WEEKLY EPIDEMIOLOGICAL REPORT

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

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WER SRI LANKA 2016

International Conference on Dengue and Dengue Haemorrhage Fever 2016 (Part II)

This is the second in a series of 3 articles on International Conference on Dengue and Dengue Haemorrhage Fever 2016.

SYMPOSIUM 1 – CLINICAL MANAGEMENT

First Symposium was on clinical management and was co- chaired by Prof. Sanath Lamabadusooriya who is emeritus professor of pediatrics and Prof. S.A.M. Kularatne who is professor in medicine.

Commencing the session, Dr. LakKumar Fernando, Consultant Paediatrician at district general hospital Gampaha, spoke on fluid therapy in Dengue. He mentioned that treatment of both DF and DHF are largely symptomatic and in the absence of specific drug therapy, it is the fluid management in DHF that determines the final outcome of the patient whether it is death, complete recovery or admission to intensive care unit etc. Periodically checked BP, pulse volume, Heart Rate, changes in haematocrit, changes in platelet counts and urine output were the main criteria that determined fluid types, rates and volumes. Clinical decisions on the severity and progression of fluid leak in the critical phase were made on assumption based on the above parameters. This was able to bring in near zero mortality to cases of DHF also with an extremely uneventful recovery phase that greatly reduced complications and almost eliminated the need for intensive care units to manage DHF patients.

Then Dr. Ananda Wijewickrama, Consultant Physician at National Institute of Infectious Disease talked on Managing Bleeding in Dengue. Bleeding, a dreaded complication in Dengue, can range from positive Hess's test to severe overt bleeding. Increasing bleeding tendency in dengue is multifactorial and includes vasculopathy, thrombocytopenia, platelet dysfunction, clotting abnormalities and DIC. Many patients get minor bleeding; some get severe bleeding which can be often concealed. Therefore, high degree of clinical suspicion and regular monitoring of haematocrit and vital parameters of these patients are essential to detect this. Delay in treating bleeding may lead to further bleeding and shock. Bleeding should be treated with blood transfusion if it is severe enough to cause instability of vital parameters. If bleeding continues in spite of blood transfusion, then therapeutic platelet may be considered.

SYMPOSIUM 2 – VECTOR CONTROL

Prof. Rajitha Wickramasinghe and Dr. Hasitha Tissera co-chaired symposium 2, which was on vector control.

Commencing the session Prof. Paul Reiter, research professor at the institute Pasture talked on Aedes aegypti Control. He described several approaches of Aedes aegypti control such as source reduction, DDT era, Temephos, space sprays and community based control. He also discussed problems which arose during this approaches like insecticide resistance, reliance on space sprays, dissemination of vectors and shortage of resources.

Dr. Paba Palihawadana, chief epidemiologist of epidemiology unit, ministry of Health delivered

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her speech on Integrated Vector Management (IVM) in Sri Lanka. IVM is defined as a "a rational decision making process for the optimal use of resources for vector control. She mentioned that their focus on Dengue control and prevention lies with national strategies like vector control and surveillance. Vector control activities mainly include larval and adult mosquito control measures through proper solid waste disposal, regular cleanup campaign, container removal programs, chemical control, biological control etc. These activities continued throughout the year and are also useful in forecasting impending outbreaks. Vector control activities carried out in the field is further empowered by the "Prevention of Mosquito Breeding Act 2007" which gives legislative powers to the field level staff to take legal action.

Dr. Waseem Akram talked on Approaches and Tools: Dengue Epidemic in Punjab, Pakistan 2011-2015. Pakistan in particular, Punjab faced an outbreak of dengue that resulted in exponential increase in the number of cases and causalities within a period of 72 days. The combined efforts with international experiences helped to manage the disease. Various tools, interventions and strategies have been designed immediately during 2011 outbreak and these have been polished during the years to minimize the overall disease burden.

The session ended with the speech of Wilson Tan Cheong Huat on Dengue Surveillance and Control in Singapore. Surveillance and control programme has been evolving in approach and strategy, along with the change in epidemiology. It has remained effective with low force of infection and low dengue mortality rates.

DAY 2

The second day started with two guest lectures on Human B cell and T cell response to dengue infection by Dr. Aravinda De Silva who is a member of the Department of Microbiology and Immunology at the UNC School of Medicine and Dr. Alessandro Sette who is a member and head of LIAI's Division of Vaccine Discovery and chair of the Institute's Center for Infectious Diseases.

During the first oration, a strong relationship between the levels of neutralizing antibodies and possibility of developing clinically apparent dengue infection observed in their studies was explained. Using targeted neutralizing and protective human antibodies they could map the sites on DENV. He also discussed the development of novel tertiary and quaternary structure epitopes on DENV & targeted human antibodies and also a model to explain the origin of these protective antibodies highlighting the implications of their work for developing safe, effective DENV vaccines in future.

Second orator discussed whether T cell responses were correlated with protection or susceptibility to severe DENV disease has been experimented with normal blood donors from Colombo during his study.The samples associated with multiple infections revealed the negative correlation between the allele specific Class-1 T cells and reported disease susceptibility which suggests that Class-1 restricted CD8 T cell. During his discussion he explained the incomplete protection afforded by Sanofi vaccine as most CD8 responses are not focused on NS protein. He also addressed the influence of HLA gene on DENV responses and disease susceptibility.

Compiled by Dr. S.W.A. Rajika of the Epidemiology Unit

Table 1 : Water Quality Surveillance
Number of microbiological water samples March 2016

District	MOH areas	No: Expected *	No: Received
Colombo	15	90	54
Gampaha	15	90	96
Kalutara	12	72	NR
Kalutara NIHS	2	12	NR
Kandy	23	138	NR
Matale	13	78	NR
Nuwara Eliya	13	78	10
Galle	20	120	NR
Matara	17	102	0
Hambantota	12	72	NR
Jaffna	12	72	29
Kilinochchi	4	24	NR
Manner	5	30	0
Vavuniya	4	24	10
Mullatvu	5	30	4
Batticaloa	14	84	0
Ampara	7	42	0
Trincomalee	11	66	0
Kurunegala	29	174	97
Puttalam	13	78	33
Anuradhapura	19	114	20
Polonnaruwa	7	42	12
Badulla	16	96	119
Moneragala	11	66	62
Rathnapura	18	108	26
Kegalle	11	66	NR
Kalmunai	13	78	NR

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

to be continued...

Table 1: Selected notifiable diseases reported by Medical Officers of Health 09th – 15th April 2016 (16th 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	60	5107	1	48	0	0	0	18	2	13	0	69	0	3	0	14	0	0	3	164	0	16	0	0	**56**	**88**
Gampaha	9	1776	0	28	0	4	0	11	1	5	0	107	0	6	0	14	0	0	1	159	0	18	0	3	**53**	**100**
Kalutara	11	949	1	31	0	2	0	15	0	15	3	200	0	4	0	11	0	0	0	87	0	25	0	0	**50**	**86**
Kandy	7	662	0	39	0	9	0	9	0	17	0	59	0	28	1	30	0	0	3	50	2	17	0	6	**65**	**96**
Matale	4	137	0	10	0	1	0	6	0	2	1	45	0	10	0	11	1	1	0	16	0	37	0	13	**46**	**100**
NuwaraEliya	7	111	2	26	0	1	0	17	0	8	0	16	2	24	2	13	0	0	0	48	0	16	0	0	**77**	**100**
Galle	0	577	0	23	0	3	0	1	0	2	0	111	0	39	0	4	0	0	2	96	0	19	0	1	**40**	**85**
Hambantota	3	239	0	13	0	1	0	0	0	48	1	54	0	32	0	12	0	0	4	93	0	4	1	125	**75**	**100**
Matara	8	300	1	23	0	2	0	4	1	31	1	70	0	20	0	12	0	0	1	78	0	5	0	90	**94**	**100**
Jaffna	21	1133	0	83	0	2	0	40	0	24	0	7	4	490	0	4	0	0	1	96	1	15	0	1	**100**	**100**
Kilinochchi	1	41	1	16	0	0	1	19	0	3	0	8	0	18	0	0	0	0	0	2	0	4	0	0	**50**	**75**
Mannar	2	66	0	5	0	4	0	12	0	1	0	8	0	35	0	0	0	0	0	7	0	1	0	0	**80**	**100**
Vavuniya	0	117	0	4	0	0	0	7	0	10	0	10	0	7	0	3	0	0	0	15	0	1	0	2	**50**	**100**
Mullaitivu	8	77	0	8	0	0	0	11	0	4	1	17	0	4	0	0	0	0	0	1	1	4	0	4	**80**	**100**
Batticaloa	3	241	4	99	0	0	0	8	0	83	1	21	0	4	0	5	0	0	0	27	0	5	0	1	**64**	**86**
Ampara	0	71	0	9	0	0	0	0	0	13	0	18	0	0	0	6	0	0	0	34	0	0	0	4	**14**	**57**
Trincomalee	1	216	0	18	0	0	0	8	0	21	0	7	0	10	0	24	0	1	1	75	0	5	0	2	**67**	**92**
Kurunegala	13	556	1	73	0	6	0	1	0	6	2	63	0	7	0	15	0	2	1	103	0	19	0	34	**79**	**93**
Puttalam	4	444	0	18	0	1	0	3	0	0	0	23	0	51	0	0	0	0	1	32	0	13	0	0	**38**	**77**
Anuradhapura	2	212	0	26	0	1	0	2	0	20	4	141	0	14	0	10	0	0	0	81	0	15	0	67	**63**	**95**
Polonnaruwa	1	135	0	12	0	2	0	8	0	5	1	47	0	1	0	2	0	0	0	34	0	5	0	51	**43**	**86**
Badulla	2	201	0	29	0	7	0	3	0	5	2	54	0	29	0	56	0	0	0	64	0	74	0	0	**41**	**82**
Monaragala	1	128	0	16	0	1	0	2	0	5	3	123	1	42	1	70	0	1	2	27	0	12	0	10	**64**	**100**
Ratnapura	13	603	1	84	1	13	0	12	0	15	2	130	0	13	0	60	0	0	0	69	1	43	0	0	**44**	**83**
Kegalle	5	451	0	16	0	10	0	15	1	22	0	71	1	9	1	10	0	0	1	133	0	16	0	0	**55**	**100**
Kalmune	5	305	0	27	0	3	0	3	0	8	0	8	0	0	0	1	0	4	0	35	0	8	0	0	**46**	**92**
SRILANKA	**191**	**14855**	**12**	**784**	**1**	**73**	**1**	**235**	**5**	**386**	**22**	**1487**	**8**	**900**	**5**	**387**	**1**	**9**	**21**	**1626**	**5**	**397**	**1**	**414**	**60**	**92**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 15th April, 2016 Total number of reporting units 339 Number of reporting units data provided for the current week: 315 C**-Completeness

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

Table 2: Vaccine-Preventable Diseases & AFP

09th – 15th April 2016 (16th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2016	Number of cases during same week in 2015	Total number of cases to date in 2016	Total number of cases to date in 2015	Difference between the number of cases to date in 20156& 2015
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	02	17	22	-23.1%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	00	00	00	01	00	01	00	00	00	01	03	129	118	+9.3%
Measles	01	01	00	00	00	00	00	00	00	02	30	223	655	-66.1%
Rubella	00	00	01	00	00	00	00	00	00	01	00	06	04	+50%
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	02	04	-50%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	01	00	07	-100%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	01	24	30	-20%
Tuberculosis	95	16	06	01	01	14	00	01	08	142	128	2809	2816	-0.2%

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
March	4427	47	24	01	2	833	560	0

Source: Medical Research Institute & Veterinary Research Institute

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ON STATE SERVICE

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