WEEKLY EPIDEMIOLOGICAL REPORT

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

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Vol. 43 No. 16 **09th – 15th April 2016**

WEER SRI LANKA 2016

International Conference on Dengue and Dengue Haemorrhage Fever 2016 - (Part I)

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

Introduction

The International Conference on Dengue & DHF was successfully held from 24th to 26th February 2016 at BMICH, Colombo, Sri Lanka with the participation of representatives from 20 countries. The theme of the conference was "Dengue: to Stem the Tide."

The conference was organized by the Epidemiology Unit, Ministry of Health, Sri Lanka, in collaboration with the Centre for Global Health Research at the University Umea, Sweden with its 14 partners from Europe, Asia and South America and the Partnership for Dengue Control (PDC) of Fondation Merieux (FMx), France.

The broad aim of the conference was to celebrate the end of European Community's dengue Tools Project and to translate this information directly into improved tools for surveillance, better diagnosis, as well as prediction and prevention of Dengue to previously uninfected regions (including Europe) in the context of climate change.

It brought together renowned scientists, clinicians, researchers and scholars with a common interest and concern in the global dengue situation and provided an opportunity to professionals in the field of health and allied health sciences to discuss dengue and its management, prevention and control strategies.

Inauguration session

The inauguration Session was held on 24th February from 6.00 p.m. onwards with the participation of His Excelency Maithripala Sirisena, President of Sri Lanka as the Chief Guest, Hon. Khawaja Salman Rafique, Member of Provincial Cabinet on Healith of Punjab Province, Pakistan as the special guest, Hon. Faizer Mustapha, Minister of Local Government and Provincial Councils as the Guest of Honour, Hon. Dr. Sudharshani Fernandopulle, Minister of City Planning and Water Supply and about 350 guests both international and local. Keynote address was jointly delivered by Prof. Duane J. Gubler who is professor and founding director, Signature Research Program in Emerging Infectious Diseases at the Duke-NUS medical school, Singapore and Dr. In Kyu Yoon who is Deputy Director General of Science and Director of the Dengue Vaccine Initiative at the International Vaccine Institute in Seoul, Korea. The discussion topics were "Can we control Dengue "and "Overview of Dengue Vaccine Pipeline". Prof. Gubler told that none of dengue tools alone is effective in reducing dengue transmission and it is effective when used in an integrated and synergic way. Dr. Yoon mentioned that currently, six different dengue vaccine candidates are in active clinical development in various phase of human clinical trials. The inauguration session was concluded with two attractive cultural events.

PLENARY SESSION ON DENGUE TOOLS

First technical session was the Plenary Session on Dengue Tools.

Prof Annelies Wilder-Smith who is the scientific coordinator of Dengue Tools, briefed the audi-

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ence on Dengue Tools, which is formed to address three research areas such as setting up of an early warning lab based sentinel disease surveillance system in Sri Lanka, insecticide treated school uniforms to reduce the incidence of dengue in school children and future collection of clinical and minimize risk of introduction of dengue to non-infected areas, including Europe.

Dr. Hasitha Tissera, Consultant Epidemiologist leading the National Dengue Control Program of Ministry of Health talked on enhanced dengue sentinel surveillance in Colombo, Sri Lanka. Dengue has emerged as a major public health problem in Sri Lanka. To obtain more data on the burden of dengue, a laboratory – based enhanced sentinel surveillance system was established in metropolitan Colombo according to which, out of 3127 patients presenting with acute onset of fever, 43.6% had laboratory confirmed dengue, mainly caused by dengue serotype 1.

Prof. Sazaly Abu Bakar from Malaysia talked on Point of Care (POC) Diagnostics in the Field. Early detection of dengue is critical to ensure that patients obtain immediate medical attention and immediate public health control measures, taken to prevent further spread of the disease. The POC testing to rapidly detect dengue as early as day one of fever is now available. This testing method could become the preferred diagnostic method, especially in the field and in resource limited environment.

Dr. Ashley St. John assistant professor at Duke-NUS Graduate Medical School described Mast Cells Degranulation and Severe Dengue. Vascular leakage during infection is the result of immune pathology that is induced by cytokines and other de novo transcribed vasoactive factors release from infected cells. In some patients with DHF, vascular pathology can become severe, resulting in extensive microvascular permeability and plasma leakage. Mast cells (MCs) which are granulated immune cells that line blood vessels and regulate vascular function, are able to detect dengue virus particles in vivo and release pre stored inflammatory mediators. The pre stored MC products to be the key for promoting endothelial cell permeability and vascular leakage.

Dr. Yesmin Tozan said that they had estimated the public sector costs of dengue control activities and the direct costs of hospitalization in Colombo which is the most heavily urbanized area in Sri Lanka, during the epidemic year 2012, According to the study, the total cost of dengue control and reported hospitalization was estimated at USS 3.45 million (USS 1.50 per capita) in the Colombo district in 2012. As such, the county specific evidence is needed for setting public health priorities and deciding on the deployment of existing or new technologies as the results suggest that dengue poses a major economic burden on the public health sector in Sri Lanka.

Dr. Joacim Rocklov, associate professor in Epidemiology and Global Health talked on Early Warning System. Climate change is associated with changes in the seasonal weather pattern with subsequent impacts on the suitability and temporal and spatial distribution of, in particular, water and vector borne diseases. An early detection of a new establishment or an outbreak of an infectious agent is of great importance to limit its consequences on population health. At an operational level a simple and well-functioning early warning system is valuable to timely and well informed response activities.

Dr. October Sessions, assistant professor in the Emerging Infectious Disase program at Duke-NUS described Dengue Virus Sequencing from Sri Lanka. Sri Lanka has experienced confirmed dengue outbreaks since 1960 although severe dengue disease (DHF/DSS) did not appear until 1989. Since then, cyclical outbreaks associated with severe disease have occurred throughout the island. The most recent epidemic began in 2009 with the apparent introduction of a new genotype of DENV 1. Full genome data and polygenic analysis indicate that the DENV1 are predominantly genotype 1 although smaller number of genotype 5 isolates are also identified.

Dr. Paul Reiter talked on Aedes albopictus in Europe. He told that Aedes albopictus is now established in at least 27 countries in Europe. It is a serious nuisance species in the Mediterranean region and is expanding rapidly northwards. Spays spray (ULV) dispensed from road vehicles is the principal strategy used for control.

After the Plenary Session on Dengue Tools Prof. Suchithra Nimmantiya who is a senior consultant Paediatrician at Queen Siokit National Institute of Child Health, delivered the guest lecture on Classifying Dengue Haemorrhagic Fever. She was the one who described the clinical course and classified disease severity into 4 grades and set up clinical criteria for early and correct diagnosis of DHF. She also developed guidelines for management. Both clinical diagnostic criteria and regimen of management of DHF which she has developed and used at the Children's hospital have been adopted as recommended by the WHO since 1974 and now widely used in areas where DHF is present.

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

to be continued...

Table 1: Selected notifiable diseases reported by Medical Officers of Health 02nd – 08th April 2016 (15th 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	136	5009	2	46	0	0	0	18	3	11	2	66	0	3	0	13	0	0	8	156	0	15	0	0	**69**	**94**
Gampaha	13	1726	0	22	0	4	0	11	0	2	5	95	0	5	0	14	0	0	3	156	0	18	0	3	**27**	**67**
Kalutara	11	870	0	26	0	2	1	15	0	10	5	185	0	4	0	11	0	0	0	81	0	25	0	0	**21**	**93**
Kandy	13	650	2	37	0	9	0	9	0	17	0	58	1	28	3	29	0	0	0	45	0	15	0	6	**61**	**91**
Matale	0	130	0	10	0	1	0	6	0	2	1	42	0	10	0	11	0	0	0	14	0	36	0	12	**15**	**92**
NuwaraEliya	9	101	1	24	0	1	0	17	0	8	1	15	0	21	1	10	0	0	1	46	0	15	0	0	**46**	**85**
Galle	4	552	1	20	0	3	0	1	0	2	0	108	6	39	0	4	0	0	1	92	0	19	0	1	**20**	**85**
Hambantota	1	231	0	13	0	1	0	0	0	48	0	53	0	31	0	12	0	0	3	86	0	4	0	123	**50**	**92**
Matara	11	292	0	22	0	2	0	4	0	30	4	69	1	20	0	12	0	0	8	77	0	5	1	90	**88**	**100**
Jaffna	12	1111	3	82	0	2	1	40	0	22	0	7	4	484	0	4	0	0	5	95	0	14	0	1	**58**	**92**
Kilinochchi	2	39	0	15	0	0	0	16	0	2	0	8	0	18	0	0	0	0	0	2	0	4	0	0	**25**	**75**
Mannar	0	64	0	5	0	4	0	10	0	1	0	8	0	33	0	0	0	0	0	7	0	1	0	0	**0**	**100**
Vavuniya	0	116	0	4	0	0	0	7	0	10	0	10	0	6	0	3	0	0	0	15	0	1	0	2	**0**	**100**
Mullaitivu	0	66	0	8	0	0	0	11	0	4	0	16	0	4	0	0	0	0	0	1	0	3	0	4	**20**	**80**
Batticaloa	8	236	2	95	0	0	0	8	0	83	0	18	0	4	1	5	0	0	1	27	1	5	0	1	**29**	**79**
Ampara	0	71	0	8	0	0	0	0	0	13	0	16	0	0	0	5	0	0	0	30	0	0	0	4	**0**	**57**
Trincomalee	1	207	0	17	0	0	0	7	0	8	1	4	0	8	0	24	0	1	4	69	0	5	0	2	**33**	**83**
Kurunegala	1	526	0	63	0	6	0	1	0	5	0	59	0	7	0	14	0	1	1	98	0	18	0	33	**14**	**90**
Puttalam	0	427	0	18	0	1	0	3	0	0	0	23	0	51	0	0	0	0	0	30	0	11	0	0	**0**	**62**
Anuradhapura	0	202	0	25	0	1	0	2	0	20	0	133	0	13	0	10	0	0	2	73	0	15	2	67	**5**	**89**
Polonnaruwa	0	131	0	12	0	2	0	8	0	5	0	46	0	1	0	2	0	0	3	33	0	5	0	47	**29**	**86**
Badulla	1	185	0	28	0	7	0	2	0	5	3	51	0	27	1	52	0	0	4	59	1	73	0	0	**29**	**76**
Monaragala	8	126	1	15	0	1	0	2	0	0	9	120	1	40	2	65	0	1	3	24	0	12	0	10	**64**	**91**
Ratnapura	11	557	1	81	0	12	0	12	0	14	0	119	0	13	3	59	0	0	3	64	0	39	0	0	**33**	**78**
Kegalle	7	434	0	15	0	9	0	14	0	11	0	68	0	6	0	9	0	0	1	123	0	16	0	0	**36**	**100**
Kalmune	5	295	0	22	0	3	0	3	0	8	0	8	0	0	0	1	0	4	0	30	0	8	0	0	**15**	**100**
SRILANKA	**254**	**14354**	**13**	**733**	**0**	**71**	**2**	**227**	**3**	**341**	**31**	**1405**	**13**	**876**	**11**	**369**	**0**	**7**	**51**	**1533**	**2**	**382**	**3**	**406**	**33**	**86**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 08th April, 2016 Total number of reporting units 339 Number of reporting units data provided for the current week: 297 C**-Completeness

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

Table 2: Vaccine-Preventable Diseases & AFP

02nd – 08th April 2016 (15th 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	01	00	00	00	00	01	00	17	20	-15%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	00	01	00	00	00	00	01	01	00	03	02	123	108	+14.1%
Measles	01	00	01	00	00	00	00	00	00	02	24	217	584	-63.1%
Rubella	00	00	00	00	00	00	00	00	00	00	00	05	04	+25%
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	00	00	06	-100%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	02	23	30	-23%
Tuberculosis	100	63	26	19	14	00	13	12	42	289	97	2667	2688	0.7%

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

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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