

Tellewoyan Neonatal Admissions Summary 2021-2022 (including March)

Admissions: 95 (4x twins)

Mortality: 7 = 7% mortality rate

4x AMA, 1x unknown

Reason for admission in mortality cases:

Note: some patients have multiple reasons for admission

Birth Asphyxia	4
Prematurity	1 (ELBW)
Risk of Sepsis	1
Neonatal Sepsis	1

Days of admission prior to death:

Mean: 4 days; Mode: 2 days; Median: 3 days (Range 2-12days)

Age at admission:

Day of Birth	1-2d	3-7d	8-14d	15-21d	>21d	unknown
62 (65%)	16 (17%)	6 (6%)	4 (4%)	3 (3%)	4 (6%)	0

Birth Weight:

ELBW (<1000g)	VLBW (1000-1499g)	LBW (1500-2499g)	≥2500-2999g	≥3000g	≥4000g	Unknown
3 (all died) (3%)	1 (1%)	19 (20%)	24 (25%)	32 (34%)	9 (9%)	7 (7%)

Mean birth weight: 2.8 kg; Mode: 3.2 kg; Median: 2.9 kg

Place of Birth:

Home	Clinic	Hospital	Unknown
2 (2%)	18 (19%)	73 (77%)	2 (2%)

Resuscitation:

Yes: 41 (43%) – bag and mask ventilation

No: 46 (48%)

Unknown: 8 (8%)

Admitting Reason/Diagnosis:

Note: some patients have multiple reasons for admission

Birth Asphyxia	43
Early Onset Neonatal Sepsis	21
Late Onset Neonatal Sepsis	11
Risk for Neonatal Sepsis	8
Malaria	4
Prematurity	14
Omphalitis	1

Duration on NNU

1-7d	8-14d	15-21d	>21d	Unknown
*56 (59%)	28 (29%)	7 (7%)	3 (3%)	1 (1%)

*6 of the mortality cases died in this period.

Mean duration of admission incl mortality cases: 7.9 days; Mode: 6 days; Median: 7 days

Mean duration of admission excl mortality cases: 8.2 days; Mode: 6 days; Median 7.5 days

Sub-analysis

1) Preterm

- Of the 14 preterm neonates 3 died during the admission (21% mortality). 1x AMA.
- The average weight on admission was 1.5kg (0.6-2kg) – lowest birthweight of a surviving baby was 1.2kg.
- The average length of admission of surviving infants was 9.5 days. (Mode 10 days, median 10 days)

2) Birth Asphyxia

A proposed definition from MCAI after reviewing the literature:

- **1min and 5min apgars less than 7**
- **need for bag/mask ventilation +/- cardiac compressions**

Additional information would help to give more complete picture

- 10minute apgar (allows assessment of birth asphyxia vs delayed adaptation)
- abnormal neurological exam if documented- tone/conscious level
- seizures
- feeding

For this data available I have used the above apgar criteria and the use of phenobarbitone as a proxy for seizures.

birth asphyxia cases

- 4 patients admitted with a diagnosis of birth asphyxia died (9% mortality). 2x AMA.
- 6 patients did not receive resuscitation and had apgars at 1min ≥ 6 and at 5mins ≥ 8
- 2 patients' resuscitation and apgars were unknown
- 35 patients received bag-mask ventilation (41 babies in total who were admitted to the neonatal unit received resuscitation)
- 26x patients had a 5min apgar ≥ 7 (7 patients had 5 min apgars of 10).
- Based on apgar criteria, 15/43 (35%) had 1min and 5min apgars < 7 .
- No patients were documented as receiving phenobarbitone

It is important to know the true extent of birth asphyxia in the neonatal population as it helps with resource management and ensure babies get the correct treatment.

3) Neonatal Sepsis

There are limitations with data to be able to know what patient had a risk of sepsis or had clinical sepsis. I have taken any diagnosis of Neonatal Sepsis and excluded risk of sepsis.

I have also used the date of discharge as a proxy for duration of antibiotics

There were 32 cases of sepsis (21 EONS and 11 LONS) – 1 patient died during the admission (3%). 1x AMA. 1x outcome unknown

- 31 patients received Ampicillin & Gentamicin (1x unknown)
- Of patients who survived
 - o 4 received less than 5 days of abx.
 - o 6 received 5 days of abx
 - o 16 received a minimum of 7 days of antibiotics

It is important these patients receive the correct duration of antibiotics to ensure complete treatment of the underlying infection and reduce associated morbidity – especially secondary to meningitis.

2021

Admissions: 69 (4x twins)

Mortality: 4 = 6% mortality rate

4x AMA, 1x unknown

Reason for admission in mortality cases:

Note: some patients have multiple reasons for admission

Birth Asphyxia	2
Prematurity	2 (ELBW)
Risk of Sepsis	1

Days of admission prior to death:

Mean: 5 days; Mode: 2 days; Median: 3 days (Range 2-12days)

Age at admission:

Day of Birth	1-2d	3-7d	8-14d	15-21d	>21d	unknown
44 (64%)	11 (16%)	5 (7%)	3 (4%)	2 (3%)	4 (6%)	0

Birth Weight:

ELBW (<1000g)	VLBW (1000-1499g)	LBW (1500-2499g)	≥2500-2999g	≥3000g	≥4000g	Unknown
2 (all died) (3%)	1 (1%)	15 (22%)	18 (26%)	24 (35%)	6 (9%)	3 (4%)

Mean birth weight: 2.8 kg; Mode: 3.2 kg; Median: 2.9 kg

Place of Birth:

Home	Clinic	Hospital	Unknown
1 (1%)	14 (20%)	52 (75%)	2 (3%)

Resuscitation:

Yes: 25 (36%) – bag and mask ventilation

No: 39 (57%)

Unknown: 5 (7%)

Admitting Reason/Diagnosis:

Note: some patients have multiple reasons for admission

Birth Asphyxia	27
Early Onset Neonatal Sepsis	15
Late Onset Neonatal Sepsis	9
Risk for Neonatal Sepsis	5
Malaria	4
Prematurity	13
Omphalitis	1

Duration on NNU

1-7d	8-14d	15-21d	>21d	Unknown
*35 (51%)	23 (33%)	7 (10%)	3 (4%)	1 (1%)

*3 of the mortality cases died in this period.

Mean duration of admission incl mortality cases: 8.6 days; Mode: 6 days; Median: 7 days

Mean duration of admission excl mortality cases: 8.8 days; Mode: 6 days; Median 7.5 days

2022 (upto and including March)

Admissions: 26

Mortality: 3 = 11.5% mortality rate

Reason for admission in mortality cases:

Note: some patients have multiple reasons for admission

Birth Asphyxia	2
Prematurity	1 (ELBW)
Neonatal Sepsis	1

Days of admission prior to death:

Mean: 2.7 days; Mode: 3 days; Median: 3 days

Age at admission:

Day of Birth	1-2d	3-7d	8-14d	15-21d	>21d	unknown
18 (69%)	5 (19%)	1 (4%)	1 (4%)	1 (4%)	0	0

Birth Weight:

ELBW (<1000g)	VLBW (1000-1499g)	LBW (1500-2499g)	≥2500-2999g	≥3000g	≥4000g	Unknown
1 (4%) died	0	4 (15%)	6 (23%)	8 (31%)	3 (12%)	4 (15%)

Mean birth weight: 2.96 kg; Mode: 2.9 kg; Median: 2.95 kg

Place of Birth:

Home	Clinic	Hospital	Unknown
1 (4%)	4 (15%)	21 (81%)	0

Resuscitation:

Yes: 16 (62%) – bag and mask ventilation

No: 7 (27%)

Unknown: 3 (12%)

Admitting Reason/Diagnosis:

Note: some patients have multiple reasons for admission

Birth Asphyxia	16
Early Onset Neonatal Sepsis	6
Late Onset Neonatal Sepsis	2
Risk for Neonatal Sepsis	3
Prematurity	1

Duration on NNU

1-7d	8-14d	15-21d	>21d	Unknown
*21 (81%)	5 (19%)	0	0	0

*3 of the mortality cases died in this period.

Mean duration of admission incl mortality cases: 5.9 days; Mode: 5 days; Median: 6 days

Mean duration of admission excl mortality cases: 6.3 days; Mode: 5 days; Median 6 days