WEEKLY EPIDEMIOLOGICAL REPORT

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OUTPATIENT AND FIRST CONTACT MANAGEMENT OF DENGUE FEVER/DHF

In the profile of communicable diseases in Sri Lanka, dengue still remains the major problem despite the resurgence of leptospirosis in the last two years. So far, by the end of the first quarter of the 2009, two thousand nine hundred and twenty (2920) Dengue cases and twenty eight (28) deaths due to Dengue have been reported. Compared to the same period in year 2008, this is a 30% increase in the case load. Furthermore, the number of deaths reported for the entire year 2008 has been 27 with a case fatality rate of 0.4%. However, for this year, so far 28 deaths have already been reported and it amounts to a case fatality rate of 1.0%. Majority of these deaths were among those who were above 25 years of age. This is an alarming trend which warrants early action.

Having considered the seriousness of this situation, a consultative meeting was held in March 2009 to discuss the situation with the members of the clinical subcommittee who developed the '***Guidelines on Clinical Management of Dengue Fever/Dengue Haemorrhagic Fever***' in 2005. It was pointed out in this meeting, that Out Patient Department (OPD) and 1st contact level, management guidelines circulated in 2005 need to be reemphasised to all doctors in different spheres in order to further strengthen screening and management of fever patients.

The relevant chapters of the Guidelines on outpatient and first contact management are published here in two parts for wider circulation:

Assessment of patient on the 1st day of a fever during a dengue epidemic

The early manifestations of dengue infection are high fever with significant myalgia and arthralgia, possibly some erythema of the skin better noticed in the palms, soles and around the neck. Coryza and cough are not usually found. The practising physician should exclude other common causes of fever. If another cause for fever is established, it is necessary to act accordingly. Even if dengue fever is suspected, the patient need not be admitted at this stage. If the patient or the guardians request admission, the physician should try to convince them that admission is not necessary. A Full Blood Count at this stage will not help to rule out or suspect dengue infection. Management consists of extra fluids, normal diet, rest and the correct dose of paracetamol (60mg per kg per 24 hours). Non Steriodal Anti Inflammatory Drugs (NSAID) are contraindicated. The patient should be reviewed on the 3rd day of fever.

Assessment of the patient on the 2nd day of fever

The assessment and the management is the same as on the 1st day. But the patient should be reviewed in 24 hours.

Assessment of the patient on the 3rd day of fever

The following should be actively looked for.

- Enlarged tender liver (*essential to examine in the horizontal position*)
- Check capillary filling time and the pulse. If the capillary filling time is > 2 seconds or the pulse is rapid or is of low volume check the blood pressure.

(*measuring the BP is recommend in children over 5 years*)

Normal values for vital signs are as follows.

Age	Heart rate	Blood pressure Systolic / Diastolic
0-3 months	100-150	65-85 / 45-55
3-6 months	90-120	70-90 / 50-65
6-12 months	80-100	80-100 / 55-65
1-4 years	70-110	90-105 / 55-70
4-6 years	65-110	95-110 / 60-75
6-12 years	60-95	100-120 / 60-75
> 12 years	55-85	110-135 / 65-85
Adults	60-100	110-135/65-85

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- Examine for bleeding manifestations
- Examine for cold extremities
- Check for diminished air entry at the lung bases
- Tourniquet test is not routinely recommended because of the time factor and low yield rate. It can be done depending on the workload.

Full Blood Count is mandatory, if not, Haematocrit (Hct) and platelet count should be done.
It is recommended that MOO/OPD be trained to do the Hct and the facility is made available at least in the large hospitals in areas where dengue fever is endemic.
The normal Hct can be taken as 45 for adults, 40 for children and 35 below 1 year.

A platelet count between 100,000 to 150,000 per cu.mm should alert the physician.
A patient with a platelet count below 100,000 per cu.mm should be admitted.
If the above findings are within normal limits and the patient is clinically well, the patient may be sent home with the following warning messages. The patient should report back immediately if any of the following findings are noticed.

- Significant abdominal pain
- Black or Red coloured stool
- Persistent vomiting
- Coffee ground or Red coloured vomitus
- Any other bleeding tendency
- Cold extremities
- Restlessness or drowsiness

If any of these findings are present the patient should be admitted.
In the absence of any of the above findings,

- Review the patient in 24 hours and repeat Packed Cell Volume (PCV) and platelet count.
- If patient is well and there is no fever, paracetamol should be stopped.
- If fever continues review daily till the 6th or 7th day with PCV and platelet counts.

Serological tests for dengue are not essential for the clinical management except in a minority of cases where the diagnosis is in doubt. It is indicated to establish the diagnosis for epidemiological information.

Management on day 4 and 5
As long as the patient remains well with reasonably normal blood counts, they need not be admitted. If any of the findings mentioned under day 3 as indications for admission are found the patient should be admitted.
Even if one decided to admit the patient it is essential that the first contact doctor should stabilize the patient at primary care before sending out for indoor care. This applies even to the MOO/OPD at the major hospitals. The immediate treatment for stabilization is Hartman's solution or N – Saline bolus of 10ml per kg over 20 minutes. Establishment of an Emergency Treatment Unit (ETU) in the out patient department for this purpose is a useful step at least in the major hospitals.
Good relationship between the ward staff and the OPD medical officer is essential. The services of the registrar on call to the medical / paediatric casualty ward should be available to the OPD officers when required. The OPD or the first contact doctor should in turn communicate with the house officer on call to the ward prior to sending the patient to the ward.

A leaflet explaining the danger signs of dengue, which can be given to the patient, and similar posters in the waiting room, are recommended.

Leaflet to be given to suspected Dengue patients at OPD

Your child/family member probably has dengue fever
He/she can develop serious complications of the disease, which if recognized early, will help to save his/her life.

What should be done ?

- Patient needs bed rest
- Give plenty of fluids (water, rice cunjee, soup, fruit juices, etc)
- Give paracetamol (correct dosage) 6 hourly, to bring down temperature (maximum of 04 doses per day)
- Do tepid sponging to control fever, when it is high despite he/she has been given paracetamol
- If possible, make the patient rest under a bed net even during day time to prevent mosquito bites
-

What should be avoided?

- Do not give aspirin or aspirin containing drugs
- Do not give red or black coloured food or drink (e.g. coffe, coca cola, etc.)

Fever might suddenly settle but he/she may develop the following danger signs

- Red spots or patches on the skin
- Bleeding from nose or gums
- Frequent vomiting
- Vomiting blood
- Black coloured stools
- Drowsiness
- Irritability
- Severe abdominal pain
- Pale, cold or clammy skin
- Difficulty in breathing

If any of these are observed, take the patient immediately to the nearest hospital

"Dengue fever is spread by mosquitoes. Look for mosquito breeding places in and around your home/workplace/school and eliminate them"

If you require more information, please refer to the Guidelines on Clinical Management of Dengue Fever /Dengue Haemorrhagic Fever published in 2005 by the Epidemiology Unit. The guideline is available in the Epidemiology Unit web site www.epid.gov.lk

(**This article was compiled by Dr. Hasitha Tissera , the consultant Epidemiologist who is the national focal point for dengue surveillance**)

Table 1: Vaccine-preventable Diseases & AFP

14th March - 20th March 2009 (12th Week)

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	00	00	00	00	00	00	00	01 KG=1	01	00	15	17	-11.8%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	-
Measles	01	01	00	00	01	00	00	00	00	03	01	35	28	+25.0%
Tetanus	00	00	00	00	00	00	00	00	00	00	01	07	11	-36.4%
Whooping Cough	00	00	00	00	00	01	00	00	00	01	00	18	08	+55.6%
Tuberculosis	77	05	08	00	03	00	22	14	06	99	70	1861	2005	-7.2%

Table 2: Newly Introduced Notifiable Disease

14th March - 20th March 2009 (12th Week)

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	64	12	26	171	02	19	22	12	19	354	98	3258	1356	+140.2%
Meningitis	02 CB=1 KL=1	03 KD=3	04 GL=2 HB=1 MT=1	01 JF=1	01 TR=1	00	01 PO=1	01 BD=1	04 KG=3 RP=1	17	21	232	418	-45.0%
Mumps	01	02 NE=1	04 MT=1 HB=1 GL=1	07 JF=7 VA=1	02 BT=2	10 PU=10	03 AP=1P O=2	02 BD=1 MO=1	01 RP=1	33	41	531	443	+19.9%
Leishmaniasis	00	01 MT=1	05 HB=2 MT=3	00	00	00	02 AP=2	00	00	09	Not available*	325	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.

Table 3: Laboratory Surveillance of Dengue Fever

14th March - 20th March 2009 (12th Week)

Samples	Number tested	Number positive	Serotypes *				
			D1	D2	D3	D4	Negative
Number for current week	06	01	00	00	01	00	00
Total number to date in 2009	24	03	00	00	03	00	00

Sources: Genetic Laboratory, Asiri Surgical Hospital

* Not all positives are subjected to serotyping.

NA= Not Available.

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

14th March - 20th March 2009 (12th Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Returns Received Timely**
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	%
Colombo	25	501	2	47	0	4	2	60	4	11	12	95	0	2	4	20	0	2	**92**
Gampaha	10	265	3	34	0	5	2	19	0	9	4	67	0	3	2	26	0	1	**50**
Kalutara	22	152	3	80	1	3	2	20	1	6	6	49	0	0	0	4	0	1	**92**
Kandy	38	490	7	86	0	1	1	9	0	50	3	56	1	32	1	13	0	0	**88**
Matale	18	162	3	26	0	0	0	13	0	5	4	125	0	2	0	2	0	1	**92**
Nuwara Eliya	1	18	20	104	0	0	1	55	0	20	1	16	0	17	7	19	0	0	**100**
Galle	2	30	3	52	0	6	0	0	0	4	2	44	0	1	0	6	0	3	**89**
Hambantota	0	39	0	25	0	6	0	2	0	5	1	15	0	27	1	5	0	0	**82**
Matara	6	160	8	88	0	2	0	4	1	4	5	50	0	51	1	5	0	0	**94**
Jaffna	0	7	3	30	0	3	5	65	0	19	0	0	0	76	0	5	0	1	**50**
Kilinochchi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Mannar	0	3	0	10	0	0	2	54	0	0	0	0	0	0	0	8	0	0	**50**
Vavuniya	0	4	5	32	1	1	0	2	1	2	0	2	0	0	0	0	0	0	**50**
Mullaitivu	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**0**
Batticaloa	28	156	2	37	9	9	0	5	0	5	0	2	0	0	0	1	0	1	**73**
Ampara	0	22	1	9	0	0	0	5	0	0	0	6	0	0	0	4	0	0	**57**
Trincomalee	1	55	0	26	1	1	0	0	0	0	0	1	0	4	0	3	0	0	**50**
Kurunegala	17	206	2	45	3	3	0	14	0	1	1	32	0	40	1	17	0	3	**84**
Puttalam	2	43	2	37	5	5	1	35	0	0	4	29	0	20	1	3	0	1	**89**
Anuradhapur	26	84	0	24	3	3	0	2	0	2	2	58	5	21	0	4	0	0	**74**
Polonnaruwa	1	20	0	10	1	1	1	9	0	3	1	33	0	0	0	3	0	0	**100**
Badulla	0	20	4	70	2	2	3	16	0	13	3	32	2	21	1	67	0	0	**100**
Monaragala	0	9	2	15	0	0	0	7	0	2	0	5	2	27	0	13	0	0	**100**
Ratnapura	2	65	11	165	11	11	0	21	0	1	3	26	0	11	0	6	0	1	**78**
Kegalle	27	242	4	29	3	3	1	11	0	1	4	29	1	8	1	44	0	1	**91**
Kalmunai	0	68	0	42	1	1	0	5	0	1	0	2	0	1	0	3	0	0	**77**
SRI LANKA	**22**	**2821**	**85**	**1125**	**70**	**70**	**21**	**434**	**7**	**164**	**56**	**774**	**23**	**364**	**20**	**281**	**0**	**16**	**80**

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 20th March, 2009 Total number of reporting units =311. Number of reporting units data provided for the current week: 248
A = Cases reported during the current week. B = Cumulative cases for the year.

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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.

ON STATE SERVICE

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