
THE OUTCOME OF LOW BIRTH WEIGHT BABIES AT VCH AND NPH (MAY 2019 – AUGUST 2020)

DR ANNETTE GARAE

PAEDIATRIC REGISTRAR, VCH

VANUATU 2ND HEALTH RESEARCH SYMPOSIUM

National Convention Center, Port Vila

23 – 24 September 2021



INTRODUCTION

- Low Birth Weight (LBW) is defined as a weight at birth of less than 2500g (WHO)
- 15 – 20% of all births globally or more than 20 million newborn annually are LBWT infants;
- Over 95% of the world's LBW infants are born in low and middle income countries (WHO)
- LBW is a significant public health indicator of maternal health, nutrition, healthcare delivery and poverty
- Preterm birth is the most common direct cause of neonatal mortality.



BACKGROUND

- VANUATU MINISTRY OF HEALTH

- HEALTH SECTOR STRATEGY (2021 – 2030)

2.3 Improve quality maternal and child health service coverage through the filling of staff vacancies in all community care facilities, and the resourcing of facility-based and outreach services

2.4 Reduce maternal, under-5 five children, infant and neonatal mortality through the establishment and resourcing of comprehensive facility based and integrated outreach antenatal and child health services and emergency referral systems



BACKGROUND

- At VCH, in 2020, prematurity and LBW was the leading cause of admission to SCN and 2nd cause of death among newborns, top leading cause of referrals (43%)
- Only 2 special care nurseries ward in Vanuatu – VCH and NPH
- 9 incubators at VCH, 5 incubators in NPH
- Human Resource – 1 medical officer, 1 senior registrar, 2 paediatricians



RESEARCH QUESTION

- How do low birth weight babies fair once they discharged from VCH and NPH?



AIMS

Aims

- To document outcomes of low birth weight babies admitted to Special Care Nursery (SCN) of Vila Central Hospital and Northern Provincial Hospital at 6 months and 12 months post discharge
- To explore how preterm delivery and caring for a low birth weight baby has an impact on a mother's mental, social and physical wellbeing.



METHODOLOGY

- **Type** – A mixed study - prospective descriptive observational cohort study and a qualitative study
- **Timeline** – May 2019 to August 2020
- **Sites** - VCH, NPH, Lenakel Hospital, Norsup Hospital, Godden Memorial Hospital, Melsisi Health Centre, Kerepei Health Centre, Talise Village, Atchin Dispensary, Erakor Dispensary, Bwatnapni Dispensary, Vansasa Village, Sakau Health Center,



METHODOLOGY

■ Study population

- Inclusion: All babies born with birth weights of less than 2500g admitted to SCN at VCH and NPH
- Exclusion: Babies admitted to SCN over 2500g

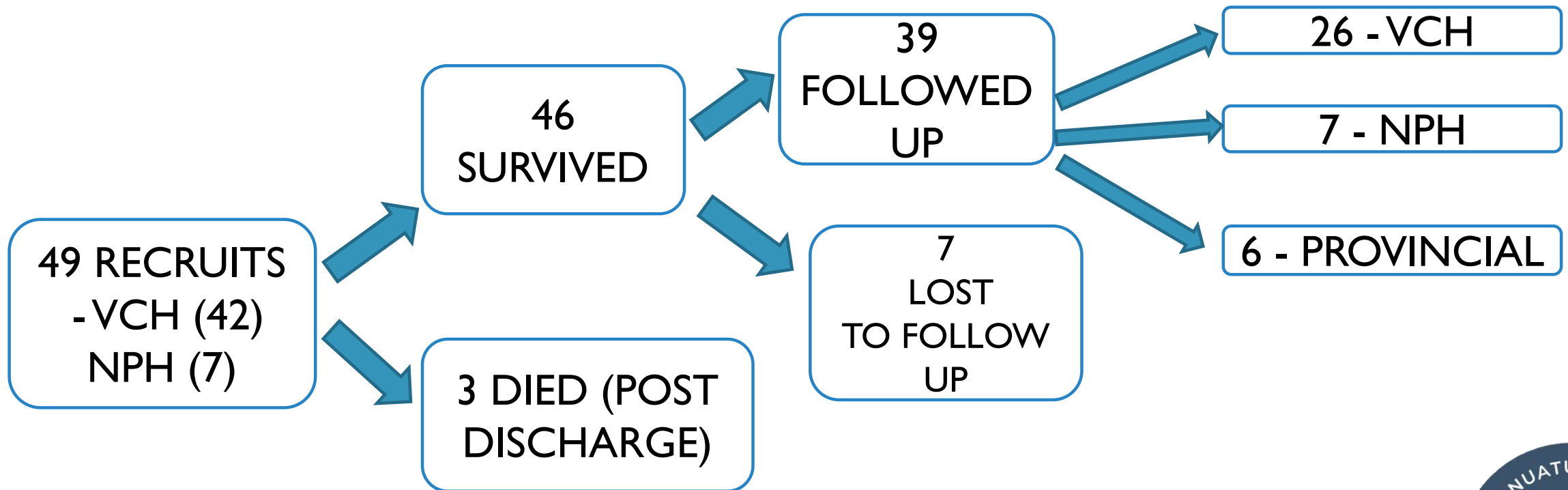
■ Follow Up Period – 6 months and 12 months of age

■ Method of Data Collection

- Individual Patient and mother questionnaires,



RESULTS (PROSPECTIVE)



RESULTS (PROSPECTIVE)

STUDY POPULATION

SEX	21 Male : 28 Female	
MODE OF DELIVERY	44 NVD (4 BBA) : 5 LSCS	
WEIGHT CATEGORIES	< 1kg (ELBWWT)	1 (2%)
	1 – 1.499kg (VBLWT)	9 (18%)
	1.5 – 1.999kg	34 (69%)
	2 – 2.499kg	5 (10%)
AVERAGE LENGTH OF HOSPITAL STAY	24 days	



RESULTS (PROSPECTIVE)

- 6 months post discharge follow up (34 patients)
 - Median weekly weight gain was 170g/week (IQR: 138.5 – 206.5g/wk)
 - 4 babies are partially immunized
 - 2 of them were admitted for pneumonia
 - 3 deaths
- 12 months post discharge follow up (39 patients)
 - Median weekly weight gain was 67.5g / week (IQR: 48.5 – 78.3g/wk)
 - 22 babies still had not received their 1 year immunization
- 30 infants screened for Retinopathy of prematurity:
 - 1 suspected Retinal Detachment



RESULTS (QUALITATIVE)

Question	Main themes identified
1. Why do you think your baby was born early?	<p>“mekem tumas wok – cleaning up / laundry, gardening”, “stress blo wok”</p> <p>2 mothers reported “domestic violence”</p> <p>1 mother reported movement during disaster (volcanic eruption) as a cause of her preterm delivery</p>



RESULTS (QUALITATIVE)

QUESTION	Themes identified
Who is helping you look after baby?	<ul style="list-style-type: none">- maternal grandmother,- no-one- father of baby- extended family
What are the struggles faced during admission?	'Dirty toilets/washroom' , ' frequent 3 hourly feeds' , felt alone at times no families visited, get hungry after hours because dinner served so early



DISCUSSION

- Babies were thriving well in the 1st 6 months post discharge but more slower in the 2nd 6 months most likely due to introduction of the supplementary feeding
- 1 out of 30 babies screened showed complications of ROP
- Access to vaccines and vaccine hesitancy remains an issue
- Psychological stress is associated with preterm delivery and caring for low birth babies
- Limitation – a small study, only over 1 year, research funding



RECOMMENDATIONS

- All provincial health facilities to have appropriate resources to care for newborns (warmer, incubators, resuscitor)
- Paediatrician in NPH
- Continue training of all health staff in Kangaroo Mother Care, Early essential newborn care, Neonatal resuscitation, and Advanced Paediatric Life Support



RECOMMENDATION

- Establish a low birth weight registry linked to HIS
- Develop national guidelines for management for low birth weight babies
- Education and advocacy for families and communities



CONCLUSION

- Low birth weight babies continue to remain a huge challenge for pediatric services in Vanuatu
- Further research in this area is essential



ACKNOWLEDGEMENTS

- My patients and their families
- My sponsors NZAID/ MOH/Ross Trust Fund/ Leomala Medical
- Supervisors – Dr Caleb Vangana, Dr Orelly Thyna, Prof T.Duke, Prof J.Vince
- Colleagues who helped collect data and follow up patients



GRADUATES OF SPECIAL CARE NURSERY

