

Outcome of Elimination Mother-to-Child Transmission (EMTCT) Hepatitis B: A Pilot Project in Terengganu, 2019-2021

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Introduction

The prevalence of Hepatitis B in Malaysia reported to be 4% of Malaysian population and the prevalence among those who born after 1989 was 0.62%, much reduced since nationwide vaccination program in 1989 [1]. However, it still doesn't eliminate the hepatitis transmission.

In Malaysia, hepatitis B virus (HBV) screening mainly performed among high-risk groups but not as routine antenatal checkup. According to WHO, the most common route transmission is through vertical, thus the child are at risk of infection from unscreened mother.

Aligned with the WHO commitment of for triple elimination initiatives (HIV, Hepatitis B and Syphilis) [2], Ministry of Health has conducted a pilot project called as EMTCT Hepatitis B to prevent the transmission.

Objective

General Objective:

To determine the effectiveness of EMTCT programme in preventing Hepatitis B transmission to children.

Specific objectives:

- To determine the socio-demographic characteristics of cases.
- To determine the clinical status of mother with Hepatitis B.
- To evaluate the process output of this program.

Methods

No	Methods	Description
1	Study Design	Pilot Study (Interventional Study)
2	Study Area	Terengganu
3	Study Population	Pregnant mothers
4	Inclusion & Exclusion Criteria	Inclusion criteria are: • Registered pregnancy at selected health clinics • Tested positive with HBsAg Exclusion criteria are: • Refused to give a consent for screening
5	Duration of study	May 2019 until 2021
6	NMRR	ID-22-01714-CRN (IIR)

Chart 1: Flow of Data Collection

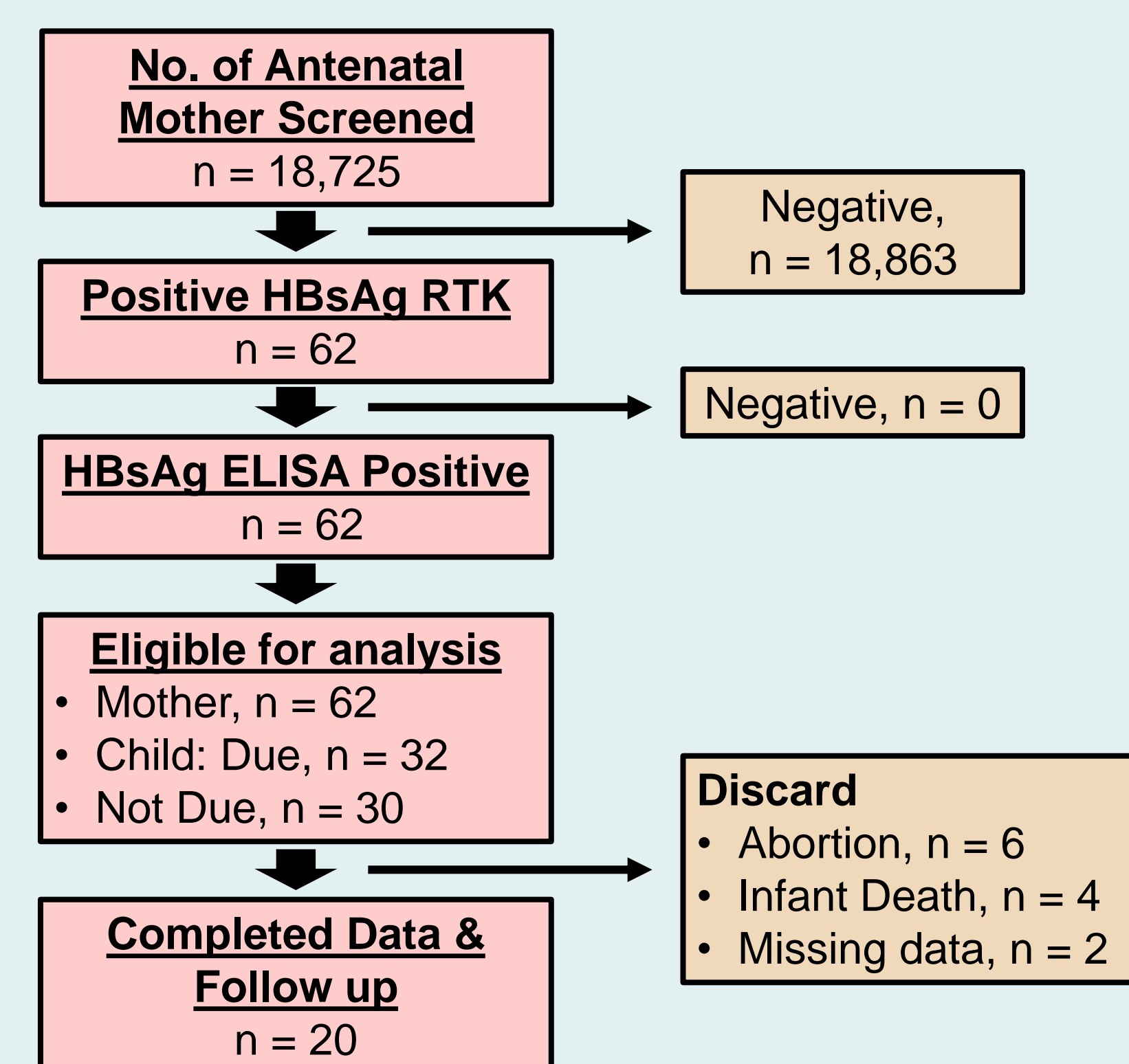
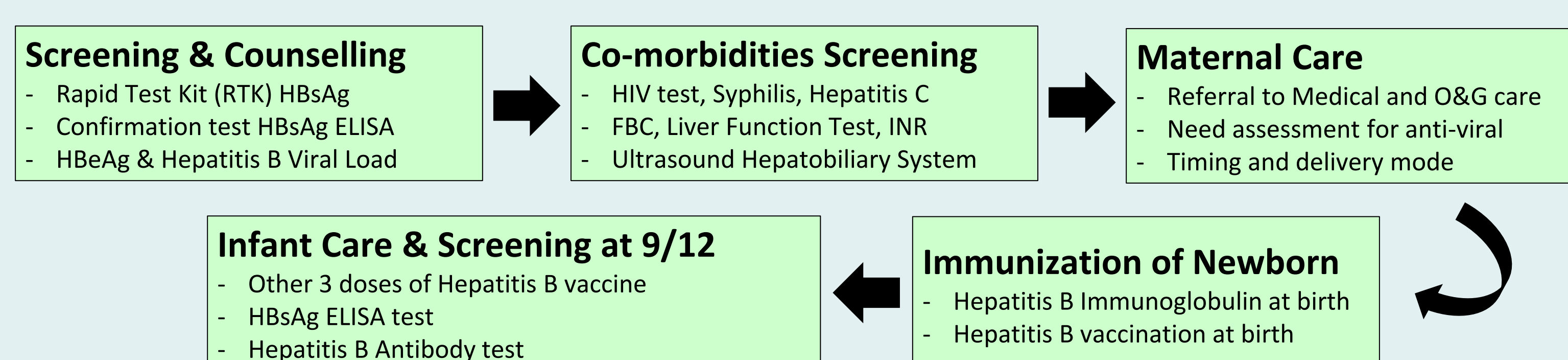


Chart 2: Intervention Programme



Results

Table 1. Socio-demographic Characteristics of Hepatitis B Mothers

Variables	N=62	%
Age (years)		
a) 20 – 24	3	4.8
b) 24 – 29	12	19.4
c) 30 – 34	25	40.3
d) 35 – 39	16	25.8
e) 40 – 44	6	9.7
Ethnicities		
a) Malay	60	96.8
b) Thailand (PR)	1	1.6
c) Myanmar (PR)	1	1.6
Marital Status		
a) Married	62	100.0
b) Single Mother	0	0.0
Risk Factors		
- Mother-to-child	8	12.9
- Unknown	54	87.1
Partners' HBsAg Screening		
a) Reactive	1	1.6
b) Non-reactive	61	98.4

Table 2: Clinical Status of Hepatitis B Mothers

Variables	N=62	%
Hepatitis B 'e' Antigen (HBeAg)		
- Reactive	50	80.0
- Non-Reactive	12	20.0
Co-infection (Reactive)		
a) HIV	0	0.0
b) Hepatitis C	0	0.0
c) Syphilis	0	0.0
Complications (Yes)		
a) Cirrhosis	0	0.0
b) Chronic Liver Disease	0	0.0
c) Hepatocellular Carcinoma	0	0.0
Hepatitis B Viral Load (iu/ml)		
- < 20,000	56	90.3
- 20,000 – 200,000	2	3.2
- > 200,000	4	6.5

Table 3: Preventive measures given to the children of Hepatitis B Mothers

Indicators	N=20	%
Hepatitis B Immunoglobulin (HBIG) given within 12 hours of delivery		
• Yes	20	100%
• No	0	0
Hepatitis B vaccine given within 24 hours of delivery.		
• Yes	20	100%
• No	0	0
Coverage of third dose Hepatitis B vaccine		
• Yes	20	100%
• No	0	0

Table 4: Outcomes of the children of Hepatitis B Mothers

Indicators	N=20	%
Hepatitis B surface antigen (HBsAg) at 9 months		
• Reactive	0	0
• Non-reactive	20	100
Hepatitis B antibody		
• > 10 IU/L	20	100
• < 10 IU/L	0	0

Discussion

The positivity rate of HBsAg among antenatal mothers in this study was 0.33% and it is similar to study in Netherlands and UK [3].

The initial results showed none of the children were infected as result of continuous care and multidisciplinary efforts for the elimination. Similar results shown in Mozambique [4].

By giving hepatitis B vaccinations, only can prevent 72% of transmission but with EMTCT programme it will prevent by 99.2% of transmission [5].

Zhang L et al agreed that the integrated approach, using antenatal, perinatal and postnatal care as a platform for triple EMTCT of HIV, HBV and syphilis, is highly cost-effective [6].

Conclusion

The initial impact had a positive outcome, as it successfully prevents the transmission of Hepatitis B infection to children. This project might be expanded into a national programme.

References

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