



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health

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Rubella (Part I)

This is the first of the series of two articles on Rubella

Key Facts

- Rubella (also known as German Measles) is a contagious, generally mild viral infection that occurs most often in children and young adults.
- Rubella infection in pregnant women may cause fetal death or congenital defects known as congenital rubella syndrome (CRS).
- Worldwide, an estimated 110 000 babies are born with CRS every year.
- There is no specific treatment for rubella but the disease is preventable by vaccination.

The Virus

Rubella is an acute, contagious viral infection caused by a togavirus that is enveloped and has a single-stranded RNA genome.

Mode of Transmission

The rubella virus is transmitted by airborne droplets when infected people sneeze or cough. Humans are the only known host.

Pathophysiology

The virus has teratogenic properties and is capable of crossing the placenta and infecting the foetus where it stops cells from developing or destroys them. While the illness is generally mild in children, it has serious consequences in pregnant women causing foetal death or

congenital defects known as congenital rubella syndrome (CRS). Rubella infection of children and adults is usually mild, self-limiting and often asymptomatic. The prognosis in children born with CRS is poor.

Symptoms

In children, the disease is usually mild, with symptoms including a rash, low fever (<39°C), nausea and mild conjunctivitis. The rash, which occurs in 50–80% of cases, usually starts on the face and neck before progressing down the body, and lasts 1–3 days. Swollen lymph glands behind the ears and in the neck are the most characteristic clinical feature. Infected adults, more commonly women, may develop arthritis and painful joints that usually last from 3–10 days.

Once a person is infected, the virus spreads throughout the body in about 5-7 days. Symptoms usually appear 2 to 3 weeks after exposure. The most infectious period is usually 1–5 days after the appearance of the rash.

When a woman is infected with the rubella virus early in pregnancy, she has a 90% chance of passing the virus on to her foetus. This can cause miscarriage, stillbirth or severe birth defects known as CRS. Infants with CRS may excrete the virus for a year or more.

Congenital rubella syndrome

Children with CRS can suffer hearing impairments, eye and heart defects and other lifelong disabilities, including autism, diabetes

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mellitus and thyroid dysfunction – many of which require costly therapy, surgeries and other expensive care.

The highest risk of CRS is in countries where women of childbearing age do not have immunity to the disease (either through vaccination or from having had rubella). Before the introduction of the vaccine, up to 4 babies in every 1000 live births were born with CRS.

Large-scale rubella vaccination during the past decade has practically eliminated rubella and CRS in many developed and in some developing countries. The WHO Region of the Americas has had no endemic (naturally-transmitted) cases of rubella infection since 2009.

CRS rates are highest in the WHO African and South-East Asian regions where vaccine coverage is lowest.

Epidemiology in Sri Lanka

The most recent epidemic of Rubella occurred in 1996. After that only a very low number of cases have been reported up to now.

Diagnosis

Clinical diagnosis via symptoms and signs.

Laboratory diagnosis via Rubella virus specific Ig M antibodies are present in people recently infected by Rubella virus but these antibodies can persist for over a year and a positive test result needs to be interpreted with caution. The presence of these antibodies along with, or a short time after, the characteristic rash confirms the diagnosis.

WHO response

WHO recommends that all countries that have not yet introduced rubella vaccine should consider doing so using existing, well-established measles immunization programmes. To-date, three WHO Regions have established goals to eliminate this preventable cause of birth defects.

In April 2012, the Measles Initiative – now known as the Measles & Rubella Initiative – launched a new Global Measles and Rubella Strategic Plan which covers the period 2012-2020. The Plan includes new global goals for 2015 and 2020.

By the end of 2015

- Reduce global measles deaths by at least 95% compared with 2000 levels.
- Achieve regional measles and rubella/congenital rubella syndrome (CRS) elimination goals.

By the end of 2020

- Achieve measles and rubella elimination in at least 5 WHO regions.

The strategy focuses on the implementation of 5 core components:

- achieve and maintain high vaccination coverage with 2 doses of measles- and rubella-containing vaccines
- monitor the disease using effective surveillance, and evaluate programmatic efforts to ensure progress and the positive impact of vaccination activities
- develop and maintain outbreak preparedness, rapid response to outbreaks and effective treatment of cases
- communicate and engage to build public confidence and demand for immunization
- perform the research and development needed to support cost-effective action and improve vaccination and diagnostic tools

Implementation of the Strategic Plan can protect and improve the lives of children and their mothers throughout the world, rapidly and sustainably. The Plan provides clear strategies for country immunization managers, working with domestic and international partners, to achieve the 2015 and 2020 measles and rubella control and elimination goals. It builds on years of experience in implementing immunization programmes and incorporates lessons from accelerated measles control and polio eradication initiatives.

As one of the founding members of the Measles & Rubella Initiative, WHO provides technical support to governments and communities to improve routine immunization programmes and hold targeted vaccination campaigns. In addition, the WHO Global Measles and Rubella Laboratory Network supports the diagnosis of rubella and CRS cases and tracking of the spread of rubella viruses.

Sources

Rubella-available at <http://www.who.int/mediacentre/factsheets/fs367/en/>

Immunization handbook(3rd Edition) 2012-Epidemiology Unit Colombo

Compiled by Dr. C U D Gunasekara of the Epidemiology Unit

Table 1: Selected notifiable diseases reported by Medical Officers of Health 06th - 12th Dec 2014 (50th Week)

RDHS Division	Dengue Fever		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	T*	C**				
Colombo	326	13964	1	117	2	221	2	213	0	3	0	59	0	0	5	405	3	64	0	3	88	13				
Gampaha	68	8103	1	39	1	32	9	448	0	23	12	267	0	5	2	273	0	72	0	3	40	60				
Kalutara	60	2547	1	60	3	84	15	356	0	4	1	24	0	1	5	253	0	73	0	0	92	8				
Kandy	73	2134	4	41	0	20	1	71	0	82	7	217	0	1	1	187	0	29	0	5	87	13				
Matale	30	595	3	20	0	19	1	44	1	6	1	140	0	1	1	52	0	49	0	32	69	31				
NuwaraEliya	5	291	1	21	0	70	3	34	2	59	0	41	0	0	10	139	2	47	0	0	85	15				
Galle	13	1119	0	9	0	33	8	226	2	111	1	16	0	1	1	401	3	59	0	3	70	30				
Hambantota	11	639	0	11	0	16	5	92	0	70	0	19	0	0	1	143	0	39	0	365	92	8				
Matarata	24	722	0	23	0	20	4	120	2	70	1	56	0	0	4	184	0	36	4	88	100	0				
Jaffna	114	1624	11	290	1	74	0	15	33	396	0	18	0	0	1	134	1	58	0	1	100	0				
Kilinochchi	2	79	0	29	0	0	0	1	0	22	1	1	0	0	0	15	0	6	0	11	50	50				
Mannar	6	303	0	37	0	9	0	4	1	25	0	3	0	0	0	11	0	8	0	5	60	40				
Vavuniya	7	136	3	71	0	32	1	10	4	11	0	5	0	0	0	12	0	19	0	6	100	0				
Mullaitivu	6	127	3	14	0	26	0	9	0	12	0	0	0	2	0	5	0	7	0	7	60	40				
Batticaloa	39	873	7	38	0	33	0	17	1	3	0	7	0	1	0	61	0	8	0	0	93	7				
Ampara	1	156	0	4	0	18	1	22	0	13	0	5	0	0	5	130	0	10	0	12	71	29				
Trincomalee	19	623	1	6	1	13	0	20	2	25	0	2	0	0	2	106	0	18	0	9	83	17				
Kurunegala	55	2329	7	22	0	32	6	145	1	48	3	71	0	1	58	457	0	76	1	146	85	15				
Puttalam	27	827	3	15	1	12	0	62	0	26	0	6	0	3	0	83	0	33	0	9	54	46				
Anuradhapura	23	568	13	284	1	62	28	151	1	32	0	19	0	1	7	223	1	55	4	403	84	16				
Polonnaruwa	10	540	2	7	0	2	2	71	0	8	0	11	0	0	2	155	2	28	0	145	57	43				
Badulla	11	950	8	16	0	15	0	55	2	115	3	162	0	0	0	95	0	127	0	1	71	29				
Monaragala	11	306	10	8	0	33	5	81	2	157	0	120	0	2	6	95	1	22	2	33	100	0				
Ratnapura	14	2760	3	31	0	34	6	446	1	106	5	460	0	1	24	206	1	49	0	33	89	11				
Kegalle	15	1633	1	51	0	34	2	284	0	62	2	259	0	0	1	250	0	73	0	2	73	27				
Kalmune	28	438	15	6	1	83	0	3	0	0	0	1	0	0	7	110	0	10	0	0	85	15				
SRILANKA	998	44386	152	4539	4	187	23	990	11	1027	99	3000	55	1489	37	198	0	20	143	4185	14	1075	11	1322	80	20

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 12th December, 2014 Total number of reporting units: 337 Number of reporting units data provided for the current week: 274 C**=Completeness

Table 2: Vaccine-Preventable Diseases & AFP

06th – 12th Dec 2014 (50th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2014	Number of cases during same week in 2013	Total number of cases to date in 2014	Total number of cases to date in 2013	Difference between the number of cases to date in 2013 & 2014
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	01	00	00	00	00	00	00	00	00	01	01	81	101	-19.9%
Diphtheria	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Mumps	02	00	00	00	03	02	02	01	00	10	13	644	1452	-55.7%
Measles	01	01	02	01	00	06	01	00	01	13	43	3058	3883	-21.3%
Rubella	00	00	00	00	00	00	00	00	00	00	00	17	27	-37.1%
CRS**	00	00	00	00	00	00	00	00	00	00	00	04	06	-33.3%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	14	24	-41.7%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	00	22	68	-67.7%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	78	85	-8.3%
Tuberculosis	06	14	14	08	00	19	00	10	00	71	470	9249	8366	+10.6%

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
 AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

Dengue Prevention and Control Health Messages

Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them

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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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