

Table 1a. Clinical and Demographic Data of studied group

Neonatal Data	Mean±SD	Median (IQR)	Maximum: Minimum
Birth weight (gms)	1287.5±144.1	1300(1210:1390)	1490:770
Gestational age (weeks)	30.8±1.2	31(30:32)	32:28
Duration of caffeine citrate (days)	32.4±16.5	27(22:37)	98:0
Duration of admission (days)	44.4±16.4	40(32:50)	98:15
Duration of Oxygen (days)	25.3±14.3	22(16:32)	82:2
Continuous Positive Airway Pressure duration	9.8±7.5	8(5:12)	47:1
Blender duration (days)	5.7±3.2	5(3:8)	18:1
Mechanical ventilation duration (days)	16.6±16.6	7.5(4:33)	66:2
Head box duration (days)	2.7±1.4	2(2:4)	6:1
Incubator Oxygen duration	2.8±1.9	2(1:4)	12:1
Infectious episodes	1.9±1.2	2(1:3)	4:0
Onset of trophic feeding (days)	2.3±1.3	2(2:2)	13:1
Duration of Total Parenteral Nutrition (days)	17.7±11.7	13(10:21)	51:4
Intake of inotropes duration (days)	12.4±7.6	11(6:16.5)	34:2
Inhaled steroids duration (days)	17±12.6	12(8:20)	68:3
Maternal age (years)	26.8±4.7	27(23:30)	39:17
Hemoglobin (g/dl) on admission	15±2.7	14.8(13.4:16.8)	22.9:4.5
Hematocrit on admission (%)	43.9±8.1	43(38.9:48.3)	67.4:12.9
Intake of blood volume	54.9±30.2	49(33:70)	160:18
Age at first transfusion (days)	10.8±6.9	9(5:16)	26:1
Hemoglobin at first transfusion (g/dl)	9.5±1.6	9.4(8.7:10.4)	12.6:4.5
Hematocrit at first transfusion (%)	27.3±4.3	27.2(24.1:29.8)	35.6:12.9

Table 1b. Continued Clinical and Demographic Data

Neonatal Data		N(%)
Sex	Males/ Females	91(56.5)/70(43.5)
Respiratory Distress Syndrome(RDS)	yes	139(86.3)
VLBW(Very Low Birth Weight(VLBW))	Yes	155(96.3)
ELBW(Extreme Low Birth Weight	Yes	6(3.7)
History of Premature Rupture Of Membranes (PROM)	Yes	29(18)
Antenatal steroid use	Yes	45(28)
Multiple gestations	Singletons	120(74.5)
	Twins	36(22.4)
	Triplets	4(2.5)
	Quadruplets	1(0.6)
Oxygen need	Yes	140(87)
Continuous Positive Airway Pressure	Yes	124(77)
Nasal Blender	Yes	127(78.9)
Mechanical Ventilation	Yes	58(36)
Head box	Yes	113(70.2)
Incubator oxygen	Yes	126(78.3)
Early-onset neonatal sepsis	Yes	65(40.4)
Late-onset neonatal sepsis	Yes	126(78.3)
Total Parenteral Nutrition	Yes	141(87.6)
Patent Ductus Arteriosus(PDA)	Yes	57(35.4)
Treatment of PDA	Yes	55(34.2)
Intake of inotropes	Yes	83(51.6)
Intake of blood	Yes	86(53.4)
Jaundice	Yes	92(57.1)
Intracranial hemorrhage grades	0	106(65.8)
	1	17(10.6)
	2	20(12.4)
	3	15(9.3)
	4	3(1.9)
Severity of ROP	Absent ROP	59(36.6)
	Low grade	75(46.6)
	Severe grade	27(16.8)

Table 1c. Continued Clinical and Demographic Data

Neonatal Data		N (%)
Severity of Bronchopulmonary Dysplasia (BPD)	Mild	7(11.7)
	Moderate	27(45)
	Severe	26(43.3)
BPD	Yes	60(37.3)
Development of pneumothorax	Yes	36(22.5)
Intake of inhaled steroids	Yes	131(81.4)
Intake of surfactant	Yes	45(28)
Mode of delivery	NVD/ C.S	35(21.7)/ 126(78.3)
Intake of blood	Yes	86(53.4)
Number of transfusions in the first week	One time	36(83.7)
	Two times	7(16.3)
Number of transfusions in the first month	One time	21(24.4)
	Two times	20(23.3)
	Three times	21(24.4)
	Four times	11(12.8)
	Five times	9(10.5)
	Six times	3(3.5)
	Seven times	1(1.2)
Number of transfusions in the first week	Yes	43(26.7)
Number of transfusions in the first month	Yes	86(53.4)
Retinopathy of Prematurity (ROP)	Yes	102(63.4)
Necrotizing Enterocolitis(NEC)	Yes	34(21.1)
Outcome	Died/ Discharged	16(9.9)/ 145(90.1)
History of other maternal diseases	No history of diseases	131(81.4)
	Diabetes Mellitus	11(6.8)
	Pre-eclampsia	19(11.8)

BPD: Bronchopulmonary Dysplasia, NVD: normal vaginal delivery; C.S: Caesarean section

Table 2. Blood Transfusion in the First Week in Relation to Morbidities and Outcomes

Morbidities and outcomes	Yes/No	Blood Transfusion in the First Week		P-value
		No	Yes	
		N (%)	N (%)	
NEC	No	102(86.4)	25(58.1)	0.001**
	Yes	16(13.6)	18(41.9)	
Intracranial hemorrhage	0	88(74.6)	18(41.9)	0.001**
	1	14(11.9)	3(7)	
	2	10(8.5)	10(23.3)	
	3	6(5.1)	9(20.9)	
	4	0(0)	3(7)	
Jaundice	No	53(44.9)	16(37.2)	0.472
	Yes	65(55.1)	27(62.8)	
ROP	No	50(42.4)	9(20.9)	0.012**
	Yes	68(57.6)	34(79.1)	
Severity of ROP	Absent	50(42.4)	9(20.9)	0.014**
	ROP			
	Low grade	53(44.9)	22(51.2)	
	Severe grade	15(12.7)	12(27.9)	
Severity of BPD	Mild	5(18.5)	2(6.1)	0.001**
	Moderate	17(63)	10(30.3)	
	Severe	5(18.5)	21(63.6)	
BPD	No	91(77.1)	10(23.3)	0.001**
	Yes	27(22.9)	33(76.7)	
Outcome	Died	0(0)	16(37.2)	0.001**
	Discharged	118(100)	27(62.8)	

NEC=Necrotizing enterocolitis, ROP=Retinopathy of prematurity, BPD=Bronchopulmonary dysplasia

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)

Table 3. Number of Transfusions in the First Week in Relation to Morbidities and Outcome

Morbidities and outcome	Item	Number of Transfusions in the First Week		P-value
		One time	Two times	
		N (%)	N (%)	
NEC	No	21(58.3)	4(57.1)	1
	Yes	15(41.7)	3(42.9)	
Jaundice	No	12(33.3)	4(57.1)	0.394
	Yes	24(66.7)	3(42.9)	
ROP	No	9(25)	0(0)	0.314
	Yes	27(75)	7(100)	
Severity of ROP	Absent ROP	9(25)	0(0)	0.494
	Low grade	16(44.4)	6(85.7)	
	Severe grade	11(30.6)	1(14.3)	
Severity of BPD	Absent BPD	2(7.7)	0(0)	0.396
	Low grade	9(34.6)	1(14.3)	
	Severe grade	15(57.7)	6(85.7)	
BPD	No	10(27.8)	0(0)	0.172
	Yes	26(72.2)	7(100)	
Intracranial hemorrhage	0	17(47.2)	1(14.3)	0.394
	1	2(5.6)	1(14.3)	
	2	9(25)	1(14.3)	
	3	7(19.4)	2(28.6)	
	4	1(2.8)	2(28.6)	
Outcome	Died	10(27.8)	6(85.7)	0.007**
	Discharged	26(72.2)	1(14.3)	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)

4. Blood Transfusion in the First Month in Relation to Morbidities and Outcome

Morbidities and outcome	Yes/NO	Blood Transfusion in First Month		P-value
		No	Yes	
		N(%)	N(%)	
NEC	No	72(96)	54(63.5)	0.001**
	Yes	3(4)	31(36.5)	
IV hemorrhage	0	61(81.3)	44(51.8)	0.001**
	1	14(18.7)	3(3.5)	
	2	0(0)	20(23.5)	
	3	0(0)	15(17.6)	
	4	0(0)	3(3.5)	
Jaundice	No	37(49.3)	32(37.6)	0.136
	Yes	38(50.7)	53(62.4)	
ROP	No	40(53.3)	18(21.2)	0.001**
	Yes	35(46.7)	67(78.8)	
Severity of ROP	Absent	40(53.3)	18(21.2)	0.001**
	ROP			
	Low grade	31(41.3)	44(51.8)	
	Severe grade	4(5.3)	23(27.1)	
Severity of BPD	Mild	0(0)	7(12.5)	0.43
	Moderate	3(75)	24(42.9)	
	Severe	1(25)	25(44.6)	
BPD	No	71(94.7)	29(34.1)	0.001**
	Yes	4(5.3)	56(65.9)	

NEC=Necrotizing enterocolitis, ROP=Retinopathy of prematurity, BPD=Bronchopulmonary dysplasia

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)

Table 5. Number of Transfusions in the First Month in Relation to Morbidities and Outcome

Morbidities and outcomes	Number of Transfusions in the First Month							P-value
	One time	Two times	Three times	Four times	Five times	Six times	Seven times	
NEC	N(%)	N(%)	N(%)	N(%)	N(%)	N(%)	N(%)	
No	17(81)	15(75)	10(47.6)	5(45.5)	5(55.6)	2(66.7)	1(100)	0.055
Yes	4(19)	5(25)	11(52.4)	6(54.5)	4(44.4)	1(33.3)	0(0)	
ROP								
No	5(23.8)	3(15)	6(28.6)	0(0)	3(33.3)	1(33.3)	1(100)	0.194
Yes	16(76.2)	17(85)	15(71.4)	11(100)	6(66.7)	2(66.7)	0(0)	
Severity of ROP								
Absent ROP	5(23.8)	3(15)	6(28.6)	0(0)	3(33.3)	1(33.3)	1(100)	0.631
Low grade	10(47.6)	12(60)	11(52.4)	6(54.5)	4(44.4)	1(33.3)	0(0)	
Severe grade	6(28.6)	5(25)	4(19)	5(45.5)	2(22.2)	1(33.3)	0(0)	
BPD								
No	7(33.3)	10(50)	10(47.6)	0(0)	1(11.1)	1(33.3)	1(100)	0.024 *
Yes	14(66.7)	10(50)	11(52.4)	11(100)	8(88.9)	2(66.7)	0(0)	
Severity of BPD								
Absent BPD	5(35.7)	0(0)	1(9.1)	0(0)	1(12.5)	0(0)	0(0)	0.006**
Low grade	5(35.7)	7(70)	8(72.7)	2(18.2)	2(25)	0(0)	0(0)	
Severe grade	4(28.6)	3(30)	2(18.2)	9(81.8)	5(62.5)	2(100)	0(0)	
Intracranial Haemorrhage								
0	13(61.9)	13(65)	13(61.9)	2(18.2)	3(33.3)	0(0)	1(100)	0.278
1	0(0)	0(0)	1(4.8)	1(9.1)	1(11.1)	0(0)	0(0)	
2	4(19)	5(25)	3(14.3)	4(36.4)	2(22.2)	2(66.7)	0(0)	
3	4(19)	1(5)	4(19)	2(18.2)	3(33.3)	1(33.3)	0(0)	
4	0(0)	1(5)	0(0)	2(18.2)	0(0)	0(0)	0(0)	
Outcome								
Died	0(0.0)	5(25.0)	1(4.8)	5(45.5)	3(33.3)	2(66.7)	0(0.00)	0.004**
Discharged	21(100.0)	15(75.0)	20(95.2)	6(54.5)	6(66.7)	1(33.3)	1(100.0)	

NEC=Necrotizing enterocolitis, ROP=Retinopathy of prematurity, BPD=Bronchopulmonary dysplasia

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)

Table 6. Pearson correlation showing linear relations between variables

Item	Number of Transfusions in the First Week		Number of Transfusions in the First Month	
	r	P-value	r	P-value
Spearman's rho				
Duration of Oxygen in days	0.237	0.13	.374**	0.001**
CPAP duration	-.446**	0.006**	-0.066	0.571
Blender duration	-0.24	0.21	-0.107	0.376
MV duration	.430*	0.014**	.597**	0.001**
Head box duration	-0.044	0.836	-0.116	0.36
Incubator Oxygen duration	-0.28	0.149	0.107	0.381
Infectious episodes	0.074	0.638	.557**	0.001**
Duration of TPN in days	0.164	0.3	.444**	0.001**
Intake of inotropes duration in days	0.006	0.97	.275*	0.029*
Inhaled steroids duration	0.206	0.196	.391**	0.001**
Maternal age	0.212	0.173	0.064	0.561
HGB on admission	-0.003	0.987	-0.008	0.939
HCT on admission	-0.015	0.923	-0.013	0.905
Number of transfusions in the first week	-----	.-----	0.15	0.337
Number of transfusions in the first month	0.15	0.337	-----	-----

CPAP=Continuous positive airway pressure, MV=Mechanical ventilation, TPN=Total parenteral nutrition, HGB=Haemoglobin, HCT=Haematocrite

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)

Table 7. Pearson correlation showing linear relations between variables

Spearman's rho	Birth weight in gm		Gestational age in weeks	
	r	P-value	r	P-value
Gestational age in weeks	.604**	0.001**	-----	-----
Haemoglobin on admission	-0.113	0.159	-0.019	0.807
Haematocrite on admission	-0.077	0.335	-0.014	0.862
Number of transfusions in the first week	-0.081	0.604	-0.109	0.485
Number of transfusions in the first month	-.462**	0.001**	-.352**	0.001**
Age at first transfusion	.315**	0.003**	.219*	0.038*

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table (8) Blood Transfusion in the First Week (group1) and month (group2) in relation to morbidities

Morbidities and outcomes	Yes/No	Blood Transfusion in the First Week (Group1)		P-Value	Yes/No	Blood Transfusion in the First Month(Group2)		P-Value
		No	Yes			No	Yes	
		N (%)	N (%)			N(%)	N(%)	
NEC	No	102(86.4)	25(58.1)	0.001**	NO	72(96)	54(63.5)	0.001**
	Yes	16(13.6)	18(41.9)		YES	3(4)	31(36.5)	
Intracranial hemorrhage	0	88(74.6)	18(41.9)	0.001**	0	61(81.3)	44(51.8)	0.001**
	1	14(11.9)	3(7)		1	14(18.7)	3(3.5)	
	2	10(8.5)	10(23.3)		2	0(0)	20(23.5)	
	3	6(5.1)	9(20.9)		3	0(0)	15(17.6)	
	4	0(0)	3(7)		4	0(0)	3(3.5)	
Jaundice	No	53(44.9)	16(37.2)	0.472	NO	37(49.3)	32(37.6)	0.13
	Yes	65(55.1)	27(62.8)		Yes	38(50.7)	53(62.4)	
ROP	No	50(42.4)	9(20.9)	0.012	NO	40(53.3)	18(21.2)	0.001
	Yes	68(57.6)	34(79.1)		Yes	35(46.7)	67(78.8)	
Severity of ROP	Absent ROP	50(42.4)	9(20.9)	0.014**	Absent ROP	40(53.3)	18(21.2)	0.001**
	Low grade	53(44.9)	22(51.2)		Low grade	31(41.3)	44(51.8)	
	Severe grade	15(12.7)	12(27.9)		Severe grade	4(5.3)	23(27.1)	
Severity of BPD	Mild	5(18.5)	2(6.1)	0.001**	Mild	0(0)	7(12.5)	0.43
	Moderate	17(63)	10(30.3)		Moderate	3(75)	24(42.9)	
	Severe	5(18.5)	21(63.6)		Severe	1(25)	25(44.6)	
BPD	No	91(77.1)	10(23.3)	0.001**	No	71(94.7)	29(34.1)	0.001**
	Yes	27(22.9)	33(76.7)		Yes	4(5.3)	56(65.9)	

NEC=Necrotizing enterocolitis, ROP=Retinopathy of prematurity, BPD=Bronchopulmonary dysplasia

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)