WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Healthcare and Nutrition

231, de Saram Place, Colombo 01000, Sri Lanka
Tele: + 94 11 2695112, Fax: +94 11 2696583, E mail: epidunit@sltnet.lk
Epidemiologist: +94 11 2681548, E mail: chepid@sltnet.lk
Web: http://www.epid.gov.lk

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Survey on Dengue Epidemic 2009 (Part1)

Background Information

Dengue fever is considered the most significant arthropod borne viral disease in the world. It is a severe disease with high epidemic potential. According to the current estimates 2.5 billion people worldwide (40% of the world population) are at risk of dengue infection. An estimated 50 million cases of dengue fever per year is seen world wide with 500,000 million going into dengue haemorrhagic fever. Approximately 22000 people die of dengue per year globally *.

Dengue fever is endemic in Sri Lanka for several decades. Epidemics of dengue have been observed every two to three years, and in 2004 a large outbreak of dengue occurred with 15467 cases and 88 deaths. Compared to the past few years, case load and deaths due to dengue has been markedly increased during the year 2009 with over 32000 cases and 315 deaths reported to the Epidemiology Unit to date. The districts of Kandy, Colombo, Gampaha, Kegalle and Kurunegala, have been the worst affected. Although these are potentially high risk districts, the current tendency is for the disease to spread in other areas as well.

Justification

Evaluation of clinical cases and deaths during the current Dengue epidemic has revealed that morbidity and mortality rates also have gone up compared to previous years. This has made situation more alarming for the public. As the case fatality rate is quite high the need of proper and timely management has been highlighted. Hence reviewing the current system is of utmost importance.

Year	Cases	Deaths	CFR %
2000	5203	37	0.7
2001	5986	54	0.9
2002	8931	64	0.7
2003	4749	32	0.7
2004	15463	88	0.6
2005	5994	28	0.5
2006	11980	48	0.4
2007	7327	28	0.4
2008	6560	27	0.4
2009 (nov)	32000	316	1.0

Table 01: *Case fatality rate due to Dengue from year 2000-2009*

As suggested at a National Consultative Meeting, the Epidemiology Unit decided to conduct a survey on the Dengue Epidemic 2009 among the clinicians.

Objectives

The broad objective of this survey was to get a feedback from all clinicians in different areas and settings who were involved in managing suspected dengue/DHF patients during the 2009 epidemic and to find out more about the disease severity and ways to improve the healthcare service provision in the future.

Methodology

The survey was conducted as an anonymous survey with only the district to be mentioned by the respondent. A self administered questionnaire with both close and open ended responses was developed with the inputs of experts in National level sub committees of Paediatricians and Physicians involved in the Management of Dengue fever. The questionnaire was posted with a return stamped envelope to the names of individual clinicians (both Paediatricians and Physicians) at Base hospitals and above in 15 districts, where dengue is endemic (altogether 200 clinicians). A time period of 2 months was given for the responses to reach the Epidemiology Unit. Results were analyzed at the end of 2 months and the following conclusions were arrived at.

Results

The survey form was sent to100 paediatricians, and 93 physicians of 15 districts where Dengue is endemic in Sri Lanka.

Total of 39 (20%) clinicians from the following Districts have responded at the end of 2 months .

District	Number
Colombo	7
Gampaha	5
Kalutara	2
Matara	2
Galle	2
Kegalle	2
Ratnapura	3
Kurunegala	3
Kandy	5
Batticaloa	2
Anuradhapura	1
Not mentioned	5
Total	**39**

Table 2: *Districts and the number of clinicians* responded to the survey at the end of 2 months

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Clinicians who responded had managed a large no of dengue cases as shown by the following table .

No. of patients	DF	DHF/DSS
<25	3(8%)	12(32%)
25-50	3(8%)	13(35%)
50-100	7(18%)	5(13%)
100-250	7(18%)	5(13%)
>250	17 (45%)	0(0%)
N/M	1(3%)	3(8%)
Total	**38(100%)**	**38(100%)**

Table 3: *No. of Dengue/ DHF/DSS patients seen by each of the consultant in the year 2009 – up to end of October (approximate figures)*

Dengue Deaths	No(%)
0	17(45%)
1 to 5	17(45%)
5 to 10	3(8%)
>10	1(3%)
Total	**38(100%)**

Table 4: *No. of Deaths due to Dengue/ DHF/DSS of patients managed by each of the consultant in the year 2009 – up to end of October (approximate)*

Concerns with regard to the health seeking behaviour of patients

Following are the concerns in the health seeking behaviour of patients.

	Yes	%	No	%	N/M	To-tal
Delay in seeking medical care	25	65	11	29	2	38
Self medication	10	26	20	52	8	38
Use of NSAIDS	16	42	14	37	8	38
Use of Steroids	3	8	25	66	10	38
Inadequate rest during illness	26	68	7	18	5	38
Failure to recognize early warning signs/symptoms	26	68	7	18	5	38

Table 5: *Problems in the health seeking behaviour of Dengue patients.*

Most of the clinicians have mentioned inadequate rest during the illness and failure to recognize early warning signs/symptoms as a problem.

Delay in seeking medical care was observed by 65% of clinicians and 42% have mentioned use of NSAIDS as a problem. Therefore these issues might have to be addressed to improve the quality of management.

Views of the clinicians on the care received at the primary health care level.

	GP	Dispensary	OPD	Other
Good	8	4	13	1
Satisfactory	15	16	18	2
Unsatisfactory	10	4	4	0
N/M	5	14	3	35
Total	38	38	38	38

Table 6: *Views of clinicians on the care received at the level of primary health care*

Most clinicians have mentioned that the management at OPD level is either good or satisfactory whereas 23 out of 38 were satisfied with GP management as well.

Transfer related issues

Yes	No	N/M	Total
21	13	4	38

Table 7 : *views of clinicians on adequacy of management before transfer*

Only 21 out of 38 have said that the management before transfer had been adequate.

	Good	Satis-factory	Unsatis-factory	N/M	Total
Timeliness	6	18	9	5	38
Accompanying Medi-cal personnel	5	16	10	7	38
Fluid management	3	14	16	5	38
Documentation of information					
Fluids given	3	8	18	9	38
Other treatments	3	18	9	8	38
Test results	3	15	11	9	38
Complications en-countered	2	11	18	7	38
Reasons for transfer	5	20	3	10	38

Table 8: *Clinicians views on conditions with regard to transfer*

It is of importance to note that many have noticed deficiencies in documentation in the transfer forms including fluids given, complications and test results.

Forty percent clinicians were not satisfied with the fluid management before and during the transfer of patients.

Level of satisfaction with existing facilities at each institution

Facilities	Satis-fied	%	Not satis-fied	%	NM	%	total
First contact diagnosis	26	68.4	11	28.9	1	2.6	38
Investigation facilities	13	34.2	24	63.1	1	2.6	38
Accommodation-Bed Strength	15	39.4	21	55.2	2	5.2	38
Staff- No. of Doctors	20	52.6	17	44.7	1	2.6	38
Staff- Nursing officers	17	44.7	21	55.2	0	0	38
Staff- Other categories	12	31.5	24	63.1	2	5.2	38
Management- Drugs/Equipments	20	52.6	18	47.3	0	0	38
ICU Facilities/ Critical Care	8	21	28	73.6	1	2.6	38

NM: Not mentioned

Table 9: *Level of satisfaction with existing facilities at each institution*

Most clinicians have expressed their concern with critical care facilities, investigation facilities and availability of staff members.

Suggestions by clinicians to improve the existing facilities at health-care institutions

- Improve screening facilities at OPD level. (Set up special unit for Triage/ PCU)
- Improve the availability of drugs and equipments (eg; Adrenalin, fresh blood, colloids, platelet concentrates, Dextran, Micro haematocrit machines)
- Increase the staff strength during epidemic period.
- Enhance better coordination within the hospital (OPD, Wards, blood bank, ICU)
- In-service special training for ICU staff

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Table 1: Vaccine-preventable Diseases & AFP

28th November -04th December - 2009(49thWeek)

Disease	No. of Cases by Province									Number of cases during current week in 2009	Number of cases during same week in 2008	Total number of cases to date in 2009	Total number of cases to date in 2008	Difference between the number of cases to date in 2009 & 2008
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	01	01	00	00	00	00	01	00	03	01	71	92	-22.8%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	-
Measles	00	00	00	00	00	00	00	00	00	00	00	169	108	+56.4%
Tetanus	00	00	00	00	01 BT=1	00	00	00	00	01	00	29	36	-19.4%
Whooping Cough	00	00	00	00	01	00	00	00	01	02	00	63	48	+31.2%
Tuberculosis	15	09	03	00	11	00	01	02	11	52	217	9823	7952	23.5%

Table 2: Newly Introduced Notifiable Disease

28th November -04th December - 2009(49thWeek)

Disease	No. of Cases by Province									Number of cases during current week in 2009	Number of cases during same week in 2008	Total number of cases to date in 2009	Total number of cases to date in 2008	Difference between the number of cases to date in 2009 & 2008
	W	C	S	N	E	NW	NC	U	Sab					
Chickenpox	14	05	08	03	06	09	02	07	09	63	86	14131	5189	+172.3%
Meningitis	14 CB=10 KT=2 GM=2	02 KN=2	04 GL=3 MT=1	00	02 TR=2	13 KR=11 PU=2	31 PO=29 AP=2	02 BD=1 MO=1	08 RP=6 KG=2	76	14	1664	1234	34.8%
Mumps	03	06	00	00	02	01	01	04	02	19	19	1664	2761	-39.7%
Leishmaniasis	00	00	03 MT=3	00	01 TR=1	07 AP=7	00	01	00	12	Not available*	655	Not available*	-

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.

DPDHS 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, Whooping Cough, Chickenpox, Meningitis, Mumps.

Special Surveillance: Acute Flaccid Paralysis.

Leishmaniasis is notifiable only after the General Circular No: 02/102/2008 issued on 23 September 2008.

Table 4: Surveillance of Communicable diseases among

28th Nove -04th Dec 2009(49thWeek)

Area \ Disease	Dysentery	Enteric fever	Viral Hepatitis	Chicken Pox	Watery Diar-rhoea
Vavunia	0	2	1	0	0
Chendikulam	2	0	1	25	127
Total	**02**	**02**	**02**	**25**	**127**

Table 4: Selected notifiable diseases reported by Medical Officers of Health

28th November -04th December - 2009(49thWeek)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Returns Received
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	%
Colombo	85	4299	3	238	0	13	1	223	0	120	24	1138	0	6	4	153	0	7	**85**
Gampaha	42	4223	3	162	1	23	1	49	0	38	7	472	0	9	4	258	0	6	**60**
Kalutara	4	1485	4	351	0	14	0	61	0	47	14	565	0	1	1	89	0	3	**75**
Kandy	45	4054	6	307	0	8	0	30	3	67	8	228	2	166	7	144	0	0	**80**
Matale	44	1921	3	145	0	4	1	33	0	39	3	327	0	5	1	91	0	2	**92**
Nuwara	8	265	5	405	0	2	1	181	0	803	1	45	2	77	2	97	0	0	**77**
Galle	6	615	7	250	0	10	0	4	0	111	9	234	0	15	2	35	0	6	**89**
Hambantota	11	941	5	100	0	8	0	8	0	16	6	98	0	84	1	53	0	0	**73**
Matara	3	1130	2	263	0	8	1	10	0	27	2	241	2	147	3	69	0	1	**88**
Jaffna	5	75	0	131	0	3	4	311	0	30	0	0	0	125	2	198	0	4	**25**
Kilinochchi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Mannar	0	6	5	115	0	1	4	123	0	23	0	0	0	1	1	76	0	0	**100**
Vavuniya	79	406	1	1648	0	25	2	700	0	5	0	7	0	6	5	3778	0	0	**75**
Mullaitivu	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**0**
Batticaloa	3	569	4	314	0	15	1	23	0	56	1	11	0	5	0	24	1	6	**64**
Ampara	8	250	8	130	0	1	0	12	0	8	0	14	1	3	3	100	0	0	**100**
Trincomalee	1	339	6	199	0	4	2	20	0	6	0	21	0	19	0	61	0	1	**100**
Kurunegala	25	2816	16	248	0	13	2	85	0	15	10	161	2	95	1	169	0	4	**85**
Puttalam	5	641	3	172	0	7	0	76	0	11	3	96	0	31	0	44	0	1	**67**
Anuradhapu	10	558	12	149	0	7	0	8	13	55	1	94	0	30	5	203	0	4	**84**
Polonnaruw	2	193	8	135	0	4	0	21	0	10	0	65	0	10	1	95	0	0	**100**
Badulla	3	356	5	404	0	5	0	59	0	34	0	97	0	135	2	320	0	1	**60**
Monaragala	6	182	2	156	0	2	0	24	0	36	0	15	0	68	0	94	0	2	**82**
Ratnapura	7	2047	10	520	1	21	1	54	0	45	6	365	0	36	4	253	0	2	**67**
Kegalle	8	3762	4	191	0	10	2	57	0	7	10	328	0	38	4	277	0	1	**82**
Kalmunai	4	271	1	115	0	2	0	15	0	8	0	7	0	3	0	24	0	0	**62**
SRI LANKA	**414**	**31404**	**123**	**6886**	**02**	**210**	**23**	**2188**	**16**	**1617**	**105**	**4629**	**09**	**1115**	**53**	**6705**	**01**	**51**	**75**

Source: Weekly Returns of Communicable Diseases WRCD).
*Dengue Fever / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.
**Timely refers to returns received on or before 04th December, 2009 Total number of reporting units =311. Number of reporting units data provided for the current week: 236
A = Cases reported during the current week. B = Cumulative cases for the year.

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ON STATE SERVICE

Dr. P. PALIHAWADANA
CHEIFEPIDEMIOLOGIST
EPIDEMIOLOGY UNIT
231, DE SARAM PLACE
COLOMBO 10