WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health

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Vol. 41 No. 39 **20th – 26th September 2014**

SRI LANKA - 2014 WER

Rabies (Part II)

This is the last in a series of two articles on Rabies.

Prevention of the Disease

Rabies is considered as almost always fatal, once symptoms of the disease develop. However, effective treatment soon after exposure to rabies can prevent the onset of symptoms and death. This is known as post exposure treatment (PET). Recorded human deaths from rabies in the world has decreased significantly due to widespread vaccination of domestic dogs and cats and the development of human vaccines and immunoglobulin treatments. [1]

Post-exposure treatment (PET) consists of:

- Local treatment of the wound, initiated as soon as possible after exposure;
- A course of potent and effective rabies vaccine that meets WHO recommendations; and
- The administration of rabies immunoglobulin, if indicated.

Begun with little or no delay, PET is highly effective against rabies. In the case in which there has been a significant delay in administering PET, the treatment should be administered regardless, as it may still be effective.

Local treatment of the wound

Removing the rabies virus at the site of the infection by chemical or physical means is an effective means of protection. Therefore, prompt local treatment of all bite wounds and scratches that may be contaminated with rabies virus is important. Recommended first-aid procedures include immediate and thorough flushing and washing of the wound for a minimum of 15 minutes with soap and water, detergent, povidone iodine or other substances that kill the rabies virus.

Anti Rabies Vaccine (ARV)

The first dose of rabies vaccine is given as soon as possible after exposure with additional doses according to the selected schedule as per country's guidelines.

ARV should be administered preferably on the same day after RIG, but at a different site. Intramuscular (IM) vaccination should be given into the deltoid, not gluteal area, which has been associated with vaccination failure due to injection into fat rather than muscle.

Rabies Immunoglobulin (RIG)

Rabies immunoglobulin should be given immediately / as early as possible after the incident depending on the country's guidelines. Administration of Rabies Immunoglobulin (RIG) should be considered as an emergency.

There are two types of rabies immunoglobulin being Equine rabies immunoglobulin (ERIG) and Human rabies immunoglobulin (HRIG).It is essential to test for sensitivity before administering ERIG. HRIG is expensive and does not require sensitivity testing prior to its administration. As much as possible of this dose should be injected around the bites, with the remainder being given by deep intramuscular injection at a site distant from the vaccination site. Deltoids should be spared for ARV when giving RIG.

Preventive immunization in people

Safe, effective vaccines can be used for pre-exposure immunization. This is recommended for people in certain high-risk occupations such as laboratory workers dealing with live rabies virus and other rabies-related viruses (lyssaviruses) and people involved in any activities that might bring them professionally or otherwise into direct contact with bats and other mammals.

Eliminating rabies in dogs

Dog rabies is a vaccine-preventable disease. The most cost-effective strategy for preventing rabies in people is by eliminating rabies in dogs through vaccination. [1]

Community participation, education and public awareness are important elements of successful

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rabies control programmes. Communities need to take responsibility for their dogs, prevent dog bites and know what to do when bitten. [1]

Activities carried out in Sri Lanka

Rabies control programme is considered as the main zoonotic control programme in Sri Lanka and it had been decentralized since 1990. The objectives of this national programme are,

- To ensure protection for those exposed to suspected rabies infection.
- To ensure protection for those who are at a higher risk of contacting rabies.
- To establish herd immunity in animal reservoirs with special emphasis on dogs.
- To control the population of animal reservoirs with special emphasis on dogs through appropriate methods.
- To remove all rabies suspected dogs humanly.

Activities in this regard are implemented by the Line Ministry and Health Authorities. Activities pertaining to policy development, strategy development, training (curative and preventive staff), mass awareness campaigns, supply of drugs, vaccines and other major inputs, research and supervision are carried out by the Public Health Veterinary Services (PHVS), Ministry of Health.

Provincial Health Services are responsible for implementation of awareness programmes, vaccination (Anti Rabies) of dogs and Animal birth control programmes with regard to rabies elimination. Provision of PET is carried out by both line ministry and provincial hospitals. [3]

Dogs were responsible for most of the human rabies deaths in Sri Lanka and therefore, eradication of dog rabies is considered to be the most logical solution to eliminate the risk of rabies to humans. [2]

- **Vaccination of Dogs**

Immunization of all dogs (domestic, community and stray) through mass vaccination campaigns to achieve 75% coverage is one of the key strategies carried out by the Rabies Control Programme. Vaccination of owned dog is carried out at pre-arranged temporary vaccination posts while stray dog vaccination is carried out using a device called 'Auto Plunger'.[2]

- **Dog population control**

Elimination of stray dogs had been carried out since 1975 in Sri Lanka as a method of dog population control. However, it was abandoned in 2005 and was replaced by surgical and appropriate chemical methods.[2]

WHO response for Rabies Control

Rabies is a 100% preventable disease. Infection causes tens of thousands of deaths in the world every year despite the availability of tools to manage the disease. The WHO has taken several actions in this regard.

In collaboration with several other organizations, WHO continues to promote human rabies prevention through the elimination of rabies in dogs as well as a wider use of the intra-dermal route for post exposure prophylaxis, which reduces volume and thereby cost of cell-cultured vaccine by 60 to 80%.WHO supports targets for elimination of human and dog rabies in all Latin American countries by 2015 and of human rabies transmitted by dogs in South-East Asia by 2020. In this latter region a five-year plan (2012–2016) aims to halve the currently estimated number of human rabies deaths in endemic countries. [1]

Sources

1. Fact Sheet on Rabies (Updated August 2014) from WHO available from http://www.who.int/mediacentre/factsheets/fs099/en/
2. An article on Human rabies focusing on dog ecology - A challenge to public health in Sri Lanka by Dr.Vindya Kumarapeli & Dr.Tamara Awerbuch-Friedlander available from Acta Tropica 112 (2009) 33–37
3. Annual Report 2013 – Public Health Veterinary Services (Rabies Control Programme) published by the Ministry of Health
4. Rabies in animals available at http://en.wikipedia.org/wiki/Rabies_in_animals

Compiled by Dr. H. A. Shanika Rasanjalee and Dr. A. Liyanapathirana of the Epidemiology Unit

Table 1 : Water Quality Surveillance
Number of microbiological water samples - August/ 2014

District	MOH areas	No: Expected *	No: Received
Colombo	12	72	NR
Gampaha	15	90	NR
Kalutara	12	72	29
Kalutara NIHS	2	12	NR
Kandy	23	138	NR
Matale	12	72	41
Nuwara Eliya	13	78	NR
Galle	19	114	106
Matara	17	102	12
Hambantota	12	72	23
Jaffna	11	66	3
Kilinochchi	4	24	0
Manner	5	30	0
Vavuniya	4	24	21
Mullatvu	4	24	7
Batticaloa	14	84	0
Ampara	7	42	0
Trincomalee	11	66	NR
Kurunegala	23	138	123
Puttalam	9	54	25
Anuradhapura	19	114	15
Polonnaruwa	7	42	0
Badulla	15	90	47
Moneragala	11	66	109
Rathnapura	18	108	85
Kegalle	11	66	28
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 13th - 19th Sep 2014 (38th 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	158	10363	1	111	1	11	3	81	0	169	6	111	0	2	1	35	0	0	5	333	1	49	0	3	**88**	**13**
Gampaha	67	5248	1	109	0	9	0	32	0	22	16	181	0	14	8	191	0	5	2	234	0	50	0	2	**53**	**47**
Kalutara	29	2045	4	131	0	6	0	41	0	59	13	208	0	2	1	14	0	1	6	197	1	61	0	0	**69**	**31**
Kandy	36	1204	2	77	0	4	0	19	0	16	4	37	4	72	11	132	0	1	2	156	2	22	0	4	**91**	**9**
Matale	11	352	2	53	0	2	1	16	0	17	1	32	0	2	0	114	0	1	1	44	2	43	0	26	**85**	**15**
NuwaraEliya	7	227	2	202	0	3	0	16	0	69	0	20	1	54	1	28	0	0	2	95	3	26	0	0	**85**	**15**
Galle	3	792	0	91	0	5	0	8	0	33	0	132	0	73	0	6	0	0	3	338	0	39	0	3	**40**	**60**
Hambantota	5	512	3	41	0	4	0	10	0	13	3	73	0	59	0	15	0	0	1	119	1	40	20	281	**83**	**17**
Matara	26	450	0	80	0	4	0	21	0	18	2	61	0	41	3	32	0	0	1	142	1	27	4	69	**100**	**0**
Jaffna	19	864	32	389	0	7	1	169	0	54	0	7	2	268	0	8	0	0	0	116	4	42	0	1	**100**	**0**
Kilinochchi	3	46	3	77	0	1	0	21	0	0	0	1	1	19	0	0	0	0	0	14	0	6	1	11	**100**	**0**
Mannar	0	63	0	29	0	10	0	34	0	9	0	4	0	24	0	1	0	0	0	10	0	6	0	3	**40**	**60**
Vavuniya	1	104	2	37	0	1	1	26	0	21	0	9	1	6	0	5	0	0	0	11	0	13	0	2	**50**	**50**
Mullaitivu	2	83	3	49	0	0	0	10	0	17	0	8	0	11	0	0	0	1	0	5	0	5	0	7	**100**	**0**
Batticaloa	3	656	14	232	0	3	1	28	0	30	0	14	0	2	0	7	0	1	1	47	0	6	0	0	**100**	**0**
Ampara	2	125	4	59	0	1	0	2	0	10	0	15	0	12	0	4	0	1	2	82	0	8	0	9	**86**	**14**
Trincomalee	3	497	1	37	0	1	2	4	3	9	0	16	2	20	0	2	0	0	0	82	1	13	0	5	**92**	**8**
Kurunegala	51	1514	1	103	1	26	0	16	2	25	2	73	0	40	3	42	0	1	2	334	0	63	0	109	**81**	**19**
Puttalam	11	515	0	56	0	2	0	11	0	10	0	58	1	21	0	3	0	3	0	71	1	22	0	6	**69**	**31**
Anuradhapura	3	410	6	118	1	5	0	3	12	45	0	80	0	27	0	10	0	0	2	184	0	41	8	311	**79**	**21**
Polonnaruwa	2	410	2	37	0	4	0	6	0	1	0	57	1	7	0	6	0	0	3	131	2	25	6	104	**86**	**14**
Badulla	17	498	3	120	0	9	1	11	2	8	1	44	6	86	1	116	0	0	2	60	5	103	0	0	**65**	**35**
Monaragala	5	217	1	45	0	4	2	8	0	33	0	62	0	139	0	99	0	2	1	67	0	17	0	26	**82**	**18**
Ratnapura	37	2387	2	184	0	20	0	23	0	26	12	280	4	85	6	340	0	1	1	164	0	37	0	26	**83**	**17**
Kegalle	21	1292	2	92	0	9	0	31	0	34	3	133	0	48	9	193	0	0	1	210	2	66	0	2	**91**	**9**
Kalmune	4	130	2	98	0	1	0	6	4	73	0	1	0	0	0	0	0	0	1	87	0	7	0	0	**77**	**23**
SRILANKA	**526**	**31004**	**93**	**2657**	**3**	**152**	**12**	**653**	**23**	**821**	**63**	**1717**	**23**	**1134**	**44**	**1403**	**0**	**18**	**39**	**3333**	**26**	**837**	**39**	**1010**	**80**	**20**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 19th September , 2014 Total number of reporting units 337 Number of reporting units data provided for the current week: 272 C**-Completeness

Table 2: Vaccine-Preventable Diseases & AFP

13th – 19th Sep 2014 (38th 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*	00	00	00	00	00	00	00	00	00	00	00	61	68	-10.3%
Diphtheria	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Mumps	02	01	02	00	00	01	00	00	02	8	13	534	1203	-55.6%
Measles	11	05	08	02	01	09	02	01	02	37	99	2686	2861	-6.1%
Rubella	00	00	00	00	00	00	00	00	00	00	01	15	24	-37.5%
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	11	18	-38.9%
Neonatal Tetanus	00	00	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	66	-66.6%
Whooping Cough	00	00	00	02	00	00	00	00	01	03	01	47	65	-27.7%
Tuberculosis	210	29	13	04	11	00	11	05	64	347	48	7257	6264	+15.8%

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

Influenza Surveillance in Sentinel Hospitals - ILI & SARI								
Month	Human					Animal		
	No Received	ILI	SARI	Infl A	Infl B	Pooled samples	Serum Samples	Positives
August	2877	41	19	01	00	610	542	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**

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