

Result:

Total number of neonatal admissions over the period was 2,756 comprising 1541 (55.9%) males and 1215 (44.1%) females.

Total deaths was 440, comprising 235 (53.4%) males and 205 (46.6%) females. The neonatal mortality rate during the period of review was 159 per 1,000 live births.

Mean age at death was 4.7 ± 6.0 days (0.01-28 days). One hundred and eighty five (42.0%) of the deaths occurred within the first 24 hours, 141 (32.1%) died after 24 hours, but within 72 hours while 144 (25.9%) died after 72 hours, but within 28 days.

One hundred and seventy (40.2%) were out-born indicating that place of confinement of the mothers had a significant effect on outcome of deliver ($\chi^2 = 55.33, p < 0.01$).

One hundred and fifty one (57.4%) of the out born patients who died were delivered in secondary health facilities including private hospitals, 74 (28.1%) were born in primary health centres and maternity homes, 36 (13.7%) were delivered at home while 2 (0.8%) were delivered in prayer houses. More than half of the babies (294) who died were delivered through spontaneous vertex delivery, 97 by emergency caesarean section, while 26 had no record of method of delivery.

Out of the 440 neonates that died, 400 had their birth weight recorded of which 52.8% (211) were low birth weight.

Table I shows the demographic characteristics of neonates during the period of review.

The leading probable direct causes of neonatal deaths were complication of birth asphyxia (141), preterm delivery (133), neonatal sepsis (58), severe neonatal jaundice (41, and neonatal tetanus (14).

Table II shows the probable direct causes of neonatal deaths at the medical centre over the period, 2000-2010. Most deaths (42.0%) occurred in the first 24 hours of life irrespective of the cause of death. Sixty five (46.1%) of the 141 deaths due to complication of birth asphyxia occurred within the first 24 hours of life so also 51 (38.3%) of the 133 deaths due to preterm delivery.

Table III depicts the duration of hospitalization (age at death) of the neonates who died and their probable cause of death. There was no significant difference in the age at death with respect to the probable cause of death ($\chi^2 = 32.76, p = 0.06$).

Table I: Demographic characteristics of neonates (mortalities)

Live births	Survived	Died					
2,756	2316	440					
Birth weight							
	Low (2<2.5kg)		Normal (2.5kg)		Total		
Survived							
Died	683 (30.8%)		1532 (69.2%)		2215		
	211 (52.8%)		189 (47.2%)		400		
Sex							
	Male		Female				
Survived	1306 (56.4%)		1010 (43.6%)				
Died	235 (53.4%)		205 (46.6)				
Place of birth							
	Inborn		Out-born				
Survived	1379 (59.5%)		937 (40.5%)				
Died	177(40.2%)		263 (59.8%)				
+method of delivery	Spontaneous	C/S (elective)	C/S (emergency)	Instruments	Breech extraction	Others	
	294	15	97	5	3	26	
+Facility of delivery	Home	*PHC	*SHC	*THC	Prayer house	Others	
	31	69	141	174	2	23	
+Duration of hospitalization	≤24 hours		>24, hours		≤72 days	>72hours,≤28 days	
	185		141		144		

PHC- primary health care, SHC = secondary health care, THC=tertiary health care

+ refers to patients who died

Table II: Probable direct causes of neonatal deaths

Disease	(N)	%
Asphyxia	141	32.0
Preterm	133	30.2
Neonatal sepsis	58	13.2
Severe neonatal jaundice	41	9.3
Neonatal tetanus	14	3.2
Neonatal meningitis	12	2.7
Meconium aspiration syndrome	8	1.8
Surgical conditions	8	1.8
Multiple congenital anomalies	7	1.6
Pneumonia	5	1.1
Severe anaemia	3	0.7
*Miscellaneous	10	2.3
Total	440	100.0

*Haemorrhagic disease of newborn, cyanotic congenital heart disease, HIV related, Birth trauma

Table III: Time of death from probable direct causes of death

Cause of death	Time of death			Total
	Within 24 hrs	>24 hrs, ≤72hrs	>72 hrs, ≤28days	
Birth asphyxia	65	58	18	141
Preterm	51	40	42	133
Sepsis	23	16	19	58
Severe jaundice	20	10	11	41
Tetanus	5	2	7	14
Meningitis	5	2	5	12
Meconium aspiration syndrome	6	2	0	8
Surgical conditions	4	1	1	6
Multiple congenital anomalies	2	3	2	7
Pneumonia	1	2	2	5
Severe anemia	1	2	0	3
Miscellaneous	5	4	7	16
Total	184	142	114	440

$$\chi^2 = 32.76, p = 0.06$$