

Severe Neonatal jaundice in Seremban and Its Associated Factors

- **Rajeswary A/P N. Marie**
- Penyelia Jururawat U42
- Klinik Kesihatan Seremban
Negeri Sembilan

SEVERE NEONATAL JAUNDICE IN SEREMBAN AND ITS ASSOCIATED FACTORS

PEJABAT KESIHATAN DAERAH SEREMBAN

INTRODUCTION

- Neonatal jaundice (NNJ) is common in new born babies.
- Severe NNJ can lead to acute and chronic bilirubin encephalopathy
- Severe NNJ increases complication such as kernicterus, hearing problem and learning disability
- Incidence rate severe NNJ in Seremban remain high since year 2014 (96.6 per 10000 live birth and above target level (50 per 10000 live birth) in year 2017

Definition severe neonatal jaundice

Newborn with total bilirubin level of 340 μ mol/L and above within 14 days of life taken from venous or capillary sample

Reference: Integrated plan for detection & management of neonatal jaundice 2009

INCIDENCE RATE SEVERE NNJ IN SEREMBAN

Year	2014	2015	2016	2017
No of SNNJ	105	113	179	114
Incidence rate (per 10000 live birth)	118/10000	127/10000	201/10000	122/10000

Target level from KKM: 50 per10000 live birth

Objectives:

General Objectives:

- To reduce incidence rate of severe neonatal jaundice in Seremban health clinics

Specific Objectives:

1. To identify maternal risk factors related to severe neonatal jaundice in Seremban Health Clinics
2. To identify fetal risk factors related to severe neonatal jaundice in Seremban Health Clinics.

Methodology

- Retrospective study- clinical audit
- Auditing notification form (MMN/SNNJ 2010) and mothers' antenatal card
- Assessment for knowledge among HCW using standard format from Guideline on management of severe neonatal jaundice

Sampling

- Universal sampling
- All case of severe NNJ (TSB level above 340ug/L)
- Duration: 1 January 2017 till 31 December 2017
- No of Sample- 114
- Socio demographic information of mother, risk factors such blood grouping, mode of delivery obtained from the antenatal card and delivery notes
- Inclusion criteria: new born diagnosed having severe neonatal jaundice

Exclusion criteria:

- Foreigner
- Cases from outside of operational area
- Unbooked cases,
- Delivered at private
- Birth before arrival to hospital

Data collection

- Instrument- NNJ clinical audit chart (SOP management of NNJ by KKM)
- Done by trained staff nurses
- Verified by the researcher and assistant researcher
- Instrument: NNJ clinical audit chart (Integrated plan for detection & management of neonatal jaundice 2009 by MOH)

Data analysis

- Using SSPS V14
- Cross tabulation between dependant and independent variables
- Chi-square test used to determine significance of association
- P- Value <0.01 considered significant association

Results:

- Total of 114 case of severe neonatal were identified in Seremban
- Factors identified associated severe NNJ were O blood group mother, low birth weight, gestational diabetes mellitus, prematurity, cephalohaematoma or bruises, neonatal sepsis, and rhesus negative mother
- Surprisingly none of severe nnj associated with G6PD deficiency
- Other factors: Delay in referral to hospital, parent refuses referral, delay in notification by hospital upon discharge after delivery
- Statistically not significant association

Result: Maternal and fetal factor

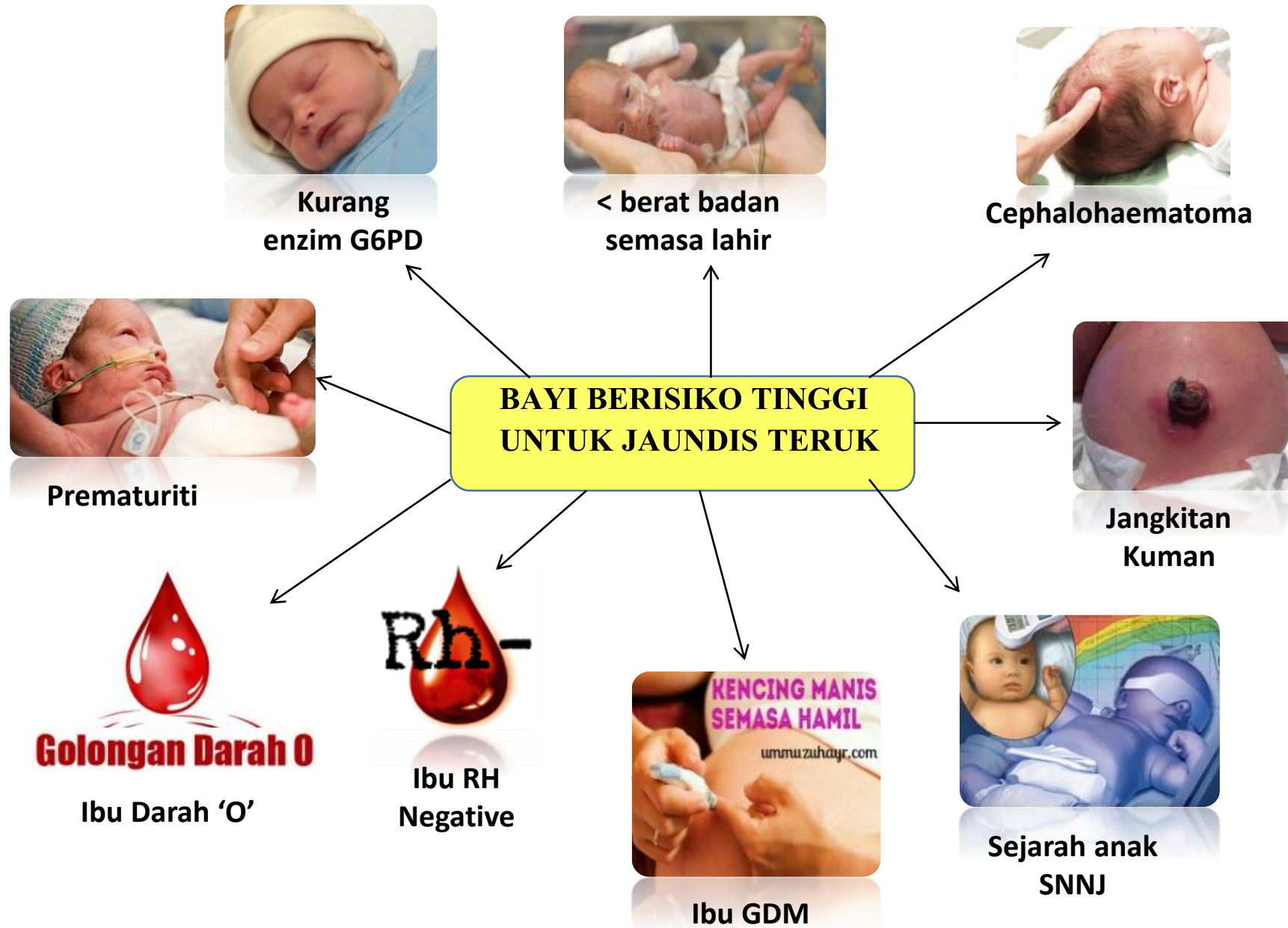
1	O Blood group	42%
2	Low birth weight	19.2%
3	Gestational Diabetes Mellitus	25.4%
4	Prematurity	5.2%
5	Cephalohaematoma/ bruises	7.7%
6	Neonatal sepsis	3.5%
7	Rhesus Negative	1.7%
8	G6PD deficiency	0%

Patient's factors

1.	Delay in referral	31%
2	Parent refusal for referral	50%
3.	Delay in notification on discharge	50%

Discussion:

- ABO incompatibility, and maternal diabetes Mellitus are factors associated with severe NNJ
- Delay in timely referral and treatment contributes to increase in numbers of severe NNJ
- Staff knowledge are adequate in managing NNJ
- Multiple factors contribute high incidence rate of severe NNJ in Seremban Health clinics
- Measures to reduce severe NNJ should address above issues
- Intervention being done such as NNJ education kit, regular meeting with hospital



Acknowledgement

- Dr Faid (PKD)
- DR MARIAM - FMS
- DR JOLYN - FMS
- SISTER INTAN HASSAN

References:

1. *World Health Organization. Pocket book of hospital care for children: Guidelines for the management of common childhood illnesses. Second edition. Geneva 2013.*
2. *American Academy of Pediatrics. Clinical practical Guideline. Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation. 2004*
3. <https://www.ncbi.nlm.nih.gov/pubmed>
4. *Clinical practice guideline on management of NNJ by Ministry of Health Malaysia*
5. *Integrated plan for detection & management of neonatal jaundice 2009*

Thank you