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МИНИСТАРСТВО ЗДРАВЉА



SOUTH-EASTERN EUROPE
HEALTH NETWORK



АГЕНЦИЈА ЗА АКРЕДИТАЦИЈУ
ЗДРАВСТВЕНИХ УСТАНОВА СРБИЈЕ



Advances in neonatal care at The Institute of Neonatology

Milica Ranković Janevski
Institute of Neonatology
Belgrade, Serbia

**Multi-country Workshop on
Development of Accreditation Standards for Maternity Wards and Neonatal Departments**
15 – 16 September 2014, Belgrade

Preterm birth

Incidence of preterm birth:

- 10% (15.000.000) globally
- 7% (4.000) in Serbia



- Family: unexpected event, shock, source of prolonged stress
- Medical professionals: great challenge, long term task

Institute of Neonatology

- 20 – 25% preterm babies (850 – 950)
- 84% - LBW (< 2500 g)
- 38% - VLBW (< 1500 g)
- 70% - NICU
- 44% - MV
- 6012 d MV
- 111 d iNO
- 388 d HFVO
- 45 d – length of stay

- Development of perinatal medicine and neonatal intensive care
- New technologies and medications
- Decrease in perinatal and neonatal mortality
- The incidence of developmental impairment remains unchanged

Preterm born children at school age (20-25 %)

- Neurosensory, neurodevelopmental deficit
- Increased risk for attention disorder
- ↓ IQ
- Difficulties in social and/or emotional functioning and autoregulation
- ↑ needs for additional help at school

Implications of Kangaroo Care for Growth and Development in Preterm Infants

Virginia J. Thibault

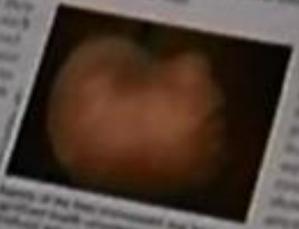
Kangaroo care (KC) is a skin-to-skin contact with the mother or a trained caregiver. It is a non-feeding, non-therapeutic, and non-sterile form of contact. KC is a form of skin-to-skin contact between the mother and her preterm infant. It is a form of skin-to-skin contact between the mother and her preterm infant. It is a form of skin-to-skin contact between the mother and her preterm infant.



Fetal Environment May Have Profound Long-term Consequences for Health

Paula Higgins, PhD

Research shows that the fetal environment can have profound long-term consequences for health. The fetal environment can have profound long-term consequences for health. The fetal environment can have profound long-term consequences for health. The fetal environment can have profound long-term consequences for health.



Advances in the Science: Achievements and Challenges Across the Spectrum

Chronic Conditions, Functional Limitations, and Special Health Care Needs of School-aged Children Born With Extremely Low-Birth-Weight in the 1990s

Sharon M. Wick, MD, PhD
Deborah Taylor, PhD
Mark K. Johnson, PhD
Lynn F. Jones, MS
Eileen S. Adams, MS
Christine M. Fawcett, MS
Sara K. Klein, PhD

Abstract: Information on the long-term functioning and special health care needs of extremely low birth weight (ELBW) children is needed to plan for their care and educational needs.
Objective: To estimate neurocognitive, developmental, and medical functioning in relation to the associated functional limitations and special health care needs of ELBW children compared with normal birth weight (NBW) term-born children.
Setting and Participants: A historical study of age 8 years of a cohort of children born from 1992 to 1995 (27% of delivered and 17% of live births) in a tertiary care center in Cleveland, Ohio.
Design: Questionnaires for identifying children with chronic conditions and a subsample of specific medical diagnosis and functional limitations were mailed to the parents of the children.
Results: Children born ELBW had significantly higher rates of chronic conditions (33% vs 17%, $P < .001$) and functional limitations (41% vs 17%, $P < .001$) compared with NBW children. Children born ELBW had significantly higher rates of special health care needs (51% vs 17%, $P < .001$) compared with NBW children. Children born ELBW had significantly higher rates of special health care needs (51% vs 17%, $P < .001$) compared with NBW children.

JAMA
The Journal of the American Medical Association

July 27, 2008

Possible negative impact of NICU environment on the developing brain



New morbidity

- Neurodevelopmental delay or dysfunction in preterm infants being treated at neonatal intensive care unit, in the absence of any brain damage.

Johnson, 2000.

These dysfunctions are tightly connected with the early sensory experiences and stressors from the NICU environment, to whom the immature, developing brain was exposed before time, due to preterm birth.

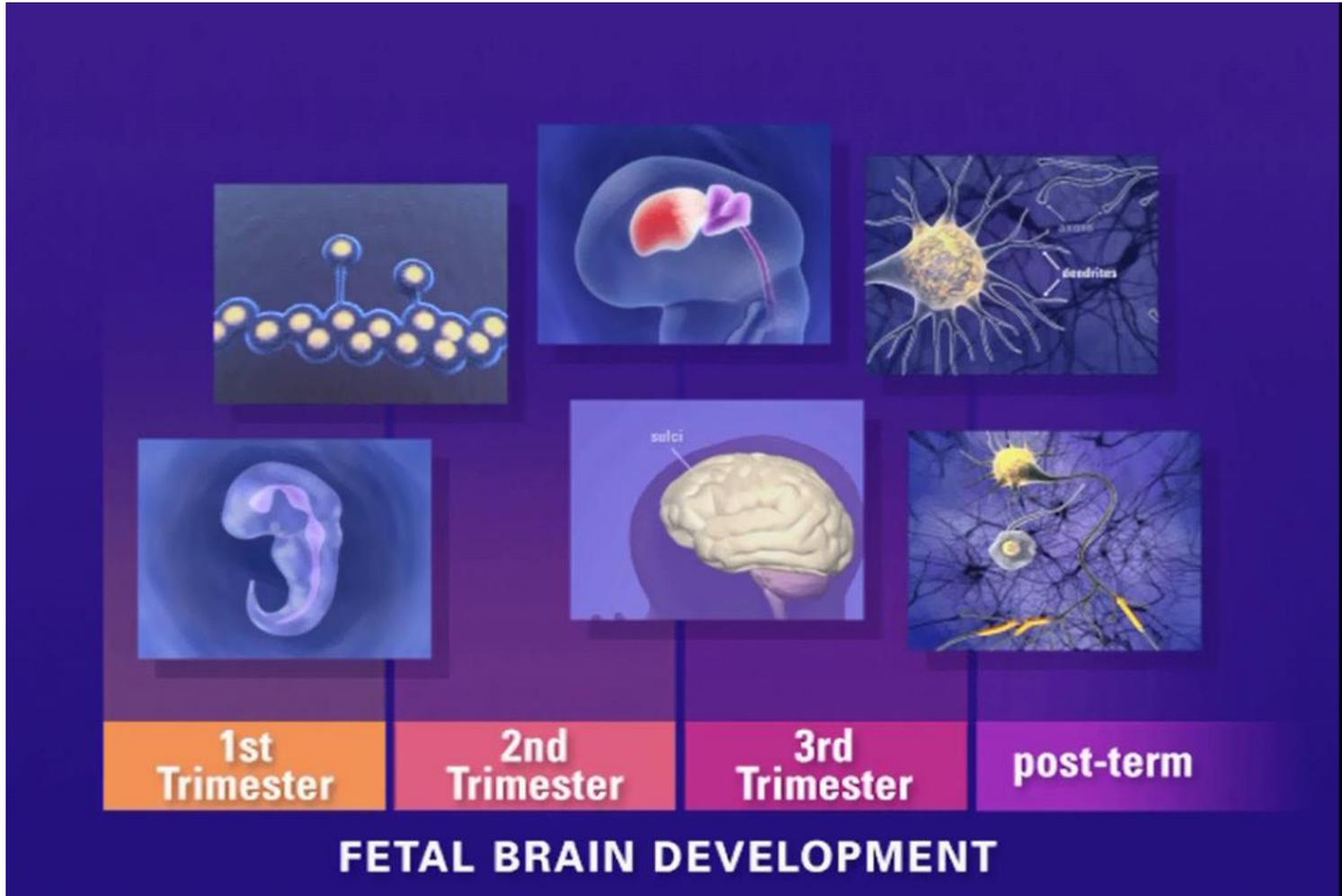
Brain development

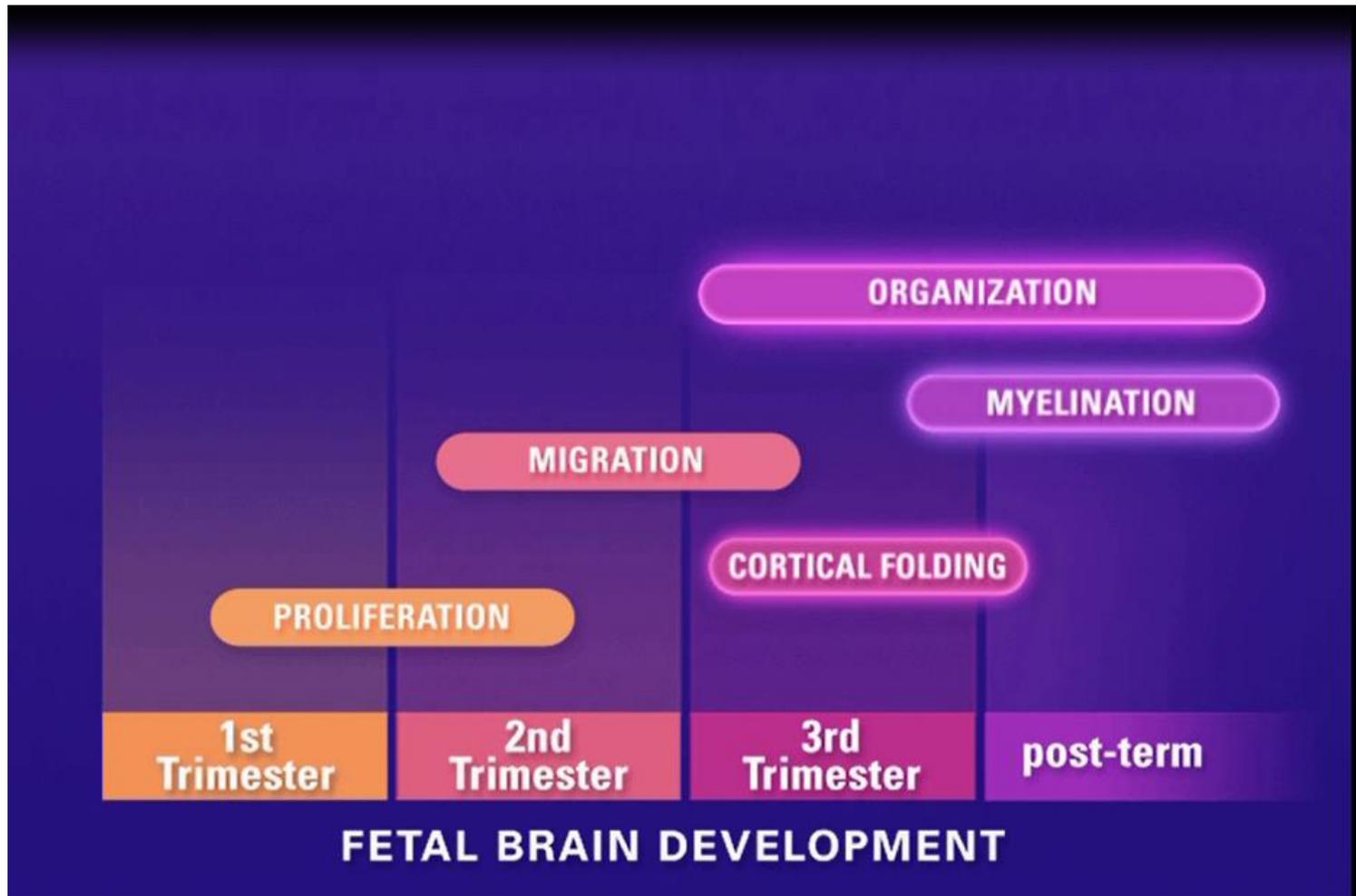


28 wk gestation



40 wk gestation





Key stressors of NICU environment

- Light
- Noise
- Inadequate positioning
- Pain
- Interrupted sleep
- Mother/infant separation

How can we help?

- Family Centered Care
- Developmental Care
- Kangaroo Mother Care

Partnership with Parents for Better Outcome

- Open door policy
- NIDCAP© education and implementation
- Kangaroo Mother Care (late, intermittent)

(Ministry of Health, Committee for New Technologies, 2010.)

Family Centered Care



Family Centered Care

- Based on partnership between the family and medical professionals
- Promotes active parents' participation in their baby's care
- Increases parents' competences
- Helps bonding and attachment
- Decreases parents' stress and anxiety

Newborn Individualized Developmental Care and Assessment Program (NIDCAP®)

- ↓ length of hospital stay
- ↓ d on MV
- ↓ d on supplemental oxygen
- ↓ incidence of HIC
- Earlier onset of breastfeeding
- Better weight gain
- Better neurodevelopmental outcome at 3,6 and 9 m

H.Als, 1986., 1988.

NIDCAP©

- CLD - mild
- ↓ NEC
- Better outcome for the whole family
- Better neurodevelopmental outcome

Cochrane Review, 2006.

Improvement of Short- and Long-Term Outcomes for Very Low Birth Weight Infants: Edmonton NIDCAP Trial

K.L. Peters et al., 2009

NIDCAP®

Newborn Individualized Developmental Care and Assessment Program

- Protocol based, certified, high quality developmental program



- Synactive developmental theory – Prof. H. Als
- Mentoring caregivers
- Changing hospitals
- Supporting families
- Offering better outcome

NIDCAP®

- Individualized
- Family oriented
- Partnership based
- Supports development

- Modification of NICU environment (minimal handling, light, noise, pain, family)
- Behavioral assessment of the baby (weaknesses, strengths)
- Individual care plan and approach
- Team work (sharing the care plan with the baby's family and caregivers)
- Encouraging the parents, enhancing their parental competencies



- 2007. communication with NIDCAP© Training center, St Mary's Hospital, London, UK
- 2008. NIDCAP© Trainer's visit (study day, short, medium and long-term goals)
- 2008. NIDCAP© team (6 members)
- 2010. the majority of the tasks were completed (2 trainees)
- 8th centre in Europe - NIDCAP© education and implementation

- 2 NIDCAP© professionals



- Practical skills (12 wk education)
St Mary's Hospital, Imperial College, London, UK
6 trainees
- Baby Massage
IAIM (International Association of Infant Massage)
10 trainees





- Member of EFCNI (European Foundation for the Care of Newborn Infants)
- Project “A Big Hug for Little Giants” (Baby Massage)
- Brochures, leaflets for the parents

Kangaroo Mother Care

- KMC, Skin-to-skin contact

well known, worldwide accepted method of care for LBW babies

- 98% NICU in USA

- WHO Guidelines

- EBM - Cochrane Review, 2011.

kangaroo
mother care
A practical guide



 Department of Reproductive Health and Research
World Health Organization
Geneva

COMMITTEE REPORT

Towards universal Kangaroo Mother Care: recommendations and report from the First European conference and Seventh International Workshop on Kangaroo Mother Care

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Keywords

Implementation, Guideline, Kangaroo Mother Care

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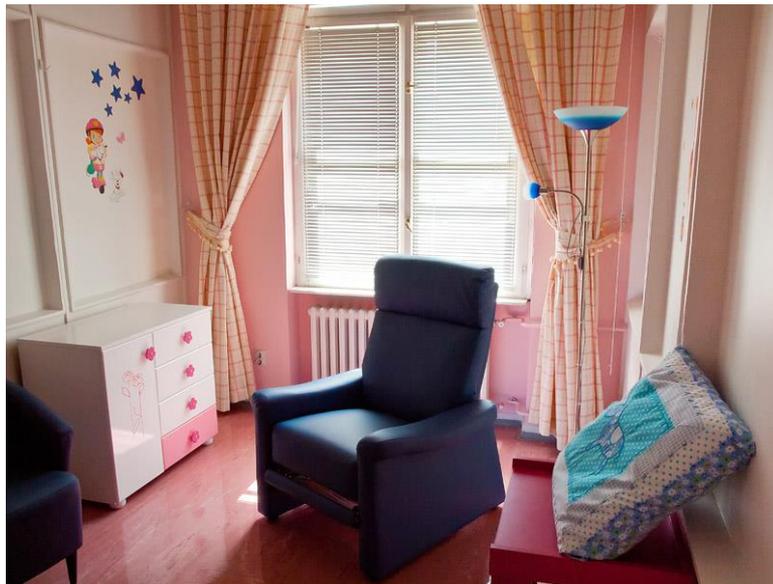
Abstract

The hallmark of Kangaroo Mother Care (KMC) is the kangaroo position: the infant is cared for skin-to-skin vertically between the mother's breasts and below her clothes, 24 h/day, with father/substitute(s) participating as KMC providers. Intermittent KMC (for short periods once or a few times per day, for a variable number of days) is commonly employed in high-tech neonatal intensive care units. These two modalities should be regarded as a progressive adaptation of the mother-infant dyad, ideally towards continuous KMC, starting gradually and progressively with intermittent KMC. The other components in KMC are exclusive breastfeeding (ideally) and early discharge in kangaroo position with strict follow-up. Current evidence allows the following general statements about KMC in affluent and low-income settings: KMC enhances bonding and attachment; reduces maternal postpartum depression symptoms; enhances infant physiologic stability and reduces pain, increases parental sensitivity to infant cues; contributes to the establishment and longer duration of breastfeeding and has positive effects on infant development and infant/parent interaction. Therefore, intrapartum and postnatal care in all types of

Conclusions

- All intrapartum and postnatal care should adhere to a paradigm of **non-separation of infants and their mothers/families**.
- Preterm/LBW infants should be regarded as extero-gestational foetuses **needing skin-to-skin contact** to promote maturation.
- KMC should begin **as soon as possible after birth** and continue as often and for **as long as appropriate** (depending on circumstances).

- 2010. 2 rooms for KMC
- 8. am – 8. pm
- Late, intermittent, 2hr
- 2013. 386 families/2158 SSC



Main challenges

- The beginning
- Level of knowlegde (Family centered care, Developmental care, KMC)
- The size of the hospital (160/22 beds; 6 wards, 100-120 babies/d, staff)
- Keeping all of this high enough on the priority list
- Fund raising (education)

Lessons learned

- FCC, DC are about relationships, attitude and they bring a new culture. Although bringing a lot of benefits for the baby and her/his family, these changes are not easy for medical professionals;
- Knowledge is essential in the process and education should be available;
- Suitable guidelines and protocols could be helpful;
- KMC showed up to be non demanding in terms of education, equipment and implementation, yet bringing immediate results: At The Institute, KMC was a turning point.