

Benefit of Kangaroo mother care in low birthweight infants??

Children's Hospital II
Neonatal Department

CONTENTS

1. Background
2. Objectives
3. Comparison Kangaroo mother care versus conventional neonatal care
4. Comparison Early versus late kangaroo mother care
5. Conclusion

EVIDENCE-BASED CHILD HEALTH: A COCHRANE REVIEW JOURNAL

Evid.-Based Child Health **7:2**: 760–876 (2012)

Published online in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/ebch.1837

Kangaroo mother care to reduce morbidity and mortality in low birthweight infants (Review)

Conde-Agudelo A, Belizán JM, Diaz-Rossello J

A COCHRANE REVIEW JOURNAL

**EVIDENCE-BASED
CHILD HEALTH**

Official Journal of the European Paediatric Association (EPA/UNEPSA)

 COCHRANE
CHILD HEALTH FIELD



THE COCHRANE
COLLABORATION®

Background

- About 20.6 million LBW neonate worldwide in 2000, representing 15.5% of all births, 95.6% of them in developing countries (UNICEF/WHO2004)
- LBW accounts for 60 to 80% of neonatal deaths (Lawn 2005) and about two thirds of infant deaths (Guyer 1998), has an adverse effect on child survival and development, and may be an important risk factor for adult diseases (Barker 1995).

Background

- Conventional care of LBW neonate is expensive and needs both trained personnel and permanent logistic support
- In low- and middle- income countries, financial and human resources for neonatal care are limited.
- In 1978, Edgar Rey proposed and developed kangaroo mother care (KMC) at Instituto Materno Infantil in Colombia to overcome the lack of incubators, high rate of nosocomial infections, and infant abandonment in the local hospital

Background

- KMC includes three components: skin-to-skin contact (SSC) between a mother and her newborn, frequent and exclusive or nearly exclusive breastfeeding, and early discharge from hospital
- Different modalities of KMC: exclusive or non-exclusive breastfeeding; breast or gavage feeding, completely or partially, continuous or intermittent SSC, early or not hospital discharge, late or early onset

Objectives

- To determine whether there is evidence to support the use of KMC in LBW infants as an alternative to conventional neonatal care.

Kangaroo mother care versus conventional neonatal care

- Mortality

Outcome	No. of studies	No. of participants	Risk Ratio (M-H, Fixed, 95% CI)
At discharge or 40-41 weeks' postmenstrual age	7	1614	0.60 [0.39, 0.93]
At 6 months of age or 6 months follow up	2	354	0.99 [0.48, 2.02]
At 12 months' corrected age	1	693	0.57 [0.27, 1.17]

Kangaroo mother care versus conventional neonatal care

- Morbidity

Outcome	No. of studies	No. of participants	Risk Ratio (M-H, Fixed, 95% CI)
Severe infection/sepsis at latest follow up	6	1250	0.57 [0.40, 0.80]
Severe illness at 6 months follow up	1	283	0.30 [0.14, 0.67]
Nosocomial infection/sepsis at discharge or 40-41 weeks' postmenstrual age	2	777	0.42 [0.24, 0.73]

Kangaroo mother care versus conventional neonatal care

- Morbidity

Outcome	No. of studies	No. of participants	Risk Ratio (M-H, Fixed, 95% CI)
Hypothermia at discharge or 40-41 weeks' postmenstrual age	4	469	0.23 [0.10, 0.55]
Readmission to hospital at latest follow up	2	946	0.60 [0.34, 1.06]
Lower respiratory tract disease at 6 months follow up	1	283	0.37 [0.15, 0.89]
Diarrhea at 6 months follow up	1	283	0.65 [0.35, 1.20]

Kangaroo mother care versus conventional neonatal care

- Development: Weight

Outcome	No. of studies	No. of participants	Mean Difference (IV, Random, 95% CI)
Weight at discharge or 40-41 weeks' postmenstrual age (g)	4	1097	21.65 [-15.98, 59.27]
Weight at 6 months' corrected age (g)	1	591	78.19 [-52.26, 208.64]
Weight at 12 months' corrected age (g)	1	596	31.46 [-135.08, 198.00]

→ No different

Kangaroo mother care versus conventional neonatal care

- Development: length

Outcome	No. of studies	No. of participants	Mean Difference (IV, Random, 95% CI)
Length at discharge or 40-41 weeks' postmenstrual age (cm)	2	720	0.06 [-0.28, 0.39]
Length at 6 months' corrected age (cm)	1	590	0.23 [-0.18, 0.64]
Length at 12 months' corrected age (cm)	1	586	0.31 [-0.17, 0.79]

→ No different

Kangaroo mother care versus conventional neonatal care

- Development: Head circumference

Outcome	No. of studies	No. of participants	Mean Difference (IV, Random, 95% CI)
Head circumference at discharge or 40-41 weeks' postmenstrual age (cm)	2	720	0.39 [-0.28, 1.07]
Head circumference at 6 months' corrected age (cm)	1	592	0.34 [0.11, 0.57]
Head circumference at 12 months' corrected age (cm)	1	597	0.39 [0.00, 0.78]

Kangaroo mother care versus conventional neonatal care

- Others:

Outcome	No. of studies	No. of participants	Risk Ratio (M-H, Fixed, 95% CI)
Exclusive breast feeding at discharge or 40-41 weeks' postmenstrual age	4	1197	1.21 [1.08, 1.36]
Exclusive breast feeding at 1-3 months follow up	5	600	1.20 [1.01, 1.43]
Exclusive breast feeding at 6-12 months follow up	3	810	1.29 [0.95, 1.76]

Kangaroo mother care versus conventional neonatal care

- Others:

Outcome	No. of studies	No. of participants	Risk Ratio (M-H, Fixed, 95% CI)
Length of hospital stay (days)	9	795	-2.41 [-4.11, -0.71]
Mother satisfied with method	1	269	1.17 [1.05, 1.30]

Kangaroo mother care versus conventional neonatal care

- Conclusion

- At discharge or 40 - 41 weeks' postmenstrual age, KMC was associated with a reduction in the risk of mortality, nosocomial, infection/sepsis, hypothermia, length of hospital stay
- KMC increased breastfeeding, mother satisfaction with method of infant care, improved head circumference

Early versus late kangaroo mother care in relatively stable LBW infants

Outcome	No. of studies	No. of participants	Risk Ratio (M-H, Fixed, 95% CI)
Mortality at 4 weeks of age	1	73	1.95 [0.18, 20.53]
Morbidity at 4 weeks of age	1	73	0.49 [0.18, 1.28]
Hypothermia	1	73	0.58 [0.15, 2.27]
Exclusive breast feeding at 4 weeks of age	1	67	0.94 [0.85, 1.04]
Length of hospital stay (days)	1	73	-0.90 [-1.24, -0.56]

Early versus late kangaroo mother care in relatively stable LBW infants

Weight gain

Outcome	No. of studies	No. of participants	Mean Difference (IV, Fixed, 95% CI)
At 24 hours postbirth	1	73	39.16 [11.11, 67.21]
At 48 hours postbirth	1	73	43.3 [5.49, 81.11]
At 2 weeks of age	1	73	12.14 [-83.18, 107.46]
At 4 weeks of age	1	73	58.85 [-116.93, 234.63]

Early versus late kangaroo mother care in relatively stable LBW infants

- Conclusions:
 - Early kangaroo mother care decrease length of hospital stay, increase weight gain at 24 and 48 hours postbirth
 - There is no differences in mortality and morbidity

Conclusion

- The evidence from this updated review supports the use of KMC in LBW infants as an alternative to conventional neonatal care
- Further information is required concerning effectiveness and safety of early onset continuous KMC in unstabilized LBW infants

Thank you for attetion!

