Supplementary materials

Supplementary 1. Feeding practice in all neonatal units

		First feeding (hr.)			Age any DONOR given (d)			Age any MOM given (d)			Age HMF started (d)			Duration of HMF (d)		
Unit	N	Median	25th centile	75th centile	Median	25th centile	75th centile	Median	25th centile	75th centile	Median	25th centile	75th centile	Median	25th centile	75th centile
1	231	31	12	55	1	1	3	4	2	13	18	14	26	5	0	17
2	249	15	8	33	1	0	2	2	1	7	14	10	19	13	1	31
3	1	177	177	177	7	7	7	.	.	.	.	.	.	0	0	0
4	88	33	21	64	1	1	3	7	2	14	21	14	37	0	0	1
5	55	31	13	38	1	1	2	2	1	5	18	13	22	0	0	12
6	5	28	19	28	2	1	2	2	2	2	30	30	30	0	0	0
7	19	54	28	72	2	1	3	4	1	15	14	11	17	9	3	22
8	34	35	14	58	2	1	3	4	2	12	27	17	35	0	0	0
9	192	28	15	45	1	1	2	3	1	6	16	11	24	1	0	11
10	22	24	9	53	1	0	2	2	1	17	15	10	20	16	6	23
11	72	26	9	40	1	0	2	7	2	16	25	17	37	0	0	12
12	149	25	8	36	1	0	2	3	1	10	19	15	29	0	0	15
13	155	34	14	54	2	1	3	3	1	17	18	14	23	0	0	11

DONOR: donor human milk, MOM: mothers' own milk, HMF: human milk fortifier.

1 **Supplementary 2 Description of final data sheet variables from NNRD**

Variable name	Description
Growth variables (primary outcome)	
GV2_ReBWT_DC	Growth velocity from birth weight regained to discharge (g/kg/day)
GV1_BWT_DC	Growth velocity from birth to discharge (g/kg/day)
GV30	Growth velocity within first 30 days (g/kg/day)
GV31_60	Growth velocity from day 31 to day 60 (g/kg/day)
GV61_DC	Growth velocity from day 61 to discharge (g/kg/day)
HC_PerWeek	Head growth (cm/week)
Age_ReBWT	Age birth weight regained (days)
MlKgDay_ReBWT	EN volume when birth weight was regained (ml/kg/day)
GramPerDay	Weight gain (g/day)
Length of stay	
LHS_30	Length of stay up to day 30
LengthOfStay	Length of hospital stay in unit (days)
Study groups	
MilkGroupMain14	Milk group in first 14 days
Demographics	
Admission_unit_code	Neonatal unit of care
Birth_unit_code	Birth unit
BirthYear	Birth year
Gestational_Age	Birth gestational age (weeks)
LevelPrematurity	Level of prematurity
Birth_WT	Birth weight (grams)
BirthHC	Birth head circumference (cm)
Gender	Gender
Maternal variables	
MumEthnicity	Mother's ethnicity
SmokingInPregnancy	Smoking during pregnancy
PreclampsiaDurPreg	Did the mother had Pre-eclampsia during pregnancy
GDMDurPreg	Did the mother had Gestational diabetes?
IUGRDurPreg	Intrauterine growth restriction
Maternal_score	Level of maternal morbidity
SurfactantGiven	Surfactant was given
AntenatalSteroids	Antenatal steroids course
ModeOfDelivery	Mode of delivery
Feeding variables	
FirstFeedHours	Time of first feed (hours)
FirstMilk	First milk of feeding
FirstMilk_Dummy	Type of first milk of feeding
DischargeMilk	Type of discharge milk
DischargeMilk_Dummy	Was the baby discharged on MOM?
NPO	Nil by mouth (days)
ml_kg_d2_sum	Total enteral milk volume intake (sum of ml/kg/day)
Feeding over whole stay	
AnyDHM	Feeding on any DHM (days)
FDHM_Dum	Received fortified donated human milk
FDHM	Fortified DHM (days)
AgeDHMGivn	Age of introducing DHM (days)
AnyMOM	Feeding with any MOM throughout hospital stay (day)
AgeAnyMOM	Age any MOM started
AnyFormula	Feeding with any formula throughout hospital stay (day)
AgeAnyFormula	Age any formula was started
OnlyMOM	Feeding on only MOM throughout hospital stay (days)
OnlyDHM	Feeding with only DHM throughout hospital stay

Variable name	Description
OnlyFormula	Feeding with only formula throughout hospital stay(days)
Recieved_HMF	Was HMF given?
AgeHMFStart	Age HMF started (days)
Volume_HMF_Start	EN volume when HMF started (ml/kg/day)
DurationHMF	Duration of HMF use (days)
Perc_AnyMOMWhole	Feeding with any MOM out of total hospital stay (%)
PercAnyDHM	Feeding with any DHM out of total hospital stay (%)
Perc_Anyformula	Feeding with any formula out of total hospital stay (%)
Perc_onlyMOM	Feeding with only MOM out of total hospital stay (%)
Perc_onlyDHM	Feeding with only DHM out of total hospital stay (%)
PerconlyFormula	Feeding with only formula out of total hospital stay (%)
PercHMF	HMF use out of total hospital stay (%)
Feeding over 30 days' time intervals	
AnyMOM30	Feeding with any MOM within first 30 days (days)
AnyDHM30	Feeding with any DHM within first 30 days (days)
AnyFormula30	Feeding with any formula within first 30 days (days)
AnyMOM60	Feeding with any MOM between day 31 to 60 (days)
AnyDHM60	Feeding with any DHM between day 31 to 60 (days)
AnyFormula60	Feeding with any formula between day 31 to 60 (days)
AnyMOM61_DC	Feeding with any MOM between day 61 to discharge (days)
AnyDHM61_DC	Feeding with any DHM between day 61 to discharge (days)
AnyFormula61_DC	Feeding with any formula between day 61 to discharge (days)
PercMOM30	Feeding with any MOM out of first 30 days (%)
PercDHM30	Feeding with any DHM out of first 30 days (%)
Percformula30	Feeding with any formula out of first 30 days (%)
PercMOM60	Feeding with any MOM out of day 31 to 60 (%)
PercDHM60	Feeding with any DHM out of day 31 to 60 (%)
Percformula60	Feeding with any formula out of day 31 to 60 (%)
PercMOM61_DC	Feeding with any MOM out of day 61 to discharge (%)
PercDHM61_DC	Feeding with any DHM out of day 61 to discharge (%)
Percformula61_DC	Feeding with any formula out of day 61 to discharge (%)
CentralLine_Dum	Had central line
CentralLineDays	Central line use (days)
Ventilation_Dum	Was ventilated
VentlationDays	Ventilation use (days)
Drugs use	
Corticosteroids	Did the baby receive corticosteroids?
Antibiotics	Did the baby receive antibiotics?
Diuretics	Did the baby receive diuretics?
Corticosteroids_use	Corticosteroids use (days)
Antibiotics_use	Antibiotics use (days)
Diuretics_use	Diuretics use (days)
Dummy variables created to be entered in the regression analysis	
Home	Was the baby discharged home?
Died	Did the baby die?
Transferred	Was the baby transferred to another hospital?
Unit1	Was the baby admitted to unit 1?
Unit2	Was the baby admitted to unit 2?
Unit4	Was the baby admitted to unit 4?
Unit5	Was the baby admitted to unit 5?
Unit7	Was the baby admitted to unit 7?

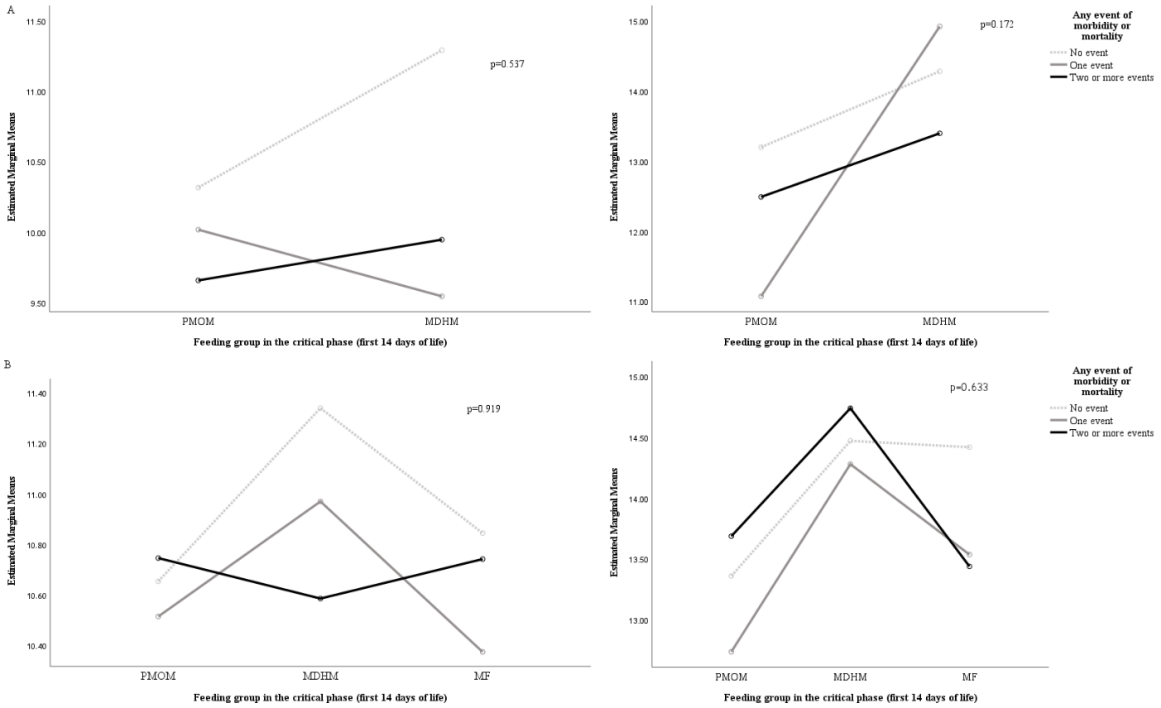
Variable name	Description
Unit8	Was the baby admitted to unit 8?
Unit9	Was the baby admitted to unit 9?
Unit10	Was the baby admitted to unit 10?
Unit11	Was the baby admitted to unit 11?
Unit12	Was the baby admitted to unit 12?
Unit13	Was the baby admitted to unit 13?
JustMOM	Was the baby exclusively fed only MOM?
JustFormula	Was the baby exclusively fed only Formula?
Milk_MFormula	Was the baby fed MOM supplemented with formula?
Milk_MDHM	Was the baby fed MOM supplemented with DHM?
Variables used to calculate growth outcomes	
WT_30	Weight at 30 days (grams)
wt31	Weight at 31 days (grams)
wt60	Weight at day 60 (grams)
wt61	Weight at day 61 (grams)
wtDC	Weight at discharge (grams)
Age_30	Age at day of life 30
LHS31_60	Length of stay from day 31 to 60
LHS61_DC	Length of stay from day 61 until discharge
Age60	Age at day 60
Age_DC	Age at discharge

MOM: Mothers' own milk, GDM: Gestational diabetes, IUGR: Intrauterine growth restriction, HMF: Human milk fortifier, GV: Growth velocity, BWT: Birth weight, NEC: Necrotising enterocolitis, ROP: Retinopathy of prematurity, BPD: Bronchopulmonary dysplasia, PMA: Post menstrual age.

Supplementary 3. Characteristics of the excluded infants (n=391)

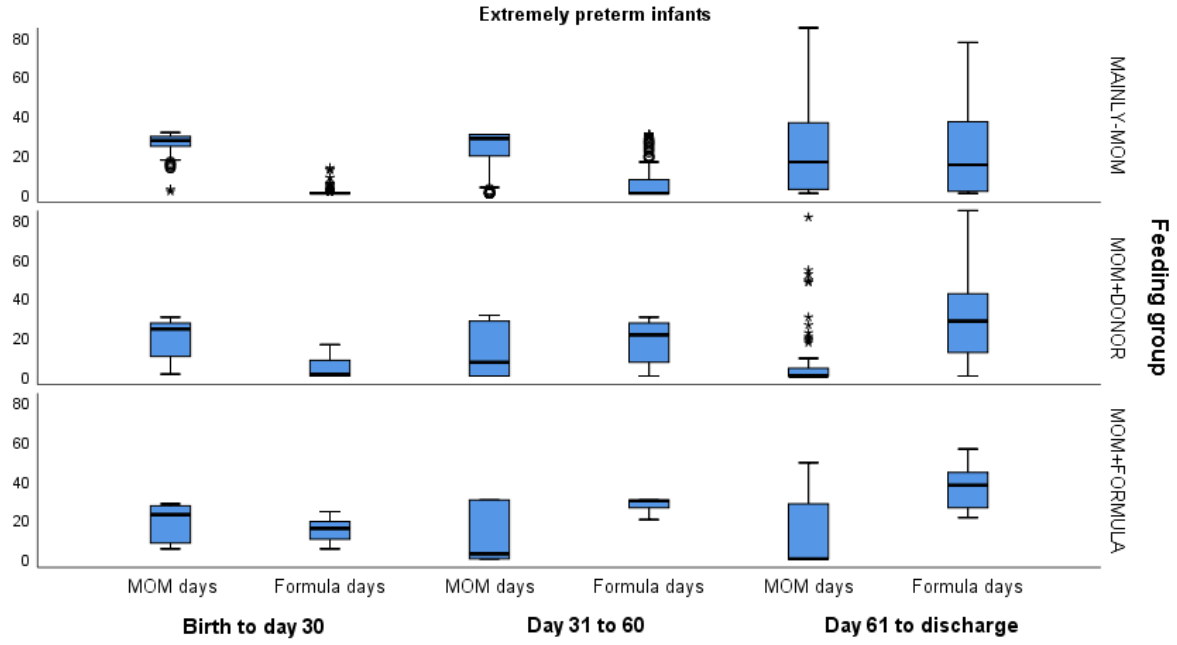
Variable	Values
Size at birth	**Median (25th, 75th centile)**
Birth weight, grams	1193 (839 – 1530)
Gestational age, weeks	29 (27,31)
Birth year	**N (%)**
2014	115 (29)
2015	93 (24)
2016	104 (27)
2017	80 (20)
Admitting neonatal unit	**N (%)**
1	70 (18)
2	27 (7)
3	37 (9)
4	22 (6)
5	17 (4)
6	23 (6)
7	22 (6)
8	20 (5)
9	46 (12)
10	2 (1)
11	19 (5)
12	50 (13)
13	36 (9)

Supplementary 4. Analysis of interaction effect of overall illness and growth velocity across study groups.



P value is based on analysis of variance (ANOVA). Figures in (A) section are related to the extremely preterm infants and Figure in (B) sections are related to the very preterm infants.

Supplementary 5 Feeding throughout admission among study groups



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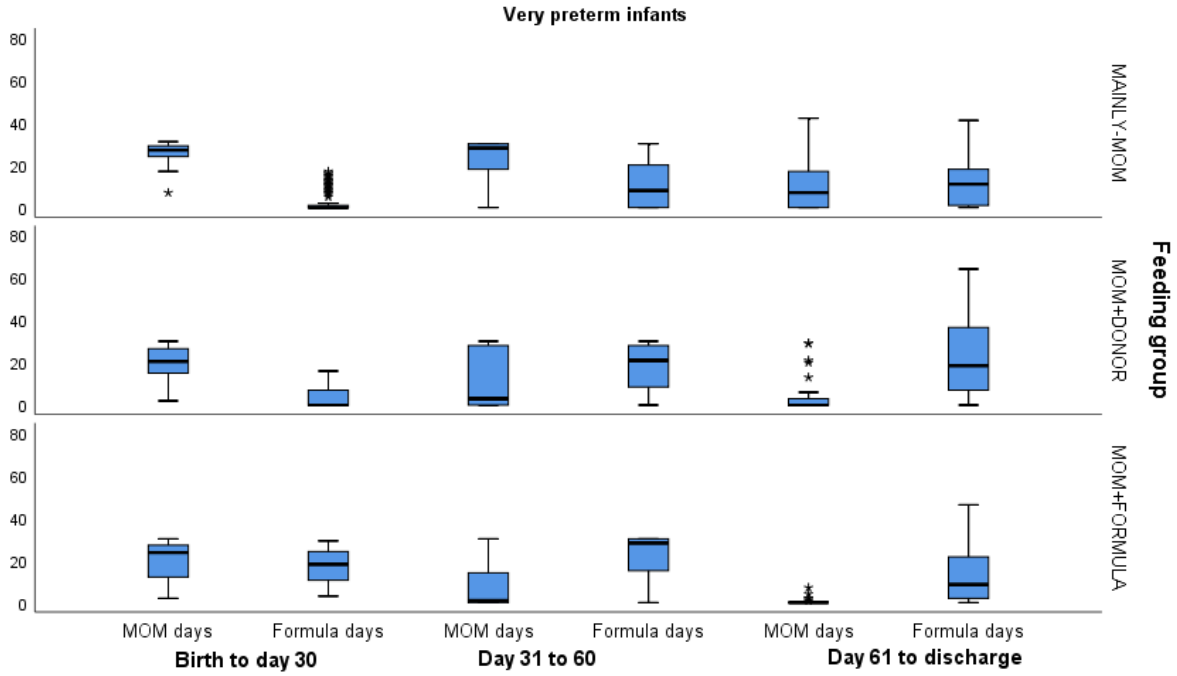

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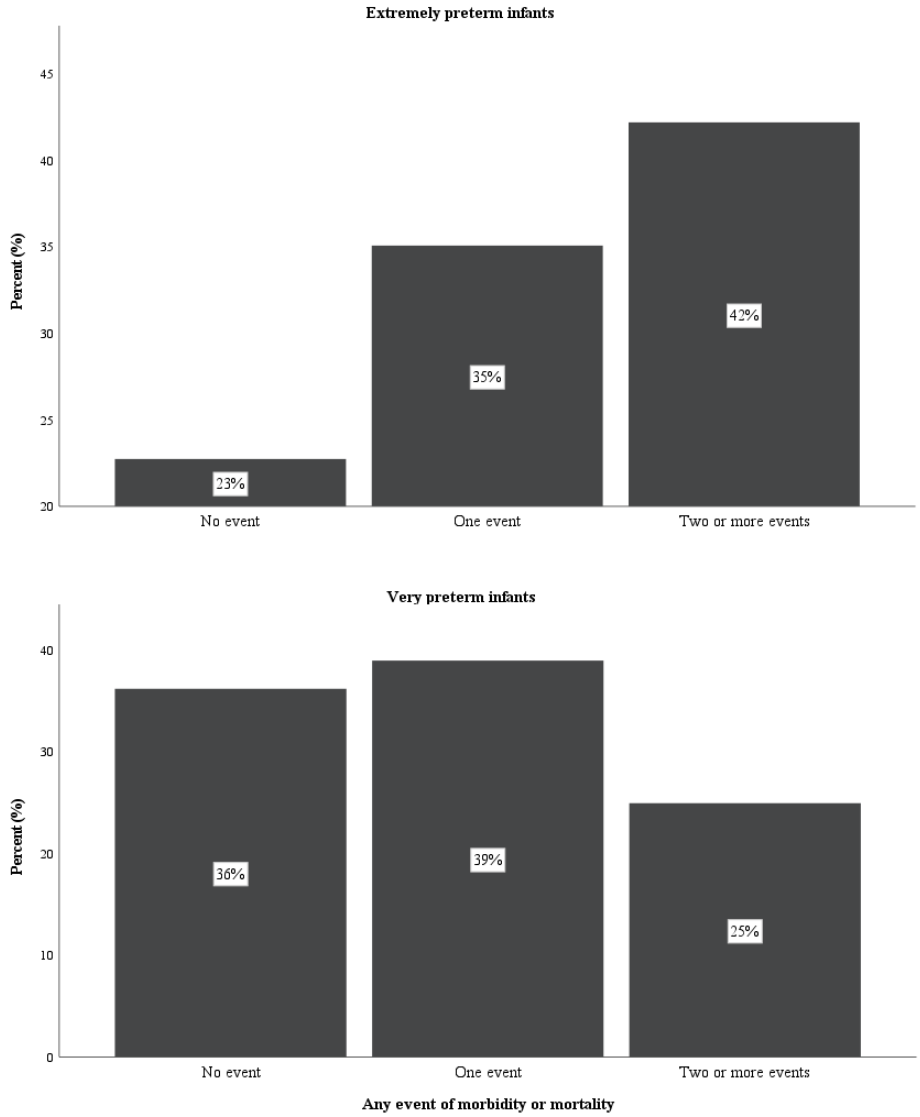
Supplementary 6. Illness scores of any event of mortality and/or major neonatal morbidity in the study sample stratified by the level of prematurity.



The scoring includes death and major neonatal morbidities: suspected or confirmed necrotising enterocolitis, sepsis, bronchopulmonary dysplasia or retinopathy of prematurity.