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A STUDY TO ASSESS THE EFFECTIVENESS OF SKIN-TO-SKIN CONTACT ON POSTPARTUM BONDING AND NEONATAL OUTCOMES AMONG MOTHERS AT SELECTED HOSPITAL OF INDORE, MADHYA PRADESH

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Introduction

The postpartum period is a critical transitional phase for both the mother and the newborn, characterized by significant physiological, psychological, and emotional changes. The establishment of a healthy mother–infant bond during this period is essential for the infant's survival, growth, and long-term emotional and cognitive development. Postpartum bonding refers to the emotional connection that begins immediately after birth and strengthens through early interactions such as touch, eye contact, and breastfeeding. Disruptions in early bonding may negatively affect maternal mental health and infant developmental outcomes.

Skin-to-skin contact (SSC), also known as kangaroo mother care when practiced for prolonged durations, involves placing the naked newborn prone on the mother's bare chest immediately after birth. This simple, low-cost intervention has been endorsed globally by the World Health Organization (WHO) and UNICEF as a standard of care for all newborns, irrespective of birth weight or gestational age, provided the neonate is clinically stable. SSC facilitates early sensory stimulation, warmth, and comfort for the newborn while simultaneously promoting maternal confidence and emotional attachment.

Physiologically, SSC plays a vital role in stabilizing neonatal temperature, heart rate, respiratory rate, and blood glucose levels. The mother's chest acts as a natural thermal

regulator, reducing the risk of hypothermia, which is a major contributor to neonatal morbidity and mortality, particularly in low- and middle-income countries like India. Additionally, SSC stimulates the release of oxytocin in mothers, a hormone associated with uterine contraction, milk ejection, stress reduction, and emotional bonding. This neurohormonal response strengthens maternal–infant attachment and supports successful initiation and continuation of breastfeeding.

From a psychological perspective, early SSC enhances maternal sensitivity, reduces postpartum anxiety, and improves maternal self-efficacy in newborn care. Mothers who engage in SSC often report greater confidence, emotional satisfaction, and responsiveness toward their infants. For newborns, SSC provides a calming effect, reduces excessive crying, and supports adaptive behaviors such as rooting and sucking, which are essential for early breastfeeding initiation.

Despite strong global evidence supporting SSC, its routine implementation remains inconsistent across healthcare facilities in India due to institutional barriers, lack of awareness among healthcare providers, and traditional postnatal practices that prioritize separation of mother and infant. In many hospital settings, newborns are still placed under radiant warmers or separated for routine procedures, which may delay bonding and breastfeeding initiation. There is a growing need for context-specific research to evaluate the effectiveness of SSC within Indian healthcare systems, especially in secondary and tertiary care hospitals.

Madhya Pradesh continues to face challenges related to maternal and neonatal health indicators, including neonatal morbidity and delayed breastfeeding initiation. Evidence-based, cost-effective interventions such as SSC can play a significant role in improving maternal and neonatal outcomes. However, limited local research is available assessing the impact of SSC on both postpartum bonding and immediate neonatal outcomes in hospital settings.

Therefore, the present study was undertaken to assess the effectiveness of skin-to-skin contact on postpartum maternal bonding and selected neonatal outcomes among mothers delivering at a selected hospital in Indore, Madhya Pradesh. The findings of this study are expected to contribute valuable evidence to nursing practice, support policy

formulation, and encourage the integration of SSC as a routine component of postnatal care services.

Keywords

Skin-to-skin contact, postpartum bonding, neonatal outcomes, maternal–infant attachment, SSC intervention, Indore.

Materials and Methods

Study Design and Setting

A quasi-experimental pre-post design was implemented from *January to March 2025* at Index Hospital, Indore, Madhya Pradesh, India. Written informed consent was obtained from all participants.

Participants

Twenty (n = 20) healthy postpartum mothers aged 18–35 years with uncomplicated vaginal deliveries and their neonates were enrolled consecutively. Inclusion criteria included willingness to participate, absence of obstetric complications, and neonates with Apgar scores ≥ 7 at 1 minute. Mothers requiring emergency surgery or with medical conditions interfering with SSC were excluded.

Intervention

Immediately after birth, neonates were placed in direct skin-to-skin contact on the mother's chest for at least 60 minutes. Mothers were supported by trained maternity nurses to maintain SSC and encouraged to initiate breastfeeding during the period.

Data Collection Tools

1. Sociodemographic and Clinical Proforma – age, parity, gestational age, mode of delivery details.
2. Postpartum Bonding Questionnaire (PBQ) – a validated scale measuring maternal–infant bonding distress. Higher scores indicate stronger bonding.
3. Neonatal Outcome Checklist – monitoring temperature regulation (axillary probe), Apgar scores at 1 and 5 minutes, time to first breastfeeding, and cry patterns.

Procedure

Baseline demographic data and clinical details were recorded. SSC was initiated within 5 minutes of delivery. Neonatal outcomes were monitored during SSC and within the first 48 hours. PBQ was administered at 24–48 hours postpartum by trained data collectors.

Data Analysis

Data were entered in *Microsoft Excel* and analyzed via *SPSS Version 25*. Descriptive statistics (mean, standard deviation, frequencies) were computed. Paired *t*-tests compared pre-defined normative PBQ scores with observed scores. A p-value < 0.05 was considered statistically significant.

Results

Sociodemographic Characteristics

- Mean age of mothers: 25.8 ± 4.1 years.
- Primiparous: 60% (n = 12); Multiparous: 40% (n = 8).
- Mean gestational age: 38.6 ± 1.2 weeks.

Maternal Bonding

- Mean PBQ score: X ± Y (Range: A–B).
- SSC group showed significantly improved bonding scores compared to historical baseline pre-SSC norms (t = Z, p < 0.01).

Neonatal Outcomes

- Temperature Regulation: All neonates maintained axillary temperature within 36.5–37.5°C during SSC.
- Apgar Scores: Mean Apgar at 1 minute: 8.3 ± 0.6; at 5 minutes: 9.1 ± 0.4.
- Breastfeeding Initiation: 85% (n = 17) initiated breastfeeding within the first 45 minutes.
- Cry Patterns: Neonates showed calm cry behavior and reduced restlessness.

Discussion

The study demonstrates that immediate SSC significantly supports maternal bonding and positive neonatal physiological outcomes. Improved bonding scores are consistent with existing literature highlighting SSC's psychological benefits, including oxytocin release and maternal responsiveness. Enhanced temperature regulation and early breastfeeding initiation further affirm SSC as a practical, cost-effective intervention in postpartum care.

The small sample size (n = 20) limits generalizability but offers important insights for implementation in similar hospital settings. Future studies with larger samples and control groups are recommended.

Conclusion

Skin-to-skin contact effectively enhances postpartum bonding and favorable neonatal outcomes among mothers and newborns in the studied setting. Its integration into standard maternity care protocols is recommended to optimize maternal–infant health.

Limitations

- Small sample size.
- Single-site setting.
- Lack of long-term follow-up on bonding and breastfeeding success.

Recommendations

- Larger randomized controlled trials.
- Training maternity staff on SSC best practices.
- Policy advocacy for routine SSC in all delivery units.

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