
How do low birth weight neonates fare two years after discharge from a low technology neonatal care unit in a rural district hospital in Burundi.

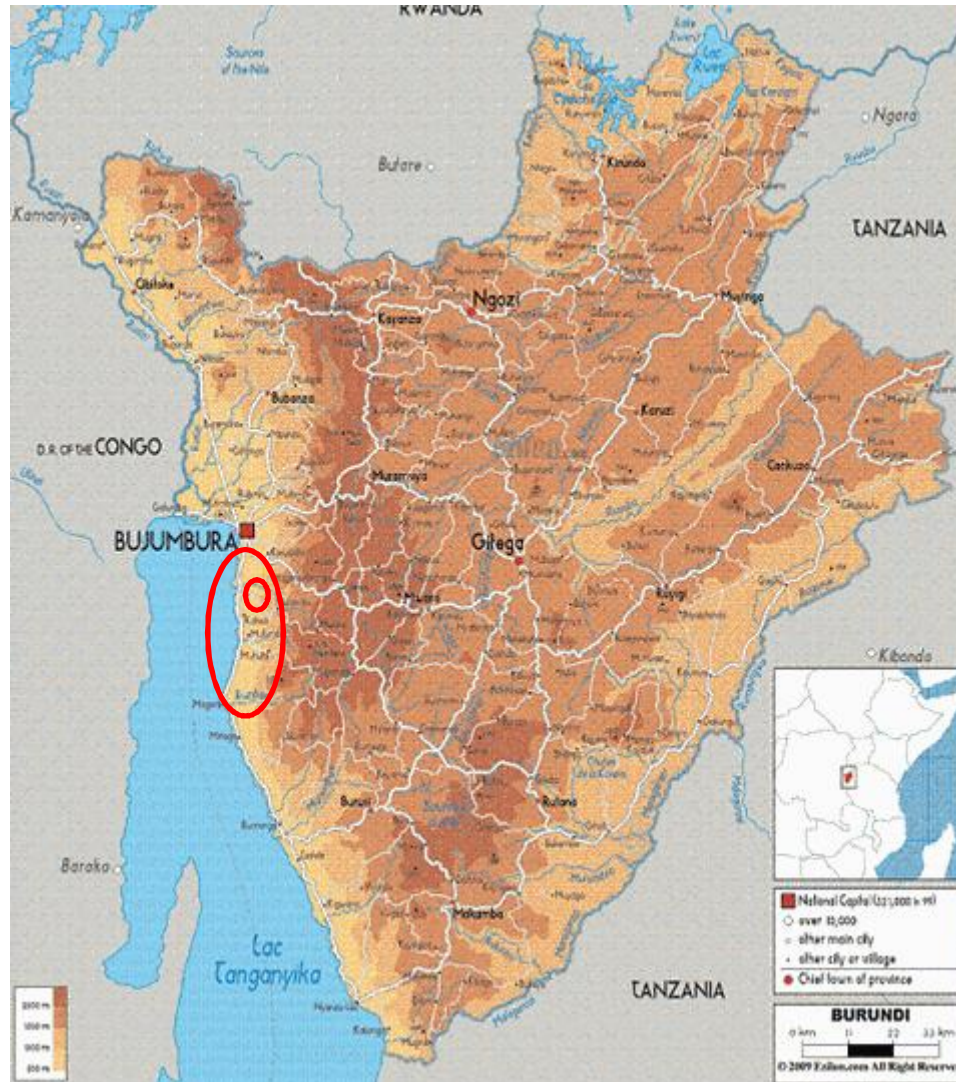
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Médecins Sans Frontières (MSF)
Ministry of Health Burundi



Burundi - Context



- Small country in Central Africa with ~ 10 million people
- High neonatal mortality ~ 36/1000 live births
- Main causes: prematurity, low birth weight, asphyxia and infections
- MSF EMOnc functioning since 2008 , specialised neonatal unit since 2011 (15% mortality)

Mid- and long term outcomes

- What are the risks for long-term neurodevelopmental impairments after low technology NICU admission?
- In particular among the low birth weight babies (< 2500g)

=> Largely unknown in low income countries

How well are these babies doing two years after discharge from the specialized neonatal care unit?

Objectives

We wanted to know after discharge:

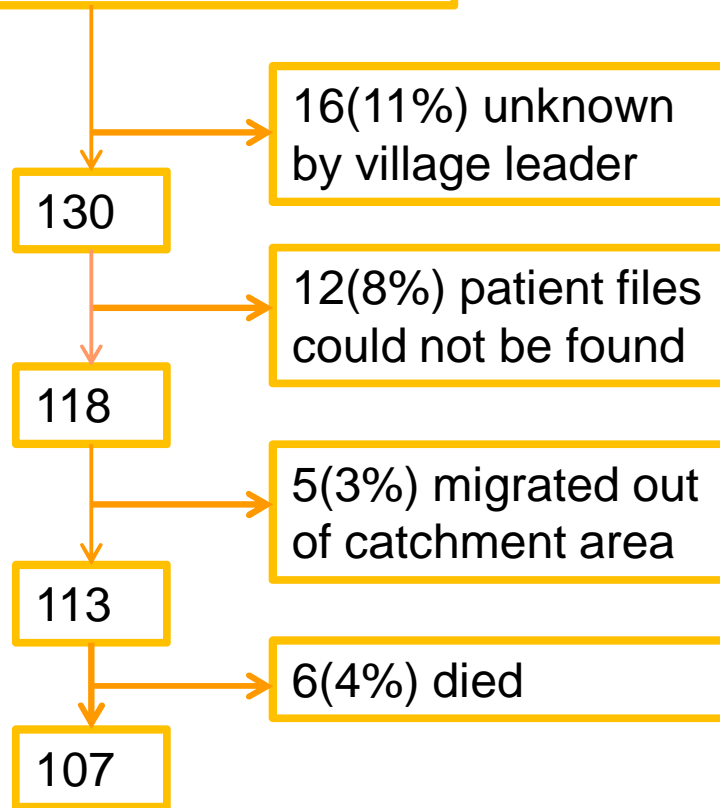
- Number and proportion deceased after discharge
 - Sequelae: motor, mental, intellectual development, visual and hearing impairments
 - Nutritional status
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Methods

- *Study design:* Household Survey using a structured questionnaire (UNICEF, 10 questions)
 - *Study population:*
 - 1) All neonates who have been hospitalized in the specialized neonatal care < 2500g
 - 2) Discharge: January . December 2012,
 - 3) Residing in Bujumbura Rural province.
 - *Ethics:* National Ethics Committee in Burundi and MSF Ethics Review Board.
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Neonates included in the study

146 neonates documented to have been hospitalized/discharged at the neonatal care unit



Baseline characteristics of interviewed infants (n=107)

	n (%)
Age in months (median; IQR)	27 (23-29)
Gender: Male / Female	50 (47) / 57 (53)
Birth weight in grams (median; IQR)	2020 (1750-2250)
Birth weight < 1500 grams	7 (7)
Birth weight \geq 1500 grams	100 (93)
Hospitalization Indication	
Premature/dysmature	59 (55)
Prenatal asphyxia	12 (11)
Neonatal infection/sepsis	11 (10)
Risk of infection	19 (18)
Others	6 (6)

Baseline characteristics of interviewed infants (n=107)

	n (%)	
Reanimation at birth		
None	75	(70)
Ambu ventilation	27	(25)
Cardiac massage + ventilation	5	(5)

Delays in development and impairments



Disability screening tool	Yes n (%)	No n (%)
1. Motor development	13 (13)	94 (87)
2. Vision	2 (2)	105 (98)
3. Hearing	2 (2)	105 (98)
4. Comprehension	11 (10)	96 (90)
5. Movement	9 (8)	98 (92)
6. Seizures	4 (4)	103 (96)
7. Learning	13 (13)	94 (88)
8. Speech (N = 92)	10 (11)	82 (89)
9. Speech and communication (N = 92)	10 (11)	82 (89)
10. Intellectual impairment	11 (10)	96 (90)

**Were there associations to be claimed
for these sequelae?**

Sequelae Æ Reanimation at birth?

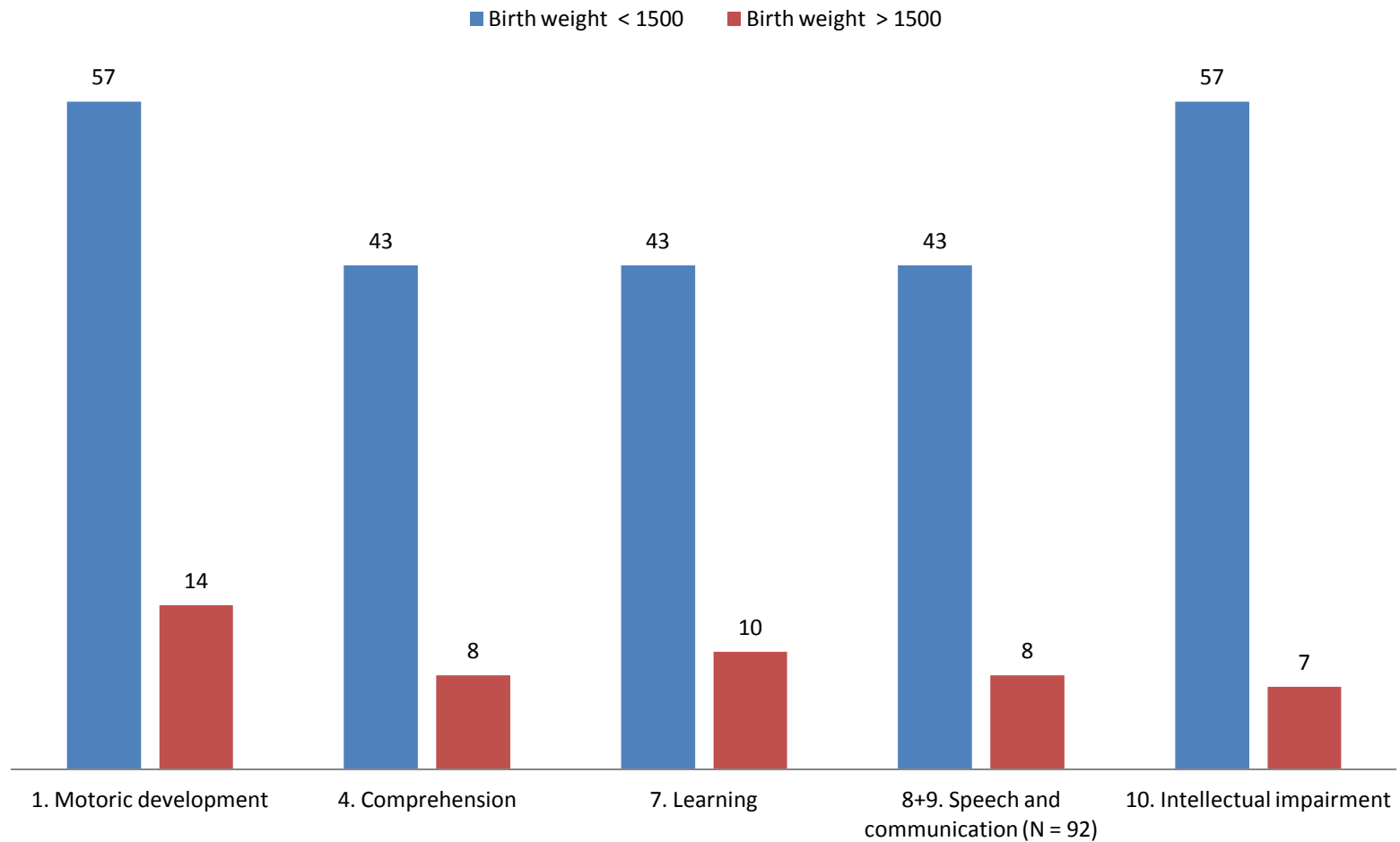
There were none

Sequelae of (very) low birth weight?

Yes, there was an association

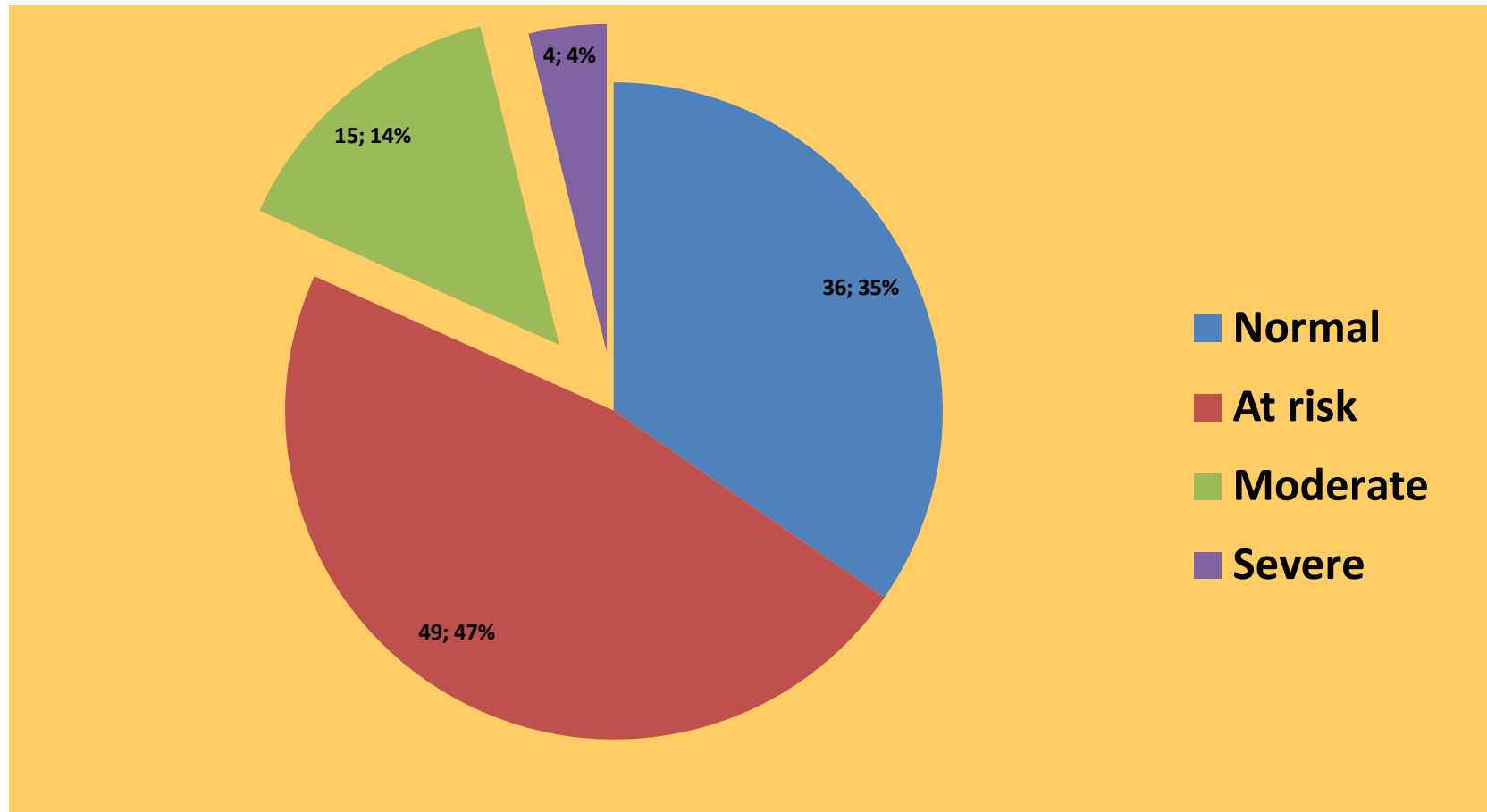
SequelaE Æ (V)LBW?

SequelaE associated to (very) low birth weight



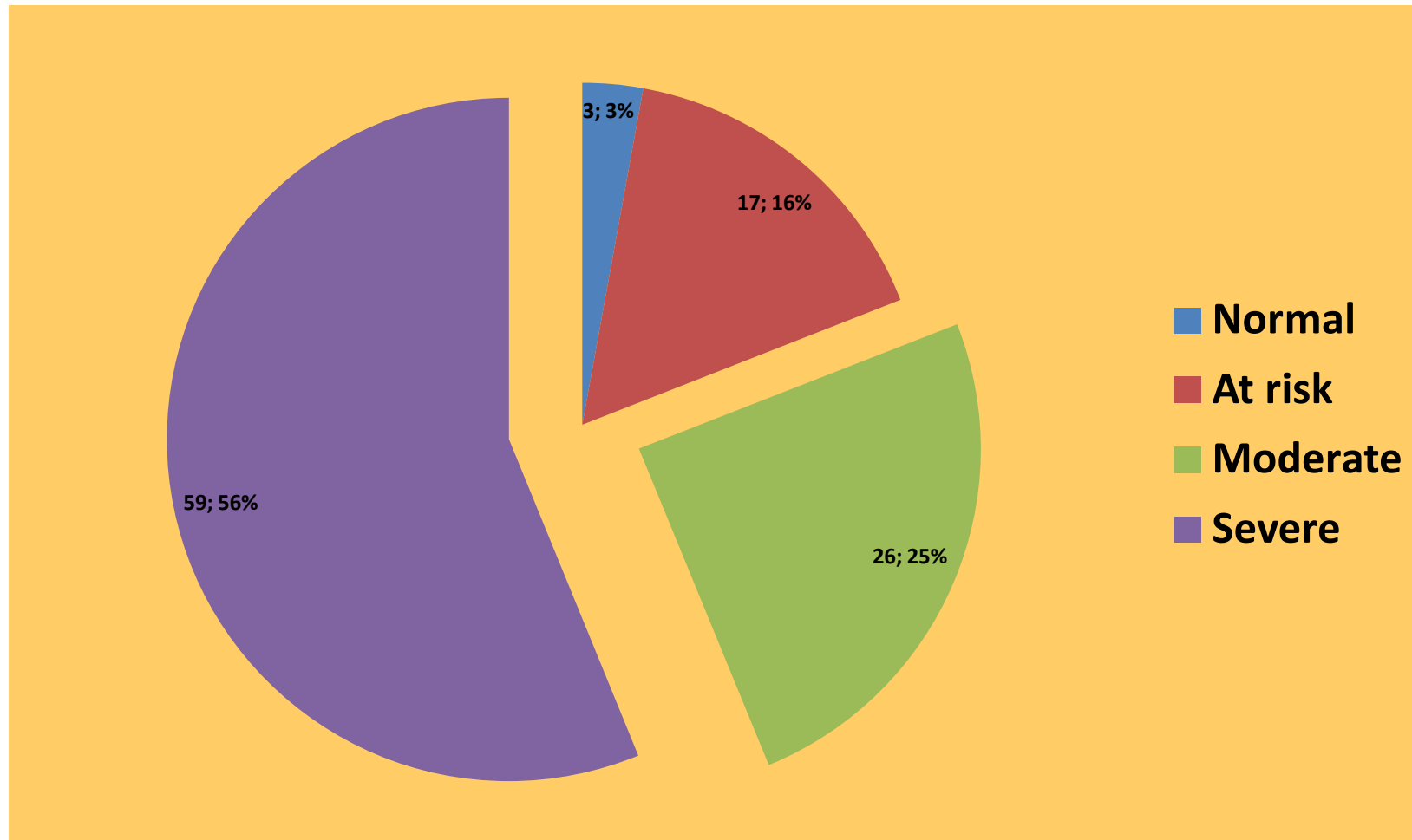
Long-term outcome of these children (weight)?

Wasting (WHZ), all ages (n=104)



Global acute malnutrition: 18%

Stunting (HAZ), all ages (n=105)



Global chronic malnutrition . Stunting: 81%

Conclusions

- 6 deaths out of 113 babies were reported post discharge
 - Motor/Learning sequelae were mostly found, followed by comprehension and intellectual impairments, association with VLBW (< 1500g)
 - More than 8 out of 10 surviving children were stunted (!)
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Conclusions

- With this model of low-technology neonatal care sequelae were observed in relatively low rates.
 - There is however an urgent need for extended services for low birth weight, and in particular very low birth weight, neonates post-discharge through a holistic community approach.
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