Original Research Paper

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Clinical Research

# IMPACT OF PASTEURIZED HUMAN DONOR MILK ON SEPSIS AND MORTALITY IN PRETERM NEONATES

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**KEYWORDS :** Pasteurized Donor Human Milk (PDHM), Preterm.

## INTRODUCTION:

Breast feeding is the best method of infant feeding. If mother's own milk is unavailable or insufficient, the next best option is to use pasteurized donor human milk (PDHM). India has the highest number of low birth weight babies, and significant mortality and morbidity in very low birth weight (VLBW) population. In our country, the burden of low birth weight babies in various hospitals is about 20% with significant mortality and morbidities. Feeding these babies with breast milk can significantly reduce the risk of infections and NEC.

## AIMS AND OBJECTIVES:

1) To know the number of preterms receiving pasteurized donor human milk (PDHM).
2) To assess the occurrence of septicaemia in the preterms receiving PDHM
3) To assess morbidity and mortality in these babies.

**Study Design:** Retrospective observational study.

**Inclusion Criteria:**
all the preterm (<37 completed wks.) admitted in NICU from Jan 2018- Dec 2018.

## MATERIAL AND METHODS:

A retrospective analysis of all the babies admitted in NICU SMIMER HOSPITAL was done from NICU indoor register and milk bank register of smimer from JAN 2018-DEC 2018.Total milk given to them and its duration was calculated from milk bank register. Among them all preterm babies were analysed with respect to their gestational age and of babies given PDHM were taken out and amount of milk given and average duration of days the milk given was studied. The occurence of sepsis and NEC was studied and outcome was studied between those given PDHM (group A) and those not (group B) and morbidity and mortality among these babies was analysed.

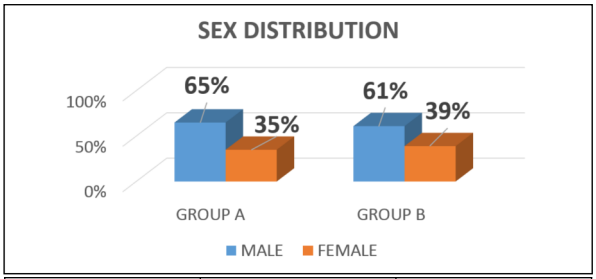
**Inclusion Criteria:**
Gestational age < 37 weeks
Unavailability of their own mother's milk
Written informed consent

**Exclution Criteria :**
Major congenital anomalies
Perinatal asphyxia (APGAR < 7 at 1st min)
Early onset sepsis defined as CRP > 10 mg/lit within 2 days of life and 1 positive blood culture within 72 hours of birth
Suspected TORCH infection

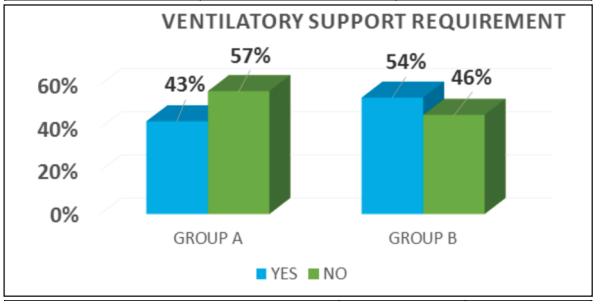
**Evaluation:**
Incidence of serious late-onset infections (sepsis and NEC) and/ or death occurring after 72 hours of admission was evaluated in both the groups.

**Sepsis:** was defined if any 3 of the following parameters were found:
- 1 positive blood culture with an isolated pathogen
- CRP > 1 mg/l within 2 days of life
- Absolute Neutrophilic count of <1000 (MONROE CHARTS)
- Immature Band cell Ratio of >0.2
- Leucopenia (< 5000)

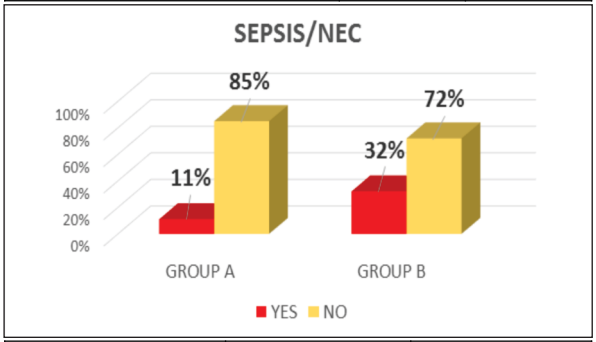
**NEC:** Stage II or III. (Staging according to Bell's criteria)



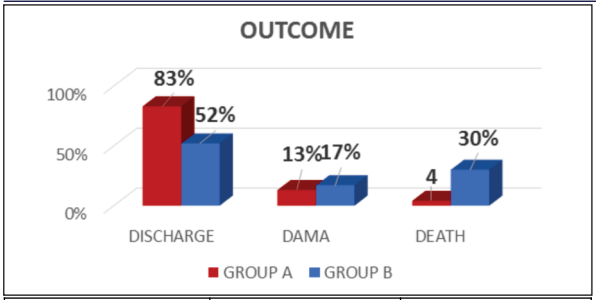

| SEX | GROUP A | GROUP B |
|---|---|---|
| MALE | 65% | 61% |
| FEMALE | 35% | 39% |




| VENTILATORY SUPPORT REQUIREMENT | GROUP A | GROUP B |
|---|---|---|
| YES | 43% | 54% |
| NO | 57% | 46% |




| SEPSIS/NEC | GROUP A | GROUP B |
|---|---|---|
| YES | 11% | 32% |
| NO | 85% | 72% |




| OUTCOME | GROUP A | GROUP B |
|---|---|---|
| DISCHARGE | 83% | 52% |
| DAMA | 13% | 17% |
| DEATH | 4% | 30% |

**OBSERVATION AND RESULTS :**

Z- test of two sample proportion has been applied to know the difference in results between the two groups at 95% level of significance.

1.) **Proportion of sepsis/NEC** was more in group B than in group A which is statistically significant. **(p value < 0.007)**
2.) **Proportion of neonates discharged** was more in group A than group B , which is statistically significant. **(p value < 0.001)**
3.) **Proportion of death** was more in group B than in group A, which is statistically significant. **(p value < 0.001).**

Total 1491 babies were admitted in NICU out of which 83 babies given PDHM. There were 1245 preterm in which 46 babies were given PDHM.7(15%)babies had septicaemia in GROUP A AND 323(27%) babies had septicaemia in GROUP B.2% mortality in group A while 30% mortality in group B. 82% were discharged in group A and 53% were discharged in group B.

**CONCLUSION:**

In this retrospective study, the results show that early introduction of human breast milk (pasteurized donor human milk) in preterms (<37 weeks of GA) helps in reducing the incidence of sepsis, NEC and may be helpful in reducing mortality and morbidity.

Hence , early introduction of breast milk has a better outcome in preterm infants and when own mother's milk is unavailable , pasteurized human donor milk from an established human milk bank serves as a helpful source in reducing mortality and morbidity in preterm infants.

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