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PROLONGED NEONATAL JAUNDICE CHARACTERISTICS AT PRIMARY HEALTH CLINICS IN KOTA BHARU, KELANTAN: JULY TO DECEMBER 2019

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NMRR-19-1481-49038

INTRODUCTION

- Prolonged neonatal jaundice is a common condition affecting 15-40% of all breastfed newborn of which the main aetiology is breastmilk jaundice (1).
- Other causes such as biliary atresia, congenital hypothyroidism, and urinary tract infection (UTI) are less frequent but prompt detection is required to prevent unfavourable sequalae (2).
- The national guideline recommends risk stratification approach to lessen the burden in managing prolonged neonatal jaundice and to reduce unnecessary costly investigations (3).

OBJECTIVES

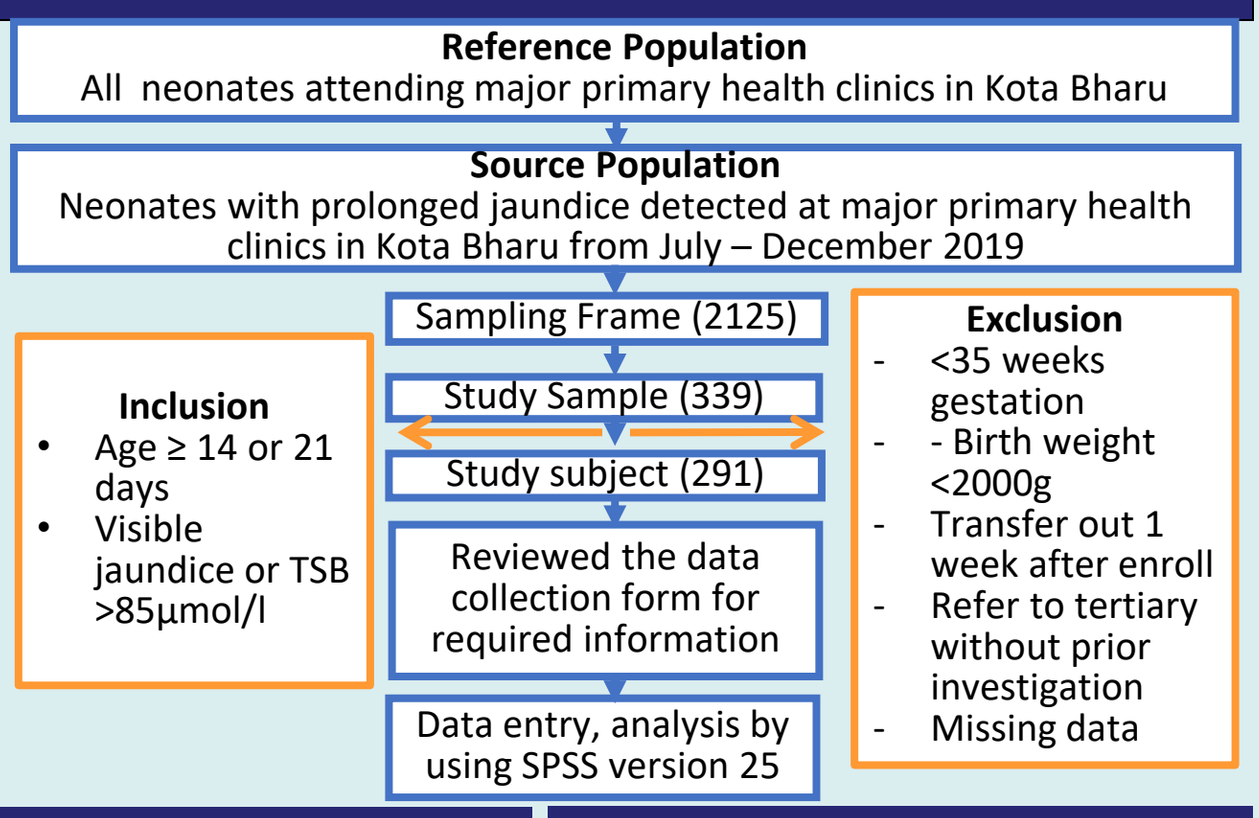
General: To understand the characteristics of prolonged neonatal jaundice at primary care level in Kota Bharu.

Specific:

i. To measure the incidence of prolonged neonatal jaundice in Kota Bharu.
ii. To determine the cause of prolonged neonatal jaundice among newborn attending primary health clinics in Kota Bharu.
iii. To observe the extent and yield of investigation taken in managing prolonged neonatal jaundice at primary health clinics in Kota Bharu in comparison to the national guideline.

METHODOLOGY

- This prospective cohort study was done from July till December 2019, involving randomly selected **291 cases from 14 health clinics** in Kota Bharu.
- Prolonged neonatal jaundice was defined as **visible jaundice** or **serum bilirubin >85µmol/l persisting beyond 14 days** of life in a full-term infant or **21 days** in a preterm baby (4). The clinical details and management were carried out based on normal practice at the clinics.
- The extent of investigations were compared to the national guideline available in The Integrated Plan For Detection & Management of Neonatal Jaundice (4).
- A registry was established to capture the incidence rate throughout study period.



RESULTS

Table 1 : Characteristic of prolonged neonatal jaundice at primary health clinics in Kota Bharu (n=291).

Characteristics	n (%)
Female	146 (50.1)
Male	145 (49.9)
Term	275 (94.5)
Preterm	16 (5.5)
G6PD deficiency	4 (1.4)
Mother's blood group O	106 (36.4)
Mother's Rhesus negative	2 (0.7)
New onset jaundice	9 (3.1)
Feeding status	
Exclusive breast feeding	243 (83.5)
Predominant breast feeding	31 (10.7)
Predominant bottle feeding	10 (3.4)
Dark urine	3 (1.0)
Pale stool	2 (0.6)

- The incidence of prolonged neonatal jaundice in Kota Bharu, Kelantan is **225 per 1000 live birth**
- The mean days of life at investigation were 16.2±1.9 (term) and 22.5±3.1 (preterm).
- The mean days of life for jaundice disappearance was 25.4±9.5.
- Jaundice resolved by 21 days in 26% of term babies.

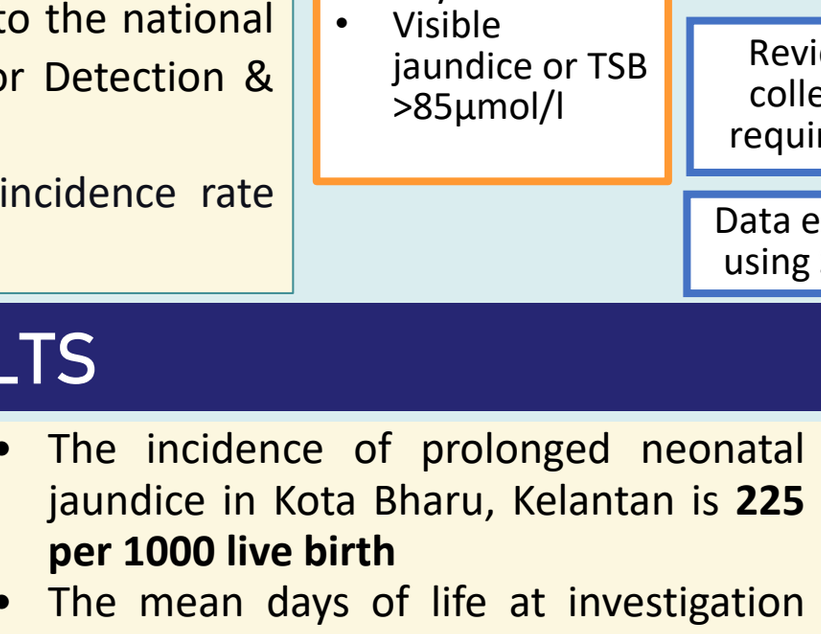


Figure 1: The aetiology for prolonged neonatal jaundice at primary health clinics in Kota Bharu (%).

Table 2: The investigations carried out for prolonged neonatal jaundice at primary health clinics in Kota Bharu other than Total Serum Bilirubin (TSB) and differential count (n =291).

Investigations	n (%)	Contributory samples, n (%)
Haemoglobin	140 (48.1)	27 (19.3)
Alanine Transferase (ALT)	284 (97.6)	19 (6.5)
Alkaline phosphatase(ALP)	284 (97.6)	17 (5.9)
Aspartate Transaminases (AST)	284 (97.6)	8 (2.7)
Thyroid Stimulating Hormone (TSH)	245 (84.2)	31 (12.7)
Free T4 (fT4)	33 (11.3)	10 (30.3)
Renal profile	6 (2.1)	0 (0.0)
Urinalysis	225 (77.3)	29 (12.9)
Urine culture	129 (44.3)	12 (9.3)

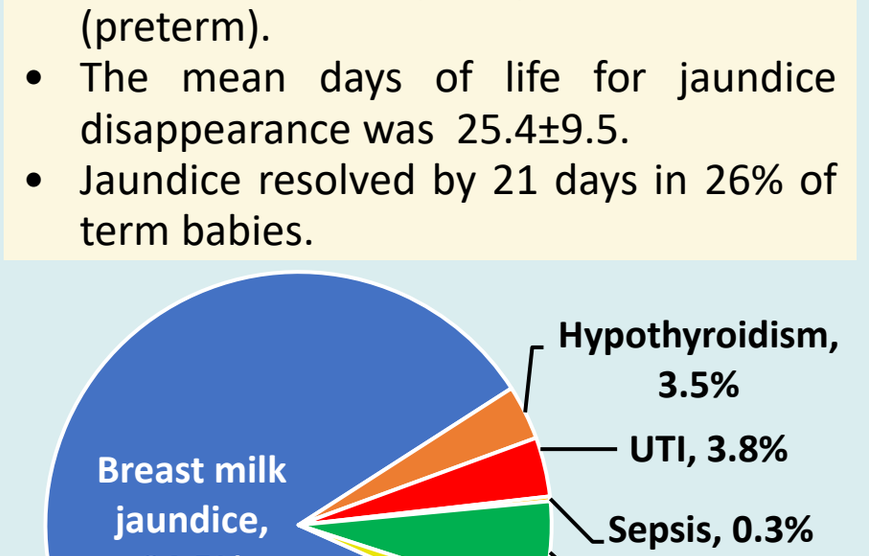


Figure 2: Risk stratification for prolonged neonatal jaundice at primary health clinics in Kota Bharu districts (%).

DISCUSSION

- The **incidence** of prolonged neonatal jaundice is **high**, contributing to a major workload; This signifies the need to enhance resources at primary health care. Similarly, Perak reported a high incidence of 158 per 1000 live birth(3).
- Babies are **investigated earlier** at primary care in comparison to tertiary centre(3).
- The **extent of investigations** taken in this study **did not differ** much from the recommendation by national guideline(4). As the yield is low, it shouldn't be done routinely.
- One-forth of affected term babies may **not require further testing** as the jaundice disappears by 3rd week of life.

CONCLUSION

Although breastmilk jaundice is the main cause of prolonged neonatal jaundice, rationalized approach is imperative to ensure early detection of other pathology while preventing over-investigation.

ACKNOWLEDGEMENT

Kota Bharu Health District officer and all involved in this study.

Conflict of interest: None

REFERENCES:

1. Agrawal, V. *et al.* 2017. Different Causes of Prolonged Unconjugated Jaundice in the Newborns. *International Journal of Contemporary Pediatrics,* 4.
2. Preer, GL & Philipp, BL. 2011. Understanding and Managing Breast Milk Jaundice. *Archives of Disease in Childhood - Fetal and Neonatal Edition,* 96**.**
3. Tan, H. S., Balasubramaniam, I. S., Hss, A. S.*, et al.* 2019. Impact of a Standardized Protocol for the Management of Prolonged Neonatal Jaundice in a Regional Setting: An Interventional Quasi-Experimental Study. *BMC Pediatr,* 19**,** 174.
4. MOH, 2018. Integrated Plan For Detection & Management of Neonatal Jaundice - 2nd Revision. Ministry of Health, Malaysia.