WEEKLY EPIDEMIOLOGICAL REPORT

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Hepatitis B – Vaccination Strategy – Success Path for Elimination Part II

This is the last in a series of two articles on Hepatitis B – Vaccination Strategy Success Path for Elimination

Vaccination against Hepatitis B

The main objective of Hepatitis B immunization is to prevent chronic HBV infection and its consequences such as liver cirrhosis and HCC. Universal immunization with Hepatitis B vaccine will lead to a decrease in HBV-related chronic hepatitis, liver cirrhosis and HCC.

Considering the epidemiology of hepatitis B, and feasibility of implementation of the EPI in the country, along with the objectives of the Hepatitis B control programme – routine immunization was recommended for infants and children in Sri Lanka. A three-dose schedule was decided upon in order to ensure high levels of immunization coverage. Sri Lanka introduced the Hepatitis B vaccine into its National Immunization schedule in 2003 (on a phased basis). Three doses of the Pentavalent vaccine (DTwP-Hep B-Hib) are now given routinely to all infants on completion of 2,4 and 6 months of age according to the EPI schedule in Sri Lanka.[4]

Efficacy of the hepatitis B vaccination is directly related to the induction of the anti-HBs antibodies. The complete vaccine series induces protective antibody levels in >95% of infants, children and young adults. Current scientific evidence points to the duration of protection being almost lifelong.[4] Other indications for the Hepatitis B Vaccine include persons with high-risk sexual behaviours, contacts of HBsAg-positive persons, injecting drug users, frequent users of blood and blood products (such as Thalassemia patients); health care workers (occupational risk); travellers to HBV-endemic countries and post-exposure vaccination following needle-stick injuries. Health care workers are usually tested for the protective anti-HBs response after receiving a complete course of immunization in order to ensure immunity in responders and to re-vaccinate non-responders.[3]

Prevention of mother to child transmission

Importance of preventing mother to child transmission lies in the fact that while infection in adulthood leads to chronic hepatitis in <5% of cases, infection in infancy and early childhood leads to chronic hepatitis in about 95% of cases as explained earlier.[1] Countries with the high perinatal transmission of hepatitis B have schedules with the

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first vaccination at birth itself. In Sri Lanka – while birth dose vaccinations aren't given routinely, it is given as post-exposure prophylaxis for babies born to mothers who have had hepatitis B infection during pregnancy or are hepatitis B surface antigen positive. The recommended schedule in this instance includes Hepatitis B Immune Globulin (HBIG) at birth and hep B vaccination in a schedule of 0, 1, 2, and 12 months.[4]

Prevention of mother-to-child transmission remains a core intervention area in the "Global Health Sector Strategy on Viral Hepatitis, 2016-2021'. This is to be done primarily through improving coverage of the birth-dose vaccination which is a key intervention for prevention of hepatitis B virus infection in infants.[6]

However, the birth dose is not routinely given in Sri Lanka. This is mainly due to the high prevalence of immunization among females of childbearing age as almost 18 years have passed since the introduction of hepatitis B immunization, and the low prevalence of the hepatitis B infection in the country. A community-based HBsAg sero-prevalence study done in 2003 in the Western Province of Sri Lanka revealed that the exposure of antenatal mothers to HBV was low with none of the exposed mothers displaying evidence of chronic HBV infection. Hence it was concluded that perinatal infections were not an important route of HBV transmission in this province in the country.[7]

It would be extremely beneficial to conduct nation-wide studies in the near future in order to establish the current prevalence of hepatitis B virus among the population as nearly less than 5% of people with chronic hepatitis infection know their status. While most studies demonstrate a low prevalence, it is to be noted that they were usually carried out among high-risk groups. Vaccination has played a major role in reducing the burden of hepatitis B infection among our community and it remains to be seen if further interventions or expanding vaccination coverage would be needed to achieve current goals set out for ending hepatitis B infection.

Adapted from the following references:

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Table 1: Selected notifiable diseases reported by Medical Officers of Health 04th– 10th July 2020 (28th Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmaniasis		WRCD	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**
Colombo	45	3284	2	19	1	7	0	4	0	14	14	197	0	1	0	3	0	0	1	179	3	28	0	2	**57**	**99**
Gampaha	24	2010	1	8	1	3	0	5	0	19	5	145	0	1	0	4	0	0	0	222	1	16	0	38	**46**	**97**
Kalutara	41	1418	0	8	0	4	0	4	0	4	17	442	0	13	0	3	0	0	4	244	3	32	0	0	**54**	**98**
Kandy	128	2051	1	18	0	1	0	8	0	10	6	135	3	75	0	4	0	0	0	136	0	19	4	51	**64**	**100**
Matale	2	495	0	5	0	3	0	3	0	6	3	70	0	4	0	5	0	1	0	45	0	2	11	202	**65**	**98**
NuwaraEliya	3	140	4	19	0	1	0	1	0	7	8	68	2	64	0	3	0	0	1	67	1	10	0	0	**22**	**100**
Galle	0	1108	0	13	0	9	0	2	0	12	0	244	0	26	0	2	0	0	0	213	0	20	0	2	**55**	**61**
Hambantota	1	297	0	7	0	4	0	2	0	38	13	152	4	34	0	2	0	0	2	152	0	28	45	410	**69**	**100**
Matara	0	352	0	9	0	3	0	0	0	0	0	102	0	4	0	6	0	0	0	69	0	6	0	117	**47**	**38**
Jaffna	13	1942	5	64	0	0	0	19	0	20	1	19	8	484	0	0	0	1	0	89	1	8	0	0	**31**	**93**
Kilinochchi	0	116	1	33	0	2	0	10	0	11	0	17	1	26	0	1	0	0	0	12	0	9	0	10	**64**	**100**
Mannar	2	127	0	0	0	0	0	1	0	2	1	6	0	1	0	0	0	0	0	2	2	6	0	0	**40**	**99**
Vavuniya	0	240	0	9	0	0	0	5	0	2	1	39	0	1	0	0	0	0	0	29	0	4	0	1	**68**	**99**
Mullaitivu	0	79	1	6	0	0	0	6	0	2	0	19	3	9	1	3	0	2	1	9	0	4	0	6	**38**	**95**
Batticaloa	14	2230	0	57	0	3	0	1	0	44	0	24	0	0	1	5	0	1	3	77	0	17	0	1	**51**	**100**
Ampara	1	300	1	13	0	2	0	0	0	0	0	77	0	0	1	2	0	0	2	99	0	13	0	4	**68**	**100**
Trincomalee	3	2254	0	12	0	0	0	0	0	2	2	27	1	5	0	0	0	0	0	81	0	8	0	0	**47**	**90**
Kurunegala	11	754	1	14	0	6	0	2	0	36	7	149	1	21	0	4	0	2	3	276	2	21	6	277	**48**	**98**
Puttalam	9	409	0	8	0	4	0	3	0	1	3	48	0	13	0	0	0	1	0	70	2	37	0	4	**59**	**100**
Anuradhapur	2	368	0	16	0	1	0	4	0	23	2	186	1	16	3	10	0	1	2	160	2	35	7	133	**44**	**94**
Polonnaruwa	2	216	0	5	0	0	0	0	0	5	2	112	0	0	1	16	0	1	6	115	0	11	0	149	**64**	**92**
Badulla	1	412	1	13	1	5	0	3	0	3	15	230	2	57	0	11	0	0	0	125	1	27	1	15	**59**	**99**
Monaragala	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Ratnapura	78	1425	4	60	0	21	0	5	0	24	13	1021	2	28	0	13	0	0	0	149	5	80	2	77	**50**	**100**
Kegalle	21	591	1	16	1	6	0	3	0	16	17	290	1	34	1	7	0	0	2	137	5	35	1	19	**59**	**98**
Kalmune	2	861	2	39	0	3	0	0	1	3	1	14	0	2	1	3	0	0	0	265	0	32	0	0	**71**	**100**
SRILANKA	**403**	**23479**	**25**	**471**	**4**	**88**	**0**	**91**	**1**	**304**	**13**	**3833**	**29**	**919**	**9**	**107**	**0**	**10**	**27**	**3022**	**28**	**508**	**77**	**1518**	**54**	**90**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 10 th July , 2020 Total number of reporting units 356 Number of reporting units data provided for the current week: 264 C**-Completeness

Table 2: Vaccine-Preventable Diseases & AFP

04th– 10th July 2020 (28th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2020	Number of cases during same week in 2019	Total number of cases to date in 2020	Total number of cases to date in 2019	Difference between the number of cases to date in 2020 & 2019
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	02	00	00	00	00	00	00	00	00	02	00	22	44	- 50 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	01	00	01	00	01	00	01	00	00	04	03	103	197	- 47.7 %
Measles	00	00	00	00	00	00	00	00	00	00	09	31	198	- 84.3 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	03	11	- 72.7 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	01	00	00	00	00	00	00	01	01	26	10	160 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	05	34	- 85.2 %
Tuberculosis	92	12	04	13	10	17	00	08	17	173	244	2973	4650	- 36.0 %

Key to Table 1 & 2

Provinces: **W**: Western, **C**: Central, **S**: Southern, **N**: North, **E**: East, **NC**: North Central, **NW**: North Western, **U**: Uva, **Sab**: Sabaragamuwa.

RDHS Divisions: **CB**: Colombo, **GM**: Gampaha, **KL**: Kalutara, **KD**: Kandy, **ML**: Matale, **NE**: Nuwara Eliya, **GL**: Galle, **HB**: Hambantota, **MT**: Matara, **JF**: Jaffna, **KN**: Killinochchi, **MN**: Mannar, **VA**: Vavuniya, **MU**: Mullaitivu, **BT**: Batticaloa, **AM**: Ampara, **TR**: Trincomalee, **KM**: Kalmunai, **KR**: Kurunegala, **PU**: Puttalam, **AP**: Anuradhapura, **PO**: Polonnaruwa, **BD**: Badulla, **MO**: Moneragala, **RP**: Ratnapura, **KG**: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis

CRS =**Congenital Rubella Syndrome

NA = Not Available

Dengue Prevention and Control Health Messages

Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them free of water collection.

Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to **chepid@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

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