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[Intervention Review]

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

Agustin Conde-Agudelo¹, José M Belizán², Jose Diaz-Rossello³

¹Perinatology Research Branch, Eunice Kennedy Shriver National Institute of Child Health and Human Development/National Institutes of Health/Department of Health and Human Services, Detroit, Michigan, USA. ²Department of Mother and Child Health Research, Institute for Clinical Effectiveness and Health Policy (IECS), Buenos Aires, Argentina. ³Department of Neonatology, University Hospital, Montevideo, Uruguay

Contact address: Agustin Conde-Agudelo, Perinatology Research Branch, Eunice Kennedy Shriver National Institute of Child Health and Human Development/National Institutes of Health/Department of Health and Human Services, Detroit, Michigan, USA. condeagu@hotmail.com.

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ABSTRACT

Background

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.

Objectives

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

Search methods

The standard search strategy of the Cochrane Neonatal Group was used. This included searches of MEDLINE, EMBASE, LILACS, POPLINE, CINAHL databases (from inception to January 31, 2011), and the Cochrane Central Register of Controlled Trials (*The Cochrane Library*, Issue 1, 2011). In addition, we searched the web page of the Kangaroo Foundation, conference and symposia proceedings on KMC, and Google scholar.

Selection criteria

Randomized controlled trials comparing KMC versus conventional neonatal care, or early onset KMC (starting within 24 hours after birth) versus late onset KMC (starting after 24 hours after birth) in LBW infants.

Data collection and analysis

Data collection and analysis were performed according to the methods of the Cochrane Neonatal Review Group.

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Main results

Sixteen studies, including 2518 infants, fulfilled inclusion criteria. Fourteen studies evaluated KMC in LBW infants after stabilization, one evaluated KMC in LBW infants before stabilization, and one compared early onset KMC with late onset KMC in relatively stable LBW infants. Eleven studies evaluated intermittent KMC and five evaluated continuous KMC. At discharge or 40 - 41 weeks' postmenstrual age, KMC was associated with a reduction in the risk of mortality (typical risk ratio (RR) 0.60, 95% confidence interval (CI) 0.39 to 0.93; seven trials, 1614 infants), nosocomial infection/sepsis (typical RR 0.42, 95% CI 0.24 to 0.73), hypothermia (typical RR 0.23, 95% CI 0.10 to 0.55), and length of hospital stay (typical mean difference 2.4 days, 95% CI 0.7 to 4.1). At latest follow up, KMC was associated with a decreased risk of mortality (typical RR 0.68, 95% CI 0.48 to 0.96; nine trials, 1952 infants) and severe infection/sepsis (typical RR 0.57, 95% CI 0.40 to 0.80). Moreover, KMC was found to increase some measures of infant growth, breastfeeding, and mother-infant attachment.

Authors' conclusions

The evidence from this updated review supports the use of KMC in LBW infants as an alternative to conventional neonatal care mainly in resource-limited settings. Further information is required concerning effectiveness and safety of early onset continuous KMC in unstabilized LBW infants, long term neurodevelopmental outcomes, and costs of care.

PLAIN LANGUAGE SUMMARY

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

Kangaroo mother care (KMC) is an effective and safe alternative to conventional neonatal care in low birthweight (LBW) infants mainly in resource-limited countries.

Low birthweight (LBW) (less than 2500 g) is associated with an increased risk of neonatal morbidity and mortality, neurodevelopmental disabilities, and cardiovascular disease at adulthood. Conventional neonatal care of LBW infants is expensive and needs both highly skilled personnel and permanent logistic support. The major component of KMC is skin-to-skin contact (SSC) between a mother and her newborn. The other two components of KMC are frequent and exclusive or nearly exclusive breastfeeding and attempt of early discharge from hospital. Compared with conventional neonatal care, KMC was found to reduce mortality at discharge or 40 - 41 weeks' postmenstrual age and at latest follow up, severe infection/sepsis, nosocomial infection/sepsis, hypothermia, severe illness, lower respiratory tract disease, and length of hospital stay. Moreover, KMC increased weight, head circumference, and length gain, breastfeeding, mother satisfaction with method of infant care, some measures of maternal-infant attachment, and home environment. There was no difference in neurodevelopmental outcomes at one year of corrected age.