleled in medical literature"

- **1985** - Professor Andrew Whitelaw (UK) visited Bogotá
  - 1st description of KMC in English medical literature
  - Continued KMC research - found many benefits

- **Since 1985**
  - KMC practiced in many parts of the world
  - Supported by WHO and many organizations as a LABE SAVING METHOD OF CARE

Similar to kangaroo care giving the human infant is also immature and especially the LBW infant benefits from skin-to-skin care because it provides WARMTH, SAFETY AND FOOD

[Whitelaw, 1985]
Benefits of skin-to-skin contact

- Enhances physiologic stability
- Improves weight gain
- Shortens length of stay
- Decreases stress
- Enhances bonding
- Increases success of breastfeeding
- Reduces minimizes pain
- Improves sleep
- Improves brain, cognitive and psychomotor development
What should be the optimal SSC duration per day in order to achieve maximum effect?

Even 1 hour a day of Kangaroo care may have positive long-term outcomes

[Fieldman et al., 2014].

THE PURPOSE OF OUR STUDY:

to investigate the effectiveness of skin-to-skin contact depending on its duration in preterm babies
RESEARCH DESIGN

26 premature babies with GA < 29 weeks

According to the duration of skin-to-skin contact

- **group I** – 10 infants (38.5%) (more than 3 hours a day, regularly)
- **group II** – 16 infants (61.5%) (less than 3 hours a day, mostly irregularly)

37 premature babies with GA 29-32 weeks

According to the duration of skin-to-skin contact

- **group I** – 15 infants (40.5%) (more than 3 hours a day, regularly)
- **group II** – 22 infants (59.5%) (less than 3 hours a day, mostly irregularly)
Benefits of the SSC depending on its duration in preterm infants with \textit{GA} < 29 weeks

<table>
<thead>
<tr>
<th></th>
<th>I group ( \text{n}=10 )</th>
<th>II group ( \text{n}=16 )</th>
<th>( p )</th>
<th>Odds Ratio ( (95% \text{ CI}) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPD</td>
<td>3 (20.0)</td>
<td>0 (0.0)</td>
<td>0.428</td>
<td>2.33 (0.44-12.40)</td>
</tr>
<tr>
<td>Nosocomial infection</td>
<td>3 (30.0)</td>
<td>12 (75.0)*</td>
<td>0.043</td>
<td>7.00 (1.20-40.83)</td>
</tr>
<tr>
<td>NEC</td>
<td>0 (0.0)</td>
<td>2 (12.5)</td>
<td>0.508</td>
<td>-</td>
</tr>
<tr>
<td>Cholestasis</td>
<td>0 (0.0)</td>
<td>4 (25.0)</td>
<td>0.136</td>
<td>-</td>
</tr>
<tr>
<td>Artificial feeding at discharge</td>
<td>3 (30.0)</td>
<td>12 (75.0)*</td>
<td>0.043</td>
<td>7.00 (1.20-40.83)</td>
</tr>
<tr>
<td>Oxygen -dependence at discharge</td>
<td>1 (10.0)</td>
<td>5 (31.25)</td>
<td>0.352</td>
<td>4.09 (0.40-41.66)</td>
</tr>
<tr>
<td>Daily weight gain (g)</td>
<td>23.03 [20.48; 26.81]</td>
<td>20.18 [18.58; 23.07]</td>
<td>0.140</td>
<td>-</td>
</tr>
</tbody>
</table>

* \( p \) value <0.05; 95% CI – 95\% Confidence Intervals
Benefits of the SSC depending on its duration in preterm infants with **GA 29-32 weeks**

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<tr>
<td></td>
<td>n</td>
<td>%</td>
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<td><strong>Artificial feeding at discharge</strong></td>
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<td>13</td>
<td>(59.1)*</td>
</tr>
<tr>
<td><strong>Nosocomial infection</strong></td>
<td>0</td>
<td>(0.0)</td>
<td>3</td>
<td>(13.6)</td>
</tr>
</tbody>
</table>

* p value <0.05; 95% CI - 95% Confidence Intervals
Conclusions

Regular and prolonged SSC has a positive impact on the preterm baby’s health preventing the nosocomial infections and promoting breastfeeding.

«Never separate mother and her newborn. The benefits are even more crucial for a premature baby.»

[Dr. Nils Bergman, 2007]