



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health, Nutrition & Indigenous Medicine

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Vol. 45 No. 34

18th– 24th August 2018

Measles Elimination Strategic Plan Part II

Complications

Complications from Measles have been reported in every organ system. Many of these complications are caused by disruption of epithelial surfaces and immunosuppression and occur in approximately 30% of reported cases depending on age and predisposing conditions. Relatively common complications of measles include otitis media (most common), laryngotracheobronchitis (croup), diarrhoea and pneumonia (most severe). Particularly severe complications of measles which occur in immunocompromised individuals are acute progressive encephalitis (measles inclusion-body encephalitis), and a characteristic giant cell pneumonia. In developing countries, persistent diarrhoea with protein-losing enteropathy may ensue, particularly in infants. In these countries, where malnutrition, particularly vitamin A deficiency, and exposure to other infectious diseases are common, the case-fatality rate for measles is usually 3–6%, but can be as high as 30%, particularly among displaced or isolated, immunologically naïve populations. In developed countries death due to measles is rare and the case-fatality rate is usually 0.01–0.1%. The greatest risk of death is in children younger than 1 year and in adults older than 30 years. In HIV-infected children, the case-fatality rate has been report-

ed to be as high as 50%.

Vitamin A deficiency contributes to delayed recovery and to the high rate of post-measles complications. In addition, measles infection may precipitate acute vitamin A deficiency and xerophthalmia. As a result, measles is an important cause of preventable childhood blindness, particularly in Africa.

Diagnosis

The WHO definition of suspected measles is a case with fever and maculopapular (non-vesicular) rash, or a case where a health-care worker suspects measles. Laboratory testing is necessary for definitive diagnosis as other conditions may mimic measles, including infections with rubella virus, parvovirus B19 (erythema infectiosum or Fifth disease), human herpes viruses 6 and 7 (roseola infantum), dengue virus, and *Streptococcus pyogenes* (scarlet fever). Laboratory confirmation of measles is based on

- Serology
 - Anti Measles virus IgM
 - IgG – Sero conversion / 4-fold rising titre
- Virus Isolation
- Molecular assays
 - PCR

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Genotypic characterization

Samples for serology

A venous blood sample of 2 – 3 ml should be collected from each case of suspected measles from the 3rd day to 28th day of the onset of signs and symptoms.

- The skin should be cleaned with 70% alcohol
- The sample should be collected into a sterile, dry, screw-capped bottle without anticoagulant
- Label and leave at room temperature for 30 minutes for clot formation
- specimen should be received by the National Reference Laboratory at MRI Colombo within 48 hours. If there is more than 48 hours delay, the specimen should be refrigerated until dispatch.
- Should be transported in a cold box with ice packs to maintain the temperature at transport at 4C
- Serum should be separated if transport takes several days

Samples for virus isolation

Samples for virus isolation should be collected within the first 5 days of the onset of signs and symptoms.

Virus isolation can be done using Naso-pharyngeal aspirates, Throat Swabs or nasal swabs

Samples should be collected into a container with virus transport medium (VTM) and should be stored immediately in a refrigerator

Should be transported in a cold box with ice packs to maintain the temperature at transport at 4C

Confirmation By reverse transcriptase polymerase chain reaction (RT-PCR) and Immuno fluorescence

Treatment

There is no specific treatment for measles. Case management of measles focuses on supportive care as well as prevention and treatment of measles complications and secondary infections. Since measles is highly contagious, patient isolation is an important intervention to prevent further spread of the virus. However, increasing population immunity through vaccination is the most effective way to prevent outbreaks.

Supportive care should be provided, including relieving common symptoms such as fever, cough, nasal congestion or rhinorrhea, conjunctivitis, and sore mouth. Nutritional support is recommended to reduce the risk of malnutrition due to diarrhoea, vomiting and poor appetite associated with measles.

Breastfeeding should be encouraged where appropriate. Oral rehydration salts should be used as needed to prevent dehydration. Antibiotics are generally not recommended for treatment of measles unless secondary bacterial complications develop, such as pneumonia or otitis media.

Vitamin A should be administered to all acute cases irrespective of the timing of previous doses of vitamin A. Vitamin A oral dosage should be given immediately on diagnosis and repeated the next day; 50 000 IU should be given to infants aged <6 months, 100 000 IU to infants aged 6–11 months and 200 000 IU to children aged ≥12 months. If the child has clinical ophthalmic signs of vitamin A deficiency such as Bitot’s spots, a third dose should be given 4–6 weeks later. Even in countries where measles is not usually severe, vitamin A should be given in all cases of severe measles

Compiled By;
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Table 1 : Water Quality Surveillance Number of microbiological water samples July 2018			
District	MOH areas	No: Expected *	No: Received
Colombo	15	90	78
Gampaha	15	90	NR
Kalutara	12	72	NR
Kalutara NIHS	2	12	NR
Kandy	23	138	70
Matale	13	78	31
Nuwara Eliya	13	78	NR
Galle	20	120	79
Matara	17	102	67
Hambantota	12	72	76
Jaffna	12	72	133
Kilinochchi	4	24	33
Manner	5	30	22
Vavuniya	4	24	56
Mullatvu	5	30	NR
Batticaloa	14	84	95
Ampara	7	42	26
Trincomalee	11	66	44
Kurunegala	29	174	114
Puttalam	13	78	42
Anuradhapura	19	114	58
Polonnaruwa	7	42	27
Badulla	16	96	126
Moneragala	11	66	102
Rathnapura	18	108	103
Kegalle	11	66	13
Kalmunai	13	78	0

* No of samples expected (6 / MOH area / Month)
NR = Return not received

Table 1: Selected notifiable diseases reported by Medical Officers of Health 11th - 17th August 2018(33rd 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	201	6937	0	57	1	6	0	33	0	28	8	138	0	8	0	3	0	0	17	472	1	34	0	2	62	100
paha	135	3754	0	53	1	8	0	16	0	14	5	150	0	4	0	11	0	0	14	509	0	32	1	30	66	100
Kalutara	50	2256	4	62	0	3	1	10	0	45	7	399	0	5	0	8	0	0	18	439	2	71	0	9	53	100
Kandy	76	2563	14	77	1	5	0	3	0	11	1	51	3	78	0	16	0	0	5	235	4	29	0	21	59	100
Matale	18	731	0	13	0	1	0	4	0	31	1	67	0	2	0	6	0	0	1	28	0	11	2	81	61	100
Nuwareliya	2	146	2	42	0	3	0	9	0	47	2	28	1	101	0	21	0	0	7	175	0	26	0	0	30	100
Galle	10	733	2	39	0	9	0	4	4	7	5	282	8	38	0	2	0	1	8	226	0	43	0	5	19	100
Hambantota	15	664	1	12	0	4	0	2	0	4	0	45	4	46	0	2	0	1	3	187	0	6	3	507	72	100
Matarata	24	740	1	29	0	5	1	5	0	22	3	165	0	30	0	11	0	0	3	201	1	9	9	284	54	100
Jaffna	38	2240	3	115	0	4	1	37	0	212	0	10	2	251	0	1	0	2	1	208	0	9	0	3	36	93
Kilinochchi	6	229	0	22	0	1	0	15	0	2	0	3	1	15	0	0	0	1	0	28	0	2	0	1	51	100
Mannar	3	183	0	17	0	0	0	3	0	2	0	1	0	0	0	0	0	0	0	27	0	3	0	3	38	100
Vavuniya	14	438	0	15	1	4	0	34	0	12	1	31	0	7	0	0	0	1	0	38	0	5	0	8	58	100
Mullaitivu	2	77	0	5	0	0	0	8	0	10	0	8	0	5	0	0	0	0	0	6	0	1	0	2	23	100
Batticaloa	40	4169	5	117	0	5	0	4	1	24	0	38	0	1	0	2	0	2	6	111	1	17	0	0	65	100
Ampara	1	189	1	49	0	3	0	2	0	5	0	33	0	0	0	5	0	1	18	186	0	19	0	2	66	100
Trincomalee	16	893	0	35	0	1	0	4	0	13	2	42	0	19	0	1	0	0	1	155	0	7	0	18	27	100
Kurunegala	28	1837	1	100	2	12	0	13	0	3	0	107	0	17	0	16	0	1	5	372	0	70	6	239	64	100
Puttalam	4	1367	0	32	0	6	0	4	0	4	0	31	0	11	0	2	0	0	1	101	0	61	0	2	64	100
Anuradhapura	12	689	4	38	0	7	0	3	0	38	1	103	0	17	1	8	0	1	3	308	0	30	9	288	43	95
Polonnaruwa	4	237	3	26	0	2	0	0	0	12	1	91	0	0	1	4	0	1	4	176	0	15	3	153	59	88
Badulla	11	385	1	89	0	5	0	7	0	10	4	120	1	51	0	28	0	0	7	334	5	85	0	7	46	100
Monaragala	11	678	1	56	0	2	0	1	0	2	3	217	2	102	0	20	0	0	6	118	7	83	1	29	66	100
Ratnapura	45	1712	6	126	3	35	0	19	0	5	14	460	0	22	0	13	0	2	5	219	5	86	5	155	46	100
Kegalle	31	1058	0	47	0	7	0	6	2	75	7	163	3	56	1	11	0	0	5	251	1	35	0	10	64	100
Kalmune	7	1484	0	29	0	3	0	2	0	31	0	5	0	1	0	1	0	0	6	141	0	8	0	1	51	100
SRILANKA	804	36389	49	1302	9	141	3	248	7	669	65	2788	25	887	3	192	0	14	144	5251	27	797	39	1860	53	99

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 17th August, 2018 Total number of reporting units 353 Number of reporting units data provided for the current week: 351 C**=Completeness

A = Cases reported during the current week. B = Cumulative cases for the year.

Table 2: Vaccine-Preventable Diseases & AFP

11th - 17th August 2018(33rd Week)

Disease	No. of Cases by Province									Number of cases during current week in 2018	Number of cases during same week in 2017	Total number of cases to date in 2018	Total number of cases to date in 2017	Difference between the number of cases to date in 2018 & 2017
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	01	00	00	00	00	00	01	00	39	45	- 13.3 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	01	01	02	00	00	01	00	00	01	06	03	230	216	6.4 %
Measles	00	00	00	00	00	00	03	00	00	03	08	84	159	- 47.1 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	04	05	- 20 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	01	0%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	15	11	36.3 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	00	00	00	01	00	00	00	01	00	21	21	0 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	35	11	218.1 %
Tuberculosis	108	32	15	26	27	21	01	03	06	229	247	5404	5418	- 0.25 %

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

Influenza Surveillance in Sentinel Hospitals - ILI & SARI							
Month	Human			Animal			
	No Total	No Positive	Infl A	Infl B	Pooled samples	Serum Samples	Positives
August	65	13	07	06	1439	609	0

Source: Medical Research Institute & Veterinary Research Institute

PRINTING OF THIS PUBLICATION IS FUNDED BY THE WORLD HEALTH ORGANIZATION (WHO).

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**

ON STATE SERVICE

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