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EP-NEO-031

Hypoglycemia in newborn due to congenital hyperinsulinism: a case report

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Abstract

Background Hypoglycemia is a common metabolic issue in newborn. It may affect either healthy and not-doing-well baby. Severe or prolonged hypoglycemia may result in brain damage or death. When hypoglycemia condition persists, congenital hyperinsulinism (CHI) should be evaluated as one of possible cause due to abnormal high level of insulin. The incidence of CHI is estimated at 1/50.000 live births.

Objective To describe clinical features of CHI.

The Case Six-days-old baby boy was referred to hospital because of seizure caused by low blood glucose. The baby was full-term with 4150 g birth weight, delivered via C-section due to severe preeclampsia without signs of respiratory distress. He is currently receive nearly 180-200 mL/kg/day of oral feed formula and iv dextrose with GIR of 18 (80 mL/kg/day) to maintain blood glucose above 50 mg/dL. High insulin level (113 IU/mL) was discovered along with normal growth hormone level and slightly low blood ketone (0.1 mmol/L). No abnormality found from pancreatic ultrasonography, further examination with MRI is needed. The patient currently treated with diazoxide and hydrochlorothiazide.

Conclusion This case of CHI is identified typically with early-onset, severe, persistent hypoglycemia, and birth-weight large for gestational age which contrast to maternal history of pregnancy with severe preeclampsia. Critical blood samples at hypoglycaemic state revealed low ketone bodies with elevated insulin level. Moreover, sustained GIR requirement more than 10 mg/kg/min supports the diagnosis. Diazoxide which is currently used to treat CHI, requires intensive monitoring due to possible side effects: fluid retention, congestive heart failure and pulmonary hypertension.

Keywords: hypoglycemia, hyperinsulinism, critical blood samples, diazoxide

The influence of kangaroo mother care on self-esteem in mother with preterm infants

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Abstract

Background Kangaroo mother care (KMC) is a caring approach for preterm infants, not just prevent hypothermia but also on maternal self-esteem. Self-esteem is an essential component of mothering with holding will make a woman's sense about herself as a mother is reflected in the mother-infant relationship.

Objective To identify the influence of KMC on self-esteem

Methods An experimental study to examine self-esteem of mother who had preterm neonate in NICU Soetomo Hospital on April 2016 were analyzed by *Roosenberg Self-Esteem Scale* (RSES), with total score 30 (low: <15, high: >25). Self-esteem scale compared between KMC and non KMC group. KMC given one time daily for 2 hours during at least 3 days mother had assessed by RSES. Statistical analysis used independent T-Test and Pearson correlation test.

Results This studied was conducted with KMC group of 27 (55%) infants, and non-KMC group of 22 (45%) infants. The mean of mother age in KMC group (26.4 (SD 5.8) vs. 27.1 (SD 5.8) years old) and gestational age (33.2 (SD 2.2) vs. 31.8 (SD 2.5) weeks) was not significantly different in the both group (P=0.7; P=0.54). There was no significant effect of mother age (r=0.15; P=0.29) and gestational age (r=0.07; P=0.61) with the values of RSES. The mean of RSES of the KMC group 20.5 (SD 4.8) with range score 12-28. In non KMC group, the mean score was 11.96 (SD 4.39) with range score 5-23. The score of the KMC group were significant higher than non-KMC group (P=0.00).

Conclusion Mother in KMC has a higher RSES score than mother in non-KMC group.

Keywords: KMC, self esteem, RSES

The influence of Kangaroo Mother Care (KMC) on self-esteem in mother with preterm infants

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Results: This studied was conducted with KMC group of 22 (45%) infants, and non-KMC group of 27 (55%) infants. The mean of mother age in KMC group (26.4 (SD 5.8) vs. 27.1 (SD 5.8) years old) and gestational age (33.2 (SD 2.2) vs. 31.8 (SD 2.5) weeks) was not significantly different in the both group ($P=0.7$; $P=0.54$). There was no significant effect of mother age ($r=0.15$; $P=0.29$) and gestational age ($r=0.07$; $P=0.61$) with the values of RSES. The mean of RSES of the KMC group 20.5 (SD 4.8) with range score 12-28. In non KMC group, the mean score was 11.96 (SD 4.39) with range score 5-23. The score of the KMC group were significant higher than non-KMC group ($P=0.00$).

Conclusion: Mother in KMC has a higher RSES than mother in non-KMC group.

Keywords: KMC, self esteem, RSES.

BACKGROUND

Low birth weight (LBW) infant is defined as a birth weight less than 2500 grams, regardless of gestational age.¹ LBW have a risk with the growth, morbidity, and mortality. LBW infant mortality rates, especially in Indonesia is still high, around 56% of deaths occur in the neonatal period. The MDG target in 2015 is to reduce the infant mortality rate (IMR) of live births to 23 in 1,000 births.²

Premature also low birth weight infants are not able to regulate their body temperature, so it is easy to get hypothermia. The use of incubator is a tool to prevent hypothermia.³ In the DR Soetomo Hospital Surabaya, we use incubator for caring LBW infant to prevent and to treat hypothermia. We just have incubator in a limited number, requires a high cost, inadequate disinfection can reduce the quality of the incubator can even be a source of infection for infants. Therefore we need a practical method as an alternative to incubator that is economically more efficient and effective. Treatment with KMC is an effective way to meet the needs of the most basic LBW is warmth, breastfeeding, protection from infection, stimulation, safety and love (Bergman NJ, 2004).⁴

In the treatment of premature babies, nearly all predisposing brain damage can not be controlled, except nutritional factors.

Breastfeed serves as one of the best nutrition for infants by preventing damage to white matter and long-term developmental disorder baby premature.⁵ PMK proved not only to support successful breastfeeding, but also maintain a stable body temperature of neonates, especially LBW infants.⁶

KMC is based on the theory by the neuroscience suggests that mothers and babies should not be separated. Sensory stimulation provided by KMC mothers with skin-to-skin contact is very important for baby brain development.⁶ Affection of a mother to child at birth, their baby's health, family support is important in shaping the future mother of confidence as their parenting. The intimate connection between mother and baby are reflected as women's feelings about their self-esteem as a mother.⁷

KMC which applied in the right way will bring many benefits for the mother and their baby. KMC bring mother-infant interaction, with the closeness will make the internal attachment between both. Attachment thus gives infants feelings security so can reduce anxiety and distress.⁸

The purpose of this study was to determine the influence of KMC in maternal self esteem. The good self esteem can bring mother's confidence in caring for their babies so that they can bring good results for the mother-child relationship and the child's development. The results of this study will be conducted by educating mothers and medical personnel on how to conduct KMC in the right way.

METHODS

A. Research design and sampling

An experimental study to examine self-esteem of mother who had preterm neonate in NICU Soetomo Hospital was used to assess the influence of KMC on premature infants and their mothers. Statistical analysis used independent T-Test and Pearson correlation test. Twenty two mothers who

agreed to kangaroo care were assigned to the experimental group, who were each matched with a control group of 27 participant with an infant, present weight, and corrected age. Inclusion criteria for premature infants were (i) present age less than 37 weeks; (ii) present weight 1,000-2,500g; (iii) no major congenital anomalies or skin problems.

B. Ethical considerations

Prior to data collection, permission was obtained from the ethical committee of DR Soetomo Hospital. Also, the researcher interviewed premature infants mothers and those who agreed to take part in this study were included in either the experimental or control group. The researcher explained to the mothers that participation was voluntary and that they could withdraw from the study at any time.

C. Kangaroo care intervention

During the kangaroo care period, the premature infants were naked, except for a diaper and hat, against the mothers chest and covered with a cotton blanket. This method of KMC was modified for feasibility in NICU setting through literature review on the basis of WHO guidelines (WHO, 2003). Before intervention, researcher provided education to mothers individually about the KMC method and infant s safety. The procedures were as follow.

a. Infection control □

The mother should wash their hands, take a bath, have a blouse or shirt from the hospital (already sterilized by the hospital).

b. Mothers preparation □

Mothers wore a wide blouse or shirt that covered the infants trunk and extremities. Mothers sat in a self- chosen position in a

comfortable chair with an adjustable back allowing the mothers sitting position to be between 45 and 60 degrees. During KMC, mothers were permitted to saying, singing and whispering something to her baby.

c. Infant s preparation □

The premature infants lay in an upright and prone position. A chair for KMC was placed near the beds of infants and a screen was laid down to make a more quiet and independent room, thereby minimizing the movement of infants. When KMC was finished, infants were returned their former state (on bassinet or in incubator) for conventional care in NICU.

d. Length and duration of KMC

□The KMC was given to the infants in the experimental group during visiting hours once a day for 30 minutes after feeding for at least three days. Premature infants and mothers in both groups were treated in the same manner except for the KC practice.

D. Measures of Maternal self-esteem

Maternal self-esteem was assessed by Roosenberg Self Esteem Scale (RSES). RSES is a measure developed by Morris Rosenbergin 1965. The RSES is a measure most commonly used to measure self-esteem in general. RSES is a self-administered questionnaire with a Likert scale of one to four with a total score range of 0-30. Five items is a positive expression while five other items was negative expressions. Internal Consistency the RSES by 0.87 and proven valid and reliable. RSES consists of ten items statements that each consist of four possible answers. Score 0 for really not agreed, a score of 1 to not agree, a score of 2 to agree, a score of 3 to really agree. On the negative expression statement items, the scores were

counted instead. Interpretation of the score is a score <15 as low self-esteem, while a score > 25 are categorized as high self-esteem. Scores are categorized as average. Researchers used RSES which has been translated into Indonesian and expert judgment has been conducted by two psychologists from the University of Indonesia and has been validated by previous researchers. Researchers previously have

- conducted readability test measuring instrument that serves to see whether the items measuring instrument is an item with a good sentence, unambiguous, easy to understand, accurate enough, have good grammar, and free of other technical errors.

RESULTS

This is an experimental study about Kangaroo Mother Care (KMC) which performed to 49 mothers with preterm infant. There were 22 (45%) infant mothers in KMC group, and of 27 (55%) infant mothers in non-KMC group. Homogeneity in demographics between the experimental and control groups was tested (Table 1). There were no differences in any of the general characteristics between the two groups except the parity. The parity of both group have a significant differences, the KMC group usually already had more than one kids. The mean of mother age in KMC group was 26.4 (SD 5.8) and in non KMC group was 27.1 (SD 5.8) years old, the gestational age was 33.2 (SD 2.2) in KMC group and 31.8 (SD 2.5) weeks in non KMC groups. Mother education in both group was elementary school until graduated high school. There was not significantly different characteristic sample in the both group (P=0.7;P=0.54;P=0.2).

Table 1. Homogeneity for general characteristics of mothers

| Characteristics | KMC Group (n=22) | Non-KMC Group (n=27) | P-Value |
|----------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------|
| Mother age (years) | 26.41 (±5.84) | 27.06 (±5.86) | 0.70 |
| Gestational age (weeks) | 33.27 (±2.22) | 31.89 (±2.59) | 0.54 |
| Parity | 2.41 (±0.91) | 1.26 (±4.82) | 0.04 |
| Mother Education | Elementary school 5 (10%) Secondary-High school 17 (35%) | Elementary school 3 (6%) Secondary-High school 23 (47%) Graduated High school 1 (2%) | 0.2 |

Table 2. Risk factor which influence self esteem in mother with preterm infant

| Variable | Pearson Correlation test (r)/95%CI | P-Value |
|----------------------------|---------------------------------------|---------|
| Mother Age (years) | 0.15 | 0.29 |
| Gestational Age (weeks) | 0.07 | 0.61 |
| Parity | 0.21 | 0.15 |
| Mother Education | -0.01 | 0.94 |
| KMC | -0.68 | 0.00 |

Table 3. Comparison between KMC and non-KMC group with the self esteem scale

| Variable | Mean (SD) | Range | P-value |
|----------|--------------|-------|---------|
| KMC | 20.5 (4.8) | 12-28 | 0.00 |
| Non-KMC | 11.96 (4.39) | 5-23 | |

There was no significant effect of mother age ($r=0.15;P=0.29$), gestational age ($r=0.07;P=0.61$), parity ($r=0.21;P=0.15$), mother education ($r=-0.01;P=0.94$) with the values of RSES (Table 2). The only significant effect which can influence the increasing of self esteem is KMC ($r=-0.68;P=0.00$).

Table 3 showed that the mean of RSES of the KMC group 20.5 (SD 4.8) with range score 12-28. In non KMC group, the mean score was 11.96 (SD 4,39) with range score 5-23. The score of the KMC group were significant higher than non-KMC group ($P=0.00$).

Figure 1 showed the comparison between the scale of the self esteem between both group. Based on the RSES we divided into

three group; low self esteem (0-12), middle self esteem (12-25) and high self esteem (>25). Low self esteem is higher in non KMC group, and middle also high self esteem is higher in the KMC group.



Figure 1. Comparison of scale distribution

DISCUSSIONS

Considerable research throughout the world on the benefits of KMC shows that KMC promotes cardio-respiratory stabilization, improves thermoregulation, increases the rate of infant weight gain, correlates with a high incidence of exclusive breast feeding, shortens hospital stays, functions as analgesia, and reduces maternal stress levels.⁹ The psychological impact of KMC is obvious, but it also is more complex than we had initially thought. The mothers in the KMC group who carried their infant in the skin-to-skin position felt more competent than the control group. The infant's health status, however, was also a major determinant of the mothers' attachment behavioral patterns. However, KMC is a new method with much of benefit and it can be used more often.

In this study, KMC mothers showed higher maternal self-esteem than control group mothers. This supported the results of previous studies that overall scores for mothers sense of competence were better in

the KMC than in the control group.¹⁰ This study result also same with other research. Research conducted by Bang 2011, in Korea stated that KMC is an intervention that can increase the confidence of mothers in parenting their baby.¹¹ Cochrane, 2011, the results of three studies show that from 1362 infants which have been done KMC shown have reduce infection, supporting the mother in breast-feed their babies, and can improve the relationship of attachment between mother and their baby.¹

Preterm infants and mothers are often separated at birth and physical contact is delayed; this may impede the development of the mother-infant relationship. KMC allows mothers to have this physical contact with their preterm newborn, and it is shown to improve the mother-infant relationship, improve the parenting process, and make mothers feel more confident.⁶

The results of this study suggest that the practice of KMC in the nursing environment might actively promote attachment between the mother and infant as well as acceleration of growth for premature infants as one of the most efficient nursing interventions. However, even though KMC proved to be an effective nursing intervention for premature babies, it is not common in Korea. Johnson (2007) identified staffing levels, maternal readiness, and encouragement from the management as factors influencing implementation of KMC in a special care nursery.

One of the limitations of this study was small sample size. Also, generalization can be limited because the study was performed in one hospital. This study identified the effects of KMC on maternal self-esteem. Strategies for implementing KMC in a hospital setting need to be developed.

CONCLUSIONS

We expect that KMC will be offered in more clinical practices as a nursing intervention aimed at promoting the maternal self-esteem of mothers. Mother with KMC has a higher self esteem than mother who not applied KMC, with a higher self esteem, the mother will be more competent to take care their babies.

1. Agudelo C BJ. Kangaroo mother care to reduce morbidity and mortality in low birthweight infants (review). *The Cochrane Collaboration*. 2009;1-46
2. RI DJBGdKIdAKK. Manajemen bayi berat lahir rendah untuk bidan dan perawat. *Buku Panduan Pelatih Manajemen BBLR untuk Bidan dan Perawat*. 2011;01:3
3. J M. Keeping infants warm : Challenges of hypothermia. *Advances in Neonatal Care* 2008;8:6-12
4. NJ B. The 'kangaroo-method' for treating low birth weight babies in a developing country. *Trop Doct*. 1994;24:57-60
5. Indonesia STAIDA. *Breastfeeding sick babies*. Jakarta: Badan Penerbit IDAI; 2015.
6. Indonesia STAIDA. *Breastfeeding sick babies*. Jakarta: Badan Penerbit IDAI; 2015.
7. McGrath M MC. Maternal self-esteem: From theory to clinical practice in a special care nursery. *Child Health Care*. 1992;21:199-205
8. Sadock's K. *Synopsis of psychiatry*. New York: Wolters Kluwer; 2015.
9. Feldman R, Eidelman, A. I., Sirota, L., & Weller, A. . Comparison of skin-to-skin (kangaroo) and traditional care: Parenting outcomes and preterm infant development. *Pediatrics*. 2002;110:16-26
10. Conde-Agudelo A BnJ, Diaz-Rossello J. Kangaroo mother care to reduce morbidity and mortality in low birthweight infants (review). *Cochrane Database of Systematic Reviews*. 2011
11. Lee J BK. The effects of kangaroo care on maternal self-esteem and premature infants' physiological stability. *Korean J Women Health Nurs*. 2011;17:454-462