Anal	ysis results on in	fants born in 2021		I-1/27
No.	Resources of participating hospitals	All hospitals		n
Α		Maternal information		
201	Maternal age (median)	33.0		3380
301	lower quartile	29.0		
,	upper quartile	37.0		
302	Gravida		1:0 30% 2:1 32% 3:2 21% 4:3> 17%	3344
303	Parity		1:0 51% 2:1 33% 3:2 11% 4:3> 4%	3369
304	Maternal Comorbidity	0410 108Number D259 90Number 0757 87Number E039 79Number 0441 73Number		974
305	Artificial Reproductive Technology		1:Yes 0% 2:No 0% 3:not available 0%	0
306	Foreigner	2	1:Yes 0% 2:No 0% 3:not available 0%	0

Anal		nfants born in 2021	I-2/27
No.	Resources of participating hospitals	All hospitals	n
В		Pregnancy complication	
401	Number of fetus	1:1 78% 2:2 19% 3:3 3% 4:4> 0%	3610
402	Birth order (among infants with number of fetus 2>)	1:1 45% 2:2 49% 3:3 6% 4:4> 0%	803
403	Plurality (among infants with number of fetus 2>)	1:monochorionic 43% 2:multiple chorionic 49% 3:not available 8%	803
404	Diabetes	1:Yes 7% 2:No 93% 3:not available 0%	3610
405	Pregnancy induced hypertension	1:Yes 18% 2:No 82% 3:not available 0%	3610

Anal	ysis results on in	fants born in 2021	I-3/27
No.	Resources of participating hospitals	All hospitals	n
406	Clinical CAM	1:Yes 11% 2:No 89% 3:not available 0%	3610
407	Histologic CAM	1:Yes 27% 2:No 57% 3:not available 16%	3610
408	Grade of histologic CAM (among infants with positive histologic CAM)	1:I 29% 2:II 29% 3:III 42%	969
415	Chronic hypertension	1:Yes 3% 2:No 81% 3:not available 16%	3610
С		Delivery status	
501	PROM	1:Yes 27% 2:No 73% 3:not available 0%	3610

Anal		fants born in 2021	-4/27
No.	Resources of participating hospitals	All hospitals	n
502	Maternal steroid	1:Yes 60% 2:No 40% 3:not available 0%	3610
503	NRFS	1:Yes 22% 2:No 78% 3:not available 0%	3610
504	Presentation	1:Head 72% 2:other than head 28% 3:not available 0%	3610
505	Mode of delivery	1:Vaginal 25% 2:Vaginal with manipulation 0% 3:C/S 74%	3610
509	Feto-Maternal transfusion syndrome	1:Yes 1% 2:No 86% 3:not available 13%	3610
510	Cord blood transfusion	1:Yes 27% 2:No 73% 3:not available 0%	3610

Anal		fants born in 2021 I	-5/27
No.	Resources of participating hospitals	All hospitals	n
511	Method of cord blood transfusion (among infants with Live birth, cord blood transfusion)	1:Milking before cord clumping 20% 2:Milking after cord clumping 73% 3:Delayed cord clumping (30~60 sec) 1% 4:Delayed cord clumping (>60sec) 4% 5:not available 2%	756
521	Hydrops	1:Yes 1% 2:No 99% 3:not available 0%	3610
522	Timing of PROM (among infants with PROM)	1:< 24 hrs 34% 2:>= 24 hrs and < 1 week 38% 3:>= 1 week 28% 4:not available 0%	653
523	Placental abruptio	1:Yes 4% 2:No 96% 3:not available 0%	3610
524	Umbilical cord prolaspse	1:Yes 1% 2:No 99% 3:not available 0%	3610
531	Maternal steroid doses (among infants with maternal steroid)	1:1 course completed 83% 2:not completed 17% 3:not available 0%	1512

Anal		fants born in 2021	I-6/27
No.	Resources of participating hospitals	All hospitals	n
540	Maternal MgSO4	1:Yes 39% 2:No 61% 3:not available 0%	2577
D		Neonatal information	
602	Age(day) at admission	1:0 98% 2:1 1% 3:2 0% 4:>3 1%	3610
603	Gender	1:Male 53% 2:Female 46% 3:not available	3610
604	Neonatal transport	1:Yes 4% 2:No 96%	3610
605	Maternal transport (among infants with inborn)	1:Elective 39% 2:Emergency 43% 3:Booked 18%	3476
606	Gestational age (mean)	29.2	3609
	SD	3.3	
	95% confidence interval	29.1-29.4	

Anal		nfants born in 2021	I-7/27
No.	Resources of participating hospitals	All hospitals	n
608	Apgar(1min) (median)	5.0	3511
808	lower quartile	3.0	
	upper quartile	7.0	
600	Apgar(5min) (median)	8.0	3513
609	lower quartile	6.0	
	upper quartile	9.0	
610	Oxygen use at birth	1:Yes 79% 2:No 21% 3:not available 0%	3610
611	Intubation at birth	1:Yes 54% 2:No 46% 3:not available 0%	3610
612	Birht weight (mean)	1096.3	3608
612	SD	361.3	
	95% confidence interval	1084.5-1108.0	
613	Body length at birth (mean)	35.9	3412
613	SD	4.4	
	95% confidence interval	35.8-36.1	

Anal		nfants born in 2021	I-8/27
No.	Resources of participating hospitals	All hospitals	n
614	Head circumference at birth (mean)	26.0	3374
014	SD	2.9	
	95% confidence interval	25.9-26.1	
615	Live birth	1:Yes 100% 2:No 0%	3610
620	Cord blood gas analysis	1:Yes 90% 2:No 8% 3:not available 2%	3231
622	Cord blood pH (mean) (among infants with cord blood analysis)	7.3	2877
022	SD	0.1	
	95% confidence interval	7.3-7.3	
624	Cord blood O2 (mean) (among infants with cord blood analysis)	25.1	2568
024	SD	22.1	
	95% confidence interval	24.2-25.9	
626	Cord blood CO2 (mean) (among infants with cord blood analysis)	46.6	2629
020	SD	14.3	
	95% confidence interval	46.1-47.2	

	fants born in 2021	I-9/27
participating	All hospitals	n
Cord blood base excess (mean) (among infants with cord blood analysis)	-3.4	2916
SD	4.5	
95% confidence interval	-3.63.3	
Neonatal blood gas analysis (among infants with live birth)	1:Yes 99% 2:No 1% 3:not available 0%	3154
Arterial or Venous sample (among infants with neontal blood gas analysis)	1:arterial blood 30% 2:venous blood 66% 3:not available 4%	3139
Neonatal blood pH (mean) (among infants with neontal blood gas analysis)	7.3	3178
SD	0.1	
95% confidence interval	7.3-7.3	
Neonatal blood O2 (mean) (among infants with neontal blood gas analysis)	63.9	3092
SD	51.8	
95% confidence interval	62.1-65.7	
Neonatal blood CO2 (mean) (among infants with neontal blood gas analysis)	47.6	3148
SD	14.4	
95% confidence interval	47.1-48.1	
	Resources of participating hospitals Cord blood base excess (mean) (among infants with cord blood analysis) SD 95% confidence interval Neonatal blood gas analysis (among infants with live birth) Arterial or Venous sample (among infants with neontal blood gas analysis) Neonatal blood pH (mean) (among infants with neontal blood gas analysis) SD 95% confidence interval Neonatal blood O2 (mean) (among infants with neontal blood gas analysis) SD 95% confidence interval Neonatal blood CO2 (mean) (among infants with neontal blood gas analysis) SD 95% confidence interval Neonatal blood CO2 (mean) (among infants with neontal blood gas analysis) SD 95% confidence interval Neonatal blood CO2 (mean) (among infants with neontal blood co3 (participating hospitals Cord blood base excess (mean) (among infants with cord blood analysis) SD

Anal	ysis results on ir	fants born in 2021	I-10/27
No.	Resources of participating hospitals	All hospitals	n
638	Neonatal blood base excess (mean) (among infants with neontal blood gas analysis)	-3.5	3196
030	SD	4.4	
	95% confidence interval	-3.73.4	
6 F4	Apgar(10 min) (median)	8.0	906
651	lower quartile	6.0	
	upper quartile	9.0	
652	CPAP use at birth	1:Yes 55% 2:No 45% 3:not available 0%	2541
653	Chest comprssion at birth	1:Yes 2% 2:No 98% 3:not available 0%	2560
654	Adrenalin use at birth	1:Yes 1% 2:No 99% 3:not available 0%	2497
655	Withhold of aggressive resuscitation	1:Yes 3% 2:No 97% 3:not available 0%	2484

Anal		fants born in 2021		I-1	L1/27
No.	Resources of participating hospitals	All hospitals			n
661	Bodt temperature on admission (mean)	36.7			2247
001	SD	0.7			
	95% confidence interval	36.7-36.7			
	Hb on admission (mean)	16.1			2302
662	SD	2.7			
	95% confidence interval	16.0-16.2			
Е		Respiratory disease			•
701	RDS (among infants with live birth and remained)		1:Yes 2:No	55% 45%	3511
702	Air leak syndrome (among infants with live birth and remained)		1:Yes 2:No	3% 97%	3511
703	Pulmonary hemorrhage (among infants with live birth and remained)		1:Yes 2:No	3% 97%	3511
705	PPHN (among infants with live birth and remained)		1:Yes 2:No	6% 94%	3511

Ana		fants born in 2021 I-	12/27
No.	Resources of participating hospitals	All hospitals	n
706	Length of oxygen use (median) (among infants with live birth and remained)	29.0	2957
700	lower quartile	3.0	
	upper quartile	70.0	
707	Length of CPAP (median) (among infants with live birth and remained)	13.0	3511
707	lower quartile	0.0	
	upper quartile	37.0	
708	Length of mechanical ventilation (median) (among infants with live birth and remained)	3.0	3066
700	lower quartile	0.0	
	upper quartile	23.0	
709	Use of HFO (among infants with live birth, remained and mechanical ventilation)	1:Yes 35% 2:No 65%	2243
710	Dose of surfactant (among infants with live birth and remained)	1:0 47% 2:1 42% 3:2 8% 4:3> 4%	3511
711	Length of inhaled nitric oxide (among infants with live birth and remained)	1:0 93% 2:1 1% 3:2 2% 4:3> 4%	3511

Ana		nfants born in 2021 I-	13/27
No.	Resources of participating hospitals	All hospitals	n
712	CLD at 28 d (among infants with live birth, remained and alive at 28 days of age)	1:Yes 44% 2:No 56%	3092
713	Type of CLD (among infants with CLD)	1:I 23% 2:II 33% 3:III 13% 4:III' 12% 5:IV 1% 6:V 5% 7:VI 13%	1348
714	Glucocorticoid for CLD (among infants with CLD)	1 1:Yes 43% 2:No 57%	1348
715	CLD at 36 wk (among infants with live birth, remained, alive at 36 wk(corrected age))	1:Yes 30% 2:No 70%	3029
716	Oxygen concentration at 36 wk (median) (among infants with CLD at 36 wk)	23.0	1005
	lower quartile	21.0	
	upper quartile	25.0	
720	Thoracocentesis (among infants with live birth, remained and pulmonary airleak)	1:Yes 67% 2:No 33%	73

Analysis results on infants born in 2021 I-14/27

Anai		fants born in 2021 I-14	
No.	Resources of participating hospitals	All hospitals	n
731	Timing of HFO (among infants with live birth, remained and HFO)	400 350 300 250 200 150 100 50 0 345 345 345 345 269 272 hrs >=72 hrs	567
732	NAVA use (among infants with live birth, remained and NAVA)	1:Yes 18% 2:No 82%	1411
733	Method of NAVA (among infants with live birth, remained and NAVA)	196 180 170 160 150 tracheal intubation without tracheal intubation	241
734	Chest X-ray findings (among infants with live birth, remained and CLD)	1:diffuse bubbly appearance 24% 2:irregular funicular and emphysematous change 18% 3:diffuse opacity 59%	714
741	Purposes of NO use (among infants with live birth, remained and No use)	152 140 120 100 80 60 40 20 0 PPHN CLD without PH	172
751	CLD respiratory support at 36 wk (among infants with live birth, remained and CLD 36 wk)	1:non-invasive supprot 90% 2:mechanical ventilation 10%	723

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Anal		Infants born in 2021	15/27
No.	Resources of participating hospitals	All hospitals	n
752	CLD respiratory support at 40 wk (among infants with live birthm, remained and CLD 36 wk)	1:Yes 18% 2:No 82%	2189
753	CLD respiratory support method at 40 wk (among infants with live birth, remained and CLD 40 wk)	1:oxygen 43% 2:non-invasive 47% 3:mechanical ventilation 10%	396
F		Circulatory problem	
801	PDA with symptom (among infants with live birth and remained)	1:Yes 29% 2:No 71%	3511
802	Indomethacin for PDA (among infants with live birth and remained)	1:Yes 25% 2:No 70% 3:prophylactic 5%	3511
803	Surgical ligation for PDA (among infants with symptomatic PDA)	1:Yes 16% 2:No 84%	1004

Anal		nfants born in 2021	I-16/27
No.	Resources of participating hospitals	All hospitals	n
821	Drugs for PDA (among infants with live birth, remained and PDA)	500 400 300 200 100 0 prophylactic rescue ibuprofen others indomethacinindomethacin	961
851	Late onset adrenal insufficiency (among infants with live birth, remained and alive at 7 d)	1:Yes 5% 2:No 95%	3227
G		Neurological problem	•
901	Seizure (among infants with live birth and remained)	1:Yes 2% 2:No 98%	3511
902	Intravetricular hemorrhage (among infants with live birth and remained)	1:Yes 11% 2:No 89%	3511
903	Grade of IVH (among infants with live birth, remained and IVH)	1:I 42% 2:II 26% 3:III 15% 4:IV 18%	358

Anal		fants born in 2021	I-17/27
No.	Resources of participating hospitals	All hospitals	n
904	Post IVH hydrocephalus (among infants with live birth, remained and IVH)	1:Yes 18% 2:No 82%	372
905	PVL (among infants with live birth and remained)	1:Yes 2% 2:No 98%	3511
906	HIE (among infants with live birth and remained)	1:Yes 1% 2:No 99%	3511
911	Diagnosis of seivure (among infants with live birth, remained and seizure)	38 35 30 25 20 114 15 10 5 clinical diagnosis EEG diagnosis	41
921	Grade of IVH right (among infants with live birth, remained and IVH)	1:I 45% 2:II 22% 3:III 17% 4:IV 16%	200
922	Grade of IVH left (among infants with live birth, remained and IVH)	1:I 39% 2:II 27% 3:III 17% 4:IV 16%	201

Anal		nfants born in 2021	I-18/27
No.	Resources of participating hospitals	All hospitals	n
931	Shunt for post IVH hydrocephalus (among infants with live birth, remained and post IVH hydrocephalus)	1:Yes 55% 2:No 45%	55
941	Whit matter leison (among infants with live birth and remained)	1:Yes 6% 2:No 94% 3:no MRI 0%	2158
Н		Infection	
1001	Intrauterine infection (among infants with live birth and remained)	1:Yes 9% 2:No 91%	3511
1002	Sepsis (among infants with live birth and remained)	1:Yes 6% 2:No 94%	3511
1004	Early onset sepsis (among infants with live birth, remained and sepsis)	1:Yes 11% 2:No 89%	223

Anal		fants born in 2021 I-1	9/27
No.	Resources of participating hospitals	All hospitals	n
1010	Use of antibiotics (among infants with live birth and remained)	1:Yes 56% 2:No 44%	3511
1011	Number of sepsis episodes (among infants with live birth, remained and sepsis)	1:1 89% 2:2 9% 3:3 1% 4:>=4 1%	162
1012	Onset of 1st episode (among infants with live birth, remained and sepsis)	1:0~2 days 20% 2:3~6 days 9% 3:>=7 days 70%	172
1013	Pathogen 1st sepsis (among infants with live birth, remained and sepsis)	11	130
1021	Onset of 2nd sepsis (median) (among infants with live birth, remained and 2nd onset sepsis)	74.0	15
	lower quartile	51.0	
	upper quartile	97.5	

Anal		fants born in 2021 I-2	0/27
No.	Resources of participating hospitals	All hospitals	n
1022	Pathogen 2nd episode (among infants with live birth, remained and 2nd onset sepsis)	1:E.coli 0% 2:CNS (coagulase negative staphylococci) 36% 3:GBS 0% 4:Streptococcus spp (except GBS) 9% 5:MSSA 0% 6:MRSA 9% 7:Klebsiella spp 27% 8:Enterococcus spp 0% 9:Enterobacter spp 0% 9:Enterobacter spp 0% 10:Pseudomonas Aerigonosa 0% 11:Candida sp. 9% 12:Fungus 9% 13:others 0%	11
1031	Meningitis (among infants with live birth and remained)	1:Yes 1% 2:No 99%	2248
1032	Number of meningitis episodes (among infants with live birth, remained and meningitis)	1:1 78% 2:2 22% 3:3 0% 4:>=4 0%	9
1033	Onset of 1st meningitis (among infants with live birth, remained and meningitis)	1:0~2 days 0% 2:3~6 days 0% 3:>=7 days 100%	9

Anal		fants born in 2021	I-2	1/27
No.	Resources of participating hospitals	All hospitals		n
1034	Pathogne of 1st meningitis (among infants with live birth, remained and meningitis)	9 11 12 13 10 41 p	1:E.coli 0% 2:CNS (coagulase negative staphylococci) 20% 3:GBS 60% 4:Streptococcus spp (except GBS) 0% 5:MSSA 0% 6:MRSA 0% 6:MRSA 0% 6:MRSA 0% 8:Enterococcus spp 0% 8:Enterobacter spp 0% 10:Pseudomonas Aerigonosa 0% 11:Candida sp. 0% 12:Fungus 0% 13:others 0% 14:not available 0% 15:CSF not obtained	5
1035	Onset of 2nd meningitis (median) (among infants with live birth, remained and 2nd meningitis)			1
	lower quartile			
	upper quartile			
1036	Pathogen of 2nd meningitis (among infants with live birth, remained and 2n meningitis)		1:E.coli 0% 2:CNS (coagulase negative staphylococci)	0
I		Gastrointestinal problem		
1101	Intravenous hyperalimentatio n (among infants with live birth and remained)		1:Yes 78% 2:No 22%	3511

Anal		fants born in 2021 I-2	22/27
No.	Resources of participating hospitals	All hospitals	n
1102	NEC (among infants with live birth and remained)	1:Yes 1% 2:No 99%	3511
1103	Idiopathic intestinal perforation (among infants with live birth and remained)	1:Yes 2% 2:No 98%	3511
1103B	NEC or Idiopathic intestinal perforation (among infants with live birth and remained)	1:Yes 3% 2:No 97%	3511
1104	Meconium related ileus (among infants with live birth and remained)	1:Yes 2% 2:No 98%	3511
1111	Treatment for intestinal perforation (among infants with live birth, remained and NEC, FIP, MRI)	1:dranage only 8% 2:laparotomy 5% 3:laparotomy and ileostomy 49% 4:medical treatment only 38%	123

Anal		fants born in 2021	I-2	23/27
No.	Resources of participating hospitals	All hospitals		n
J		Hearing screening		
1201	Hearing loss screening (among infants with live birth and remained)	3 1	1:Pass 72% 2:Refer 7% 3:not done 21%	3511
K		Retinopathy of prematurity		
1301	ROP(worst stage) (among infants with live birth and remained)	4 3 1 1	1: <ii 1%="" 25%<="" 2:iii(early)="" 3:iii(intermediate)="" 4:iii(late)="" 57%="" 5:not="" 8%="" 9%="" done="" th=""><th>3511</th></ii>	3511
1302	Treatment for ROP (among infants with live birth and remained)		1:Yes 9% 2:No 91%	3511
L		Diagnosis		
1411	Congenital anomaly		1:Yes 9% 2:No 91%	3610
1412	Diagnosis of congenital anomaly (among infants with congenital anomaly)	888 92Number 502 29Number 403 26Number 503 23Number 504 16Number		306

Anal		fants born in 2021	-24/27
No.	Resources of participating hospitals	All hospitals	n
1413	Operation for congenital anomaly (among infants with live birth, remained and congenital anomaly)	1:Yes 18% 2:No 82%	316
M		Summary	
1501	Age at enteral feeding exceed 100ml/kg (median) (among infants with live birth and remained)	10.0	2968
	lower quartile	7.0	
	upper quartile	14.0	
1502	Breast feeding at discharge (%) (among infants with live birth,	1:100% 32% 2:50~99% 23% 3:1~49% 23%	1666
	remained and discharge alive)	4:0% 22%	
1503	Donor milk use (among infants with live birth and remained)	1:Yes 9% 2:No 91%	1278
1504	Source of donor milk (among infants with live birth, remained and donor milk use)	1:milk bank 91% 2:in-hospital 9%	111
1511	Blood transfusion (among infants with live birth and remained)	1:Yes 28% 2:No 72%	3511

Anal		fants born in 2021	I-25/27
No.	Resources of participating hospitals	All hospitals	n
1512	Erythropoietin (among infants with live birth and remained)	1:Yes 64% 2:No 36%	3511
1513	Purposes of erythropoietin use (among infants with live birth, remained and erythropoietin)	2000 1738 1500 - 1000 - 500 28 anemia neuroprotection	1743
N		Condition at discharge	
1601	Age at discharge (mean) (among infants with live birth and remained)	90.8	3322
	SD	97.0	
	95% confidence interval	87.5-94.1	
1602A	Dead at discharge (among infants with live birth and remained)	1:Yes 5% 2:No 95%	3505
1602B	Dead at discharge (among infants with live birth)	1:Yes 6% 2:No 94%	3521
1603	Autopsy (among infants with live birth, remained and dead at discharge)	1:Yes 11% 2:No 89%	184

Anal		fants born in 2021 I-2	26/27
No.	Resources of participating hospitals	All hospitals	n
1604	Cause of death (among infants with live birth, remained and dead at discharge)	100 22Number 400 13Number 310 12Number 900 11Number 90 10Number	152
1605	Discharge home (among infants with live birth, remained and alive at discharge)	1:Yes 89% 2:No 11%	3321
1606	Disposition (among infants with live birth, remained, alive at discharge, and transferred)	1:Delivered hospital 1% 2:Other NICU 60% 3:Pediatric ward 19% 4:Other hospital 16% 5:Facility for disabled children 0% 6:Orphanage 4%	354
1607	HOT (among infants with live birth, remained and alive at discharge)	1:Yes 9% 2:No 91%	3321
1608	Tracheostomy (among infants with live birth and alive at discharge)	1:Yes 1% 2:No 99%	3321
1609	Body weight at discharge (mean) (among infants with alive at discharge)	2764.0	3211
	SD	774.6	
	95% confidence interval	2737.2-2790.8	

Analysis results on infants born in 2021			27/27
No.	Resources of participating hospitals	All hospitals	n
1610	Body length at discharge (mean) (among infants with alive at discharge)	46.3	3171
	SD	4.7	
	95% confidence interval	46.1-46.4	
1611	Head circumference at discharge (mean) (among infants with alive at discharge)	33.9	3176
	SD	3.0	
	95% confidence interval	33.8-34.0	