3rd INTERNATIONAL WORKSHOP ON KANGAROO MOTHER CARE

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Lista de los resúmenes de los que no pudieron viajar
List of Abstracts of those who could not travel

THE RAISING OF PREMATURE INFANTS BY KANGAROO METHOD : EXPERIENCE AT TOKOIN TEACHING HOSPITAL LOME-TOGO

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Togo

KANGAROO MOTHER CARE (KMC) is an ambulatory care technique for the low birth weight infants, which implicate the portage of the infant in Kangaroo position with skin-to-skin contact.
After studying in Colombia, a bower of Kangaroo method, a Togolese team has raised the premature infant according to his technique for 5 months.
The authors present Kangaroo Mother Care an expose preliminary results.
Sixty low birth weight infants are raised according to the Kangaroo method. They were 55,6 % of boys and 44,4 % of girls.
Gestational age mean was 33 weeks with extremes of 30 and 33 weeks. The birth weight at the beginning of the Kangaroo adaptation was from 1200 to 1800 gs. The daily mean weight gains for Kangaroo baby was 22,8 gs. The mean duration of the Kangaroo method in the hospital was 13 days. There was not any mortality after Kangaroo adaptation.
Conclusion : The practice of Kangaroo method in taking care of the premature infants is realisable in our Africa Countries. It would be a matter of support adaptation (Documentation) and the composation of medical team (Neonatologist, Pediatric nurse, social worker, psychologist).

INTRODUCTION OF KANGAROO MOTHER CARE IN MALAWI, EAST AFRICA: AN EXAMPLE FOR A SUCCESSFUL IMPLEMENTATION OF KMC IN A SECOND/THIRD LEVEL HOSPITAL IN A COUNTRY WITHOUT RESOURCES

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Malawi is a landlocked country in East Africa with a population of 10 Mio. It is one of the poorest countries of the Sub-Saharian region. The Human Poverty Index (UNDP) from 1996 ranked Malawi as 161 of 175 countries. The health expenditure is about US$ 1.60 per head. The life expectancyis 45 years, the U/5 mortality 240 per 1000 and about 60 % of all children are stunted due to chronic diseases or malnutrition. Malawi is suffering from HIV epidemic with one of the highest rates worldwide.
Zomba Central Hospital is one of the three referral hospitals in Malawi with a catchment area of 3 million people. The hospital is taking care of +/- 4500 newborns per year, about 20 % are underweight or premature. The Nursery has 30 beds and treats about 1500 babies per year. An investigation of all cases in 1996 showed that 52 % of all babies below 2 kg birthweight had severe hypothermia whilst in the Ward. The Mortality og babies under 2 kg was about 60 %.
In 1996, an attempt of a Dutch Doctor to introduce KMC in Malawi was stopped by the hospital management. Two babies died, in one case it was assumed that the mother had suffocated the baby.
My project proposal, Introduction of KMC in Malawi which included the construction of a Kangaroo Ward with 12 beds was funded by the EU.

The following elements have been used to ensure a successful implementation :

1. Appropriate space and equipment
   - Separate space fot the Kangaroo Mothers with their babies
   - Enough space for a private atmosphere which gives possibility for the mothers to share their experience.
2. Core team of sataff members has to be convinced by
   - Adequate information
   - Training for 1-2 weeks in a center which already performs KMC
3. Agreement of the Management and other authorities, e.g Ministry of Health
4. Safe Admission criteria and very close supervision in the initial phase
5. Broad information
   - All available media should be used (Press, Radio, local TV, Drama Groups, Posters, Mural designs, etc)
   - All stake holders e.g. midwives, TBAs, gynaecologist should be involved (workshops, training program).
6. Other motivation elements may have promoting character e.g. cloth in special design for the mothers, incentives for the mothers to take part in the follow-up, etc.

The presentation will explain in detail the elements which are crucial for the implementation.

ALTERNATE METHODS OF FEEDING LOW BIRTH WEIGHT INFANTS DURING THE TRANSITION TO BREASTFEEDING

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Part A-A comparison was made of the use of a bottle, cup and a traditional feeding device ("paladai") in 100 newborn infants evaluating the volume ingested, the time taken, the amount of spilling and the duration of time the infants were quiet in between feeds. The infants took the maximum volume in the least time and kept quiet longest with the paladai. Spilling was the highest with the cup, especially with preterm infants. Infants could accept feeds with the paladai or cup before the bottle, the most immature infant who could accept the former two being 30 weeks.

Part B-100 low birthweight infants below 2500 Gm who were commenced on oral feeds either directly or after initial stabilization on parenteral fluids or gavage feeds were studied. Oral feeds were given with a paladai when the mother was not available for a feed or as a supplementation to breastfeeds before exclusive brestfeeding could be established. The birthweight ranged between 640Gm to 2452 Gm. The lowest weight in which a paladai could used was 870 Gm. Gestational ranged from 28 to 40 weeks . The lowest gestation ofa baby that could accept paladai feeds in this group was 31 weeks. Most of the infants(98%) could accept feeds with the paladai even before the amounts given by tube reached the full calculated requirements. The majority (99%) accepted greater volumes of milk by paladai than conventional calculated requirements 72 low birthweight infants were evaluated separately to compare additional parameters such heart rate variations and oxygen saturation during episodes of breastfeeding and use of the paladai. The relevant details are noted in the table :

Parameter	Paladai	Breastfeeding	Statistical Evaluation
Highest Heart Rate	142.70 ± 7.54	145.43 ± 9.15	Not Significant
Lowest Heart Rate	136.36 ± 7.15	139.73 ± 9.19	$P < 0.01$
Highest SpO2	95.41 ± 1.44	94.08 ± 1.62	$P < 0.01$
Lowest SpO2	91.75 ± 1.38	90.36 ± 1.48	$P< 0.01$

A lower heart rate (but within normal limits) and a higher oxygen saturation were observed with the use of the paladai which was probably because there was not much effort during the feeding procedure. No complications such as aspiration or even significant vomiting were noted. Regurgitationof small volumes(posseting) was present in both breastfed and paladai fed babies with no statistically significant difference.

The paladai and, where that is not available, a small cup, permits an earlier switch over from gavage feeds. It does not appear to interfere with breastfeeding. Because it does not require much effort, it can also be used to in Kangaroo Mother Care to supplement breastfeeds with expressed breast milk without undue tiring or detrimental impact on weight gain and used until the baby is strong enough

INFORMATION TECHNOLOGY AS A TOOL FOR MONITORING QUALITY OF HEALTH CARE IN A DEVELOPING COUNTRY: THE KANGAROO MOTHER CARE PROGRAM EXPERIENCE

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Good quality health care is health care that is accessible, effective, safe, accountable, and fair. Components of health care are health care *interventions*, and health care *services* other that interventions, which are delivered within a given ***structure***, by means of specified ***processes*** with the aim of producing favorable ***outcomes*** (Donabedian). The Colombian Kangaroo Mother Care (KMC) Program at Clinica del Niño (Instituto de Seguro Social) has been involved in a continuous quality assessment exercise, aimed basically at evaluating clinicians performance, in terms of compliance with KMC processes and proximal and intermediate health outcomes.

In the presentation, our experience with an electronic medical record specifically developed for the KMC program, as a tool for assessment and improvement of quality of care is discussed. Five topics are presented:

1) Quality of health care: its definition, components, measurement and improvement, are briefly discussed;
2) Structure and main processes of our KMC program are described;
3) Informatics tools that we have employed in monitoring processes and outcomes in the KMC Program are presented; some examples of performance indices for both compliance with processes and proximal and intermediate outcomes.
4) Critical points encountered by us while attempting to use computerized records and other automatic resources in quality of care monitoring are described and possible solutions are enumerated: direct computer clinician interface, automated data capture procedures, enhancement of data capture filters, and identification of members of the KMC program team devoted primarily to quality-assessment quality improvement activities.
5) Conclusions and recommendations.

IMPACT OF "KANGAROO" MOTHER CARE ON THE SURVIVAL OF LOW BIRTH WEIGHT NEONATES

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Kangaroo Mother Care (KMC) has been proven through numerous reasearches worldwide, to be a safe, effective and humane way of caring for the low birth weight (LBW) neonate.In a large, government-run maternity hospital, where human & technical resources are almost always insufficient to meet the demands ofa large neonatal population, KMC was recently implemented as the standard way of caring for the LBW. **OBJECTIVES** : 1) To describe a standard program of implementation of KMC in a tertiary government maternity hospita l2) To determine the difference in survival ofLBW neonates before & after implementation of KMC.
MATERIALS & METHODS : All neonates born with a weight of <2001 grams during a seven month period of KMC implementation were enrolled into the study. As soon as the neonate recovered fromacute illnesses related to prematurity & low birth weight, he/she is allowed to be with his/her respective mother in the rooming-in, held in "kangaroo" position. Feedings were given appropriately using breastmilk only. Once full breastfeeding was achieved and weight gain was demonstrated for three consecutive days, the neonate was discharged with the mother in KMC. A standard follow-up program for these neonates is in place. The neonates were grouped into five(5) weight categories , i.e. <1000gm., 1001-1250 gm., 1251-1500 gm., 1501-1750gm., & 1751-2000 gm. The survival rate for each weight category was matched & compared with that ofthe same weight groups, cared for in the same hospital during the same months of the previous year. No significant differences were noted in the two populations taking into consideration sociodemographic characteristics, prenatal care and incidence of initial morbidities related to being LBW. The NICU personnel were the same during the period of study and the equipment armamentarium did not change over the same period of time. **RESULTS :** Significant differences in survival was noted in the control v.s. the KMC group in thefollowing weight categories : <1000g. (0 v.s. 6.8%), 1001-1250g. (10.9 % v.s. 16.3%;), 1251-1500 g. (19.9% v.s. 26.1%;), 1501-1750g. (44.7% v.s. 50.8%).However, no significant difference in survival was noted in the 1751-2000g weight category (68.1% v.s. 67.9%)
CONCLUSIONS : A standard KMC program implemented in a maternity hopistal was described and its impact on the improvement of the survival of LBW's was demonstrated in neonates weighing <1751 g.

PARENTS EXPERIENCES OF PROVIDING KANGAROO CARE TO THEIR PRETERM INFANTS

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In South Africa, as in other parts of the world, cut backs in health care funding to hospitals, the retrenchment of nursing staff and the lack of incubators, have led to the implementation of kangaroo care as a necessity for the survival of premature infants.Parents are increasingly being encouraged to take on additional responsibility for routine care of their premature infants.At Groote Schuur hospital in Cape Town, kangaroo care was started in November 1996 and subsequently in 1997 a kangaroo mother care ward was established.

The field of interest in this study is the experiences of parents who provide kangaroo care to their preterm infants.Mothers and Fathers who were in the process of providing kangaroo care participated in this study. This presentation is based on my current Masters research which focuses on parents' experiences of providing kangaroo care.This was a qualitative study using the phenomenological method. The study aims to identify and describe the lived experiences of parents who provide kangaroo care to their preterm infants. Data was collected using audio taped in-depth interviews (held individually with mothers and fathers of preterm infants (who were providing kangaroo care at the time of the interview) about their experiences. These interviews were later transcribed and analysed for themes and patterns within the transcriptions

Six major theme categories found during the research are: A premature birth experience, the kangaroo care unit/living in, what kangaroo care means to me, being informed, strength and support, and "gaining".From the themes, identified recommendations include evaluating the educational policy regarding parental involvement in Kangaroo care, in antenatal programmes and neonatal nurseries.

KANGAROO MOTHER PROGRAM IN THE CIVIL HOSPITAL OF GUADALAJARA

Laura Y Ricardo Martinez

Objective: To know the results of the population of premature newborn infants or LBW integrated to the KMP of the neonatal department of the CHG from march 1998 to june 2000.
Methods: A pediatrition with training and according to the guidelines of management and elegibility criteria the patients included in the KMP as it is done in Bogota and with the indispensable resources, carried out the follow up together with a student medical team and with the collaboration of other departaments in the hospital. The results were analysed in the Epi Info 6.03 statistical program.
Results: During the study period, 11 913 newborn were obtained, of which 852 (7.1%) were premature and 667 (6.3%) had a LBW, of which 325 were included in the KMP; 42 patients abandoned the KMP for different reasons, leaving 282 newborns, of which 158 (16.5%) were premature and 125 (16.4%) had a LBW. 155 (54.5%) were male and 128 (45.2%) female. The averages of the variables studied were as follows: birth weight X 1540 g, SD 210; gestational age X 34 weeks, SD 2.3: weight at the start of the KMPX 1600 g, SD 150 g; weigth at the end of the KMP X 1915 g, SD 135 g; days in the KMP X 8, SD 6.2. With respect to the followup, the weigth at 40 weeks correction X 2650 g, SD 575 g; at 3 months X 4930 g, SD 997 g; at 6 months X 6750 g, SD 980 g; at 9 months X 8400 g, SD 650 g; at 12 months X 9850 g, SD 720 g; at 18 months X 11300 g, SD 320 g and at 24 months X 12600 g, SD 210 g.
In relation to nutrition, they (the infants) accepted breastmilk exclusively 85 infants (30%); breastmilk plus a lactic formula 170 infants (60%); only a lactic formula 28 infants (10%). The neurological evaluation by INFANIB at 40 weeks of correction, 240 infant were normal and 43 were abnormal; at 3 months 273 were normal and 10 abnormal; at 6 months 203 were normal and 7 abnormal: at 9 months 117 were normal and 5 abnormal; at 12 months 94 were normal and 4 abnormal; at 18 months 35 were normal and 4 abnormal and at 24 months 27 were normal and 3 abnormal. The main complications were retinopahy of the premature, seborrheic dermatitis, gastroesophageal reflux, urinary infections, anemic síndrome, bronchopulmonary dysplasy and pneumonia, increasing the hospital stay by 35 (12.3%) with a satisfactory release in the majority of the infants, reporting one death. The total number of deaths were five.
Conclusión.: We found the results to be encouraging in the population of premature infant included in the KMP, with a participation of 95% of the parents and families, improving the interaction and the affectionate bond parents-children and with the medical staff. The hospital stay was shortened with a subsequent reduction in nosocomial infections and hospital costs.

PHYSIOLOGICAL AND CLINICAL BENEFITS OF KANGAROO MOTHER CARE: IMPRESSIONS FROM ATERTIARY CARE NEWBORN NURSERY IN DELHI

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Objectives : This study was conducted (i) to assess the physiological responses very low birth weight neonates toKangaroo Mother Care, (ii) to study the effect of Kangaroo Mother Care (KMC) on weight gain, length of hospitalization and breast feeding rates at 6 weeks among very low birth neonates,and (iii) to assess the acceptability of KMC by care givers and mothers.

Method : Babies whose birth weight was less than 1500 grams were included in the study once they were stable. The physiologic responses to KMC were evaluated in 6 very low birth weight neonates. Heart rate, oxygen saturation buy pulse oximetry and axillary skin temperature were recorded at the end of each minutes, for one hour --10 minutes prior to KMC (Pre KMC), 40 minutes during skin to skin contact (KMC), and 10 minutes after skin to skin contact (Post KMC). During the second phase of the study the effect of KMC on breastfeeding rates, weight gain and length of hospitalization of very low birth neonates was studied through a randomized control trial in 28 neonates. The study group (n==14) was subjected to KMC for at least 4 hours per day. The babies also received KMC after shifting out from NICU and at home. The control group (n=14) received only standard care (incubator or open care system). Outcome measures were weight gain over 3 weeks and exclusive breast feeding rates at 6 weeks. Attitude of mothers' and nurses towards KMC was assessed on days 3and 7after starting Kangaroo Mother Care by a questionnaire using a Likert scale.

Results : The mean axillary temperaturerose from a mean of 36.5 oC(+ 0.04) to 36.9 oC (+0.10) during KMC ($P < 0.05$). There was also a significant decrease in mean heart rate during KMC compared to the baseline (146.7+1.2 vs. 148+1.3, respectively; $P <0.05$). Likewise, there was an increase in oxygen saturation (KMC 95.4+0.65 vs. baseline 94.2+0.15, $P<0.05$). This effect was sustained even after the KMC was over. The neonates in the KMC group demonstrated a better weight gain after the first week of life compared to the control group (15.9+4.5 grams/day vs. 10.6+4.5 grams/day, $P <0.05$)and achieved an earlier hospital discharge (27.2+7 days vs. 34.6+7 days, $P <0.05$). The number of mothers exclusively breastfeeding their babies at 6 week follow up was more than double in the KMC group than in the control group [66% (12/14)vs. 43% (6/14) ;RR 2.0, 95%CI 1.05-3.80]. The mothers as well as nurses exhibited strongly positive attitude to KMC and advocated its implementation as a routine modality of care in the nursery.

Conclusion : Our study confirms the physiological benefit of Kangaroo Mother Care.KMC managed babies had better weight gain, earlier hospital discharge and, higher exclusive breast-feeding rates. KMC is an excellent adjunct to the routine preterm care in a nursery that is welcomed by both the mothers and the nurses.

KANGAROO (SKIN-TO-SKIN) CARE IN THE NEW MILLENNIUM: VARIATIONS ON THE THEME

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News of kangaroo care (KC) as a method of caring for premature infants first reached developed counties in the mid-1980s via media releases by UNICEF. Typically KC began many days following birth and only after ill infants were considered stabilized. In early research, the focus was on whether KC was safe. With safety fairly well established for frail infants, the focus shifted to whether KC might be beneficial. As numerous benefits became documented, some researchers wondered whether other populations might benefit from KC, how much KC was necessary to yield benefits, and whether more benefits might be derived if KC could begin earlier postbirth and be given oftener and longer each time. We have also wondered if mothers could help stabilize their newborn infants, especially if their infants were returned to them for KC immediately postbirth, and 2) if mothers might also derive benefits as mutual caregivers with their infants, especially with optimal KC that includes self-regulatory breastfeeding.

Eleven case studies representing KC variations will be presented; 6 are published, 5 in preparation. Published studies include parents providing KC for their 32-week male infant beginning in the NICU 4 hours postbirth; using 30 minutes of KC before and during a feeding to achieve a successful latch for three fullterm infants who had not breastfed by 24-36 hours postbirth; using KC to prevent refractory severe gastric reflux in a 6-day-old tubefed fullterm infant; adolescent parents providing KC to their 32-week twin boys beginning 19 hours postbirth; a mother with severe eclampsia having KC with her medically stable small preterm infant 10 minutes postbirth; and a mother of four using KC to help her bond well with her three naturally occurring 34-35 week triplet boys.

Cases in preparation include a 36-week infant girl experiencing KC with her grandmother and 4-year-old brother; an adopting mother experiencing KC in a distant city when the infant to be adopted was born very prematurely; a substance-abusing depressed mother who lost custody of her first child, but was in rehabilitation during this pregnancy and thrived during KC with her second infant; an infant who had mechanical ventilation for respiratory distress syndrome and received KC while ventilated; and a subsequent similar infant at the same hospital who was placed in KC under an oxygen hood on his mother's chest, was given warmed humidified oxygen, and recovered without mechanical ventilation. Six of these reports are from our randomized trial.*

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