

Adaptation of kangaroo mother care to Indian situation: A pilot study

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Abstract

Purpose: Kangaroo mother care (KMC) is known to reduce neonatal mortality. However, its uptake is low in many countries including India. It is likely that baring the chest during skin-to-skin contact (SSC), when wearing a gown, is not acceptable to an Indian woman. Hence, KMC with SSC was compared with skin-blouse-skin (SBS) contact for provision of warmth.

Materials and Methods: The study performed on eight low birth weight babies. The baby was in SSC on the first day of the study and in SBS contact, i.e. a cotton blouse in between, on the next day. The baby was held in upright position by a large piece of sari tied like a kitchen apron around the waist and the neck. Plantar sole, atmospheric and rectal temperatures were recorded every 30 minutes for two hours on the study days (Fig. 1). The skin, atmospheric and rectal temperatures were recorded by electronic thermometer (Meditrin, India). A 't' test was applied to see if the difference between the mean atmospheric, plantar sole and rectal temperature by two methods was statistically significant.

Results: There was no significant difference between atmospheric, rectal and skin (sole) temperatures in the two methods of contact.

Conclusions: SBS and SSC contact are comparable in keeping a baby warm.

Practice implications: Improved SSC; i.e. SBS may find better acceptance by an Indian woman wearing a sari and a blouse since, it does not bare the chest.

Keywords: Neonatal mortality, Low birth weight baby, Keeping a baby warm, Kangaroo mother care, Skin-to-skin contact.

Introduction

India is among 10 countries with the highest rates of preterm births.¹ KMC is considered as one of the most effective intervention for addressing high mortality among preterm babies especially in developing countries. A meta-analysis on KMC has shown that it is associated with 80% reduction in risk of hypothermia, reduced neonatal mortality and morbidity, higher rates of early and prolonged breast feeding, lesser infection and better maternal bonding.² However, uptake of KMC remains very low in some countries including India,² despite its effectiveness and obvious feasibility³ Socio-cultural factors are important in deciding the KMC uptake⁴ hence; locally adapted KMC may enhance the uptake. Conventionally, KMC involves SSC between the baby and the mother. This study has been conducted to see if presence of a blouse; the SBS contact, without baring the chest, makes any significant difference to the body temperatures of a baby of an Indian woman, wearing a sari and a blouse.

Materials and Methods

The study was conducted on eight low birth weight babies admitted for special care at the Came and AL bless Hospital, Mumbai. The study had approval of the Ethics Committee of Grant Medical College & J.J. Group of Hospitals, Mumbai. The babies were stable at the time of the study. The baby was in SSC on the first day of the study and in SBS contact, i.e. a cotton blouse in between, on the next day. The baby was held in upright position by a large piece of sari tied like a kitchen apron around the waist and the neck (Fig. 1).

Plantar sole, atmospheric and rectal temperatures were recorded every 30 minutes for two hours on the study days (Table). The skin, atmospheric and rectal temperature were recorded by electronic thermometer (Mediating, India). At⁷ test was applied to see if the difference between the mean atmospheric, plantar sole and rectal temperature by two methods was statistically significant.



Fig. 1: Showing the mother in a sari and blouse and the baby in skin-blouse-skin contact

Results

There was no significant difference in the mean atmospheric, sole and rectal temperatures in SSC or in SBS contact (Table 1).

Table 1: Comparison of atmospheric, sole and rectal temperatures: skin-to-skin method versus Indian adaptation

	Mean SSA	Atmos. temp. IAA	t	p	Mean SSS	Sole temp. IAS	t	p	Mean SSR	Rectal temp. IAR	t	p
0 min.	28.7	28.5	0.32	0.75	33.8	33.6	0.64	0.53	36.6	36.5	0.37	0.71
30 min.	28.8	28.5	0.67	0.51	35.0	34.2	1.47	0.16	36.8	36.7	0.69	0.5
60 min.	28.9	28.6	0.68	0.5	35.5	34.7	1.11	0.28	36.9	36.9	0.15	0.88
90 min.	28.8	28.6	0.44	0.66	35.4	35.0	0.6	0.55	37.1	37.1	0.46	0.65
120 min.	28.8	28.6	0.34	0.74	35.6	35.1	1.0	0.32	37.3	37.1	1.0	0.33

SSA - Skin-to-skin: atmospheric temperature; IAA - Indian adaptation: atmospheric temperature; SSS - Skin-to-skin: sole temperature; IAS - Indian adaptation: sole temperature; IAR -Indian adaptation: rectal temperature

Discussion

The present study shows that effective and adequate heat transfer occurs from the mother to the baby by conduction during SBS contact as well. This provides a more acceptable option to an Indian mother for KMC. However, a caution is warranted in the interpretation of the results of the index study considering its small sample size. The authors note the need for a larger trial. The observations made in this study may increase acceptance of KMC in India.

KMC is a behavior- driven intervention⁴ and may be influenced by socio-cultural norms including caregiver's clothing. Hence, clothing of the mother, the commonest caregiver, needs attention during KMC implementation. Commonly, during KMC, the baby is clad in a diaper and cap and, is held in an upright prone position against the bare chest of the mother, sitting back in a rocking chair². The caregiver's clothing for KMC includes open gown wrap (cloth or blanket,) dupatta (a stole) or a specialized kangaroo mother care bra. A baby is often held in position by using dupatta, loose blouse or a specially designed sling.⁴ An Indian mother too needs to be comfortable in her attire while giving KMC. An open gown and a bare chest are not generally socially acceptable in India. A research such as this, which evaluates cultural interventions to promote KMC, is needed to enhance routine uptake of KMC.⁵ Our study is a step in that direction.

References

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