Appendix 1: Gestational age classification (n=755)

Classification	Category	Number (%)	GA (Week)	Number (%)
Preterm	*Extremely preterm*	*246 (%32.9)*	*22W*	4 (%0.5)
			23W	8 (%1.1)
			24W	34 (%4.5)
			25W	59 (%7.9)
			26W	75 (%10.1)
			27W	66 (%8.8)
	Very preterm	*200 (%26.8)*	*28W*	66 (%8.8)
			29W	55 (%7.4)
			30W	33 (%4.4)
			31W	46 (%6.2)
	Moderate preterm	*57 (%7.6)*	*32W*	33 (%3.8)
			33W	27 (%3.0)
	Late preterm	*102 (%13.5)*	*34W*	43 (%5.7)
			35W	30 (%4.0)
			36W	29 (%3.8)
Term	*Early term*	*97 (%13)*	*37W*	35 (%4.5)
			38W	62 (%8.1)
	Term	*46 (%6)*	*39W*	21 (%2.7)
			40W	19 (%2.4)
			41W	5 (%0.5)
			42W	1 (50.1)
Unknown		7 (%0.9)		7 (%0.9)

Over 80% of the expired neonates were premature and extremely preterm neonates comprised 32.9% of the expired neonates, where among those neonates, 26-week-gestational age neonates contributed 10.1% to the total death rate

Appendix 2: Demographic variables (n=755)

Variables	*Mean*	*Median*	*Std. Deviation*	*Minimum*	*Maximum*
Birth weight (gram)	*1616.28*	*1280.00*	*904.94*	*220*	*5540*
Gestational age (week)	*30.85*	*30.00*	*4.76*	*22*	*42*
Minute 1 Apgar score	*5.71*	*6.00*	*2.27*	*0*	*9*
Minute 5 Apgar score	*7.27*	*8.00*	*2.24*	*0*	*10*
Days of hospitalization	*8.40*	*4.00*	*13.15*	*1*	*119*

Appendix 3: Most common neonatal recorded cause of death presented in number (N) and percent (n=755)

	Total	*During day 1*	*Days 2 to 7*	*Days 8 to 28*	*After 28 days*
	N (%)	*N (%)*	*N (%)*	*N (%)*	*N (%)*
Prematurity	*178 (23.6%)*	*13 (1.7%)*	*102 (13.5%)*	*53 (7.1%)*	*10 (1.3%)*
Congenital anomaly	*150 (19.9%)*	*27 (3.6%)*	*90 (11.9%)*	*25 (3.3%)*	*8 (1.1%)*
RDS	*147 (19.5%)*	*18 (2.4%)*	*93 (12.3%)*	*30 (4%)*	*6 (0.8%)*
Sepsis	*100 (13.2%)*	*2 (0.3%)*	*63 (8.3%)*	*28 (3.7%)*	*7 (0.9%)*
Asphyxia	*53 (7.0%)*	*7 (0.9%)*	*37 (4.9%)*	*8 (1.1%)*	*1 (0.1%)*

Appendix 4: Most common maternal health complications presented in number and percent (n=728)

Maternal Problems	*Category*	*Number (%)*
Preeclampsia	*Yes*	*35 (4.8)*
	No	*693 (95.2)*
Diabetes	*Yes*	*52 (7.1)*
	No	*676 (92.9)*
PROM	*Yes*	*30 (4.1)*
	No	*698 (95.9)*
Drug abuse	*Yes*	*15 (2.10*
	No	*713 997.9)*
Amniotic fluid problems	*Yes*	*52 (7.1)*
	No	*676 (92.9)*
Abortion history	*Yes*	*14 (1.9)*
	No	*714 (98.1)*
Infertility history	*Yes*	*40 (5.5)*
	No	*688 (94.5)*
Familial marriage	*Yes*	*14 (1.9)*
	No	*714 (98.1)*
Other problems	*Yes*	*55 (7.6)*
	No	*673 (92.4)*

PROM: Premature rupture of membranes

Appendix 5: Univariate Chi-square results showing correlation with the time (day) that the neonate died.

(n=755)

Variable	x^2	P Value
Gestational age	5.92	0.116
Birth weight	44.54	**0.002***
Type of delivery	0.67	0.88
Multiple delivery	12.8	**0.005***
Diabetic mothers	9.66	**0.022***
Other maternal conditions	5.04	0.169
Referral	6.4	0.093
Neonatal Heart diseases	36.86	**0.000***
Neonatal respiratory diseases	1.397	0.706
Neonatal neurological diseases	19.508	**0.000***
RDS	8.789	**0.032***
Asphyxia	11.834	**0.008***
Other neonatal disease	12.62	0.006
Seizure	4.88	0.180
Familial marriage	9.54	**0.023***
Infertility history	3.11	0.234
Abortion history	2.19	0.58
Mothers drug abuse	2.51	0.358
Preeclampsia	1.03	0.75
Amniotic fluid problems	7.74	0.44
PROM	1.24	0.725
Abnormal presentation	2.45	0.32
IUGR	4.68	**0.045***
Birth injuries	0.93	0.62
Cyanosis	0.60	0.89
Race	1.84	0.359

The following factors correlated with an early-time (rather than a later-time) of neonatal death: low-birth-weight classification, multiple delivery, diabetic mothers, neonatal heart disease, neonatal neurological diseases, respiratory distress syndrome (RDS), asphyxia, familial marriage, and intrauterine growth restriction (IUGR).

*p values <0.05 are statistically significant.

Appendix 6: Logistic regression results to show factors affecting time-period (day) of neonatal death (n=755)

Variables		*Estimate*	*Std Error*	*Wald*	*Lower CI (95%)*	*Upper CI (95%)*	*OR*	*p-value*
Neonatal death	*During day 1*	*-1.00*	*6.122*	*.027*	*-13.0*	*10.997*	*.367*	*.870*
	Days 2 to 7	*1.28*	*6.206*	*3.31*	*-.879*	*23.449*	*3.6*	*.069*
	Days 8 to 28	*1.9*	*7.685*	*41.864*	*0.659*	*6.8*	*6.7*	***0.00****
Minute 1 Apgar		*-.138*	*.123*	*1.267*	*-.379*	*.102*	*.871*	*.260*
Minute 5 Apgar		*.156*	*.115*	*1.851*	*-.069*	*.381*	*1.169*	*.174*
Days of hospitalization		*1.847*	*.164*	*126.941*	*1.526*	*2.168*	*6.3*	***<0.00****
Multiple Delivery	*yes*	*1.042*	*.475*	*4.812*	*.111*	*1.973*	*2.8*	***.028****
	no	*.000*					*1.000*	
Type of delivery	*NVD*	*.71*	*.341*	*4.371*	*.045*	*1.380*	*2.03*	***.037****
	Cesarean	*.000*					*1.000*	

CI: Confidence interval; OR: Odds ratio; NVD: Normal vaginal delivery

*p values less than 0.05 were considered statistically significant.

The odds ratio calculations showed that multiple births and normal vaginal delivery associated with an earlier neonatal death rather than a later-period.

Appendix 7: Spearman's rho correlation coefficients between Apgar scores and hospitalization days

Spearman's rho				
		Minute 1 Apgar	*Minute 5 Apgar*	*Hospitalization days*
Minute 1 Apgar	*Correlation Coefficient*		*.850*	*.178*
	Sig. (2-tailed)		*.000**	*.000**
Minute 5 Apgar	*Correlation Coefficient*	*.850*		*.190*
	Sig. (2-tailed)	*.000**		*.000**
Hospitalization days	*Correlation Coefficient*	*.178*	*.190*	
	Sig. (2-tailed)	*.000**	*.000**	

*p values <0.05 and are statistically significant.

Apgar scores at 1 minute and 5 minutes correlated with each other. Lower Apgar scores at 1 minute and at 5 minutes correlated with a longer duration of hospitalization.