

Supplementary File 1: Maternal and obstetrics related characteristics of preterm neonates and their mothers admitted in Intensive Care Unit of Bench Sheko, Kafa and Sheka zone Hospitals, South west Ethiopia, 2021

Characteristics	Category	Total N (%) N=614	Censored N (%) N=414	Death N (%) N=200
Pregnancy status	Single	470( 76.55 )	306 (65.11)	164(34.89)
	Multiple	144 ( 23.45)	108 (75.00 )	36(25.00)
ANC visit	Yes	500 (81.43	355(71.00	145(29.00)
	No	114 (18.57)	59 (51.75 )	55(48.25)
Number of ANC visit	< 4	342 (68.40)	227 (66.37)	115(33.63)
	≥ 4	158 ( 31.60)	128 (81.01)	30(18.99)
Maternal corticosteroid intake	Yes	69 ( 13.69 )	50 (72.46 )	19(27.54)
	No	435 (86.31 )	305(70.11 )	130(29.89)
Mode delivery	Cesarean section	115(18.73 )	94 (81.74)	21(18.260
	Vaginal	499( 81.27)	320 (64.13 )	179(35.87)
Presentation at delivery	Cephalic	529( 86.16 )	353 (66.73)	176(33.27)
	Non-cephalic	85 ( 13.84)	61 (71.76 )	24(28.24)
Parity	≤ 1	298 ( 48.53 )	201 (67.45 )	97(32.55)
	≥ 2	316( 51.47)	213 (67.41)	103(32.59)
Chronic medical problems previously	No	568(92.51)	379(66.73)	189(33.27)
	Yes	46 ( 7.49 )	35 (76.09	11(23.91)
HIV	No	590 ( 96.09)	392(66.44 )	198(33.56)
	Yes	24(3.91)	22 (91.67)	2(8.33)
DM	No	608 (99.02	411 (67.60 )	197(32.40)
	Yes	6(0.98	3 (50.00 )	3(50.00)
HTN	No	597 (97.23	403 (67.50 )	194(32.50)
	Yes	17(2.77	11(64.71 )	6(35.29)

Obstetric complications	No	550( 89.58)	373 (67.82)	177(32.18)
	Yes	64( 10.42)	41 (64.06)	23(35.94)

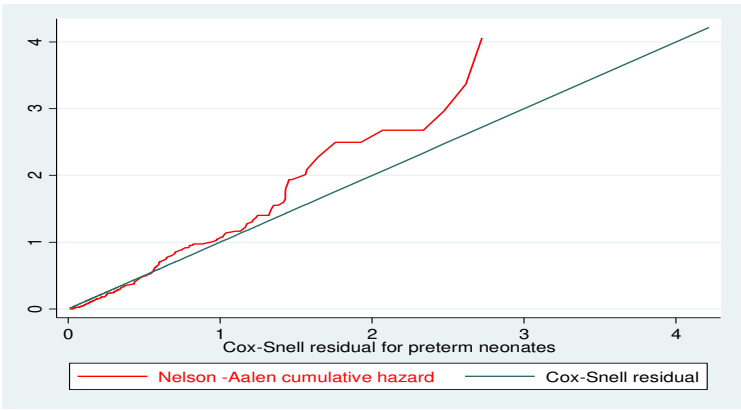
Supplementary File 2: Medical and surgical preterm related Complications characteristics of preterm neonates and their mothers

Characteristics	Category	Total N (%) N=614	Censored N (%) N=414	Death N (%) N=200
Sepsis	no	144 (23.45)	108(75.00 )	36(25.000)
	Yes	470 (76.55)	306(65.11)	164(34.89)
RDS	No	220 ( 35.83)	175(79.55 )	45(20.45)
	Yes	394 (64.17)	239(60.66 )	155(39.34)
did the neonate receive resuscitation service	Yes	370 ( 93.91)	229(61.89 )	141(38.11)
	No	24 ( 6.09)	10 (41.67)	14(58.33)
Necrotizing enterocolitis	No	588 ( 95.77)	396(67.35)	192(32.65)
	Yes	26 ( 4.23 )	18 (69.23)	8(30.77)
Jaundice	No	533 (86.81)	361 (67.73)	172(32.27)
	Yes	81 ( 13.19)	53 (65.43)	28(34.57)
Hypoglycemia	No	495 ( 80.62)	337(68.08 )	158(31.92)
	Yes	119 ( 19.38)	77 (64.71 )	42(35.29)
Hypothermia	No	243 (39.58 )	147(60.49 )	96(39.51)
	Yes	371( 60.42)	267 (71.97 )	104(28.03)
Perinatal asphyxia	No	506 ( 82.41)	352(69.57 )	154(30.43)
	Yes	108(17.59)	62 (57.41 )	46(42.59)
Anemia	No	600 ( 97.72 )	409 (68.17)	191(31.83)
	Yes	14 (2.28)	5 (35.71 )	9(64.29)

Supplementary File 3: Institutional and professional characteristics of preterm neonates and their mothers admitted in Intensive Care Unit of Bench Sheko, Kafa and Sheka zone Hospitals, South west Ethiopia, 2021

Characteristics	Category	Total N (%) N=614	Censored N (%) N=414	Death N (%) N=200
neonate received KMC	yes	274(44.63)	108(39.42 )	166(60.58)
	No	340 (55.37 )	306 (90.00)	34(10.00)
KMC service provided room	KMC beds in NICU	172(62.77)	87(50.58)	85(49.42)
	In separate room	72(37.23)	43(59.72)	29(40.28)
Level of NICU	Second level	185 (30.13)	123 (66.49)	62(33.51)
	Third level	429 (69.87)	291(67.83)	138(32.17)

Supplementary File 4: Cox-Snell residual, Nelson -Aalen cumulative hazard graph on preterm neonates



**English Version Questionnaire**

**Instruction:** Circle the correct and choose for closed ended questions and write on the space provided for open ended questions

Code number \_\_\_\_\_ Name of hospital \_\_\_\_\_

<b>Data collection tools for survival and predictors of mortality among preterm neonates in Bench Sheko, Sheka and Keffa Zone Governmental Hospitals</b>			
<b>Part one: Maternal and neonatal socio demographic related variables</b>			
<b>Q.no</b>	<b>Questions</b>	<b>Response column</b>	<b>Skip column</b>
101	Date of birth	___/___/___ days/month(/years)	
102.	Date of admission (Day/Month/Year)	_____	
103	Age of the neonate at admission	_____ minutes/ hours/days	
104	Sex	Male Female	
105	Place of delivery	Home Health institution (hospital, health centre)	
106	Maternal age	_____ years	
107	Maternal residency	Urban Rural	
<b>Part two: Neonatal related variables</b>			
201	Birth weight (in gram).	_____	
202	Gestational age at birth	_____ weeks	
203	Had received Kangaroo mother care	A. Yes B. No	
204	APGAR score after delivery	A. Known B. Unknown	If known skip to Q.206
205	If APGAR score unknown, did the neonate cried immediately after birth	A. Yes B. No	

206	If the APGAR score known	A. Score at 1 <sup>st</sup> min-____ B. Score at 5 <sup>th</sup> min-____		
207.	Weight for gestational age at birth	A. Appropriate for gestational age B. Small for gestational age C. Large for gestational age		
208.	Feeding status and type of the neonate	A. Formula feeding B. Breast milk feeding C. Not initiating any feeding at all		If formula and not skip to Q. 210.
209.	If breast milk feeding, the time feeding initiated	A. Within one hour B. Between 1 and 2 hour C. Greater than 2 hours		
210	If breast milk feeding, did neonate had Feeding difficulties	A. Yes B. No		If no skip to 212
211	If yes to no,210 did the neonate get breast milk pumps for feeding in the NICU	A. Yes B. no		
212.	Had the neonate been diagnosed with preterm related medical and surgical neonatal complications <b>at admission</b> and at <b>each day of follow up period</b> ?	1. Sepsis	A. Yes B. No	
		2. Respiratory distress syndrome	A. Yes B. No	If no skip to no,4
		3. If yes to no,2 did received oxygen	A. Yes B. No	
		4. Necrotizing enterocolitis (specify the grade____)	A. Yes B. No	
		5. Perinatal Asphyxia specify the stage____)	A. Yes B. No	If no skip to 7
		6. If yes to no,5 did the neonate get neonatal resuscitation (bag-and mask in NICU)	A. Yes B. No	
		7. Pulmonary haemorrhage	A. Yes B. No	

		8. pulmonary hypertension	A. Yes B. No	
		9. Congenital anomalies(specify____)	A. Yes B. No	
		10. Jaundice	A. Yes B. No	If no skip to 12
		11. if yes to no, 10 received phototherapy or Exchange transfusion	A. Yes B. No	
		12. hypoxic ischemic encephalopathy (specify the grade_____)	A. Yes B. No	
		13. Hypoglycaemia	A. Yes B. No	
		14. Hypothermia	A. Yes B. NO	If no skip to no 16
		15. Did the neonate was received thermal care in NICU (radiant warmer, over heater)	A. Yes B. no	
		16. Anemia	A. Yes B. No	
		17. Other specify_____		
<b>Part three: Maternal and obstetric related predictors</b>				
301.	Parity of the mother	_____		
302.	Mother had antenatal care visit during pregnancy	A. Yes B. No		(If no skip to Q. 304).
303.	If yes, write the number of visits	_____		
304.	Mother had taken antenatal corticosteroid before delivery	A. Yes B. No		
305.	Mother had pregnancy induced hypertension (preeclampsia/	A. Yes B. No		

	eclampsia)		
306.	Mother had chronic diseases	HIV	A. Yes B. No
		HTN	A. Yes B. No
		DM	A. Yes B. No
		If other specify _____	
307.	Mother had obstetric complications during delivery	A. Yes B. No	
308.	Pregnancy type	A. Multiple pregnancy B. Single tone pregnancy	
309.	Mode of delivery	A. SVD B. C/S C. Instrumental delivery	
310.	Presentation at delivery	A. Cephalic B. Non cephalic	
<b>Part four: Institutional and professional factors</b>			
401	Where does the KMC service provided	A. Designated space for KMC B. KMC beds in NICU	
402	Level of NICU	A. 1 <sup>st</sup> level B. 2 <sup>nd</sup> level C. 3 <sup>rd</sup> level	
403	Hospital level	A. Primary B. General C. Referral or specialized	
404	Availability of resuscitation equipment	A. adequately available B. available but not adequate C. not available	
<b>Part five: final outcome status</b>			
401	What was the end outcome status of neonate in the hospital?	A. Death B. Referred C. Left against medical advice D. Discharged with improvement E. Alive until 28 days in NICU	

402	When was the above outcome occurred	_____(days/months/years )	
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