



## 2º CONGRESSO INTERNACIONAL DE **NEONATOLOGIA DO DF**

# SEGURANÇA DO MÉTODO CANGURU NO PT EXTREMO DESDE OS PRIMEIROS DIAS: EVIDÊNCIAS E FAKE-NEOS

*Nicole Gianini*

*Doutora e Mestre em Saúde da Criança - IFF- FIOCRUZ*

*Título de especialista em Pediatria, Neonatologia e Nutrologia pela SBP*

*Título de Especialista em Nutrologia pela SBNPE*

*Consultora e Tutora Nacional MS Método Canguru*

*Consultora do Portal de Boas Práticas – Qualineo - IFF/FIOCRUZ*

*Membro do Comitê de Neonatologia da Soperj e SBP*

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Realização:

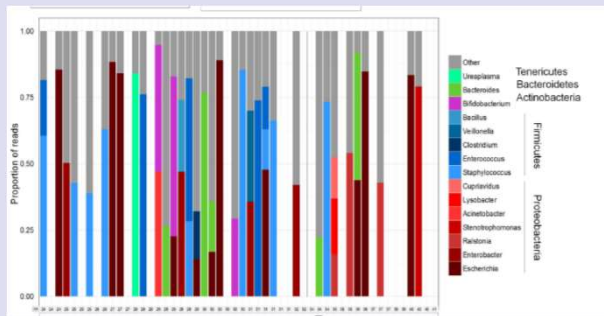


INSTITUTO DE PESQUISAS EM NEONATOLOGIA  
PAULO ROBERTO MARGOTTO

2o Congresso Internacional de Neonatologia do DF (28-29/11/2024)

# CONFLITO DE INTERESSE

- Nada a declarar
- Meu único objetivo e minha trajetória: cuidar dos bebês e suas famílias



O que realmente conta na vida não é apenas o fato de termos vivido; é a diferença que fizemos nas vidas dos outros que determina importância da nossa própria vida.

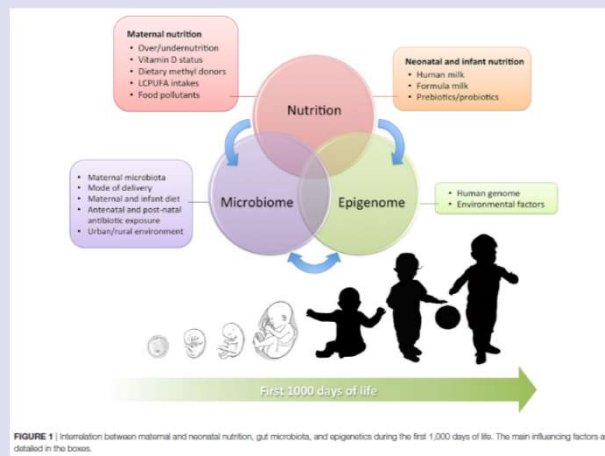
Nelson Mandela

4 PENSADOR



# ROTEIRO DA APRESENTAÇÃO

- Linha do tempo
- Evidências científicas
- Barreiras
- Facilitadores





Maio de 2000



SPECIAL 2000 EDITION

# YOUR CHILD

# News

Fall/Winter 2000 : \$3.95

## Birth to Three

NEW INSIGHTS

How Learning Begins

Feeding Your Baby's Brain

The 'No' Years

Raising Boys, Raising Girls



Survival rates have skyrocketed, and specialists are now striving to make life easier for preterm babies. **By Pat Wingert & David Noonan**

# New Hope for Preemies

are born premature still die. But thanks to advances in medicine and technology, survival rates are now 10 times better than they were 10 years ago. Today's preemies, many avoid the disabilities of the past. And about the causes of prematurity, preventing it are important. "Prematurity is a leading cause of death in infants, says Dr. Robert Berg, professor of obstetrics and gynecology at the University of Alabama at Birmingham. "Prematurity is a leading cause of death in infants who leave the hospital with serious weaknesses, in that are subject to heart and lung problems."

**T**ITTLE FAITH HOOPER CAME into the world ahead of schedule. After just 23 weeks in her

still developing cartilage, ran seamlessly into her jaw line. Her eyelids were fused together. While some things were amaz-



# MC NO BRASIL

- É uma política pública desde 2000
- Tem Manuais
- Tem cursos – hospitalar e atenção básica
- Está no Portal de Boas Práticas - FIOCRUZ
- Está na grade de habilitação da residência em neonatologia
- Em todos os congressos internacionais os convidados estrangeiros mostram fotos do contato pele a pele (cpp)
- É reconhecido como um país que avança nessa direção – AAP e OMS em Brasília em setembro de 2022
- Por que ainda há barreiras?



# COMO GARANTIR CIÊNCIA NA NOSSA PRÁTICA?

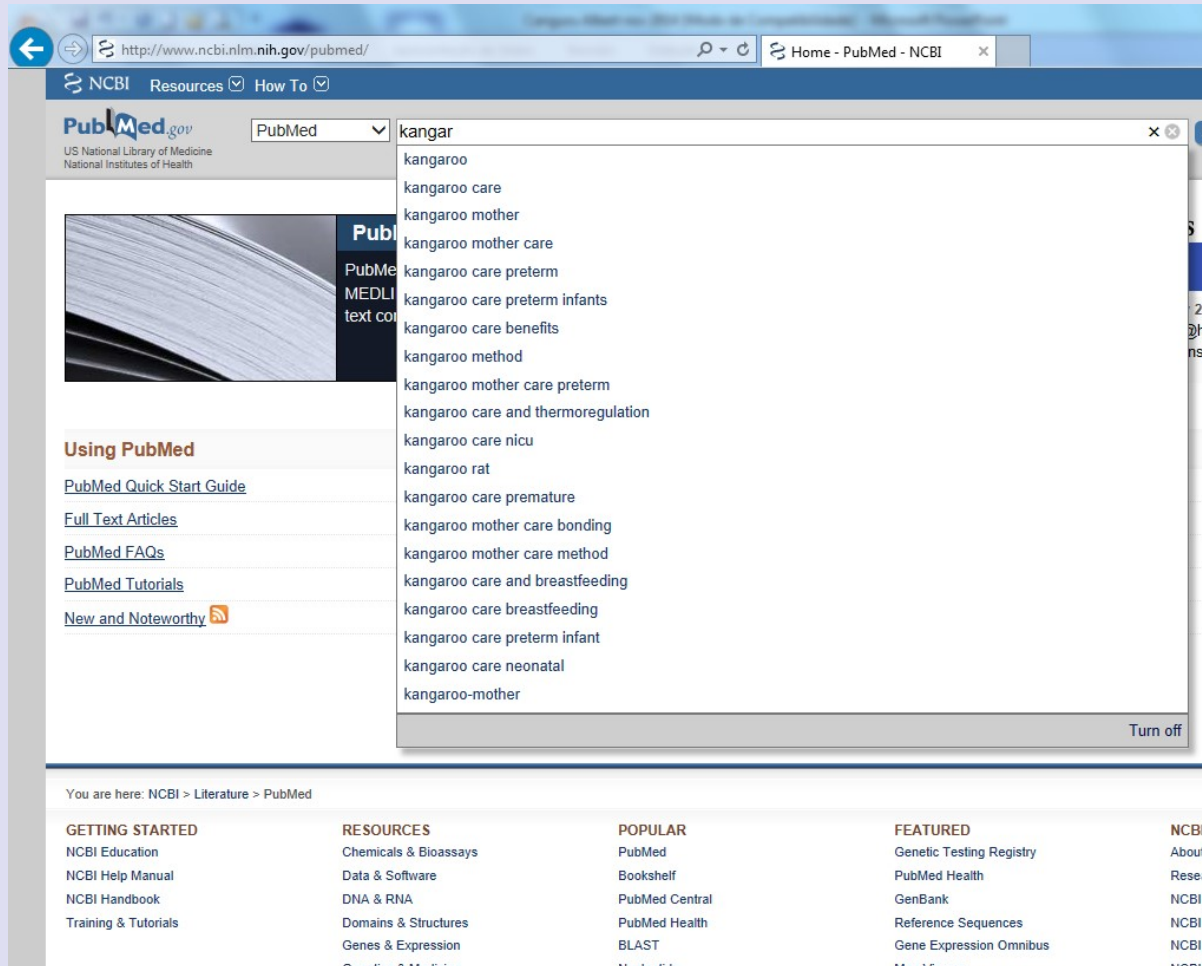
ESTUDANDO!!!



**LER**  
prejudica  
**gravemente**  
a  
**IGNORÂNCIA**



# COMO ESTUDAR



- SciELO
- LILACS
- Scopus
- Web of Science
- DOAJ
- Redalyc
- PubMed

Por menor que seja  
seu tempo de estudo

**ESTUDE**

Não tenha medo de  
crescer lentamente

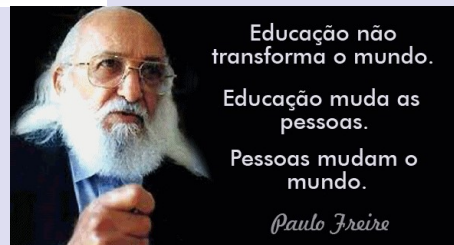
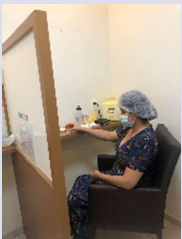


# EVIDÊNCIAS CIENTÍFICAS

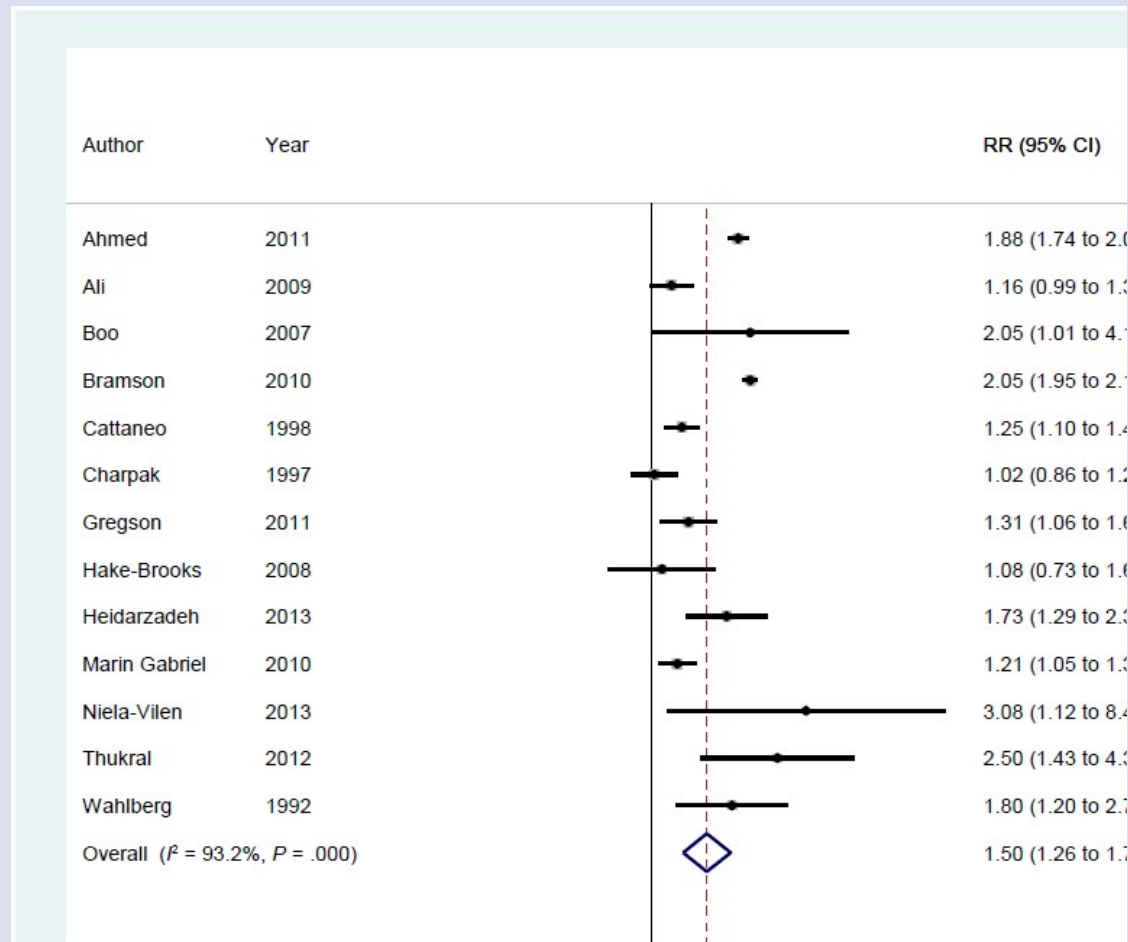
Nível de Evidência Científica por Tipo de Estudo - "Oxford Centre for Evidence-based Medicine"					
Grau de recomendação	Nível de evidência	Tratamento – Prevenção – Etiologia	Prognóstico	Diagnóstico	Diagnóstico Diferencial/ Prevalência de Sintomas
A	1A	Revisão sistemática de ensaios clínicos controlados randomizados	Revisão Sistemática de Coortes desde o início da doença. Critério Prognóstico validado em diversas populações.	Revisão Sistemática de estudos diagnósticos nível 1. Critério Diagnóstico de estudos nível 1B, em diferentes centros clínicos.	Revisão sistemática de estudos de coorte (contemporânea ou prospectiva)
	1B	Ensaio clínico controlado randomizado com intervalo de confiança estreito	Coorte desde o início da doença, com perda < 20%. Critério prognóstico validado em uma única população.	Coorte validada, com bom padrão de referência. Critério Diagnóstico testado em um único centro clínico.	Estudo de coorte com poucas perdas
	1C	Resultados terapêuticos do tipo "tudo ou nada"	Série de casos do tipo "tudo ou nada"	Sensibilidade e especificidade próximas de 100%	Série de casos do tipo "tudo ou nada"
B	2A	Revisão Sistemática de Estudos de Coorte	Revisão Sistemática de coortes históricas (retrospectivas) ou de seguimento de casos não tratados de grupo controle de ensaio clínico randomizado	Revisão Sistemática de estudos diagnósticos de nível >2	Revisão Sistemática de estudos sobre diagnóstico diferencial de nível >2
	2B	Estudo de Coorte (incluindo Ensaio Clínico Randomizado de menor qualidade)	Estudo de coorte histórica, seguimento de pacientes não-tratados de grupo de controle de ensaio clínico randomizado. Critério Prognóstico derivado ou validado somente de amostras fragmentadas.	Coorte exploratória com bom padrão de referência. Critério Diagnóstico derivado ou validado em amostras fragmentadas ou banco de dados	Estudo de coorte histórica ou com seguimento de casos comprometido (número grande de perdas)
	2C	Observação de resultados terapêuticos (outcomes research). Estudo Ecológico.	Observação de Evoluções Clínicas (outcomes research)	-----	Estudo Ecológico
	3A	Revisão Sistemática de Estudos Caso-Controlle	-----	Revisão Sistemática de estudos diagnósticos de nível >3B	Revisão Sistemática de estudos de nível >3B
	3B	Estudo Caso-Controlle	-----	Seleção não consecutiva de casos, ou padrão de referência aplicado de forma pouco consistente	Coorte com seleção não consecutiva de casos, ou população de estudo muito limitada
C	4	Relato de Casos (incluindo coorte ou caso-controlle de menor qualidade)	Série de casos (e coorte prognóstica de menor qualidade)	Estudo de caso-controlle ou padrão de referência pobre ou não independente	Série de casos, ou padrão de referência superado
D	5	Opinião de especialistas desprovida de avaliação crítica ou baseada em matérias básicas (estudo fisiológico ou estudo com animais)			

Quadro 2 – Níveis de evidências de acordo com o sistema GRADE

Nível	Definição	Implicações	Fonte de informação
Alto	Há forte confiança de que o verdadeiro efeito esteja próximo daquele estimado.	É improvável que trabalhos adicionais irão modificar a confiança na estimativa do efeito.	- Ensaios clínicos delineados, com alta representatividade. - Em alguns casos, observacionais bem delineados, com alta consistência*.
Moderado	Há confiança moderada no efeito estimado.	Trabalhos futuros poderão modificar a confiança na estimativa de efeito, podendo, inclusive, modificar a estimativa.	- Ensaios clínicos com limitações leves** - Estudos observacionais delineados, com alta consistência*.
Baixo	A confiança no efeito é limitada.	Trabalhos futuros provavelmente terão um impacto importante em nossa confiança na estimativa de efeito.	- Ensaios clínicos com limitações moderadas - Estudos observacionais comparativos: com controle.
Muito Baixo	A confiança na estimativa de efeito é muito limitada. Há importante grau de incerteza nos achados.	Qualquer estimativa de efeito é incerta.	- Ensaios clínicos com limitações graves* - Estudos observacionais comparativos: com limitações**. - Estudos observacionais comparados***. - Opinião de especialistas



# GRÁFICO DA METANÁLISE



pubmed - Pesquisar x kangaroo meta-analysis - Search x +

https://pubmed.ncbi.nlm.nih.gov/?term=kangaroo+meta-analysis

NIH National Library of Medicine  
National Center for Biotechnology Information

Log in

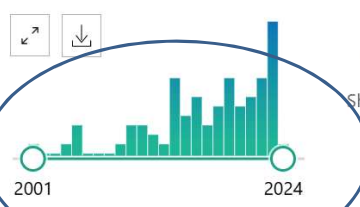
PubMed® kangaroo meta-analysis X Search

Advanced Create alert Create RSS User Guide

Save Email Send to Sort by: Best match Display options

MY NCBI FILTERS 74 results Page 1 of 8

RESULTS BY YEAR



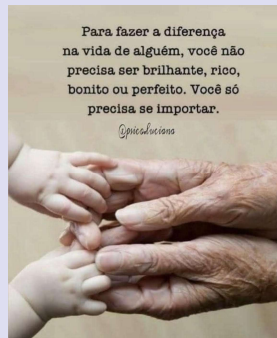
2001 2024

TEXT AVAILABILITY

**Kangaroo Mother Care and Neonatal Outcomes: A Meta-analysis.**  
1 Boundy EO, Dastjerdi R, Spiegelman D, Fawzi WW, Missmer SA, Lieberman E, Kajeepeeta S, Wall S, Chan GJ.  
Cite Pediatrics. 2016 Jan;137(1):e20152238. doi: 10.1542/peds.2015-2238. Epub 2015 Dec 23.  
Share PMID: 26702029 [Free PMC article](#) Review.  
CONTEXT: **Kangaroo** mother care (KMC) is an intervention aimed at improving outcomes among preterm and low birth weight newborns. OBJECTIVE: Conduct a systematic review and **meta-analysis** estimating the association between KMC and neonatal outcomes. ...

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Pesquisar kangaroo ... neonatol... SBP agost... Neonatol... Área de Trabalho 22:13 21/08/2024



# METANÁLISE NO PUBMED

- De 2021 até 20 de agosto de 2024: 74 publicações
- A primeira metanálise foi em 2010
- Diminui tempo de internação: 1
- Diminui o estresse e a depressão dos pais: 9
- Diminui estresse e dor do RN: 12
- Melhora indicadores de uma maneira geral (satisfação da família, tempo de permanência, infecção, reinternação, neurodesenvolvimento): 22
- Melhora o seguimento (*outcome*): 6
- Diminui apnéia: 1
- Melhora os sinais vitais: 8
- Aumenta o aleitamento materno/amamentação: 15



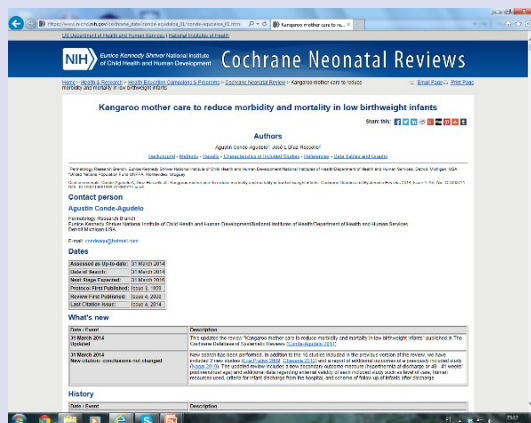
# METANÁLISE NO PUBMED

- Destaques para comentar: 3



2016

**Kangaroo Mother Care and Neonatal Outcomes: A Meta-analysis**  
 Ellen O. Boundy, Roya Dasjerdji, Donna Spiegelman, Wafae W. Fawzi, S. Missmer, Elice Lieberman, Sandhya Kajeepeta, Stephen Wall and Grace L. Pediatrics 2016;137; originally published online December 23, 2016  
 DOI: 10.1542/peds.2015-2238



2016



## Kangaroo mother care for preterm low birth weight infants: a systematic review and meta-analysis

Sindhuv Sivanandan <sup>1</sup>, Mari Jeeva Sankar <sup>2</sup>

**To cite:** Sivanandan S, Sankar MJ. Kangaroo mother care for preterm or low birth weight infants: a systematic review and meta-analysis. *BMJ Global Health* 2023;8:e010728. doi:10.1136/bmjgh-2022-010728

**Handling editor:** Seema Biswas

► Additional supplemental material is published online only. To view, please visit the journal online (<http://dx.doi.org/10.1136/bmjgh-2022-010728>).

Received 22 September 2022  
 Accepted 9 March 2023

### ABSTRACT

**Importance:** The Cochrane review (2016) on kangaroo mother care (KMC) demonstrated a significant reduction in the risk of mortality in low birth weight infants. New evidence from large multi-centre randomised trials has been available since its publication.

**Objective:** Our systematic review compared the effects of KMC vs conventional care and early (ie, within 24 hours of birth) vs late initiation of KMC on critical outcomes such as neonatal mortality.

**Methods:** Eight electronic databases, including PubMed®, Embase, and Cochrane CENTRAL, from inception until March 2022, were searched. All randomised trials comparing KMC vs conventional care or early vs late initiation of KMC in low birth weight or preterm infants were included.

**Data extraction and synthesis:** The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and was registered with PROSPERO.

**Main outcomes and measures:** The primary outcome was mortality during birth hospitalization or 28 days of life. Other outcomes included severe infection, hypothermia, exclusive breastfeeding rates, and neurodevelopmental impairment. Results were pooled using fixed-effect and random-effects meta-analyses in RevMan 5.4 and Stata 15.1 (StataCorp, College Station, TX).

**Results:** In total, 31 trials with 15 559 infants were included in the review; 27 studies compared KMC with conventional care, while four compared early vs late initiation of KMC. Compared with conventional care, KMC reduces the risks of mortality (relative risk (RR) 0.68, 95% confidence interval (CI) 0.53 to 0.86; 11 trials, 10 505 infants; high certainty evidence) during birth hospitalization

### WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Kangaroo mother care (KMC) is an effective intervention that decreases neonatal mortality and the risk of infection in low birth weight infants.

⇒ The WHO recommends the initiation of KMC for low birth weight infants after discharge from hospital.

### WHAT THIS STUDY ADDS

⇒ Compared with conventional care, KMC initiated either in the hospital or at home during birth hospitalization or probably reduces severe infection and follow-up among preterm infants.

⇒ KMC provided for at least 8 hours during birth hospitalization or probably results in greater benefits than KMC.

⇒ KMC initiated within 24 hours of birth probably reduces neonatal mortality and may reduce neonatal mortality compared with later initiation of KMC.

### HOW THIS STUDY MIGHT AFFECT PRACTICE OR POLICY

⇒ The results of this updated review suggest that health providers should initiate KMC for low birth weight and preterm infants in hospital and at home. Efforts should be made to ensure that KMC is initiated within 24 hours of birth for at least 8 hours a day.

**Conclusions and relevance:** The results of this updated review suggest that health providers should initiate KMC for low birth weight and preterm infants in hospital and at home. Efforts should be made to ensure that KMC is initiated within 24 hours of birth for at least 8 hours a day.

2023



# PEDIATRICS

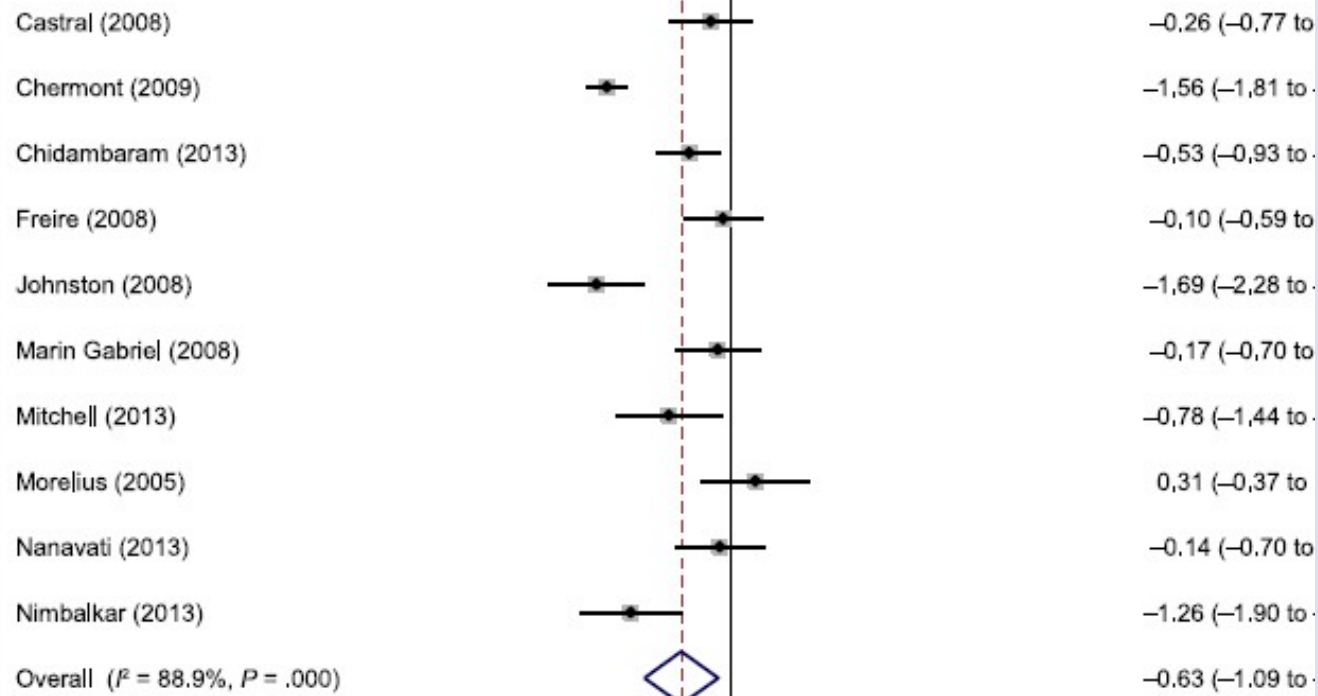
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

**Kangaroo Mother Care and Neonatal Outcomes: A Meta-analysis**  
Ellen O. Boundy, Roya Dastjerdi, Donna Spiegelman, Wafaie W. Fawzi, S.  
Missmer, Ellice Lieberman, Sandhya Kajeepeta, Stephen Wall and Grace  
*Pediatrics* 2016;137;; originally published online December 23, 2015  
DOI: 10.1542/peds.2015-2238



Study

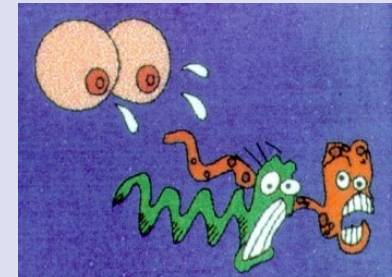
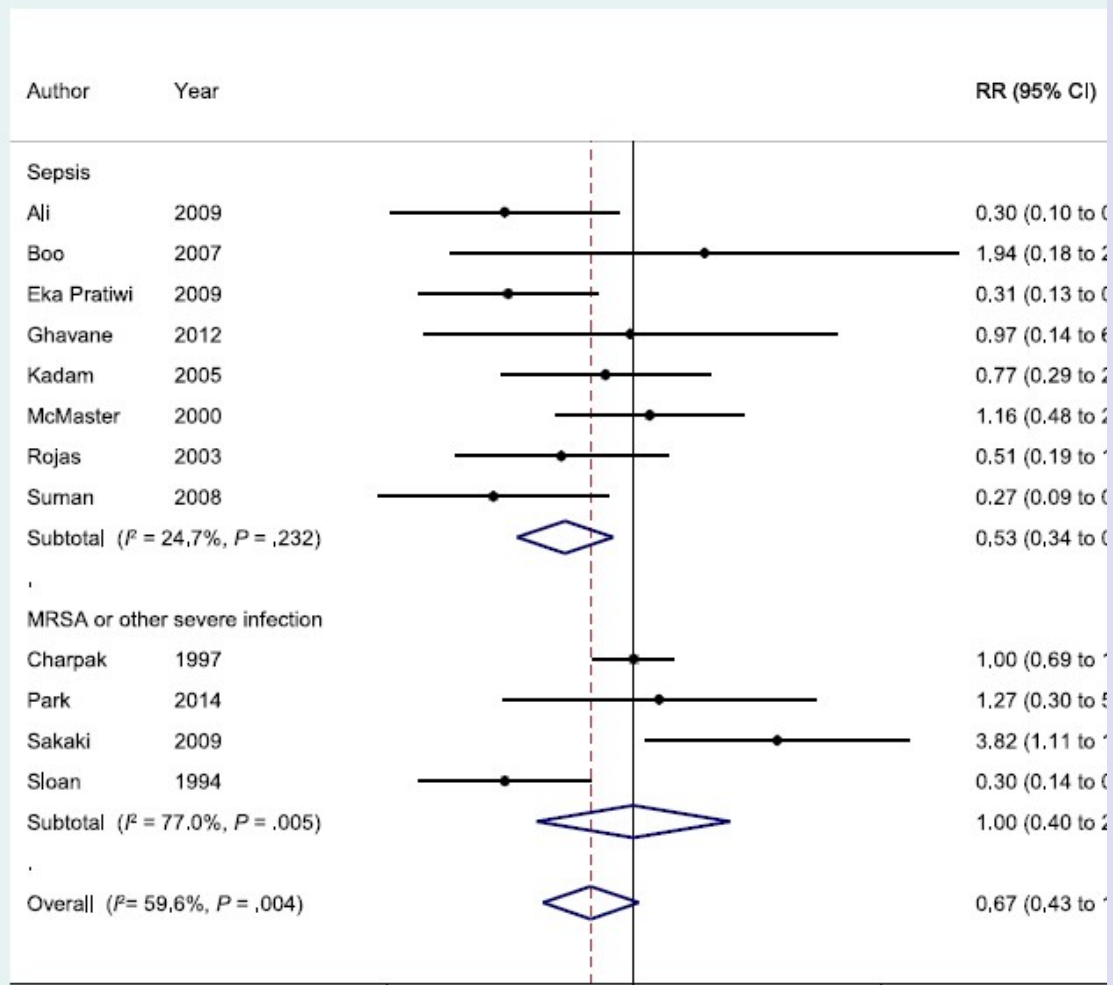
SMD (95% CI)



# DOR/CONTATO PELE A PELE

- Procedimentos dolorosos no colo da mãe – diminuição do escore de avaliação de dor
- O canguru com o pai é tão efetivo quanto o da mãe como estratégia de analgesia. Skin-to-Skin Care by Mother vs. Father for Preterm Neonatal Pain: A Randomized Control Trial (ENVIRON Trial). International Journal of Pediatrics Volume 2021, Article ID 8886887
- Superior à glicose/sucção
  - Arch Pediatr Adolesc Med 2003 Nov; 157(11): 28-33
  - BMC Pediatr 2008 Apr 24: 8:13 –
  - \* \* Pain 2008 Sep 30: 139(1): 28-33. Evaluation of analgesic effect of skin-to-skin contact compared to oral glucose in preterm neonates. Freire NB, Garcia JB, Lamy ZC.





# PAIS/FAMÍLIA NA UNIDADE

- Temor de infecção – infundado.
- A presença da família permite atapetar a criança com uma microbiota da comunidade que compete com a microbiota nosocomial
- Trabalho mostrando a descolonização de MARSA através do canguru.
- A família na Unidade Neonatal diminui a incidência de sepse
  - Effect of maternal skin-to-skin contact on decolonization of Methicillin-OxacillinResistant Staphylococcus in neonatal intensive care units: a randomized controlled trial BMC Pregnancy and Childbirth Sample doi:10.1186/s12884-015-0496-1
  - Family care reduces the incidence of neonatal sepsis: A systematic review and meta-analysis. Frontiers in Pediatrics 12 April 2023. 10.3389/fped.2023.1089229



# SMS-RJ. Diário oficial

## ABRIL DE 2020

Confira notas técnicas da  
SMS-RJ sobre o coronavírus

Início > Notícias

> Confira notas técnicas da SMS-RJ sobre o coro

**RIO**  
PREFEITURA

### Subsecretaria de Atenção Hospitalar, Urgência e Emergência (Subhuc)

1. Nota Técnica Conjunta SubReg e Subhuc Covid-19 de 27 de março de 2020
2. Procedimento Operacional Padrão – Higienização das mãos
3. Procedimento Operacional Padrão – Limpeza e desinfecção de ambulância
4. Procedimento Operacional Padrão – Desinfecção de superfícies
5. Recomendação de equipamento de proteção individual (EPI) para assistência a paciente em UTI, conforme o tipo de setor, profissional e atividade, no contexto da pandemia de COVID-19
6. Nota técnica sobre recomendações referentes ao manejo de corpos no contexto do novo coronavírus (COVID-19) e outras questões relacionadas acerca desses óbitos
7. Procedimento Operacional Padrão – Atendimento a gestante com suspeita de COVID-19 (1)
8. Procedimento Operacional Padrão – Atendimento a gestante com suspeita de COVID-19 (2)
9. Procedimento Operacional Padrão – Roteiro de trabalho e fluxos para o atendimento de fr

SMS-SBUHUE-SHM MATERNIDADES	PROCEDIMENTO OPERACIONAL PADRÃO	Estabelecido em
<b>NOME DA TAREFA:</b> Assistência da equipe multidisciplinar ao RN nasce na maternidade neonatal. <b>DEFINIÇÃO:</b> Roteiro de trabalho e fluxos para o atendimento de forma segura aos RNs suspeitos ou confirmados de COVID-19. <b>OBJETIVO:</b> Antecipação de necessidades, assistência segura para o paciente e equipe multidisciplinar, uso de EPI de acordo com a evidência científica atual.		
<b>DESCRIÇÃO DO PROCEDIMENTO</b>		
Premissas: não há evidências, até o momento, de transmissão vertical pelo líquido amniótico, vaginal ou leite materno. Há possibilidade de presença do vírus nas fezes. Sendo possuindo informações científicas, devemos nortear nosso plano terapêutico.		
*Analisar a situação com os demais membros da equipe (obstetrícia, enfermagem, fisioterapia, anestesia) contribuindo para a tomada de decisão do que seja melhor para o plano terapêutico.		
*É possível acompanhante de eleição da mãe, para o momento do nascimento, desde que obedecendo as orientações da nota técnica da SMS quanto à presença do acompanhante nas maternidades.		
*Não há necessidade de sala separada para a recepção do RN por ocasião do nascimento. Deve-se manter distância de 2 metros entre o leito da mãe e a UCR de recepção do RN.		
*Observar que haja o menor número possível de profissionais no atendimento.		
*Realizar o clameamento oportuno do cordão – como não poderá ser colocada no colo (próximo da face) verificar como pode ser feito de forma segura, caso contrário clameamento possível aguardar. Lembrar que há trabalhos evidenciando a presença do vírus nas fezes normal, o momento do clameamento do cordão na região do perineo requer avaliação.		
*Não faremos o pele a pele nas situações de suspeita/confirmada de COVID-19.		
*Atendimento em consonância com o fluxo de Reanimação Neonatal da SBP – não há restrições diretrizes.		
*A equipe da UTI Neonatal é responsável pelo traslado do RN do Centro Cirúrgico/Sala de Procedimentos.		
*Admissão habitual do RN mantendo precaução recomendada em leito preconizado;		

US Department of Health and Human Services | National Institutes of Health

**NIH** Eunice Kennedy Shriver National Institute of Child Health and Human Development

# Cochrane Neonatal Review

Home > Health & Research > Health Education Campaigns & Programs > Cochrane Neonatal Review > Kangaroo mother care to reduce morbidity and mortality in low birthweight infants [Email](#)

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

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### Authors

Agustin Conde-Agudelo<sup>1</sup>, José L Díaz-Rossello<sup>2</sup>

[Background](#) - [Methods](#) - [Results](#) - [Characteristics of Included Studies](#) - [References](#) - [Data Tables and Graphs](#)

<sup>1</sup>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  
<sup>2</sup>United Nations Population Fund UNFPA, Montevideo, Uruguay

Citation example: Conde-Agudelo A, Díaz-Rossello JL. Kangaroo mother care to reduce morbidity and mortality in low birthweight infants. Cochrane Database of Systematic Reviews 2014, Issue 4. DOI: 10.1002/14651858.CD002771.pub3.

### Contact person

**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

E-mail: [condeagu@hotmail.com](mailto:condeagu@hotmail.com)

### Dates

Assessed as Up-to-date:	31 March 2014
Date of Search:	31 March 2014
Next Stage Expected:	31 March 2016
Protocol First Published:	Issue 3, 1999
Review First Published:	Issue 4, 2000
Last Citation Issue:	Issue 4, 2014

### What's new

Date / Event	Description
31 March 2014 Updated	This updates the review "Kangaroo mother care to reduce morbidity and mortality in low birthweight infants" published in the Cochrane Database of Systematic Reviews (Conde-Agudelo 2011).



# BMJ GLOBAL HEALTH 2023

- Diferença da Cochrane de 2016 => 10 novos estudos com mais 12.517 crianças.
- Dois objetivos:
  - KMC x cuidado convencional
  - Precoce (<24 h) x tardio (>24h)
- Desfechos:
  - Mortalidade em 28 dias
  - Infecção severa
  - Hipotermia
  - Aleitamento materno na alta
  - Neurodesenvolvimento
- **Conclusão:** melhora mortalidade e morbidade. Deve ser iniciado nas primeiras 24 h e por pelo menos 8 horas/dia (mais tempo – mais benefício)



BMJ Global Health

## Kangaroo mother care for preterm low birth weight infants: a systematic review and meta-analysis

Sindhu Sivanandan <sup>1</sup>, Mari Jeeva Sankar <sup>2</sup>

**To cite:** Sivanandan S, Sankar MJ. Kangaroo mother care for preterm or low birth weight infants: a systematic review and meta-analysis. *BMJ Global Health* 2023;8:e010728. doi:10.1136/bmjgh-2022-010728

**Handling editor** Seema Biswas

► Additional supplemental material is published online only. To view, please visit the journal online (<http://dx.doi.org/10.1136/bmjgh-2022-010728>).

Received 22 September 2022  
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**Check for updates**

**ABSTRACT**

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**Results** In total, 31 trials with 15 559 infants were included in the review; 27 studies compared KMC with conventional care, while four compared early vs late initiation of KMC. Compared with conventional care, KMC reduces the risks of mortality (relative risk (RR) 0.68; 95% confidence interval (CI) 0.53 to 0.86; 11 trials, 10 505 infants; high certainty evidence) during birth hospitalization

**WHAT IS ALREADY KNOWN OF**

⇒ Kangaroo mother care (KMC) is an effective intervention that decreases mortality and the risk of infection in preterm infants.

⇒ The WHO recommends the initiation of KMC for low birth weight infants after discharge from hospital.

**WHAT THIS STUDY ADDS**

⇒ Compared with conventional care, KMC either in the hospital or at home during birth hospitalization or probably reduces severe infection among preterm infants.

⇒ KMC provided for at least 8 hours a day results in greater benefits than KMC initiated within 24 hours of birth.

⇒ KMC initiated within 24 hours of birth reduces neonatal mortality and may reduce the length of stay compared with later initiation of KMC.

**HOW THIS STUDY MIGHT AFFECT PRACTICE OR POLICY**

⇒ The results of this updated review suggest that health providers should initiate KMC for preterm infants in the hospital and at home. Efforts should be made to initiate KMC within 24 hours of birth for at least 8 hours a day.

**Conclusions and relevance** The review

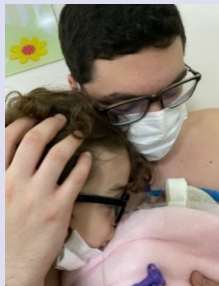
# POR QUE NÃO FOI PARA O CPP AINDA?

- Neuroproteção – mínimo manuseio => cuidado essencial
- Está no tubo traqueal
- Está com cateter umbilical
- Está com PICC
- Fazendo apnéia
- Caindo saturação
- Oscilando a frequência cardíaca
- Cansadinho
- Está com aminas
- Temperatura ainda não estabilizou
- Estava com dor – para não incomodar
- O pai estava sujinho, veio direto do trabalho
- Acabou de fazer a dieta por gavagem – 30 min
- **Não está estável** – e a ciência? As evidências?



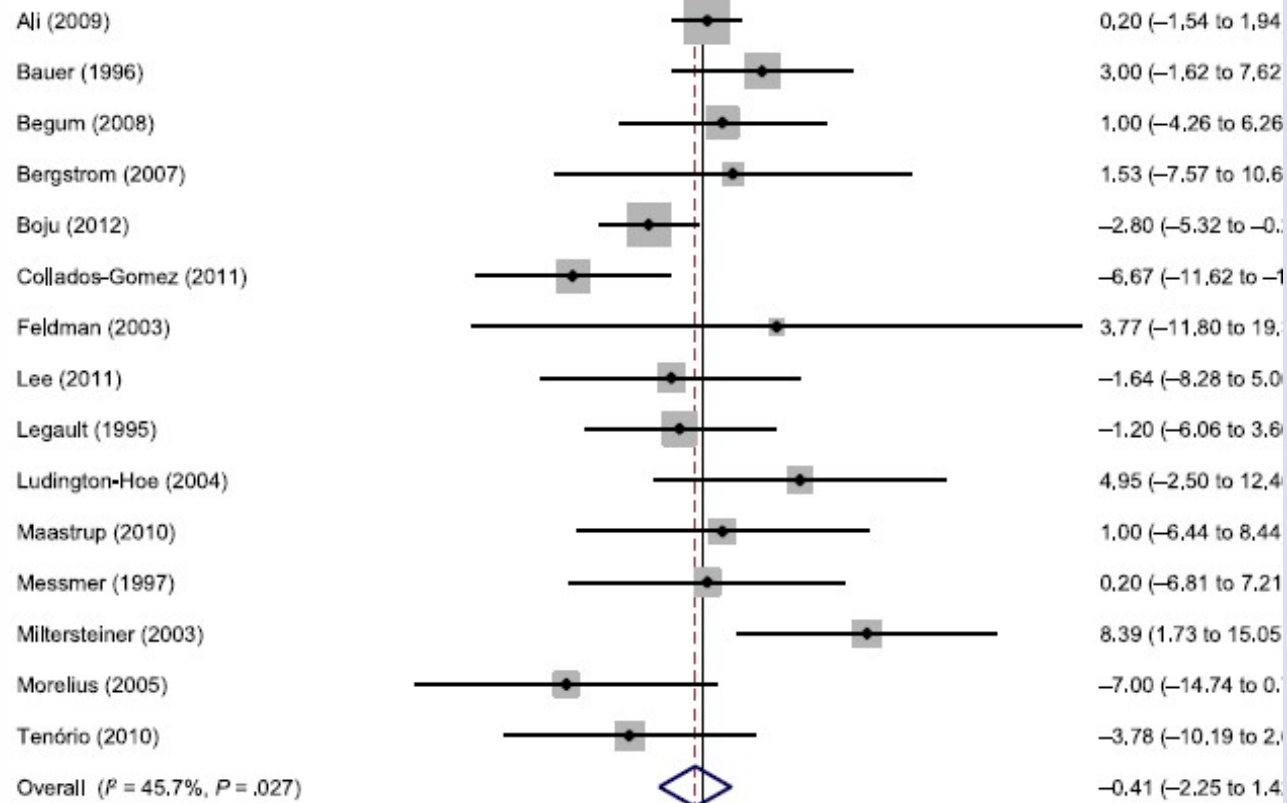
# ASSISTÊNCIA SEGURA

- “Acho bacana humanização, mas tenho outras preocupações”. Empáfia nem ir estudar.
- Processos assistenciais seguros
- Seis metas internacionais de segurança do paciente.
- Basear o plano terapêutico na evidência
- Perseguir boas práticas.
- Paciente precisa estar estável!
- Então...Vamos continuar nas evidências, na metanálise...



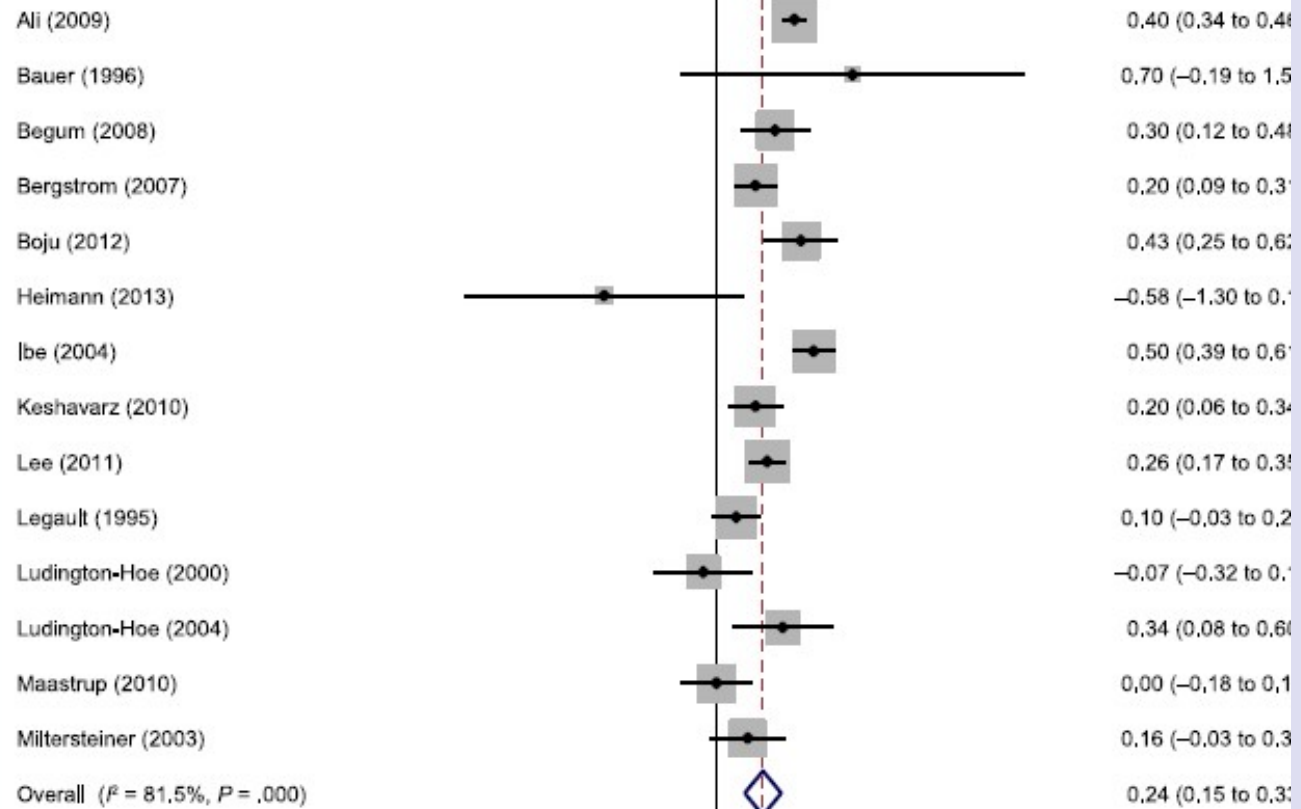
Study

WMD (95% CI)



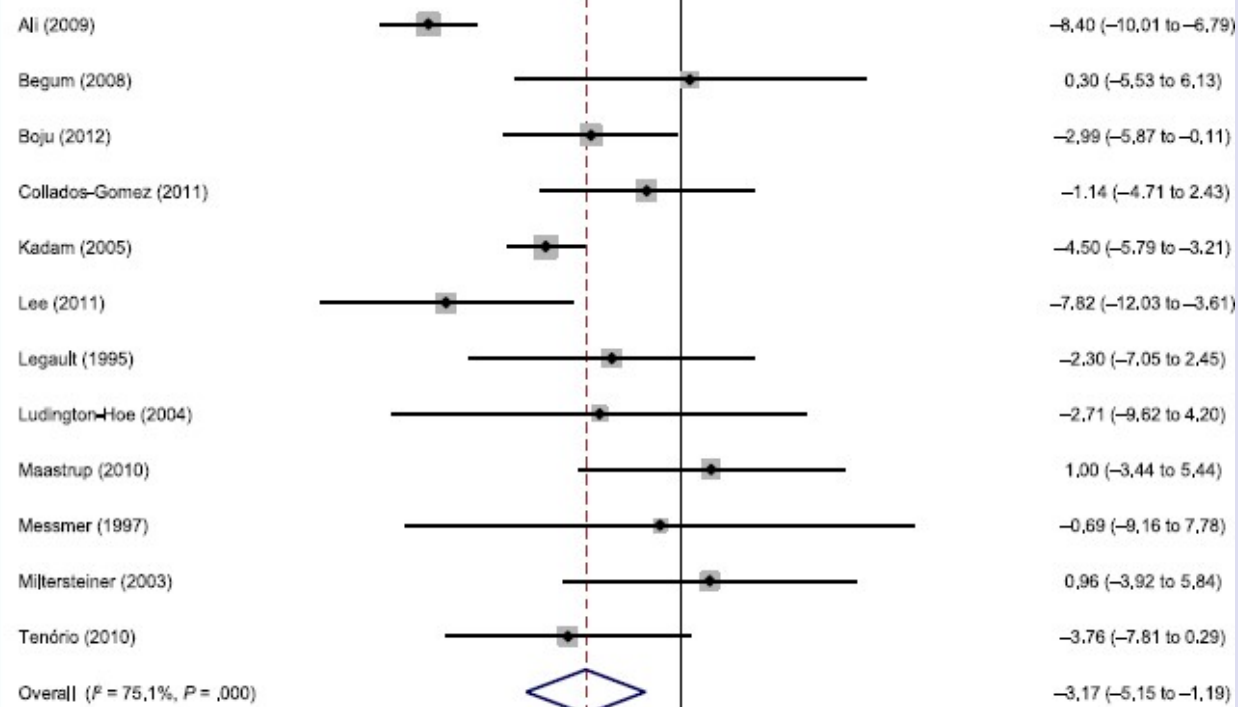
Study

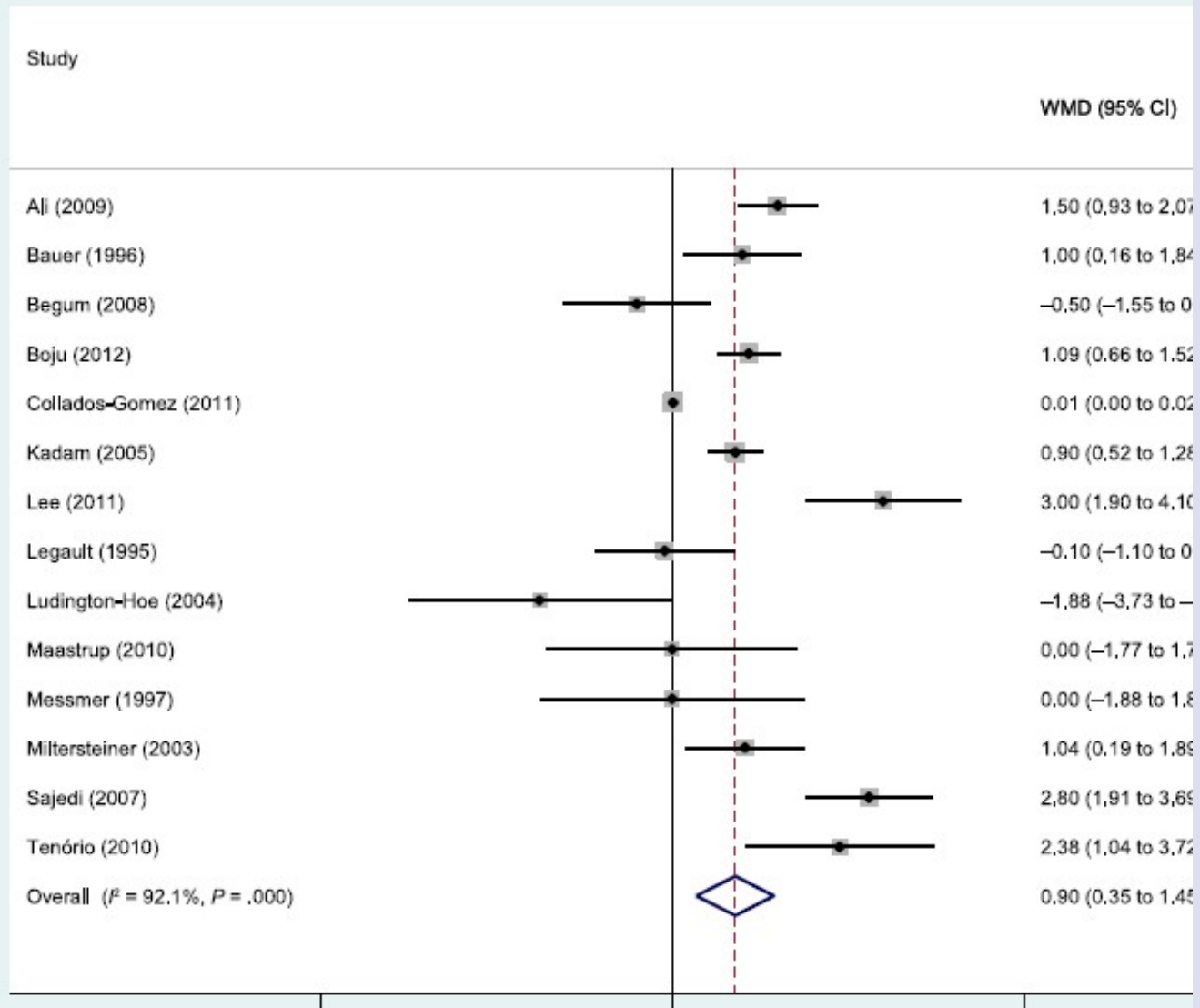
WMD (95% CI)

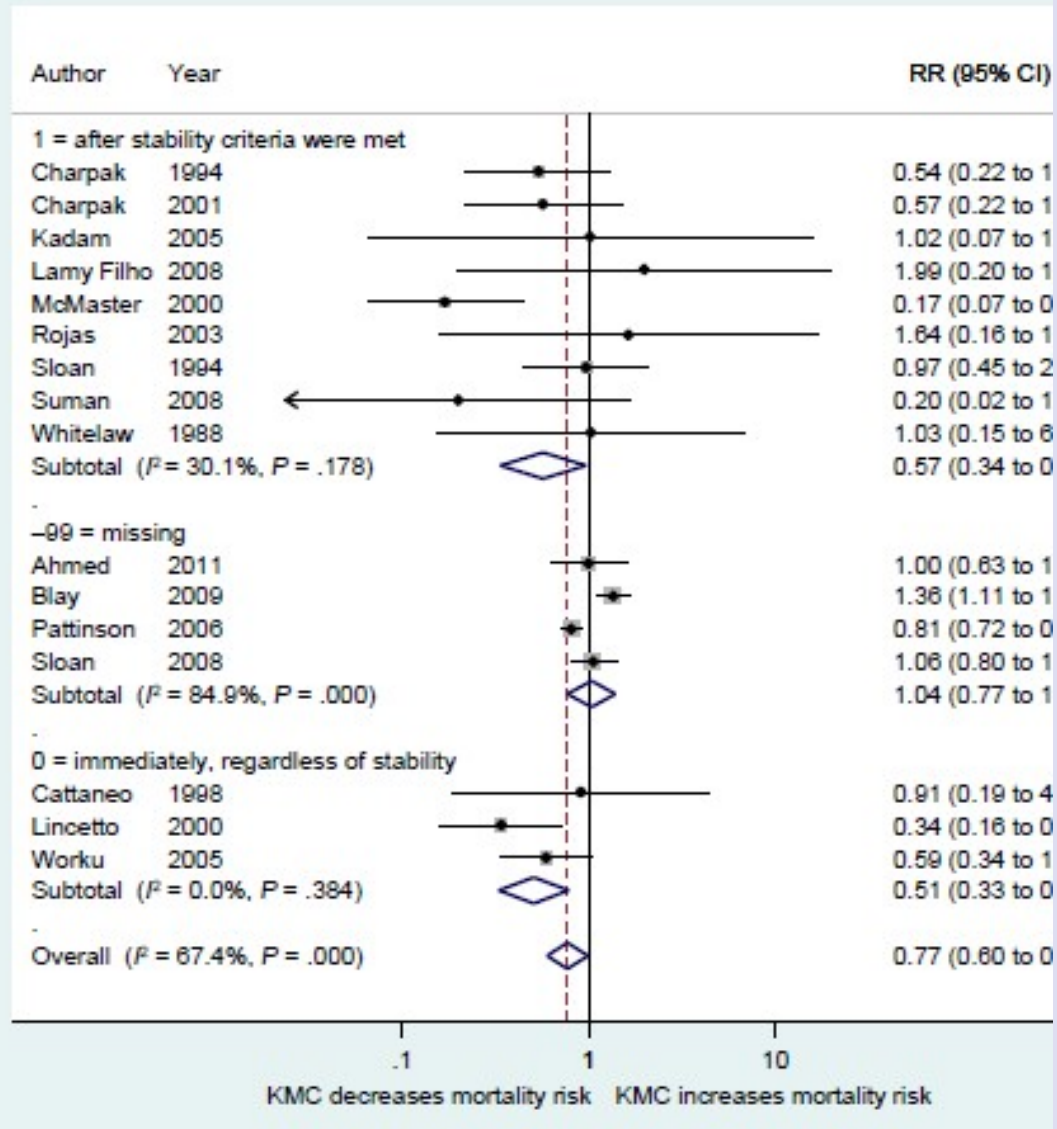


Study

WMD (95% CI)







# DEFINA ESTÁVEL!

- Definição de estável: **sinais vitais**
- Metanálise: FC, FR, Sat e temperatura => todos melhoram no canguru – então? Até dor => 5º sinal vital.
- Por que não foi para o CPP – “*não está estável*” – não tem alicerce na literatura, na ciência. Defina estável!
- Narrativa não se sustenta diante das evidências científicas
- Dogma e temor não podem nortear o plano terapêutico
- **O paciente não pode padecer da terapêutica. Do temor infundado da equipe. O temor é fruto do desconhecimento.**
- Treinamento da equipe interdisciplinar – processo de trabalho/lógica assistencial. Tempo e movimento. Trabalhoso, mas é seguro e possível.



# ESTUDOS MAIS RECENTES SOBRE ESTABILIDADE CLÍNICA

- Trabalho do Vietnã - foi estimulado pelo trabalho de Bergman e cols. de 2004.
- Utilizar o escore SCRIP (*Stability cardior-respiratory system in preterm infant*).
- Assim como o protocolo de Bergman e cols de 2004 => o SCRIP foi muito melhor no CPP.
- O CPP promove uma melhor estabilização autonômica e protege o RN da instabilidade do momento do nascimento.
- O estresse da separação aumenta o corticoide, o que não ocorre com o CPP.
- Os menores ficaram melhores no CPP que os maiores no tratamento usual.



Acta Pædiatrica. 2016 105, pp. 381–390

ACTA PÆDIATRICA  
REVUE PEDIATRIQUE DE SUISSE  
Acta Pædiatrica ISSN 0003-5233

REGULAR ARTICLE

### Newly born low birthweight infants stabilise better in skin-to-skin contact than when separated from their mothers: a randomised controlled trial

Kim Chi Luong<sup>1</sup>, Tien Long Nguyen<sup>1,2</sup>, Day Huong Haynhi Thi<sup>3</sup>, Henri P.O. Camara<sup>4</sup>, Nils J. Bergman (nils@kangroomthercare.com)<sup>4,5</sup>

**Keywords:** Preterm neonates, Skin-to-skin contact, Transition period

**Correspondence:** N. Bergman, B. Rensco Road, Pinelands 7405, South Africa.  
Tel: +27 21 531 5819 |  
Fax: +27 21 531 5819 |  
Email: nils@kangroomthercare.com

**Received:** 10 April 2015, revised 13 June 2015, accepted 20 August 2015.  
DOI:10.1111/apa.13164

**ABSTRACT**

**Aim:** Routine care of low birthweight (LBW) neonates relies on incubators for stabilisation. An earlier study suggested that skin-to-skin contact achieves better physiological stability in the transition period when compared to incubator care. The aim of this study was to replicate that study with a larger sample.

**Methods:** A randomised controlled trial with LBW infants (1500–2500 g) randomised at birth, 50 to routine care and 50 to skin-to-skin contact, with stabilisation using the Stability of Cardio-Respiratory system in Preterms (SCRIP) score measured repeatedly over the first six hours of life as the primary outcome.

**Results:** Newly born infants in skin-to-skin contact showed better transition to extra-uterine life ( $p < 0.02$ ), with the SCRIP score at 360 minutes in skin-to-skin contact being 5.82 (SD 0.66) and in maternal infant separation 5.24 (SD 0.72),  $p < 0.0001$ . In extended skin-to-skin contact care, infants had significantly less need for respiratory support, intravenous fluids and antibiotic use during the remainder of the hospital stay.

**Conclusion:** Skin-to-skin contact was likely to be an optimal environment for neonates without life-threatening conditions who weighed 1500–2500 g at birth. By preventing instability that requires subsequent medical treatment, it may be life-saving in low-income countries.

**INTRODUCTION**

There is significant stress during the birth process (1) which is necessary to activate the brain and the lungs (2,3). Maternal-neonate skin-to-skin contact can be regarded as providing regulation through maternal sensory inputs that enhance autonomic nervous function (4), all the more important for the newly born (5) in the period of transition to extra-uterine life. Immediate maternal infant skin-to-skin contact is therefore hypothesised to be a fundamental regulator of the newly born autonomic nervous system, essential to stabilisation during transition (6). In the context of preterm birth, such a stabilising support would enhance adaptation to extra-uterine life by preventing instability (7). Early maternal-infant interactions are also important in bonding processes (8), and early skin-to-skin contact is known to increase breastfeeding (9).

**Current Western care** is premised on the idea that instability can be recognised quickly and treated as appropriate with technology including incubators. However, primate studies suggest that the observed instability may actually be caused by the separation (10,11), described as dysregulation prompting cortisol release to restore homeostasis (4). Preterm infants in incubators have hypercoagulability (12) and incubator care may be treating instability while also exacerbating it.

**Key notes**

- The existing evidence base for the use of skin-to-skin contact in newly born low birthweight infants is inadequate.
- Skin-to-skin contact from birth maintained stability of low birthweight infants during transition. Separation in the first six hours of life resulted in delayed physiological stabilisation with subsequent increased need for medical interventions.
- Maintaining physiological stability during transition by skin-to-skin contact may be life-saving in low-income countries.

**Abbreviations**

CPAP, Continuous positive airways pressure; LBW, Low birthweight; LPI, Late preterm infant; SCRIP, Stability of the Cardio-Respiratory system in Late preterm infants; SCRIP, Stability of the Cardio-Respiratory system in Preterm infants.

©2015 Foundation Acta Pædiatrica. Published by John Wiley & Sons Ltd 2016 105, pp. 381–390 381



# ESTUDOS MAIS RECENTES SOBRE ESTABILIDADE CLÍNICA

- Randomização de 91 RNs com média de IG 31+1 (28+4-32+6) e média de peso de 1534 g(555-2440 g).
- 46 receberam iSSC e 45 foram para a incubadora.
- Foi aplicada uma escala de estabilidade clínica.
- Conclusão: iSSC nas primeiras seis horas de vida é benéfica para a estabilização cardiorrespiratória de RN muito prematuro.
- Outros estudos e tese de Agnes Linnér.
- => Ao nascimento. Quiçá depois.



Received: 7 April 2022 | Revised: 21 April 2022 | Accepted: 22 April 2022  
DOI: 10.1111/apa.16371

ORIGINAL ARTICLE

ACTA PEDIATR

## Immediate skin-to-skin contact may have beneficial effects on cardiorespiratory stabilisation in very preterm infants

Agnes Linnér<sup>1,2</sup> | Karoline Lode Kolz<sup>3,4,5</sup> | Stina Klemming<sup>2</sup> | Nils Bergman Siri Lilliesköld<sup>1,2</sup> | Hanne Markhus Pike<sup>3</sup> | Björn Westrup<sup>1</sup> | Siren Rettedal Wibke Jonas<sup>1,6</sup>

<sup>1</sup>Department of Women's and Children's Health, Karolinska Institutet, Stockholm, Sweden  
<sup>2</sup>Neonatal Unit, Karolinska University Hospital, Stockholm, Sweden  
<sup>3</sup>Department of Paediatrics, Stavanger University Hospital, Stavanger, Norway  
<sup>4</sup>Faculty of Health Sciences, Stavanger University, Stavanger, Norway  
<sup>5</sup>Department of Clinical Neurophysiology, Stavanger University Hospital, Stavanger, Norway  
<sup>6</sup>Faculty of Health, University of Applied Sciences, Bielefeld, Germany

**Correspondence**  
Agnes Linnér, Women and Children's Health, Widerströmska Huset, Karolinska Institutet, Stockholm S-171 77, Sweden.  
Email: agnes.linner@ki.se

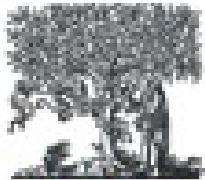
**Funding information**  
This study was funded by BabyBjörn, Barnforskningen at Astrid Lindgren Children's Hospital, the Doctoral School in Health Care Sciences (FV) at the Karolinska Institutet (KI), the Kempe-Carlgrenska Fonden, the Kronprinsessan Lovisas Fond, the Laerdal Foundation, the Lilla barnets fond, Region Stockholm, Stiftelsen Samariten, Strategic Area Health Care Science (SFO-V) at the Karolinska Institutet, the Swedish Research Council and Sällskapet Barnavård.

**Abstract**  
**Aim:** Our aim was to investigate what effect immediate skin-to-skin contact had on the cardiorespiratory stabilisation of very preterm infants.  
**Methods:** This randomised clinical trial was conducted during 2011-2012 at 201 university hospitals with three neonatal intensive care units in Norway. Infants born from 28+0 to 32+6 weeks of gestation were randomised to either skin-to-skin contact with a parent for the first six postnatal hours or to standard care. The outcome was a composite cardiorespiratory stability score based on serial measures of heart and respiratory rate, respiratory support, fraction of inspired oxygen and oxygen saturation.  
**Results:** We recruited 91 newborn infants with a mean gestational age of 28+4–32+6 weeks and mean birth weight of 1534 g (range 555–2440 g). 46 infants received immediate skin-to-skin contact and 45 received incubator care. The skin-to-skin contact had an adjusted mean score of 0.52 (95% confidence interval 0.38–0.67,  $p < 0.001$ ) on a scale from zero to six with zero being the control group.  
**Conclusion:** Immediate skin-to-skin contact for the first six postnatal hours had beneficial effects on the cardiorespiratory stabilisation of very preterm infants.

**KEYWORDS**  
cardiorespiratory stabilisation, kangaroo mother care, neonatal intensive care unit, skin-to-skin contact

# OUTRAS PUBLICAÇÕES

Journal of Pediatric Nursing 71 (2023) e18–e27



ELSEVIER

Contents lists available at ScienceDirect

Journal of Pediatric Nursing

journal homepage: [www.pediatricnursing.org](http://www.pediatricnursing.org)

## The effects of kangaroo mother care on physiological parameters of premature neonates in neonatal intensive care unit: A systematic review

Hamide Zengin, PhD <sup>a,\*</sup>, Ozge Karakaya Suzen, PhD <sup>b</sup>, Gulshah Hus, MSc <sup>b</sup>, Tuğçe Kaldırım, MSc



# OUTROS ESTUDOS - iSSC

THE NEW ENGLAND JOURNAL OF MEDICINE

ORIGINAL ARTICLE

## Immediate “Kangaroo Mother Care” and Survival of Infants with Low Birth Weight

WHO Immediate KMC Study Group\*

ABSTRACT

**BACKGROUND**  
“Kangaroo mother care,” a type of newborn care involving skin-to-skin contact with the mother or other caregiver, reduces mortality in infants with low birth weight (<2.0 kg) when initiated after stabilization, but the majority of deaths occur before stabilization. The safety and efficacy of kangaroo mother care soon after birth among infants with low birth weight are uncertain.

**RESULTS**  
We conducted a randomized, controlled trial in five hospitals in Ghana, Nigeria, and Tanzania involving infants with a birth weight between 1.0 and 1.99 kg who were assigned to receive immediate kangaroo mother care (intervention) or conventional care in an incubator or a radiant warmer until they were stabilized and kangaroo mother care thereafter (control). The primary end point was death in the neonatal period (the first 28 days of life) and in 12 weeks of life.

**CONCLUSIONS**  
Among infants with a birth weight between 1.0 and 1.99 kg, those who received immediate kangaroo mother care had lower mortality at 28 days than

The members of the writing committee (S. Arya, H. Naburs, K. Kawaza, S. Newton, C.H. Anyabolu, N. Bergman, S.P.R. Basu, P. Mittal, E. Assanga, L. Gadama, R. Larsen, R. Rindorf, D. Kuli, A. Linnet, S. Yoshida, N. Chopra, M. Ngarama, A.T. Muzina, A. Boakye-Yiadom, B.P. Kuti, B. Morgan, A. Minckas, J. Suri, R. Moshino, V. Samul, N. Wendo-Droby, S. Bettelheim, H. Jaiswal, M.J. Sankat, I. Nyanteh, H. Tiway, P. Arand, A.A. Manu, K. Nagpal, O. Ampong, I. Sani, K.C. Aggarwal, N. Wachira, B. Baki, B. Westrup, E.A. Adejuyigbe, C. Pfleger, Rhule, Q. Dube, H. Chellan, and A. Masawo) assume responsibility for the overall content and integrity of this article. The full names, academic degrees, and affiliations of the members of the writing committee are listed in the Appendix. Address reprint requests to Dr. Baki or Dr. Basu at the World Health Organization, 29 Avenue Appia, CH1211 Geneva, Switzerland, or at baki@who.int or sras@who.int.

\*A complete list of the collaborators in the WHO Immediate KMC Study is provided in the Supplementary Appendix, available at NEJM.org.

This is the New England Journal of Medicine version of record, which includes all journal editing and enhancements. The Author Final Manuscript, which is the author's version after external peer review and before publication in the Journal, is registered under a CC BY license at PMC6108485.

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Open access

BMJ Paediatrics Open

## Skin-to-skin contact in the delivery room for very preterm infants: a randomised clinical trial

Laila Kristoffersen<sup>1,2</sup>, Håkon Bergsgen,<sup>1,2</sup> Helene Engesland,<sup>3</sup> Anne Bagstevold,<sup>4</sup> Karoline Aker<sup>1,2</sup>, Ragnhild Stoen<sup>1,2</sup>

**ABSTRACT**  
**Objective** Evaluating safety, feasibility and effects on physiological parameters of skin-to-skin contact (SSC) from birth between mothers and very preterm infants in a high-income setting.  
**Design** Open-label randomised controlled trial.  
**Setting** Three Norwegian neonatal units.  
**Patients** Preterm infants at gestational age (GA) 28<sup>0</sup>-31<sup>6</sup> weeks and birth weight >1000g delivered vaginally or by caesarean section (C-section).  
**Intervention** Two hours of early SSC between the mother and the infant compared to standard care (SC) where the infant is separated from the mother and transferred to the neonatal unit in an incubator.  
**Results** 108 infants (63% male, 57% C-section, mean (SD) GA 30.3 weeks (1.3) and birth weight 1437 g (260)) were included. Median (IQR) age at

To cite: Kristoffersen L, Bergsgen H, Engesland H, et al. Skin-to-skin contact in the delivery room for very preterm infants: a randomised clinical trial. *BMJ Paediatrics Open* 2023;7:e001831. doi:10.1136/bmpjo-2022-001831

► Additional supplemental material is published online only. To view please visit the journal online (<http://dx.doi.org/10.1136/bmpjo-2022-001831>).

Received 23 December 2022  
Accepted 10 March 2023

WHO Immediate KMC Study Group† (2020) 21:280  
<https://doi.org/10.1186/s12874-020-1011-1>

STUDY PROTOCOL

## Impact of continuous Kangaroo Mother Care initiated immediately after birth (iKMC) on survival of newborns with birth weight between 1.0 to < 1.8 kg: study protocol for a randomized controlled trial

WHO Immediate KMC Study Group

**Abstract**  
**Background:** Globally, about 15% of newborns are born with a low birth weight (LBW) as a result of pre- or intrauterine growth restriction or both. Up to 70% of neonatal deaths occur in this group within the first 28 days of life. Kangaroo Mother Care (KMC) applied after stabilization of the infant has been shown to reduce mortality among hospitalized infants with a birth weight of less than 2.0 kg. In these studies, infants were assigned and KMC was initiated after about 3 days of age, when the majority of neonatal deaths would already have occurred. The aim of this trial is to evaluate the safety and efficacy of continuous KMC initiated as soon as possible after birth compared with the current recommendation of initiating continuous KMC after stabilization of the infant with a birth weight between 1.0 and less than 1.8 kg.  
**Methods:** This randomized controlled trial is being conducted in tertiary-care hospitals in five low- to middle-income countries (LMICs) in South Asia and sub-Saharan Africa. All pregnant women admitted to these hospitals are pre-screened. After delivery, all neonates with a birth weight between 1.0 and less than 1.8 kg are screened for enrollment. Eligible infants are randomly assigned to intervention and control groups. The intervention group consists of continuous skin-to-skin contact initiated as soon as possible after birth, promotion and support of exclusive breastfeeding, and provision of health care for mother and baby with as little separation as possible. The control group consists of continuous skin-to-skin contact initiated as soon as possible after birth on neonatal death or 72 h of age and deaths between enrollment and 28 days of age and other key outcomes.  
**Discussion:** This is the first large multi-country trial studying immediate KMC in LMICs. Implementation of KMC intervention has already resulted in an important enhancement of the paradigm shift in LMIC settings in that mothers are not separated from their baby in neonatal intensive care units (NICUs). The findings of this trial have future global implications not only on how the LBW newborns are cared for immediately after birth but also on the dissemination of designing NICUs in accordance with the mother-neonatal intensive care unit (MNICU) model.  
**Trial registration:** Clinical Trials Registry - India (CTRI): CTRI/2018/08/01536 (retrospectively registered); New Zealand Clinical Trials Registry (ANZCTR): ACTRN12618001880235 (retrospectively registered).  
**Keywords:** Immediate Kangaroo Mother Care (iKMC), Low-birth-weight babies, Mortality, Skin-to-skin contact



# iSSC

From the Department of Women's and Children's Health  
Karolinska Institutet, Stockholm, Sweden

## IMMEDIATE SKIN-TO-SKIN CONTACT FOR VERY PRETERM AND LOW BIRTH WEIGHT INFANTS

FROM NEWBORN PHYSIOLOGY TO  
MORTALITY REDUCTION

Agnes Linnér



Pediatric Neurology 110 (2020) 42–48

Contents lists available at ScienceDirect

**Pediatric Neurology**

Journal homepage: [www.elsevier.com/locate/pnu](http://www.elsevier.com/locate/pnu)

Original Article

### Neuroprotection Care Bundle Implementation to Decrease Acute Brain Injury in Preterm Infants

Prashanth Murthy, MD<sup>a</sup>, Hussein Zein, MD<sup>a</sup>, Sumesh Thomas, MD<sup>a</sup>, James N. Scott, MD<sup>b</sup>, Ayman Abou Mehrem, MD<sup>a</sup>, Michael J. Esser, MD<sup>a</sup>, Abhay Lodha, MD<sup>a</sup>, Cathy Metcalfe, RN<sup>a</sup>, Derek Kowal, RT<sup>a</sup>, Leigh Irvine, MN<sup>a</sup>, Jillian Scotland, RN<sup>a</sup>, Lara Leijser, MD<sup>a</sup>, Khorshid Mohammad, MD<sup>a,\*</sup>

<sup>a</sup> Section of Neonatology, Department of Pediatrics, University of Calgary, Calgary, Alberta, Canada  
<sup>b</sup> Division of Neurosurgery, Department of Diagnostic Imaging, University of Calgary, Calgary, Alberta, Canada

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Extreme prematurity  
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Germinal matrix hemorrhage  
Periventricular ventricular dilatation

**ABSTRACT**

**Background:** We assessed the impact of an evidence-based neuroprotection care bundle on acute brain injury in extremely preterm infants.

**Methods:** We implemented a neuroprotection care bundle consisting of a care protocolization of hemodynamic and respiratory management, these interventions for acute brain injury in extremely preterm infants (born at gestational age less than the first three days of birth). Implementation occurred in a stepwise manner, development by a multidisciplinary care team based on previous evidence and actions of outcome assessment tools, and education. We compared the incidence of acute preterm brain injury or death preimplementation and postimplementation. Neuroprotection care bundle implementation associated with a significant brain injury risk factors such as the use of isotropes (24% before, 7% after,  $P$  value = 0.001), pneumothorax (5% before, 2% after,  $P$  value = 0.001), and apnoea (19% before, 7% after,  $P$  value < 0.001). Adjusting for confounding factors, care bundle significantly reduced death or severe brain injury (adjusted odds ratio interval, 0.20 to 0.59;  $P$  value < 0.001) and severe brain injury (adjusted odds ratio interval, 0.17 to 0.58;  $P$  < 0.001).

**Conclusions:** Implementation of neuroprotection care bundle targeting predefined and effective in reducing acute brain injury in extremely preterm infants.

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**Introduction**

Acute brain injury remains common in preterm infants and is associated with substantial short- and long-term morbidity risks. As a surrogate for evidence of brain injury early in life, the preterm brain injury types most commonly diagnosed by cranial ultrasonography (CUS) are germinal matrix intraventricular hemorrhage (IVH), periventricular infarction, and cystic periventricular leukomalacia. 90% of these occur within the first 72 hours occurring within the first 24 hours.<sup>1,2</sup> Besides preterm brain, medical interventions, such as



**Conclusão:** melhora mortalidade e morbidade. Deve ser iniciado nas primeiras 24 h e por pelo menos 8 horas/dia (mais tempo – mais benefício)

*BMJ Global Health 2023;8:e010728.  
doi:10.1136/bmjgh-2022-010728*



# Kangaroo mother care for preterm low birth weight infants: a systematic review and meta-analysis

Sindhu Sivanandan <sup>1</sup>, Mari Jeeva Sankar <sup>2</sup>

**To cite:** Sivanandan S, Sankar MJ. Kangaroo mother care for preterm or low birth weight infants: a systematic review and meta-analysis. *BMJ Global Health* 2023;8:e010728. doi:10.1136/bmjgh-2022-010728

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Received 22 September 2022  
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## ABSTRACT

**Importance** The Cochrane review (2016) on kangaroo mother care (KMC) demonstrated a significant reduction in the risk of mortality in low birth weight infants. New evidence from large multi-centre randomised trials has been available since its publication.

**Objective** Our systematic review compared the effects of KMC vs conventional care and early (ie, within 24 hours of birth) vs late initiation of KMC on critical outcomes such as neonatal mortality.

**Methods** Eight electronic databases, including PubMed®, Embase, and Cochrane CENTRAL, from inception until March 2022, were searched. All randomised trials comparing KMC vs conventional care or early vs late initiation of KMC in low birth weight or preterm infants were included.

**Data extraction and synthesis** The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and was registered with PROSPERO.

**Main outcomes and measures** The primary outcome was mortality during birth hospitalization or 28 days of life. Other outcomes included severe infection, hypothermia, exclusive breastfeeding rates, and neurodevelopmental impairment. Results were pooled using fixed-effect and random-effects meta-analyses in RevMan 5.4 and Stata 15.1 (StataCorp, College Station, TX).

**Results** In total, 31 trials with 15 559 infants were

## WHAT IS ALREADY KNOWN OF

- ⇒ Kangaroo mother care (KMC) is an effective intervention that decreases neonatal mortality and the risk of infection in low birth weight infants.
- ⇒ The WHO recommends the initiation of KMC for low birth weight infants after clinical stabilisation.

## WHAT THIS STUDY ADDS

- ⇒ Compared with conventional care, KMC either in the hospital or at home during birth hospitalisation or probably reduces severe infection and mortality at follow-up among preterm and low birth weight infants.
- ⇒ KMC provided for at least 8 hours per day results in greater benefits than KMC.
- ⇒ KMC initiated within 24 hours of birth reduces neonatal mortality and may reduce mortality at 28 days compared with later initiation.

## HOW THIS STUDY MIGHT AFFECT PRACTICE OR POLICY

- ⇒ The results of this updated review encourage health providers to initiate KMC for low birth weight and preterm infants as soon as they are clinically stable.

The Lancet  
eClinicalMedicine 2023;63:  
102155 Published Online 16  
August 2023 <https://doi.org/10.1016/j.eclinm.2023.102155>

*Kangaroo Mother Care (KMC) was recommended to start immediately after birth as routine care for all preterm or LBW newborns (except for critically ill infants who are in shock, unable to breath spontaneously after resuscitation, or require ventilatory support)*



Health

## New World Health Organization recommendations for care of preterm or low birth weight infants: health policy

Care of Preterm or Low Birthweight Infants Group\*

### Summary

Approximately 11% of infants are born preterm, and complications of prematurity are the most common cause of death in children aged under five years. Almost one million preterm infants die each year across low, high and middle income countries. In 2021, the World Health Organization (WHO) convened a Guideline Development Group (GDG) to examine evidence and formulate recommendations for care of preterm or low birthweight (LBW) infants according to WHO Guideline Review Committee (GRC) criteria. GRADE methods were used to assess the certainty of evidence and the GDG developed judgements using the DECIDE (Developing and Evaluating Communication strategies to support Informed Decisions and practice based on Evidence) framework. Twenty-five recommendations were made; 11 recommendations were new, and 16 were for preventive and promotive care. Kangaroo Mother Care (KMC) was recommended to start immediately after birth as routine care for all preterm or LBW newborns (except for critically ill infants who are in shock, unable to breath spontaneously after resuscitation, or require ventilatory support) both in the facility and at home. New recommendations were also made for caffeine to treat apnoea and for extubation; family involvement in routine care for preterm or LBW infants; and for post-discharge home-visit follow-up care. New recommendations were also made to consider use of probiotics, emollient therapy, caffeine for prevention of apnoea, continuous positive airway pressure (CPAP) immediately after birth (with or without respiratory distress) in infants less than 32 weeks gestational age; and for family support to enable the care of preterm or LBW infants. The recommendations confirm the pivotal role of preventive and promotive care for preterm and LBW infants, especially the importance of keeping the baby and mother together, and empowering and supporting families to care for their preterm or LBW infant. WHO is now working to help scale up care for small and sick newborns, including organizational shifts in all 'health system building blocks' such as infrastructure, commodities, workforce and monitoring.

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**Keywords:** Evidence; Guidelines; Health system organization; Maternal and newborn care; Preventive care; Promotive care; Sick newborn care

### Introduction

The most important cause of death in children aged under five years is complications from preterm birth at a gestational age below 37 weeks.<sup>1</sup> Preterm birth occurred in an estimated 10.9% of live births in 2019, totalling 15.2 million infants globally.<sup>2</sup> The cause-specific fatality rate among all major causes of under-five and neonatal deaths is highest for preterm birth, leading to nearly 1 million deaths—about one-third (36.1%) of deaths in the neonatal period.<sup>1</sup> Low birthweight (LBW, <2500 g,

on new global recommendations from the World Health Organization (WHO) for care of preterm or LBW infants,<sup>3,4</sup> briefly summarise evidence upon which the recommendations are based, and discuss implications of the recommendations for the organisation and provision of care.

Three WHO guidelines have been published previously on the care of preterm or LBW infants, most recently in 2015.<sup>5-7</sup> A body of new evidence has emerged since then on the effectiveness and imple-

# POR QUE NÃO FOI PARA O CPP AINDA?

- Neuroproteção => mínimo manuseio => cuidado essencial
- Está no tubo traqueal
- Está com cateter umbilical
- Está com PICC
- Fazendo apnéia
- Caindo saturação
- Oscilando a frequência cardíaca
- Cansadinho
- Está com aminas
- Temperatura ainda não estabilizou
- Estava com dor – para não incomodar
- O pai estava sujinho, veio direto do trabalho
- Acabou de fazer a dieta por gavagem – 30 min
- Não está estável – e a ciência? As evidências?



# RICO X POBRE

Karolinska Institutet News from Karolinska Institutet Listen S

**Navigate on the page**


- Immediate skin-to-skin contact after birth improves survival of pre-term babies
- Publication
- Sister study in high-income countries
- Links
- Short video about the iKMC method

the intervention group.

## 17 hours of skin-to-skin contact per day

In the study, 3,211 infants were randomly assigned to two groups, one that received iKMC and continued skin-to-skin contact at the neonatal unit, where the mothers also received their medical care, and a control group that received standard care, whereby mothers and babies are cared for in separate units and are only reunited during infant feeding. As soon as the babies had stabilised sufficiently, mothers and babies from both groups were transferred to the regular KMC unit. During the first 72 hours, the infants in the iKMC group received approximately 17 hours of skin-to-skin contact per day, compared with 1.5 hours in the control group.

Mortality during the first 28 days was 12 per cent in the iKMC group compared to 15.7 per cent in the control group, which corresponds to a



NEVE

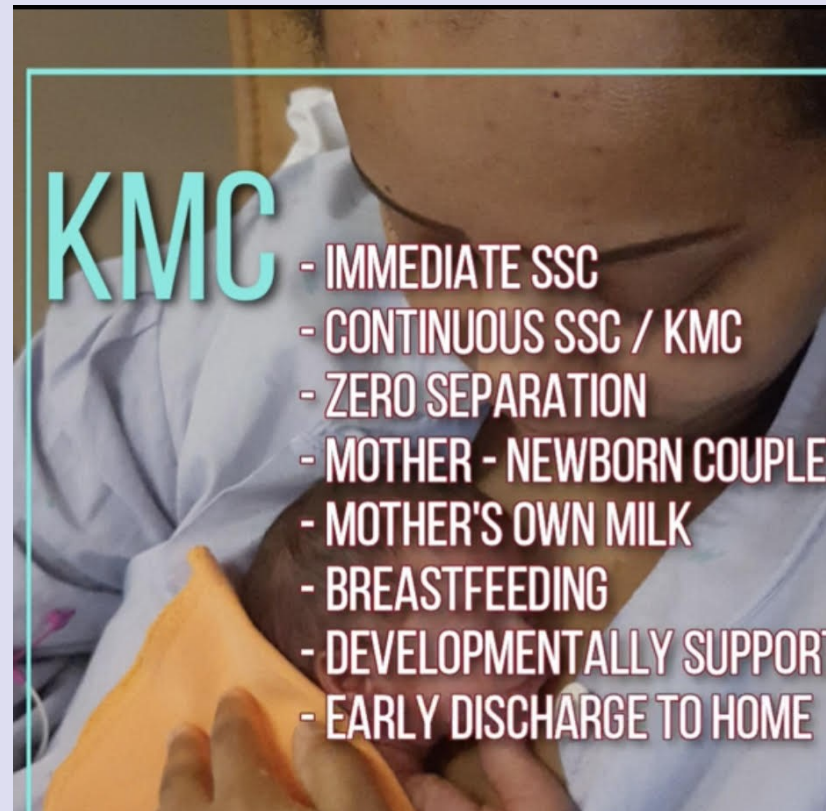


<https://news.ki.se/immediate-skin-to-skin-contact-after-birth-improves-survival-of-pre-term-babies>

TECNOLOGIA



# CIÊNCIA – RICO X POBRE



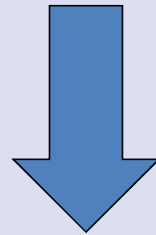
[https://youtu.be/IIQB\\_yIzXmA?si=SR30c6RS1qIuCpNp](https://youtu.be/IIQB_yIzXmA?si=SR30c6RS1qIuCpNp)

PENSADOR

Não tenha pressa, tenha rumo. Demore a chegar, mas não se perca.



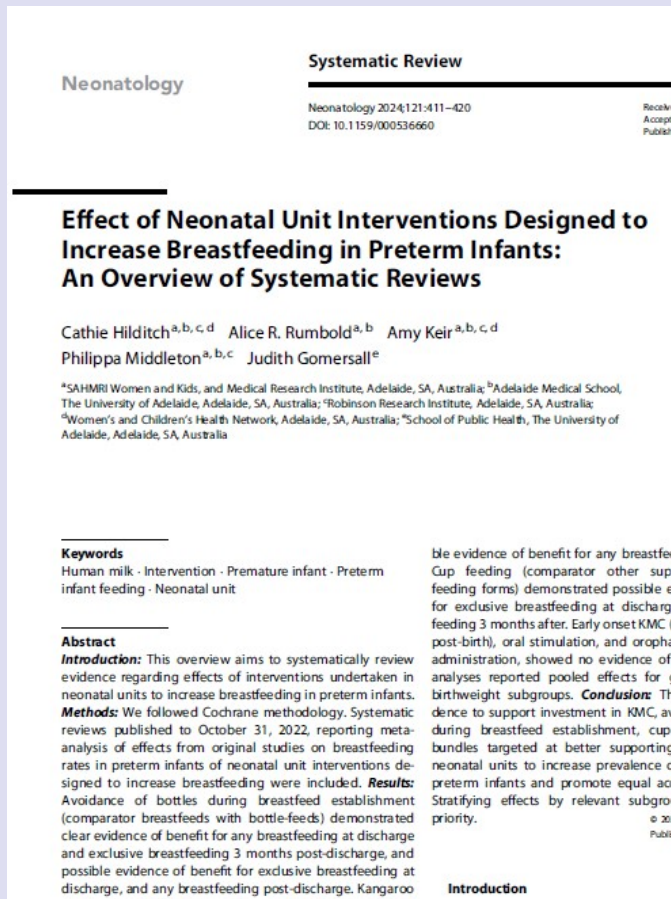
**MÉTODO CANGURU**  
NÃO É PARA ACREDITAR  
É PARA ESTUDAR



EQUIPE QUE NÃO  
IMPLEMENTOU NÃO  
FAZ NEONATOLOGIA  
PLENA



# METANALISE DE AGOSTO DE 24



- Ferramenta – PRISMA
- No final – 86 estudos
- 335 indivíduos – “n”
- Multidisciplinar experts
- KMC com menos de 24 horas de vida – melhora indicadores de aleitamento materno

Neonatology 2024;121:411-420

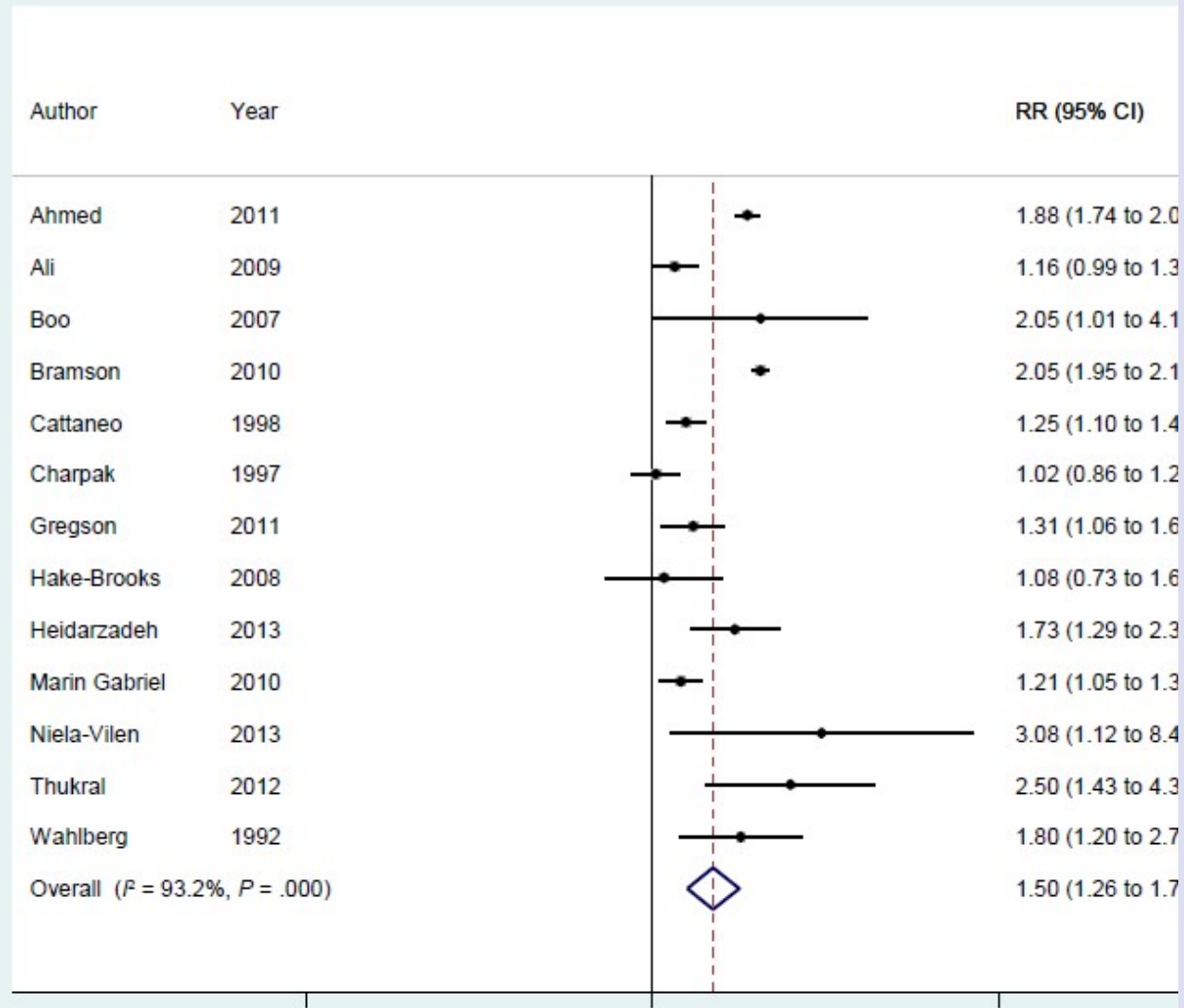




Jornal de Pediatria 2024;100(4): 392398

- Método canguru – 23 vezes mais chance de alta em aleitamento materno exclusivo.
- 19% de redução no tempo de internação
- Unidade com maior experiência em colocar precocemente PT de MBP no cpg. “n”
- Campanha, PA.





# IMPORTÂNCIA DO LEITE MATERNO

- Qualidade da proteína
- Lipídio estruturado para o prematuro
- Inositol – só existe no LH => prevenção de DBP
- Fatores de crescimento
- Esvaziamento gástrico mais rápido
- Defesa: IgA, lactoferrina, lisozima, “anticorpos específicos” (Schanler,1995). Canguru.
- Proteção contra ECN (acetilhidrolase PAF). Glutamina.
- Desenvolvimento (Lucas,1990,92,96). Seguimento.
- Hormônios/enzimas
- Microbiota – microbioma
- Oligossacárides
- Lactoferrina
- Metaboloma. Epigenética.

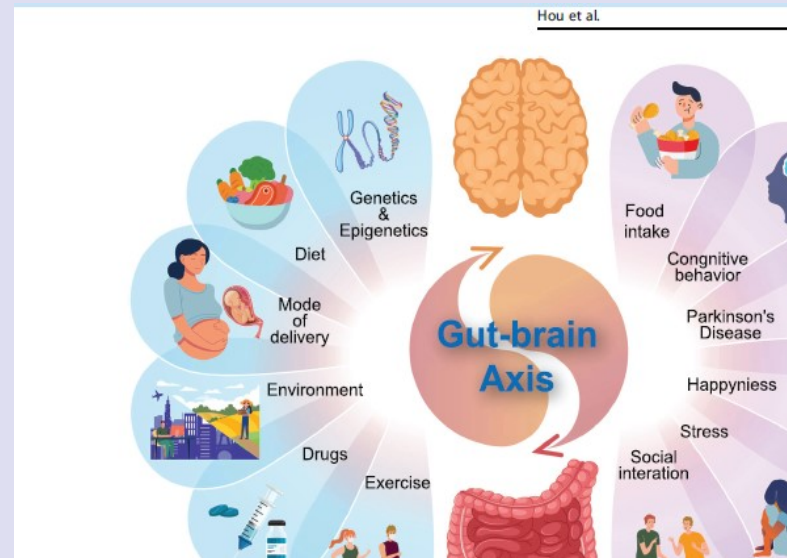
- Hamosh, *Pediatr Clin No Amer*, 2001; 48:69
- *Adv. Nutr.* 2013; 4: 670-671.
- *JPGN* 2011; 53: 536-542
- *Chin J Contemp Pediatr*, 2017, 19(1): 1-21
- *Front. Nutr.* 4:20. May 2017. DOI: 10.3389/fnut.2017.00020
- *Nutrients* 2023; 14, 2923



# EIXO INTESTINO-CÉREBRO

- A demanda do cérebro é alta – tem 2% do peso e consome cerca de 20% de energia
- Déficit nutricional acarretará déficit de neurodesenvolvimento
- Desenvolvimento normal da microbiota se faz necessário para as atividades metabólicas do cérebro – alterações na microbiota resultam em alterações no desenvolvimento cerebral.
- O tipo de parto, a nutrição e as condutas na unidade neonatal são determinantes para o neurodesenvolvimento

– PNAS november 17, 2015, vol 112, no 46, 14105-14112



- Signal Transduction and Targeted Therapy (2022) 7:135 ; <https://doi.org/10.1038/s41392-022-00974-4>



# EPIGENÉTICA

- Epigenética consiste nas modificações das funções genéticas que são herdadas, mas que por sua vez não alteram a sequência do DNA do indivíduo.
- Atualmente a definição de epigenética passou a se referir a mudanças no comportamento de alguns genes que não estão relacionadas a alterações no DNA. Essas mudanças podem gerar efeitos positivos ou negativos para o organismo.
- A epigenética envolve vários mecanismos de metilação do DNA, modificação da histona e microRNA que podem modificar a expressão do gene.

» [Frontiers in Immunology October 2020 | Volume 11 | Article 2141](#)





# MICRO-RNA

- Os exossomas são vesículas de 30-90 nm secretadas para o meio extracelular por vários tipos de células de mamíferos.
- As secretadas pela célula mamária são chamadas de MEVs (*mammary epithelial cell-derived extracelular vesicles*) – nessas vesículas (MEX – *milk exosome*) há micro RNAs.
- O MEX e os micro RNAs atingem a circulação e têm impacto na epigenética, programando o funcionamento de vários órgãos, como fígado, timo, cérebro, ilhas pancreáticas, osso, tecido adiposo.
- O exossoma do leite materno (MEX) tem implicação no crescimento, maturação, programação metabólica e imunológica.
- O leite da mãe de prematuro tem composição diferente, sendo vital que seja garantido. O foco é o leite da mãe.

– Biomolecules 2021, 11, 851. <https://doi.org/10.3390/biom11060851>

– Pediatr Res. 2017 August ; 82(2): 226–236. doi:10.1038/pr.2017.54.



Neurogenesis

let-7  
miR-132  
miR-210  
miR-29b



Gut maturation

miR-200a,  
miR-  
miR-99b  
miR-21

miR-182-5p  
miR-146b-5p  
miR-181a  
let-7c  
miR-21  
miR-29a-3p  
miR-28  
miR-23  
miR-223  
miR-150  
miR-17&92  
miR-155

miR-148a-3p  
miR-29b

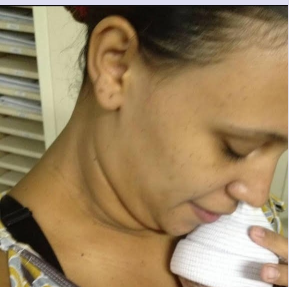
miR-182-5p  
let-7f-5p  
miR-22-3p





# PAIS NA UNIDADE NEONATAL

- **Fundamental – contato pele a pele**
- O canguru não é apenas o pele a pele – é uma lógica assistencial, proposta de trabalho.
- A mãe é responsável por todos os indicadores de qualidade da Unidade Neonatal.
- Linha de cuidado em consonância com as evidências científicas.
- Método Canguru **não** é religião – não é para acreditar. É para estudar.
- A **ciência** é para pobres e ricos. O benefício é para todos.



#PaieMãeNãoSãoVi  
#PaieMãeNãoSãoVi  
#PaieMãeNãoSãoVi  
#PaieMãeNãoSãoVi  
#PaieMãeNãoSãoVi  
#PaieMãeNãoSãoVi



# CONCLUSÃO DAS EVIDÊNCIAS

- Conclusões: Deve ser precoce e prolongado
- Fazer o mais precoce e pelo tempo mais prolongado (muitas horas por dia, pode ser alternado com pai e mãe, pelo menos uma hora – organização do RN, muitas vezes por dia).
- Esse conhecimento precisa ser compartilhando com toda a equipe, com todo o hospital.

Sonhos sem metas, são apenas sonhos;  
Metas sem planejamento são apenas ilusões;  
Planejamento sem disciplina, apenas frustrações.



# COMO IMPLEMENTAR

- Linha de cuidado – no nascimento, na admissão, na unidade neonatal. Treinar todas as equipes. Como se fosse uma **ORQUESTRA** – cada um entra no momento correto, o que garante a **HARMONIA!** Para termos harmonia é vital que haja **COMUNICAÇÃO**.
- Para trabalhar em Unidade neonatal/orquestra: Ler partitura. Não pode tocar de ouvido. Precisa estudar. E ensaiar.
- Abordar família no pré-natal ou o quanto antes
- Explicar o benefícios
- Respeitar os temores – mais não reforçar com os próprios (infundados, sem alicerce na literatura).

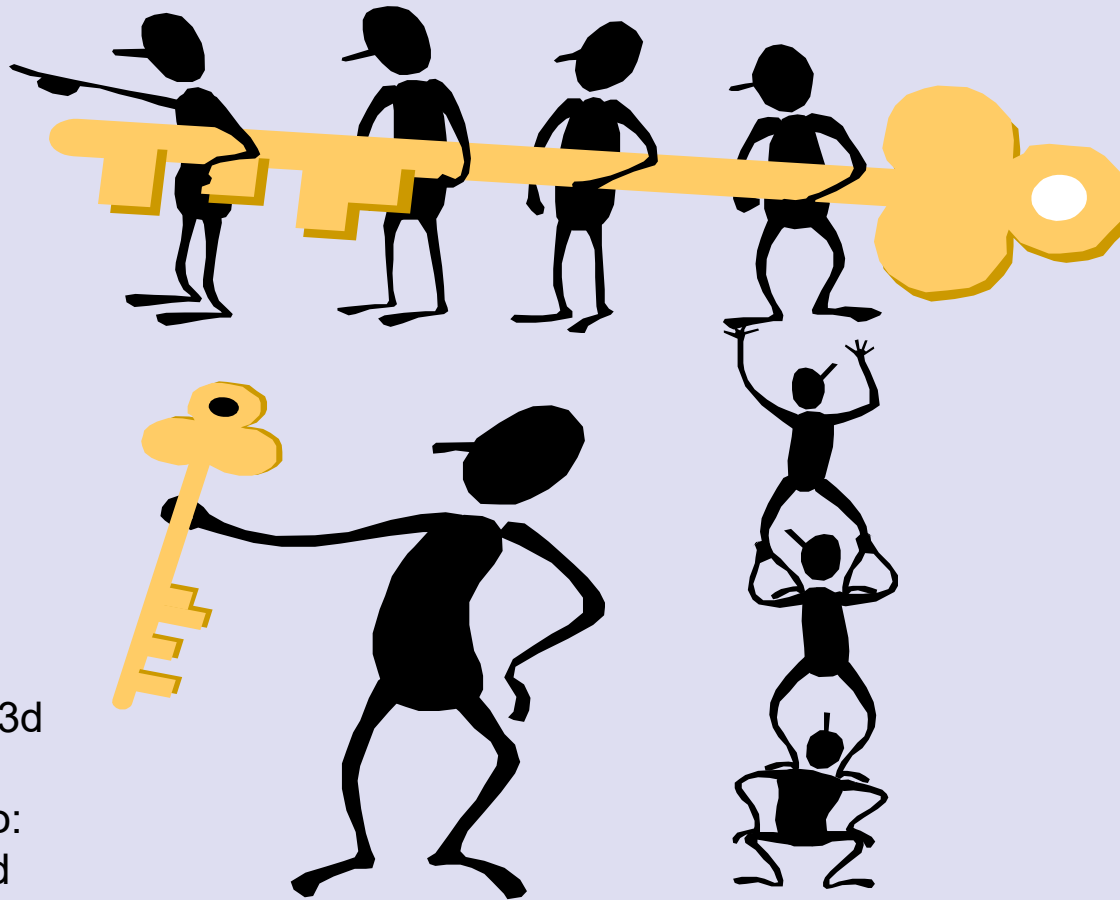


# BARREIRAS E FACILITADORES

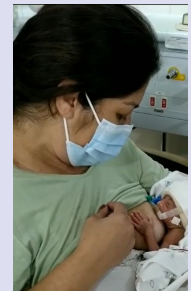
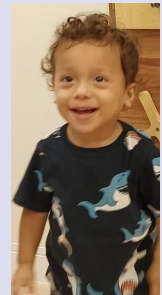
- Falta de conhecimento - estudar
- Unidades com condutas equivocadas, desatualizadas.
- Dogma e temor
- Desdém, preconceito por falta de conhecimento
- Não compartilhar as evidências e o conhecimento
- Profissionais comprometidos que não tocam de ouvido. Que sabem ler partitura. Que estudam.
- Quem trabalha com aleitamento com afinco, trabalhar com afinco para a implantação do método canguru.
- Equipe interdisciplinar
- Treinamento – ensaiar a orquestra



# EQUIPE INTERDISCIPLINAR + BLH + FAMÍLIA



27 sem e 3d  
PN: 858 g  
Internação:  
2 m e 22 d





17 NOV

DIA MUNDIAL  
DA PREMATURIDADE  
2024



**OBRIGADA!**  
*nicgianini@gmail.com*

VOCÊ NUNCA  
SABERÁ QUANTA  
VIDAS VOCÊ  
TRANSFORMOU  
MAS ELAS  
SABERÃO

