ID: 33

**TITLE:** EFFECT OF COMPREHENSIVE COUNSELLING ON PATTERN OF POST- DISCHARGE MORTALITY AND MORBIDITY AMONG VLBW BABIES IN INDIAN SETTING

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**CONTENT:**

With the advances in neonatal care, the number of preterms discharged from the neonatal intensive care units (NICU) continues to increase. NICU graduates are at increased risk of adverse outcomes more so in limited resource settings. In India, VLBW babies constitute 4-7% of the live births and nearly 30% of neonatal deaths. VLBW babies are more likely to die in the first year of life than infants of normal birth weight. The reported rate of readmission for NICU graduates ranges from 10-20%. This study was planned to ascertain post-discharge morbidity and mortality pattern and the effect of comprehensive counselling on short term outcomes in VLBW babies discharged from NICU in Indian Setting.

This quality improvement interventional study was conducted in the Neonatal Services Division of a tertiary care center of North India from November 2017 to July 2018. The VLBW babies discharged from NICU were followed up till chronological age of 3 months for final outcome (alive/death/lost to follow-up). Any event of emergency department visit or re-hospitalization was recorded as per a detailed proforma. A structured comprehensive counselling at the time of discharge in form of one-to-one counseling, video clips and brochures regarding hand hygiene, feeding, KMC, red flag signs and need for regular follow-up was introduced after a period of 3 months. The data was evaluated to assess the impact of comprehensive counselling on post-discharge mortality and morbidity pattern in VLBW babies.

A total of 132 VLBW babies were enrolled in the study; 64 in control group and 68 in the study group (after intervention). Two babies were lost to follow up, one each in study group and control group. The baseline characteristics likely to impact final outcome like birth weight, gestational age, co-morbidities, NICU stay and maternal details were comparable in the two groups. A total of 31 babies were re-hospitalized during the three months follow-up period; 21(32.8%) in the control group and 10(14.7%) in the study group which was statistically significant (p<0.05). Two babies expired in the study group as compared to 5 in the control group. The mean KMC duration, rate of observation of hand hygiene by caregivers and weight gain at 3 months of chronological age were significantly better in the study group as compared to control group; with p value <0.001, 0.01 and <0.001 respectively.

The introduction of a simple quality improvement intervention comprising of comprehensive counselling at the time of discharge led to a positive impact on weight gain, KMC duration and hand hygiene practices being observed by caregivers after discharge, decreased rate of emergency department visits and re-admissions and an improved survival rate in three months follow-up among VLBW babies discharged from NICU in a limited resource setting.

**COI:** "None declared"
ID: 115

TITLE: GUT STEPS - STRATEGIES AND TOOLS TO ENHANCE PATIENT SAFETY IN NECROTIZING ENTEROCOLITIS (NEC) - A QUALITY IMPROVEMENT (QI) INITIATIVE

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CONTENT:

NEC is a neonatal emergency mainly seen in preterm infants. It can have devastating consequences including delayed feeding, surgery, short gut, poor growth, increased hospital stay, delayed neurodevelopment and death. In the UK, one in 20 preterm infants < 32 weeks gestation are at risk of NEC with high mortality rates of >20%.

In 2017, our neonatal unit stood out as a negative outlier for NEC in preterm infants < 32 weeks (17.2 % vs national average of 5.6 %) in the National Neonatal Audit Programme benchmarks.

Study aim was to understand the risk factors linked to NEC and decrease the incidence of NEC at our unit by 50% over 1 year using structured quality improvement (QI) methodology.

Retrospective baseline data was collected for all preterms < 32 weeks gestation born in 2017. Infants with major congenital anomalies (n=3) and those diagnosed with NEC prior to admission to our unit (n=2) were excluded. Extrinsic risk factors such as enteral feeding practices, compliance with network NEC bundle, relevant medication exposure, blood transfusion, sepsis were investigated. Modifiable contributing/causative factors and themes were identified. Appropriate QI tools were used to drive changes to decrease NEC rate. Process changes were monitored by iterative PDSA cycles and NEC occurrences tracked using statistical process control (SPC) charts - ‘days between NEC’ and ‘eligible infants between events’ g charts for the next 12 months.

Of the 58 babies < 32 weeks born in 2017, 10 had NEC (17.2%). Pareto chart identified key risk factors for NEC i.e. early initiation of formula feeds when mother’s own milk was not available, antireflux medication and blood transfusion. Awareness was raised about NEC related complications: antibiotic duration, prolonged parenteral nutrition, surgery, delayed discharge and poorer developmental outcome. All key stakeholders were engaged including parents in these discussions. Following QI initiatives in 2018, 3/52 babies (5.7%) had NEC. There was no significant difference in the 2017 and 2018 groups on demographics such as gestation at birth, birthweight, gender. The average number of NEC free days increased from 29 to 143. The average number of patients between NEC events increased from 5.8 to 20.

Intelligent reinvention and careful adaptation of evidence-based practices to local ecosystem resulted in significant reduction in NEC rates. Use of statistical process control tools enabled real time monitoring of adverse events that guided timely actions. It is now important to scale-up, sustain and spread findings to the wider neonatal community.

IMAGES:
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Illustration demonstrating our QI methodology

COI: none declared
ID: 360
TITLE: NOTTINGHAM NEONATAL PALLIATIVE CARE- QUALITY IMPROVEMENT EVALUATION
AUTHORS: Sarah Hill
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CONTENT:

The UK has seen a 50% increase in the prevalence of children (including neonates) with life threatening and life limiting conditions (LLC), Fraser et al 2012. NHS England funded The Chameleon Project, a 12 month quality improvement project for the East Midlands to improve and evaluate the quality of children’s end of life care (EOL).

We hypothesised the Chameleon Project will lead to; improved, identifiable documentation of neonatal resuscitation plans, increased awareness of the potential for parallel care plans for antenatally diagnosed LLC, better coordination and satisfaction with care and improved ability to audit the national guidance.

Neonatal deaths were identified for the 12 months before and 12 months during the Chameleon project. Data was collected on antenatal diagnoses, demographics and documentation of care plans. Children 28 days old who died before neonatal unit discharge, or following planned EOL care at home were included. Individual staff interviews were conducted and parental feedback obtained.

The Chameleon project funded a paediatric team with specialist interest in palliative care. Locally the lead clinician’s role was to raise awareness of choice for families of neonates with LLC, promote the network pathway, offer clinical support and advice and develop local documentation including a neonatal PRP and resuscitation sheet.

31 babies were identified during the Chameleon project period compared to 21 the previous year. In 16 (52%) cases during the project an easily identifiable resuscitation plan was present in front of the notes. This was significantly better compared to 3 (14%) the previous year. 21 deaths were anticipated during the study period compared to 18 the preceding year.

Improved documentation allows greater ability to audit compliance with NICE guidance. In the project period, 9 babies had antenatal diagnoses, 5 had antenatal counselling (1 parallel care baby plan), 4 had none. In the previous year, 10 had antenatal diagnoses, 3 had antenatal counselling (1 parallel care baby plan), 7 had none. During the project parents felt ‘heard’ and empowered to make EOL care plans for their babies and staff reported increased confidence in coordinating and supporting the families with EOL care plans.

The Chameleon project has improved awareness for the need of EOL care plans in babies with LLC. Morale around palliative care has improved, staff feel supported and confident in the implementation of EOL care. Confirmatory diagnosis of LLC in the antenatal period remains a challenge due to inherent uncertainty. Availability of appropriate antenatal and postnatal documents means a greater number of neonates have palliative care plans in place.

COI: None declared
ID: 592

TITLE: ACCURACY AND VARIABILITY OF PARENTERAL SYRINGES USED IN NEONATAL PATIENTS

AUTHORS: Brian Dela Musoke (1), Kamelia Krysiak (1), Brian Cleary (2), Naomi McCallion (2), Fiona O’Brien (1)

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CONTENT:

In the Neonatal Intensive Care Unit, where critically ill and premature infants typically require simultaneous administration of multiple medications, medication safety is a key concern for healthcare professionals. Medications are often administered to this cohort via parenteral syringes due to their inability to swallow solid oral medications and available pharmaceutical formulations. Doses may be calculated on a weight basis which may be very low, resulting in the need to measure accurately low volumes of medications via syringe. This current experiment assessed the accuracy of syringes used in drug administration to neonatal patients in the Rotunda Hospital Dublin.

1 mL, 2 mL, 5 mL and 10 mL syringes were tested by 3 users. Methylene blue was made into a 1 mg/mL solution using deionised water and 10% w/v glucose to represent varying solution viscosity. This stock solution was diluted to concentrations of between 2 and 10 mcg/mL and used to generate a standard curve assayed by UV spectrophotometer. Each of the three users drew up 1 mL of the 6 mcg/mL solution in the pre-weighed syringe and weighed the filled syringe. The solution was then expelled into a quartz cuvette, and the now emptied syringe was weighed again. The volume in the cuvette was then made up to 2 mL and analysed in the UV. Weight of fluid delivered, dead space volume and the concentration of methylene blue delivered was calculated.

There was a general trend of accuracy decreasing as syringe size increased (Figure 1). This was especially true with the low viscosity solution, where the 1 mL and 2 mL syringes produced lower % error values and therefore higher accuracy than the 5 mL and 10 mL syringes. The 10 mL syringe was especially inaccurate, with dose accuracy only reaching 87% in terms of concentration delivered, and only reaching 84% for volume fluid delivered. The high viscosity solution produced lower % error values and therefore higher accuracy values than the low viscosity solution, with no significant reduction in terms of concentration delivered, and a reduction to 86% at the lowest viscosity with regards to fluid delivered. The dead space values obtained for each syringe size stayed consistent across both viscosities. Dead space volume increased relative to syringe size, and decreasing accuracy.

The current study has shown that there is potential for significant dosing error when 5 and 10 ml syringes are used; however even with smaller syringes, dosing errors were found. This dosing error was seen to be more pronounced with low viscosity solutions. Dead space volume also increased as syringe accuracy decreased which may have played a role in the lowered accuracy of the larger sized syringes across both solutions.

IMAGES:
https://www.eiseverywhere.com/eselectv3/v3/events/351149/submission/files/download?fileID=21c11d6ae8a4e0553291c9f405dc4d6c-MjAxOS0wNSM1Y2UvNjY2YzljYzlf

Figure 1: Accuracy% (Concentration) vs Syringe Size

COI: None declared
ID: 680  
**TITLE:** FIRST HOUR OF CARE: A REGIONAL QUALITY IMPROVEMENT INITIATIVE  
**AUTHORS:** Paul Cawley 1, Ian Long 2, Claire O’Mara 2, Mark Dyke 1  
**AFFILIATIONS:** 1. Neonatal Intensive Care Unit, Norfolk & Norwich University Hospital, UK  
2. East of England Neonatal ODN, hosted at Cambridge University Hospitals NHS Foundation Trust, Cambridge, UK  

**CONTENT:**

Management of unwell neonates in the first hour after birth has far reaching consequences beyond the immediate neonatal period. Recommendations for early newborn care are increasingly substantiated with grade A & B studies. The East of England Neonatal Network consists of 17 neonatal units, including 3 tertiary Neonatal Intensive Care Centres. The regional birth rate is >70,000 per annum. By standardising early newborn care to evidence-based standards across an entire region, there is potential for improvement in a significant number of infants. With units working closely together and sharing expertise, our network provides an ideal vehicle for positive service improvement.

From 2014 to 2018 our network has undertaken 3 quality improvement cycles, with the aim of improving 4 related care bundles: Antenatal, Thermoregulation, Respiratory and Fluids & Medications. This project has been centrally led, with creation of a working group & designated local champions, to identify primary goals & drivers. Design: Plan-Do-Study-Act. Key quality measures were audited on a unit level, from pre-implementation to 2 post-implementation cycles. We developed electronic spreadsheets with data validation & easy-to-use interface to optimise data collection.

Principal interventions included: Regional education days, production of a universal admission care booklet and development of a quick reference manual, accessible in print & electronic form. Analysis: 2 sided Chi-Square.

n=1,480. 100% response all units. Range 23+0 to 42+2 weeks gestation & birth weight 380-5460g. Our admission booklet was used to guide care in 82%.

In extremely preterm infants: Antenatal corticosteroid use increased [75 to 95%, p=0.001], magnesium sulphate use increased [24 to 54%, p=0.001]. Adherence to thermoregulatory measures improved [Plastic Bag use 86 to 99%, p<0.0001; Hat use 64 to 95%, p=0.0001]. Use of delivery room Positive-End Expiratory Pressure improved [47 to 78%, p<0.0001], & optimal first dose surfactant improved [47 to 75%, p=0.01]. The proportion of infants not intubated or intubated for surfactant instillation only increased [2% to 26%, p=0.001]. Documented parental involvement in delivery room increased [45% to 88%, p=0.0001], as did the proportion of infants receiving antibiotics [58 to 67%, p=0.55] & fluids [67 to 85%, p=0.018] within 1 hour. (See figure)

Mechanisms unique to the network model have streamlined dissemination of practice, guideline development & in-depth audit. Strong drivers for change & enthusiastic staff facilitated rapid uptake. Our project has achieved modest but sustained/progressive improvements, potentially benefitting thousands of infants. We recognise significant ongoing improvement is still required: we now plan targeted intervention to these key areas, with re-audit.

**IMAGES:**

[https://www.eiseverywhere.com/eselectv3/v3/events/351149/submission/files/download?fileID=fe8613fd2bd524f8c693436af8c8db19-MjAxOS0wNSM1Y2UyNjY2Y2I4ZWNI](https://www.eiseverywhere.com/eselectv3/v3/events/351149/submission/files/download?fileID=fe8613fd2bd524f8c693436af8c8db19-MjAxOS0wNSM1Y2UyNjY2Y2I4ZWNI)

COI: None declared
TITLE: THINK MAGNESIUM: CONCERTED MULTIDISCIPLINARY IMPROVEMENT INITIATIVE TO INCREASE ANTENATAL MAGNESIUM UPTAKE IN < 30 WEEK PRETERM BIRTHS

AUTHORS: Sankara Narayanan 1; Devasri Mitra 2 Nanda Shetty 3; Hamdi Abdulle 4 Anastasia Katana 5

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CONTENT:

There is compelling evidence that magnesium sulfate (MgSO4) given antenatally in threatened preterm labour is neuroprotective and reduces risk of cerebral palsy in offspring. Numbers needed to treat are lower (46:1) < 30 weeks. National Neonatal Audit Programme (NNAP) in the UK monitors compliance to antenatal magnesium uptake in births < 30 weeks. Our centre was a negative outlier (16 % vs 43 % national average) for this audit measure in the 2016. Our aim was to improve MgSO4 compliance from 16 % to at least 50 % over a 1-year period beginning January 2017 and then to sustain those improvements by multidisciplinary collaborative work.

A multidisciplinary team comprising of neonatologists, obstetricians and midwives formed the improvement team. This team process mapped a preterm mother’s journey within the service to understand barriers and enablers to timely MgSO4 administration. Driver diagram (Figure 1) was developed to conceptualise overall aim, primary & secondary drivers which in turn informed change ideas. Change ideas (MgSO4 awareness sessions, clear guideline, preterm labour proforma, Think Mg posters, ward level champion facilitated rounds, daily safety huddles, monthly display of compliance figures) were tested in iterative PDSA cycles. Number of preterm births <30 weeks between a non-compliant episode was plotted on a g chart (Figure 1), this allowed a visual display of performance over time.

In 2016, out of 20 eligible preterm mothers only 3(15%) received antenatal MgSO4. With improvement efforts and monitoring via PDSA cycles and g charts we saw a steady increase in MgSO4 uptake. In 2017 10 out of 18(56%) and in 2018, 14 out of 18(77%) received antenatal MgSO4 within the 24-hour period prior to delivery. Opportunities between events ‘g’ chart tracked number of < 30-week births between an MgSO4 non-compliant births and there was reduction in non compliant episodes. Unfortunately, we had a run of quick deliveries with short arrival to delivery intervals in late 2018, with drop in our compliance. Further analysis of these cases highlighted certain delays in triage which were addressed. Overall, in a 3-year period MgSO4 compliance rose from 16% to 77%. We also involved service users by providing a parental information leaflet and dissemination of newsletter.

Antenatal magnesium sulfate is an inexpensive intervention that reduces risk of cerebral palsy in preterm births. Using a well-structured quality improvement plan, we were able to understand the barriers to MgSO4 use and systematically introduce changes that resulted in improved compliance. Collaborative working between multidisciplinary staff across specialties was key to our success and we hope to further scale up and sustain the improvement.

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Figure 1: g chart showing reduction in mgs4 non-compliance over time

COI: none declared
ID: 721

**TITLE:** BORN TOO SOON... BUT IN THE RIGHT PLACE - THE LUTON AND DUNSTABLE NATIONAL MATERNAL AND NEONATAL HEALTH SAFETY COLLABORATIVE QUALITY IMPROVEMENT PROJECT.

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**CONTENT:**

As part of the diagnostic phase of the National Maternal and Neonatal Health Safety Collaborative we found that our NICU was refusing up to 80% of referrals in a month from our own neonatal network. Our neonatal HDU occupancy was large, decreasing our ITU capacity. It is a UK national ambition to ensure every baby is born in a maternity facility with a neonatal unit appropriate for baby’s gestational age. Very premature babies have a higher survival rate when born in a maternity with a neonatal intensive care. Therefore our aim was to use quality improvement methodology to reduce the number of refusals of in-utero and ex-utero referrals for tertiary level care by 10% by April 2019.

We used various quality improvement tools: cause and effect diagrams, run charts, driver diagrams and PDSA cycles. Some of our change ideas were initiating maternity and neonatal daily huddles, developing a huddle proforma, a neonatal and maternity operational pressures escalation levels policy, and referral tracker. We also created a discharge coordination team and a senior on call rota, to ensure repatriation of our high dependency patients to their local unit in a timely manner. Our primary outcome measure was number of referral refusals from our operational delivery network (ODN). Process measures included proportion of daily huddles and proportion of NICU ITU beds occupied. The balancing measure was measurement of burnout climate and resilience of staff through our culture survey.

In the year before the start of our National Maternal and Neonatal Health Safety Collaborative (NMNHSC) project, our referral refusal rate was 44% with wide range from 0% to 87%. Since the initiative was started and the change ideas implemented, our referral refusal rate has dropped to 27.5% with a smaller range from 0% to 59%. Prior to the project our ITU care days averaged 63% per month, with a wide range from 34.8% to 93.8%. This has now increased to 66%, with a smaller range from 46.9 to 78%. Our HDU occupancy has not been affected by these changes, initially 112% with range from 76% - 151% prior to the start of the project, and now 123% with range from 92% - 150%.

Our quality improvement project as part of the NMNHSC has successfully reduced our referral refusal rate from our ODN and increased the number of ITU care days. Moreover we have found that the daily huddles enhance situational awareness and communication between the neonatal and maternity teams, improving our working relationship to build trust and motivate staff. This gives our most vulnerable premature babies the best start possible in life.

**IMAGES:**
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**Driver Diagram**

**COI:** None declared
ID: 872
TITLE: OXYTOCIN RESPONSIVITY DURING SKIN-TO-SKIN CARE AND DIURNAL CORTISOL PREDICT DEPRESSION, TRAUMA AND BONDING SCORES AT NICU DISCHARGE IN PARENTS OF PRETERM INFANTS
AUTHORS: Bieke Bollen 1, Chiara Bernagie 2, Johan Verhaeghe 3, Christine Vanhole 4, Sarah Van Ransbeek 5, Gunnar Naulaers 6
AFFILIATIONS: 1,2,4,5,6 Neonatology Dept., University Hospitals Leuven, Belgium
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1,2,3,4,6 Dept. of Development and Regeneration - Women and Child, University of Leuven, Belgium
CONTENT:
Preterm birth is a potential traumatic experience for parents. Several studies show a high prevalence of depressive and post-traumatic stress symptoms in mothers of preterm infants. Hormonal changes in cortisol and oxytocin have both been implicated in these stress responses and also in parent-infant biobehavioral synchrony.
We aimed to predict parental depression, posttraumatic stress and bonding at NICU discharge. We hypothesized that the physiological response of parents to skin-to-skin care (cortisol and oxytocin) would predict emotional distress and feelings of bonding. We also took into account early markers of parental distress (questionnaires postnatal week 2).

Data were collected for the Resilience Study (NCT02623400): a prospective longitudinal cohort study performed in the University Hospitals Leuven. Parents of 136 infants (<34w GA and/or BW< 1500 g) were included. Parents completed questionnaires in postnatal week 2 and in the week before discharge. Depressive symptoms (EPDS), acute trauma symptoms (ASDS) and posttraumatic stress disorder (IES & TES-B), and Parental Stress (PSS-NICU) were measured, both in mothers and fathers. Bonding was measured using the PBQ. Furthermore, parental saliva samples were collected to determine diurnal cortisol profile (awakening, 30 min, 4h, 12h later) as well as oxytocin and cortisol response during kangaroo care (KC, before, 20 min, 60 min). Data were analyzed using multiple regression analysis.

Mothers and fathers of preterm infants in our sample show high levels of emotional distress. 76.5% of mothers, and 40.7% of fathers exceed clinical cut-off scores for postnatal depression. In general, these levels of emotional distress decrease during hospitalization.
Both in mothers and fathers, acute stress scores (postnatal week 2) but also diurnal salivary cortisol level (AUC) were significant predictors of parents’ post-traumatic stress symptoms at discharge (mothers: F(2,74) = 25.49, p <0.0001, R²=0.41; fathers: F(2,64) = 19.31, p<0.0001, R²=0.38).
Interestingly, the salivary response in oxytocin level during KC is a significant predictor (p<0.01) of both depression and bonding scores at discharge in mothers: a higher increase in OT during KC care is associated with lower depression scores and with higher bonding scores in mothers.

This study finds high levels of emotional distress in both mothers and fathers of preterm infants. Acute stress scores and diurnal cortisol in postnatal week 2 predicted posttraumatic stress symptoms at discharge both in fathers and mothers. Changes in salivary oxytocin level during KC were a strong predictor for bonding and depression in mothers.

COI: None declared
ID: 873
TITLE: PARENT EMPOWERMENT THROUGH FAMILY INTEGRATED OBSTETRIC AND NEONATAL LEVEL 2 CARE IN SINGLE FAMILY ROOMS (SFR): EXPERIENCES OF PARENTS.
AUTHORS: Mireille Stelwagen 1, Alvin Westmaas 2, Anne van Kempen 3, Fedde Scheele
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Prof. Dr. Fedde Scheele (MD, PhD), Professor in Health Systems Innovation and Education at VU University Amsterdam, Gynecologist and Dean Teaching hospital OLVG, Amsterdam, The Netherlands

CONTENT:

Parents at neonatal wards are important partners for healthcare professionals to improve the quality of care and health outcomes of newborns. The goal of parent empowerment is to increase parents' capacities of managing their role as a parent. To improve parent empowerment we designed an infrastructure for closeness and participation of parents with their sick newborns. There is a need of knowledge and understanding of how parents can or cannot achieve empowerment in specific infrastructures, according to themselves. The aim of this study is to explore parents' experiences with the contribution of an integrated infrastructure of Obstetric and neonatal level 2 care in SFR on their empowerment.

The study was conducted at the new integrated Mother-and-Child Center of the OLVG hospital, Amsterdam, the Netherlands. The rate of birth is about 3000 newborns/year. A total of 1300 newborns a year receive level 1, 2 or post-intensive neonatal care. A non-probability purposive sampling of parents who have had a newborn who was hospitalized for at least 7 days. Parents had to speak Dutch and had to be older than 21 years of age. Parents whose newborn died and parents under the supervision of youth care were excluded. A qualitative research design with a contextual constructivist approach was chosen using Focus Group Discussions and in-depth semi-structured interviews. The study was conducted between December 2015 and January 2017. Data were analyzed by using realistic evaluation.

9 fathers and 27 mothers participated in 4 focusgroup discussions and 9 in-depth interviews. Five categories experienced by parents are identified; 1). Feeling respected, 2). Gaining self-management tools, 3). Sense of meaning of the healthcare condition of the newborn, 4). Perceived control and 5). Self-efficacy. Participants mainly started by naming how enormously respected they had felt as a whole family due to the SFR. Due to the daily medical rounds parents experienced to be feeling respected as equal primary caregivers. From here it seems that the participants had the confidence to gain self-management tools and a sense of meaning of the healthcare condition of the newborn. All this made a positive contribution to feelings of control and ultimately self-efficacy, finally ready for discharge to home. Feeling disrespected seems to have a negative influence on all other categories.

The infrastructure influences the empowering process. Being able to be close to the child and involved in care and medical decision making for 24 hours a day, contributes to a sense of competence in parenthood and a feeling by parents of equality with the staff. Parents also face new challenges, such as healthcare conflicts and sleeping deprivations, feelings of isolation from staff and fellow-sufferers and new kind of power issues with staff.

COI: none declared
ID: 885

TITLE: NEONATAL HOMECARE REDUCES POSTPARTUM DEPRESSION AMONG WOMEN WHO GIVE BIRTH PREMATURELY

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CONTENT:

Preterm birth is a major risk factor for postpartum depression. The neonatal intensive care units (NICU) have developed an early discharge program, so the families can get neonatal homecare instead of long hospitalizations. Neonatal homecare has already many known benefits for both infants and parents, but this study investigates if the implementation of neonatal homecare has reduced the incidence rate of postpartum depression among mothers to preterm infants.

Population based retrospective register study using nationwide Danish registers, including all mothers who gave birth prematurely from 1994-2017, with at least one day spent at NICU. Outcome measures were postpartum depression diagnosis or the use of anti-depressive medication within the first six months after birth. We performed an interrupted time series analysis to investigate the incidence rates of postpartum depression before and after the implementation of neonatal homecare.

Before the neonatal homecare implementation a significant increase in postpartum depression incidence over time was found; (IRR=1.03 [CI: 1.03-1.05] pr. 6 months, p<0.001). The implementation of neonatal homecare made a significant level chance, the IRR was reduced with 33 % (IRR=0.66 [CI: 0.55-0.81], p<0.001). The implementation of neonatal homecare also made a significant slope change (p=0.001); after the implementation no change in incidence of postpartum depression over time was found. The incidence of postpartum depression were stabilized (IRR=1 [CI: 0.98-1.00], p=0.83).

Before neonatal homecare the incidence of postpartum was increasing with a factor 1.03 every 6 months among women who gave birth prematurely. The implementation of neonatal homecare reduced the incidence of postpartum depression with 33 % and seemed to stop the increasing incidence of postpartum depression; the incidence was stabilized without any change over time following implementation of neonatal homecare.

COI: None declared