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Family-centered care

ABS 1**FAMILY-CENTERED CARE – ONE STEP CLOSER**

S.M. Stoicescu¹, M. Bizinichi²

¹"Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

²"Alessandrescu-Rusescu" National Institute for Mother and Child Health, Polizu Maternity, Neonatology Clinic, Bucharest, Romania

INTRODUCTION

The invention of the incubator in the late 19th century and the shift of mother-infant care from home (family focused) to the hospital, marked the beginning of the separation of newborns from their families. Family-centered care has been increasingly acknowledged as a necessity for the preterm infant, taking into consideration the growth and diversity of this population.

METHODS

We performed an analysis using a questionnaire designed to assess the perception on benefits for the neonate and the mother in relation with the mother's presence. We interviewed mothers of preterm babies and attending medical personnel from neonatal units.

RESULTS

During the analysis we included mothers and nurses, doctors and midwives. Regardless of medical training, the majority of the subjects considered the mother's presence beneficial for the child's health and development, 97% of medical staff, 92% of the mothers respectively. The most frequent activities in which mothers participate are breast milk expression (92%), holding the baby (60%), being close to the baby in the intensive care unit – ICU (55%), attending to different procedures performed on the neonate (31%), cleaning/washing the baby (32%). Both mothers (63%) and medical staff (67%) consider that mothers should be involved more in caring for their preterm babies, but regarding the mothers' desire, only 28% of the medical staff consider that mothers would like to be involved

versus the mothers' answer (68%). Another aspect approached was the perception on mother-personnel collaboration-from medical staff's point of view, a good relationship with the mother could ease their job (42%) and would have a positive impact on the newborn's neuro-development (88%), as opposed to mothers who answered the same 16%, 39% respectively.

CONCLUSION

100% of the medical staff agreed that mothers should be trained in caring for the baby, both medical staff and mothers being interested in attending such a training program. This aspect is a key point, as one of the main recommendations in family-centered care is offering the parents the option to be taught how to assist with the care of their critically ill neonate, with positive impact during and after the ICU stay [1]. There is much that can be done to normalize the reactions parents have to their NICU experience, so that families feel optimally supported, beneficial for the child's ultimate outcome. Survival without family is possible, but optimal physical, cognitive and emotional development occurs only within the context of loving, positive interactions with their parents or emotionally-involved primary caregivers [2].

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ABS 2**IMPROVING MANAGEMENT OF HYPOGLYCAEMIA ON THE POSTNATAL WARD**

C.M. Moore, C.S. Costigan, A.E. Curley

Department of Neonatology, National Maternity Hospital, Dublin, Ireland

INTRODUCTION

Neonatal hypoglycaemia is an area of significant potential clinical and medico-legal risk. A new evidence-based protocol for hypoglycaemia management has been implemented in our hospital (~9,000 births/year). Interventions included earlier

feeding, introduction of 40% dextrose gel administration by midwives on the postnatal ward, and direct ICU admission for management of significant hypoglycaemia. We aimed to assess compliance with this new protocol and focus on initiatives for improvement.

METHODS

This was a prospective observational study in a tertiary maternity hospital, using a convenience sample of babies who had CG (capillary glucose) measured on the postnatal ward.

RESULTS

37% (n = 44) of babies were symptomatic (80% “jittery”) when CG was checked. 46% (n = 55) were screened for “high risk” (SGA, LGA, Maternal DM) indications. Mean first CG was 2.8 mmol/l, with two babies < 1.6 mmol/l and 49 babies (41%) with glucose < 2.6. All were appropriately treated with 40% dextrose gel, but 10% of babies did not receive mandated feed. 41% (n = 19) had post-feed glucose checked within an appropriate time frame. 29% of “high risk” and 21% “low risk” babies were fed < 1 hour after delivery. 32 high risk infants did not have CG checked < 4 hours as per protocol. Of these, 50% had a low CG when checked. Median CG in “high risk” was 2.6 mmol/l (range 1.3-6.8), and in “low risk” 2.9 mmol/l (range 1.4-5.2).

CONCLUSION

By identifying babies at high risk of hypoglycaemia we have achieved timely first feed and blood glycaemic assessment. Babies who required admission to the NICU as per the protocol were admitted appropriately. We will target initiatives to further reduce time to first feed and promote greater compliance with standards.

ABS 3

MONITORING OF CEREBRAL TISSUE SATURATION IN ANEMIA OF EXTREMELY PRETERM INFANTS

M. Demetrian, V. Dima, A. Avramescu, I. Angelescu, G. Grecu

Clinical Hospital of Obstetrics and Gynecology “Filantropia”, Bucharest, Romania

OBJECTIVES

In this study we investigated whether the NIRS measurements before and after PRBC transfusions can answer the question: was transfusion beneficial? Can the measurements derived from NIRS be useful

for the identification of more objective criteria for transfusion guidelines?

PATIENTS AND METHODS

This is a prospective observational study, performed in the period September 2017 - March 2018, in the neonatal intensive care unit of the “Filantropia” CHOG. It enrolled 44 preterm infants, with a weight ≤ 1,250 g and gestational age ≤ 30 weeks, randomized by the PRBC transfusion in transfused group (n = 29) and non-transfused group (n = 15). The preterm infants that needed transfusion were NIRS monitored before (continuous monitoring 24 hours), during and 24 hours after the transfusion. The non-transfused patients were also monitored with cerebral regional pulse-oximetry at postnatal age, and under clinical conditions similar to the transfused group.

RESULTS

The values of the cerebral and systemic oximetry were comparable for the two groups when comparing the results before transfusion. Regarding the effects of transfusions, results showed a significant increase in cerebral tissue oxygenation (CrSO₂) even during the 4 hours of transfusion, an effect maintained 24 hours following transfusion: postransfusional mean CrSO₂ = 80 ± 2, p value 0.019. Moreover, the values of fractional cerebral tissue oxygen extraction begin to decrease during transfusion, and they remain low for the next 24 h as well 0.25 ± 0.05 vs 0.15 ± 0.02 – p value 0.25 associated with the clinical signs of anemia showed that the transfusion was timely and the results were beneficial.

ABS 4

THE EFFECT OF THE MODE OF DELIVERY ON THE MATERNAL, NEONATAL AND UMBILICAL CORD SERUM ISCHEMIA-MODIFIED ALBUMIN LEVELS

D. Ulubas-Isik¹, Y. Akdas-Reis², N. Demirel³, S. Ünal¹, Z. Arslan¹, O. Erel⁴, A.Y. Bas³

¹Etilik Zubeyde Hanım Women’s Health Teaching and Research Hospital, Department of Neonatology, Ankara, Turkey

²Etilik Zubeyde Hanım Women’s Health Teaching and Research Hospital, Department of Obstetrics and Gynecology, Ankara, Turkey

³Yildirim Beyazıt University Hospital, Department of Pediatrics, Division of Neonatology, Ankara, Turkey

⁴Yildirim Beyazıt University Hospital, Department of Biochemistry, Ankara, Turkey

INTRODUCTION

Ischemia-modified albumin (IMA) is a modified serum albumin which binds temporarily with metals

such as cobalt, nickel, and copper in N-terminal amino acid region. Ischemia, hypoxia, acidosis and free radical damage may alter its production. It is known that serum IMA levels rise within minutes from the onset of the event and remain high for several hours after cessation of ischemia. Delivery is a period including many circulatory changes in both mother and infant. The purpose of this study was to investigate the effect of mode of delivery on the maternal, neonatal and umbilical cord serum IMA levels.

METHODS

This prospective study was conducted at the University of Health Sciences, Etlik Zübeyde Hanım Women's Health Teaching and Research Hospital, a level III neonatal intensive care unit. Healthy mothers with uneventful pregnancy and their healthy neonates were enrolled. The mothers who gave birth by cesarean section (C/S) in the presence of labor and/or emergency maternal/fetal indication and the mothers who were given medicines for induction of labor or anesthesia during vaginal delivery (VD) were excluded. The mother-infant pair was not included if the delivered neonate was admitted. The study was approved by the institutional ethics committee, and written consent was obtained from both the mother for herself and the parents for neonates before enrollment. The participants were grouped according to the mode of delivery; C/S and VD. The serum samples were collected from mothers at the beginning of labor (pre-delivery), from the cord blood and from the infants at the 24th hour after birth according to the following criteria: (1) singleton live birth, (2) gestational age between 37^{1/7}- 41^{6/7} weeks, (3) birth weight between 2,500 and 4,000 g, and (4) Apgar scores ≥ 8 at 5 min. The samples were centrifuged at 3,600 r.p.m. for 10 minutes and the supernatants were stored in an Eppendorf tube at -80°C until analysis. Serum IMA levels were determined according to the method defined by Bar-Or et al. [1] and presented as absorbance units (ABSUs).

RESULTS

A total of 80 mother-infant pairs were included (C/S, n = 40) and (VD, n = 40). The pre-delivery serum IMA levels were similar in C/S and VD groups. The serum IMA levels in cord blood were significantly higher in the C/S group than in the VD group (Serum IMA level [ABSU]; C/S: 0.694 ± 0.113 and VD: 0.642 ± 0.084 , $p = 0.021$). The serum IMA levels were also higher in infants born by C/S compared with those born by VD; however, the result was not statistically significant.

CONCLUSION

Our results showed that serum IMA levels in neonates and cord blood may be influenced by the mode of delivery. This can be attributed to less exposure of neonates to insults such as ischemia, hypoxia, acidosis and free radical damage to alter IMA production during VD.

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ABS 5

A COMPARATIVE ANALYSIS BETWEEN BACTERIAL CULTURES OF BREAST MILK EXPRESSED AT HOME AND UNDER SUPERVISION AT THE NEONATAL INTENSIVE CARE UNIT

S. Seah, S. Rasabar, F-C. Cheah

Department of Paediatrics, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

INTRODUCTION

Bacterial contamination of expressed breast milk (EBM) is not uncommon and has been implicated in outbreaks of bacteraemia and necrotising enterocolitis among preterm infants in the neonatal intensive care unit (NICU). Some units resort to routine pasteurisation of EBM as a temporary measure to curtail the outbreak or even as a routine precautionary step. However, pasteurisation may reduce the protective factors and nutrient benefits of raw breast milk. Furthermore, we have previously identified that insufficiencies in knowledge, personal hygiene and handling of EBM may be associated with contamination of EBM.

AIM

This study was aimed at ascertaining whether EBM obtained on-site under supervision was more effective in reducing the rate of bacterial contamination, previously reported in 2012 as 40% in our NICU. Since 2012, our unit has introduced an intervention to promote increased maternal on-site visits with hand hygiene education, supervised expression and handling of breast milk as well as cleaning of breast pumps.

METHODS

Paired bacterial cultures of EBM obtained at home (HEBM) and in the NICU (NEBM) obtained from the same mother were compared. Bacterial

contamination was defined as $> 10^4$ colony forming units/mL based on the Miles and Misra culture method. Data collected included identification and colony count of the bacteria present.

RESULTS

Paired EBM samples from 11 mothers showed that there were no differences in bacterial contamination from the two sources (HEBM: N = 3; n = 1, single growth; n = 2, mixed growth vs. NEBM: N = 2; n = 1, single growth; n = 1, mixed growth). The rate of bacterial contamination in NEBM and HEBM samples was 27% and 18% respectively. Overall, Gram-positive *coagulase-negative Staphylococcus* (CONS) and Gram-negative enteric bacteria, *Klebsiella spp.* and *Acinetobacter spp.* were the most commonly occurring. About one-quarter of the HEBM also grew, additionally, *Bacillus spp.* There was no difference in the mean log₁₀ bacterial colony count between NEBM and HEBM (4.87 vs 5.43; p = 0.50). NEBM cultures were predominantly single growth of mainly skin commensals, e.g. CONS.

CONCLUSIONS

With lower rates of bacterial contamination, routine pasteurisation of EBM may not be necessary as it potentially removes anti-infective properties in raw breast milk and may even induce proliferation of *Bacillus spp.* Rather, intensification of maternal education on hygienic handling and storing of EBM with supervised sessions of breast milk expression could further improve safety in the use of raw breast milk with preterm infants. We speculate that our intensified education programme on-site in the NICU with regards to expression and handling of breast milk has successfully transferred the skills and knowledge to empower mothers and enable them to decrease the rate of contamination of breast milk obtained from home. The inclusion of similar programmes in antenatal classes or NICU orientation is worth considering.

ABS 6

INFANT AND MATERNAL CHARACTERISTICS AS INDICATIONS FOR IMPROVING THE QUALITY OF FAMILY CENTERED CARE IN NICU

A. Karkani, A. Kostantinidi, P. Panagiotounakou, M. Theodoraki

Neonatology Department, General Hospital of Nikaia Agios Panteleimon, Piraeus, Greece

INTRODUCTION

Premature birth affects the mother-infant relationship in several aspects. The complex nature of the NICU imposes physical separation and limits the mother's care-giving ability. Bonding and attachment may be affected due to maternal stress and may influence optimal development of premature born infants. Thus, Family-Centered Care (FCC) has been increasingly emphasized as an important and necessary element of neonatal intensive care. This presentation utilizes findings from a research basically exploring maternal stress in relation with prematurity, life conditions in the NICU for the mother-infant dyad and the impact of partial versus total separation.

METHODS

All mothers filled out the Perinatal Post Traumatic Stress Disorder Questionnaire (PPTSDQ) for the evaluation of maternal stress. We used PERI for the evaluation of perinatal complications and severity of prematurity. Finally, all participants were interviewed using CLIP to explore, among other components, the experience of unexpected events, admission to NICU hospitalization, maternal satisfaction and the existence of any psycho-social difficulties towards their discharge.

25 mothers of preterm infants < 36 GA, and 25 mothers of full-term infants participated as experimental and control group respectively. All were recruited from the same hospital. We used a combined strategy of SPSS® version 22 and thematic analysis approach.

RESULTS

During this research period, our NICU admitted 36% inborn and 64% outborn infants. The mean number of hospitalization days was 47.56 which gradually increases both financial and emotional cost for the family. The thematic analysis of the qualitative part of the study identifies differences between preterm and full-term mothers and their perception concerning services, practices and staff in the perinatal setting. Similarly, emotional reactions and stress levels exhibit a great difference. Screening demographic characteristics strongly support the initial hypothesis: that prematurity alternates the attachment process which is stress related and seeks social support.

CONCLUSION

The evaluation of the mother-preterm infant relationship should integrate internal and external features. Infants' hospitalization in NICU exposes mothers to consecutive stressors with negative psychological impact to the dyad while alternating

the parental role, thus it should incorporate flexible practices to facilitate the attachment needs of premature newborn and reconstitute the “preterm” family. Parents in NICU need systematic support and education for the developmental needs of NICU babies. In the process of re-examining FCC, it is essential that the hospital embrace flexible visiting schedules, and the involvement of members of the family as supplementary alliance to the dyad. One major concern is that financing should possibly be provided to families obliged to move during their infant’s hospitalization.

ABS 7

MATERNAL-FETAL ATTACHMENT AND BREAST-FEEDING INTENTION

I. Christopoulou¹, I. Giannakopoulos¹, T. Vasilopoulou¹, E. Kotsakou², G. Dimitriou¹

¹Paediatric Department, University Hospital of Patras, Greece

²Postnatal Ward, University Hospital of Patras, Greece

BACKGROUND

Breastfeeding is strongly encouraged by the WHO and other world organizations. Early mother-infant interaction has a profound impact on the initiation and maintenance of breastfeeding.

AIM

The aim of this survey was to investigate the feelings of pregnant women and their subsequent intention to breastfeed.

MATERIALS AND METHOD

The sample consisted of 180 pregnant women, primipara, all in the 3rd trimester of their pregnancy. Maternal-fetal attachment was measured by using Cranley’s scale.

RESULTS

The majority of women had positive feelings for their unborn baby and showed a strong bond. 66% thought that their baby was worth the pregnancy-related problems and 81% were looking forward to actually seeing the baby. Mothers who were thinking of themselves feeding or caring about the baby were keener on initiation and maintenance of breastfeeding. Those who abandoned their careers or their ambitions because of pregnancy appeared more dedicated to exclusively breastfeed their babies for their first six months.

CONCLUSION

Maternal feelings for their fetuses dictate the initiation and duration of breastfeeding. Cultural

traditions as well as dedication to having a child play a significant role in lactation.

ABS 8

TREATMENT OF INDIRECT PROLONGED NEONATAL HYPERBILIRUBINEMIA WITH URSODEOXYCHOLIC ACID

T. Itova

Neonatology Department, University Hospital Medica, Ruse, Bulgaria

BRIEF INTRODUCTION

Hyperbilirubinemia is a common neonatal problem. A standard method of treatment is phototherapy implementation. Adding a medicament treatment with ursodeoxycholic acid could substantially decrease the duration and gravity of neonatal jaundice. In this way the risk of re-hospitalization could be avoided.

MATERIALS AND METHODS

This randomized clinical study was conducted on neonates with jaundice, born in the period 01.01.2017-31.12.2017 in Medica Ruse University Hospital, Bulgaria. The babies were examined for indirect neonatal jaundice. Criteria for inclusion in the survey:

1. Gestational age above 36th week;
2. Lack of hepatic disease or inborn infection;
3. Lack of inborn anomalies;
4. Discharge from hospital without prescribed therapy.

18 newborns were excluded from the selection since they did not meet the criteria. The other 91 were divided into 3 groups:

- Group A – babies without neonatal jaundice – 24;
- Group B – babies with neonatal jaundice requiring phototherapy – 38;
- Group C – babies with neonatal jaundice requiring long-lasting phototherapy and with prolonged jaundice – 29.

The average values of bilirubin in Group B on the 1st day were 97 µmol/l and when discharged from hospital – 111 µmol/l.

The average values of bilirubin in Group C on the 1st day were 103 µmol/l and when discharged from hospital – 161 µmol/l.

Ursofalk®/ursodeoxycholic acid was included as a treatment at home for 17 babies from group C when values of bilirubin increased after phototherapy was discontinued. Ursofalk® was applied 10 mg/kg/day – 2 applications every 12 hours. A probiotic was also applied.

RESULTS

A significant reduction of bilirubin values within 5 days after beginning of treatment was evident in 14 cases. In another 3 cases, the bilirubin values remained unchanged and phenobarbital was applied. Physiological bilirubin levels were reached more rapidly when Ursosalk® and probiotic were combined.

CONCLUSION

Application of Ursosalk® to prolonged neonatal jaundice helps to decrease the duration of the disease and prevents the need of rehospitalization.

ABS 9**VULNERABLE REFUGEE GROUPS: PREGNANT WOMEN AND PREMATURE NEONATES**

V. Moulla¹, C. Petropoulou², V. Chantzara¹, H. Bouza², D. Anagnostopoulos¹

¹Department of Child Psychiatry, Faculty of Medicine, National and Kapodistrian University of Athens, "Aghia Sophia" Children's Hospital, Athens, Greece

²B' Neonatal Intensive Care Unit, "Aghia Sophia" Children's Hospital, Athens, Greece

INTRODUCTION

The number of undocumented refugee women arriving in Southern Europe has increased significantly over the last five years. Some women are already pregnant or give birth on board search and rescue ships. Others become pregnant shortly after they arrive. The objective of this study is to discuss the reason why a significant number of female refugees who have already undergone a considerable ordeal on their way to a host country choose to become pregnant.

METHODS

A woman from Syria, pregnant with her first child, untreated, was urgently transferred from the Center for Accreditation and Refugees of Mytilene to a public maternity hospital in Athens due to premature rupture of membranes. The newborn was delivered at 31 weeks of gestational age and weighed 1,770 grams. It was then transferred to a Neonatal Intensive Care Unit (NICU) for further treatment.

RESULTS

After being hospitalized at the NICU for one month, the infant was discharged in good condition. At the 3-month follow-up, the infant's mother seemed emotionally apathetic and disengaged from her

baby, in marked contrast to the representatives of the organisation that accompanied them both.

CONCLUSIONS

A study by UNICEF suggests that 11% of refugee women are pregnant upon arrival in the host countries. Having no papers and for fear of being expelled, many women do not dare to seek professional medical assistance. The derogatory term "anchor babies" is used for the babies of these women. It seems that refugee women are trying to make use of humanitarian aid systems and the right to maternity in order to accelerate the process of being granted automatic asylum. As a result, they risk endangering themselves, both physically and mentally, as well as the lives and health of their newborns.

The NICU as a family care

ABS 10**A SERVICE EVALUATION OF THE EXPERIENCES OF STAFF AND FAMILY MEMBERS ON A SCOTTISH NEONATAL INTENSIVE CARE UNIT AND STAFF CARE MANAGEMENT: A MIXED METHODS SYSTEMS ENGINEERING APPROACH**

C. Elliott

Ninewells Hospital and Medical School, University of Dundee, Dundee, Scotland

INTRODUCTION

Research into the experience of individuals on a neonatal intensive care unit (NICU) has been primarily focused on parents and nurses. Using a human factors approach to understand the NICU system, one can identify relevant work system elements which facilitate a positive experience, and furthermore how staff handle a challenging case and the relevant non-technical skills (NTS) associated with effective management. To fully understand the internal environment and potential areas for improvement, all perspectives should be considered. Providing a theoretical basis to data collection gives a new angle for evaluating experiences of NICU.

METHOD

A mixed-method design was used via questionnaires, observations and staff interviews, allowing for data

triangulation and contextualisation of responses. Questionnaires from 5 relatives and 7 staff were collected, alongside data from ward observations and 2 staff interviews. Deductive analysis was used to evaluate the questionnaires and a combination of deductive and inductive analysis was used to assess the interviews.

RESULTS

Observations revealed 3 unique systems within the ward. Despite the complexity of the work system, 100% staff and 100% of relatives rated their ward experience as positive, however individual aspects of the work system were flawed. Parental confusion about the role of tools and technology on the ward created a negative impression, furthering parental distress. Conflict was recorded regarding the temperature of the ward and many respondents discussed the ward layout acting as a barrier. Interviews demonstrated further work system elements which influenced decision making and treatment plans, such as organisational failures or person-specific factors. Many NTS successes and failures were demonstrated via interviews, all of which could be attributed to human factors.

CONCLUSION

Despite receiving positive experience responses, certain areas should be focused on to further improve an individual's ward experience. Ward organisation could be adapted to include training on complex decision-making with parents, as well as providing a place within the system to allow for better communication between staff and relatives. While drastic environmental changes are limited due to the patient population, minor changes including privacy curtains and the moving of work stations would allow for a more welcoming environment. All changes would be limited by the external environment, so the focus should be on emotional support, adapting the internal environment and organisation to cater for these needs.

ABS 11

EFFECTS OF SKIN-TO-SKIN CARE ON REGIONAL CEREBRAL AND PERIPHERAL OXYGEN SATURATION STABILITY AND VALUES IN PREMATURE NEONATES

A.I. Toma^{1,2}, I.A. Cuzino¹, A. Cuzino, R.G. Olteanu¹

¹Neonatology, Life Memorial Hospital, Bucharest, Romania

²Faculty of Medicine, University Titu Maiorescu, Bucharest, Romania

INTRODUCTION

The aim of the study was to establish the effects of skin-to-skin care of premature neonates on the stability of peripheral and cerebral oxygen saturation, blood pressure and incidence of apneic spells in premature neonates.

METHODS

Premature neonates with gestational ages between 30 and 33 weeks were monitored in the first 2 weeks of age during their stay in an incubator and prolonged periods of skin-to-skin care with the mother. We measured the temperature of the infant, peripheral oxygen saturation, cerebral and splanchnic oxygen saturations, and blood pressures. We noted the number of apneic spells and desaturations during this period of time.

RESULTS

We analyzed the data between 72 hours and 2 weeks of age in the case of 15 premature neonates. There was no difference in the neonates' central temperature (continuously monitored) during periods of skin-to-skin care and care in the incubator. During the periods of skin-to-skin care, cerebral SO_2 (cRSO₂) was higher (mean 88 % [+7.8%]) in the periods of care in the incubator (mean 79% [+10.2%]) and more constant during the period spent in skin-to-skin care (mean variability 1.5%) than in the periods when the neonates were in the incubators (mean variability 3-7%, with values as far as 10-12% different from the baseline) ($p < 0.001$). Peripheral oxygen saturation SpO₂ was also found to be more constant during periods of skin-to-skin care than during the stay in the incubator ($p < 0.01$). The incidence of apneic spells was lower in the skin-to-skin periods – 2 apneic spells occurring in the group during skin-to-skin periods of care, versus 34 apneic spells occurring during the periods spent in the incubator ($p < 0.001$).

CONCLUSIONS

Prolonged skin-to-skin care in premature neonates appears to be beneficial in terms of decreasing the incidence of apneic spells and providing higher and more stable cerebral oxygen saturation and more stable peripheral oxygen saturation. As a measure of cerebral blood flow, higher and more stable regional cerebral saturation in the situation of skin-to-skin care could suggest a stabilizing effect of this practice on cerebral circulation.

ABS 12

THE EFFECT OF OSCILLOMETRIC BLOOD PRESSURE MEASUREMENT ON PAIN RESPONSE IN PRETERM INFANTS

Z. Arslan¹, S. Unal¹, A.Y. Bas², A.S. Kavurt¹, İ.H. Celik¹, A. Polat¹, N. Demirel²

¹Department of Neonatology, Etilik Zubeyde Hanım Women's Health Teaching and Research Hospital, Ankara, Turkey

²Department of Pediatrics, Division of Neonatology, Yildirim Beyazıt University Hospital, Ankara, Turkey

INTRODUCTION

Untreated pain is associated with well-known short and long-term neurodevelopmental consequences. It is well established that preterm infants are exposed to many painful procedures in neonatal intensive care units. On the other hand, many elements of neonatal care, which are non-nociceptive, can also cause pain scores to increase and thus, are accepted to produce distress in preterm infants. There exist many diagnostic procedures and monitoring tools which are accepted to be non-invasive and are performed frequently. Recently, transthoracic echocardiography, a non-invasive diagnostic procedure, was shown to cause significant pain in preterm infants. Oscillometric blood pressure measurement is one example of a monitoring tool which is accepted to be non-invasive. The objective of this study is to evaluate the effect of oscillometric blood pressure measurement on pain response in preterm infants.

METHODS

This prospective study was performed over four months in the University of Health Sciences, Etilik Zübeyde Hanım Women's Health Training Hospital, a level III NICU in Ankara, Turkey. The ethics committee approved the study. Written consents were obtained. Premature neonates whose gestational age < 34^{1/7} weeks and postmenstrual age < 36^{1/7} weeks were included if they had no current systemic disease. Neonates were excluded if they were on ventilatory support, had peripheral/central catheter, and were exposed to painful stimuli on the same day. Blood pressure measurement was performed on the right arm. Premature Infant Pain Profile (PIPP) and the revised version (PIPP-R). PIPP and PIPP-R scores were evaluated three times: before, during and 10 minutes after blood pressure measurement. Gestational age, birth weight, postnatal age at the time of enrollment, gender and current caffeine citrate and oxygen treatments were recorded. Statistical analyses were performed using SPSS® V15.0 for Windows (SPSS, Chicago, IL, USA). The distribution of numerical variables was investigated using visual and analytic methods. Consecutive PIPP scores were analyzed using

repeated measures of ANOVA with Bonferroni correction for confidence interval adjustment and a p-value of less than 0.05 was considered to show a statistically significant result. Consecutive PIPP-R scores were analyzed with Friedman analyses followed by Wilcoxon analyses with Bonferroni correction; a p-value of less than 0.017 was considered to show statistical significance. Data were presented as n (%) or mean ± standard deviation where appropriate. PIPP and PIPP-R scores between 7 and 12 signify mild to moderate pain and scores > 12 indicate moderate to severe pain.

RESULTS

100 infants were enrolled (gestational age: 29 ± 2 weeks, birth weight: 1,155 ± 258 g, postmenstrual age: 31 ± 2 weeks, postnatal age at enrollment: 18 ± 14 days, male gender: 53%, caffeine citrate treatment: 60%, oxygen treatment 32%). PIPP and PIPP-R scores were found to be ≥ 7 in 37% and 34% of neonates, respectively. PIPP and PIPP-R scores increased during blood pressure measurement and decreased after. PIPP score; baseline: 4.1 ± 0.8, during blood pressure measurement: 6.2 ± 2.3, after blood pressure measurement: 4.3 ± 0.8; F = (1.06, 104.44) = 90.934, p < 0.001. Each pairwise difference was found to be statistically significant (p < 0.001). PIPP-R score; baseline: 0.0 ± 0.0, during blood pressure measurement: 4.5 ± 3.5, after blood pressure measurement: 0.5 ± 1.5; Friedman analysis p < 0.001. **Fig. 1** shows error bar graph.

CONCLUSIONS

Our results demonstrated that oscillometric blood pressure measurement, which is generally accepted as a non-invasive tool for monitoring, can produce mild to moderate pain in premature neonates of postmenstrual age < 36^{1/7} weeks. Blood pressure measurement should be individualized according to the requirement of the neonate and should be avoided as a part of routine monitoring in neonatal intensive care units.

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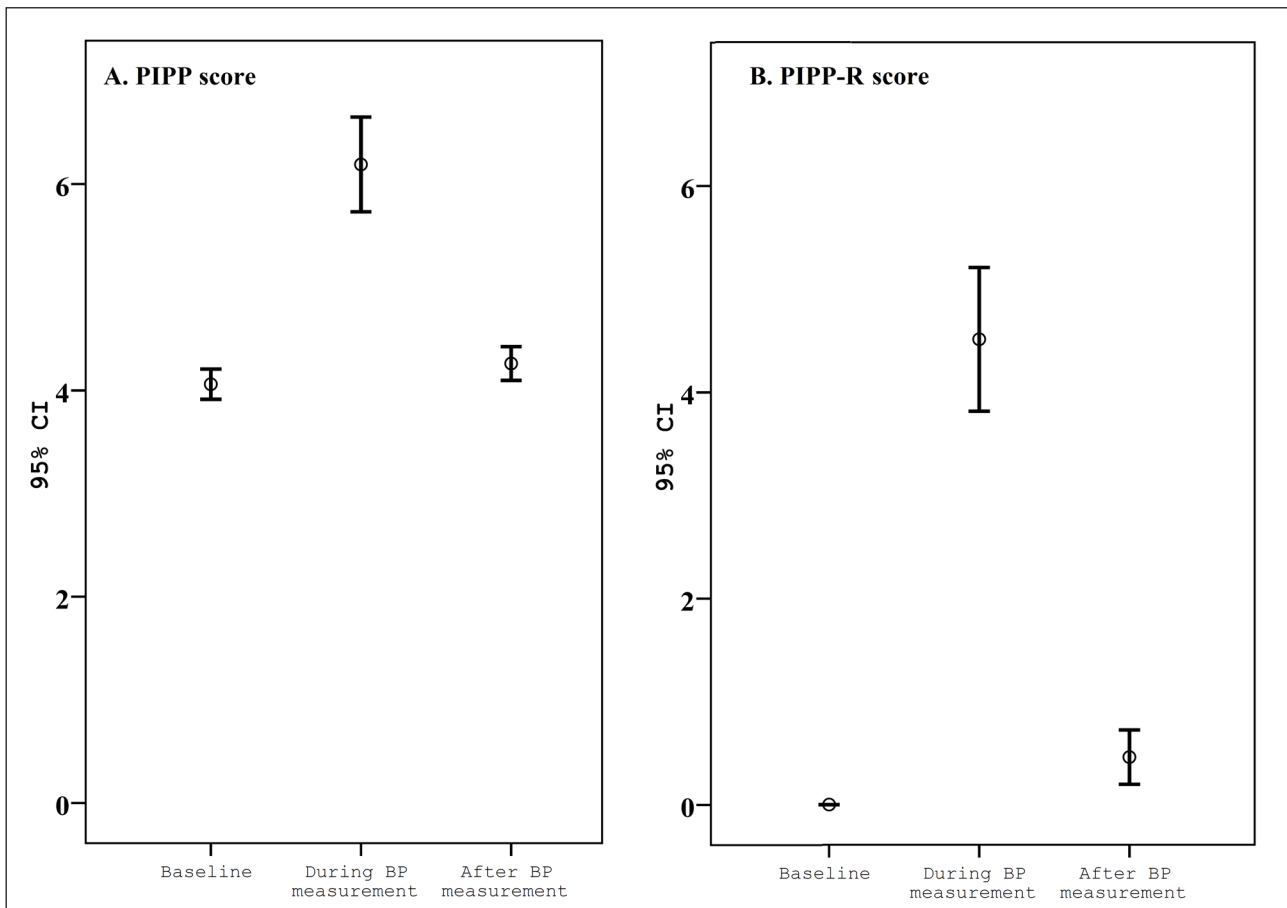


Figure 1 (ABS 12). Error bar graph of 95% confidence interval of PIPP and PIPP-R scores at three defined time periods (baseline, during BP measurement and after BP measurement).

Dots represent mean values.

BP: blood pressure; CI: confidence interval; PIPP: Premature Infant Pain Profile; PIPP-R: the revised version of PIPP.

ABS 13

HARD TIMES – MOTHERS AND BABIES IN THE NICU

I. Negrea, G. Mitrea, M. Patriciu

Neonatology Department, St. Andrew Emergency County Hospital Galati, Galati, Romania

INTRODUCTION

Attachment and the need for affection have deep strong biological roots, active from birth. They are very important during the difficult first days of a baby in the NICU – a period both sensitive and crucial for his prognosis and also for the foundation and development of the child-mother relationship. Infants in the NICU belong to their families and their parents will face and assume at home the delicate task and the demanding responsibility of raising and caring for their high-risk child with special needs. That is why we aimed to assess the

quality and evolution of the mother-infant bond in the complex setting of a NICU.

METHODS

In order to evaluate this vital connection, the study we performed in a level III maternity structure included the direct observation of the mother-child dyads both in the NICU and in the rooming-in ward, the analysis of breastfeeding at baby's discharge, the assessment of mothers' willingness to remain with their baby during all their child's hospital stay, the evaluation of NICU graduates' abandonment and admittance to the pediatric hospital during their first months. We also made a qualitative analysis of some descriptive clinical cases.

RESULTS

The factors able to impact on the mother-child bond were the baby's gestational age, birth weight, behavior and way of communicating, the severity of his disease, his rank, the features of the NICU environment, the mother-infant interactions in the NICU – moment of first meeting, opportunities, quality and circumstances –, the length of the

baby's NICU stay, the mother's mindset and the support she receives from her family. The most significant influence was generated by the mother's feelings – anxiety, exclusion – by her ability to realize the seriousness of her baby's condition, by her involvement in her child's care, by the baby's interaction with her, by the support she receives from her family and by the length of the mother-infant separation. The progress of the mother-child bond was influenced by the baby's gestational age, birth weight, behavior, way of interacting, seriousness of the illness and duration of the NICU stay, by the features of mother-infant communication and by the mother's frame

of mind; the most important factors having an impact on the evolution of this relationship were the length of mother-baby separation, the mother's participation in her child's care, her feelings – anxiety, inability to care for the baby –, her awareness of the child's state, the infant's behavior and the quality and circumstances of mother-baby interactions.

CONCLUSIONS

Mother-child attachment is a vital relationship shaped by factors related to the baby, to his mother and to the quality of their first interaction; its start is delicate and may be difficult but in delicate, complex situations this bond can make a difference.