**Aims** Imperial neonatal service has implemented delivery room (DR) cuddles along the strong culture of Family Integrated Care. Bonding is challenging for parents with a baby born extremely prematurely. Visual and physical contact in the delivery room as a first cuddle potentially can help the bonding process but so far there is limited evidence about the safety of this intervention. The aim our project is to study the feasibility and the safety of delivery room cuddles for babies born extremely preterm.

**Methods** Our aim in this observational study was to assess safety of the delivery room cuddles for babies born < 32 weeks’ gestation. As part of the stabilisation for babies born < 32 weeks, if certain safety criteria met during resuscitation, parents were offered a short 5-15-minute delivery room cuddle while covered in plastic bag and on respiratory support supervised by a consultant neonatologist. We collected data about the safety of the cuddles such as admission temperature, accidental extubations, changes in respiratory support, administration time to the unit, and availability of colostrum within 24 hours.

**Results** Between Oct 2018 and Feb 2021, 99 families experienced delivery room cuddles after stabilisation. Retrospective control group of 130 infants was selected from admissions between Jan 2017 and Dec 2018. GA age range: Cuddle group 22+5 to 31+6, Control group 23+1 to 31+5 weeks. Birthweight range: Cuddle group 430-2044g, Control 500-1800g. No accidental extubation or respiratory complications were noted in the DR cuddle group. There was no increased risk of hypothermia: 13/99 (13%) had admission temperature < 36.5 °C in the DR cuddle group vs 13/130 (10%) in the control group. 95/99 (96%) neonates were admitted within 1 hour of life in the DR cuddle group and 128/130 (98%) in the control group. 59/99 (60%) neonate received colostrum within 24 hours from the cuddle cohort.

**Conclusion** On this observational study we present a large cohort of preterm infants showing that delivery room cuddles in babies born < 32 weeks’ gestation are feasible and can be safely implemented as standard of care for stabilizing extremely preterm babies in the first hour of life.

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**NEONATAL PAIN AND STRESS MANAGEMENT IN NICU PHASE I: KNOWLEDGE AND SKILLS ASSESSMENT QI PROJECT – IT MATTERS!**

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10.1136/archdischild-2022-rcpch.212

**Aims** Historically it was thought that babies were incapable of experiencing pain.

- We now know this is not true.
- Every healthcare professional working in neonatal care has an ethical responsibility to manage neonatal pain.
- There is a wealth of information that reports poor short and long term neurodevelopmental outcomes from unmanaged neonatal pain.
- In addition, unmanaged neonatal pain has a profoundly negative impact on parental wellbeing.
- The primary objective of the first phase of this project is to raise awareness about neonatal pain management by ensuring that health care professionals understand when a baby is in pain.

- The subsequent phases of this QI project will be taking the appropriate measures to prevent or minimize neonatal pain.

**Methods**

- **Knowledge and skills:** A survey was sent to all members of staff to record their knowledge of behavioral cues, non-pharmacological strategies (i.e. skin to skin, non-nutritive sucking, breast feeding, use of breast milk or sucrose), and parental role in pain management.

- **Practice:**
  - The QI focused on observing the implementation of non-pharmacological approaches to minimize pain during immunizations, lumbar punctures, blood tests, nasogastric tube insertion, cannulation and eye testing etc.
  - A five-point rating scale was used about the knowledge of NICU healthcare workers on neurobehavioral cues and the impact of parental involvement during painful procedures, ranging from [strongly agree] to [strongly disagree], an audit that focused on the use of non-pharmacologic strategies in practice.

**Results**

- A total of 54 staff completed a survey (see figure 1)
  - 88% [strongly agreed] that neonates could experience pain.
  - 82% [strongly agreed] that even minor procedures could cause pain.
  - 75% [strongly agreed] that infants were able to communicate non-verbally.
  - 60% [strongly agreed] that non-pharmacological interventions were effective in managing neonatal pain (see figure 1).
  - 32% [strongly agreed] that skin to skin was an effective non-pharmacological strategy in contrast with 41% who [strongly agreed] that sucrose was more effective.
  - 64% [strongly agreed] that parents should be involved in infant pain management procedures.

**Conclusion**

- There is a gap between the knowledge and understanding of health professionals regarding neonatal pain perception and its management compared to what is happening in practice.

- The ongoing QI project is looking at the implementation of the Pain Assessment Tool (Stage II), and reduction in the number of painful procedures (Stage III).
Results The initial audit showed only 56% achievement in all domains of care in the first hour of care. Areas of improvement were recognised and a further awareness and training was conducted. This led to significant improvement which was reflected in the re-audit demonstrating an increase by >30% in the successful attainment of all aspects of golden hour. There was also a 100% achievement of temperature monitoring in first 60 minutes. Action plan has been devised to attain similar results in term babies.

Conclusion Despite the improvement which has been noticed in achieving the standard of Neonatal Super 60 in our NICU since the 1st audit, further improvement is required in terms of documentation, including full term admissions and aiming to reach the target of achieving the Super 60 in 100% of admissions in NICU.

Further teaching sessions, posters, fliers and auditing to be made to increase the awareness about the Super 60 project in both nursing and medical staff, in order to achieve the previously mentioned target of providing the best possible care for sick infants during their 60 minutes of admission in NICU.

110 FREQUENCY AND SPECTRUM OF HEALTHCARE ASSOCIATED INFECTIONS IN NEONATAL CARE UNIT OF A TEACHING HOSPITAL IN NORTH INDIA

Aims Health care-associated infections (HCAs) are infections that patients acquire while receiving treatment for medical or surgical conditions and are the most frequent adverse event during Health care delivery. The risk to acquire HCAI is universal and pervades every health-care facility and system worldwide, but the true burden remains unknown in many nations, particularly in developing countries. Neonates are particularly susceptible to infection because of abnormalities of the immune system and extrinsic risk factors, such as the use of central venous catheters (CVC), ventilators and surgical procedures. So, the present study was undertaken to assess the frequency & spectrum of HCAI in Level-4 nursery of a tertiary care hospital.

Methods A prospective observational study was conducted in neonatal ward, from December 2019 to March 2021. All neonates, from birth to 28 days of either sex, admitted in neonatal ward due to any underlying condition then having diagnosis compatible with HCAI as per CDC/WHO criteria were included in the study. Collected data was tabulated in an excel sheet, under the guidance of statistician. Difference between two groups was determined using student t-test as well as chi square test and the level of significance was set at p < 0.05.

Results Incidence of HCAI was found to be 21.79% (n=78). Overall infection rate was 19.9 cases per 1000 patient days. Incidence of HCAI was directly related to prematurity (<27 weeks [100%], 27-34 weeks [61.5%], 34-37 weeks [24.14%] & >37 weeks [5.88%]) and low birth weight (<750g [100%], 751-1000g [100%], 1001-1500g [71.43%], 1501-2500g [5.13%] & >2500g [4.76%]). The most common HAI was pneumonia (47.06%) followed by bacteremia (17.65%) and urinary tract infection (12.10%) (table 1). Most common organism revealed in the study subjects was Klebsiella species (29.41%) followed by Enterobacter species (23.53%) (figure 1). Ventilator-DAIR (Device Associated Infection Rate), central catheter-DAIR and Urinary Catheter DAIR per 1000 invasive device exposure days were 28.3, 16.8 and 18.4 respectively. Mean hospital stay was 33.92±19.04 and 14.63±12.48 days among the subjects affected with and without HAI (p<0.01). Mortality rate was 70.59% among subjects affected with HCAI (p<0.01).