

TITLE:

What is the incidence rate and common reasons of presentation of hospital delivered babies been admitted with NNS to the wards in Port Moresby General Hospital

INTRODUCTION

- The Global Burden of Disease (GBD) estimated the annual incidence of NNS + other infections to be 1.3 million. 203 000 are sepsis related deaths(15.6%).
- Data is lacking from many nations.
- In 2021, the Paediatric National Health Statistics recorded a total of 6,666 admissions to the wards with NNS. CFR of 3.38%.
- In PMGH alone, our statistics from 2021 saw a total of 4496 admissions and 134 deaths(CFR 3.0%).
- 1483 admitted were for neonatal sepsis; this is about **one third of the total admission(33%)**.

AIMS/OBJECTIVES

1. To find out the incidence of NNS admissions to the Paediatric wards in PMGH.
2. To identify main admitting diagnosis of NNS.
3. What was the mortality in this cohort?

DEFINITION

- **Neonatal sepsis**: Neonatal sepsis is a blood infection in an infant younger than 28 days and ideally should be backed up by a blood culture.
- **Early onset sepsis**: sepsis occurring **less than 72** hours of delivery.
- **Late onset sepsis**: Any sepsis occurring **after 72 hours** of delivery.

METHODS

STUDY DESIGN	<i>Retrospective, Prospective observational study</i>
STUDY POPULATION	<i>Inclusion: All young infants under 2 months admitted via CED Exclusion: All young infants with previous admissions for NNS were excluded from this study.</i>
STUDY PERIOD	Nov 2021 to April 2022
DATA COLLECTION	<i>Standard data collection form was used</i>
ETHICAL CLEARANCE	<i>UPNG Research and Medical Board Parents/guardians of patients recruited</i>
STATISTICAL ANALYSIS	<i>Excel Spread-sheet & STATA</i>

TOTAL RECRUITED
132

EXCLUDED
24

STUDIED 108

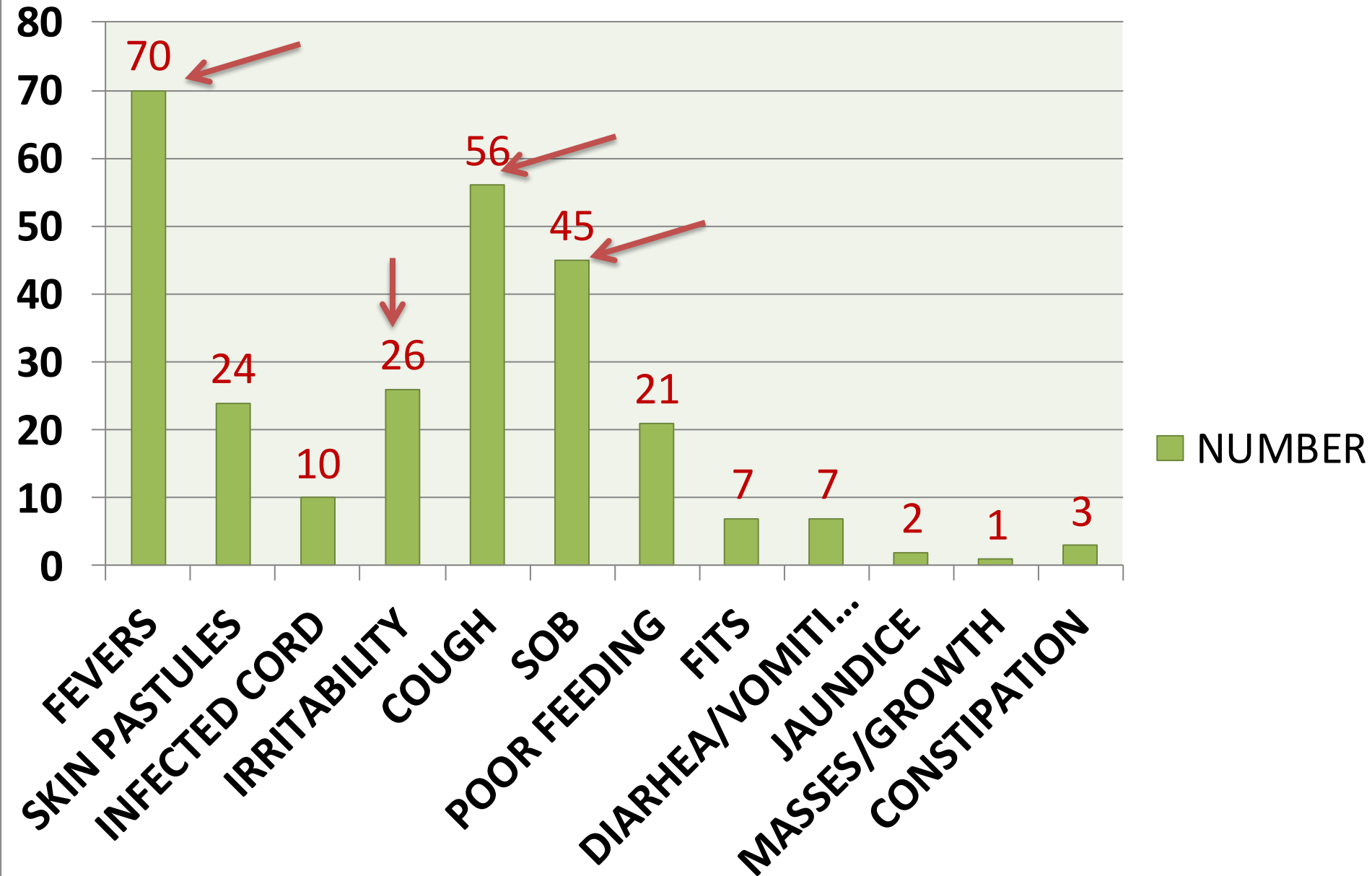
ONSET OF SEPSIS
EOS 19(17.5%)
LOS 89(82%)

DIAGNOSIS
PNA 58(54%)
SKIN SEPSIS 25(23%)
NNM 11(10%)
PRESUMED SEPSIS 11(10%)
CORD SEPSIS 9(8%)
NNJ 4(4%)
CONSTIPATION 3(3%)
CYSTIC HYGROMA 2(2%)
ABSCESS 2(2%)
CONJUNCTIVITIS 2(2%)
HIRSCHPRUNGS 1(1%)

LOHS
<7D 81(75%)
<14D 14(12.9%)
15-28D 3(2.7%)
>28D 4(3.7%)
UNKNOWN 6(5.6%)

OUTCOMES
DC 105(97%)
DIED 3(2.7%)

COMMON PRESENTING COMPLAINTS



RESULTS

- **INCIDENCE:**

TOTAL LIVE BIRTHS= 6729

TOAL RECRUITED= 108





IR=1.6%

This is about 16.05 per 1000 live births.

- **MORTALITY RATE:**

DEATHS= 3

CFR= 2.7%

PARAMETERS	NUMBER (n=108)	PERCENTAGE%	MEDIAN	IQR
WEIGHT(KG)			3.2	2.8-3.5kg
HAND WASHING	85	78.7		
FEEDING	Breast: 94 Bottle: 14	91.7 13		
KMC	2	1.9 		
HOUSING	Perm: 89 Semi-Perm: 17 Bush: 2	82.8  15.7 11.1		
WATER SUPPLY	Eda Ranu: 97 Creek/river: 9 Tank: 2	89.9 8.3  1.9		
ANC	Booked: 87 Unbooked: 21	80.5 19.4		
MATERNAL EDUCATION	Elementary: 2 Primary: 45 Secondary: 50 Tertiary: 8	1.85 41.7 47.2 7.4		

DISCUSSION-INCIDENCE

- The incidence of NNS between the months of November 2021 to April 2022 was **1.6%(16.05 per 1000 live births)**.
- Studies done in other LMIC showed a higher community prevalence rate of NNS*.
- Reasons for Low incidence:
 - 1. Small sample size
 - 2. Entries from SCN + LBW + Ward 11 were not included
 - 3. Some neonates may have presented to other peripheral clinics

*. Kayom et al. Burden and factors associated with clinical neonatal sepsis in urban Uganda: a community cohort study. BMC Paediatrics.(2018) 18:355

DISCUSSIONS

- 3/108 died (CFR= 2. 7%).
- These patients were admitted with severe sepsis.
- All 3 were LOS implying community acquired sepsis.
- *Some studies showed differing findings to ours in that mortality was higher in EOS instead of LOS.
- We saw more discharges and less deaths in this cohort.

*Gursu HA. Yenidogan sepsisi transinda serum amiloid A (SAA)nm onemi ve CRP ile karsilastirilmesi, Uzmanlik Tezi, Isanbul: Dr Lutifi Kirda Katal Egitim ve Arastirma Hastanesi I. Cokuk Sagligi ve Hastaliklari Klinigi: 2005.

DISCUSSIONS

- Over 50% presented with pneumonia.
- Very limited literature was available to compare specific diagnosis of admissions for NNS.
- However our study had similar findings to other studies* where the common reason of presentations were fever(70), fast breathing(45), irritability(26) and cough(26), and poor feeding(21)(10).

*Melkamu et al. Clinical Profile of Neonates admitted with sepsis to Neonatal Intensive Care Unit of Jimma Medical Centre, A Tertiary Hospital in Ethiopia. Ethiopian Journal of Health Sciences. 2018

DISCUSSIONS

- More infants came with LOS (n=89(82%)) than EOS(n=19(17.5%)).
- This finding implies that much of what they acquired was most likely from community.
- Other *studies also showed similar findings that the number of neonates presenting with LOS were considerably higher than those presenting with EOS.

* Abdulraham Al-Matary et al. Characteristics of Neonatal Sepsis at a Tertiary care hospital in Saudi Arabia. March 2019.

DISCUSSION

- The low KMC rates(2/108) highlights the **need** to continue advocating on EENC and provide appropriate and holistic approaches when presenting advice to mothers and caregivers of neonates upon discharge from postnatal ward.

LIMITATIONS

- Blood cultures should have been done on all patients screened.
- Partial capture of patients. Some patients may have been missed.

SUMMARY

- NNS is still a global and a national challenge.
- It requires a continuous review of improving:
 - prevention of sepsis
 - identification of sepsis in the early infant
 - inpatient management of patients.
- There is also the **NEED** to do further research within the **“community”** to capture the incidence of NNS in our population.
- Information will benefit both:
 - The policy makers in crafting preventative strategies and
 - The clinicians for a better understanding of the magnitude of NNS in provinces and also at the national level.

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**THANK YOU
FOR LISTENING.**

ANY QUESTIONS?