WEEKLY EPIDEMIOLOGICAL REPORT
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Epidemiology of Leishmaniasis (Part I)

According to the available limited literature cutanious leishmaniasis seems to be an emerging disease in Sri Lanka. Recently suspected cases of cutanious leishmaniasis have been reported from the dermatology clinics in Anuradhapura and Matara districts.

In this article we hopes to discuss the epidemiologyof leishmaniasis.

Leishmaniasis remains a severe public health problem, with an estimated global prevalence of 12 million cases and a yearly incidence of 1.5–2million cases (1–1.5 million for coetaneous leishmaniasis and 500 000 for the visceral form).

For many years, the public health impact of the leishmaniases has been grossly underestimated, mainly due to lack of awareness of its serious impact on health. Over the last 10 years, endemic regions have been spreading further and there has been a sharp increase in the number of recorded cases of the disease. As declaration is compulsory in only 32 of the 88 countries affected by leishmaniasis, a substantial number of cases are never recorded.

As with many diseases of poverty that cause high morbidity but low mortality, the true burdenof leishmaniasis remains largely invisible, partly because those most affected live in remote areas, partly because the social stigma associated with the deformities and disfiguring scars caused by this disease keeps patients hidden. Leishmaniasis-related disabilities impose a great social burden, especially for women, and impair economic productivity.

Today, the leishmaniases undoubtedly have a wider geographical distribution than before and are now being reported in areas that were previously non-endemic. Environment and human tropical disease are linked together by human behaviour, both personal activities and societal organization. Increasing risk factors related to natural and man-made environmental changes are making leishmaniasis a growing public health concern for many countries around the world. One of the major risk factors is the worldwide phenomenon of urbanization, closely related to the sharp increase in migration. Socioeconomic, demographic, cultural, religious, political and environmental factors have forced people increasingly to abandon their villages and move to the poor suburbs of cities. Migration patterns change over time as countries develop and urbanize: migration flows evolve from being primarily rural–rural to rural–urban and finally to urban–urban. Patterns of human settlement in urban areas have led, in developing countries, to a rapid growth of "megacities", where facilities for housing and sanitation are inadequate, thus creating opportunities for the transmission of communicable diseases such as leishmaniasis.

HOW IS LEISHMANIASIS SPREAD?

The leishmaniases are caused by 20 species pathogenic for humans belonging to the genus *Leishmania*, a protozoa transmitted

Contents	Page

by the bite of a tiny 2 to 3 millimetre-long insect vector, *the phlebotomine sandfly*. Of 500 known phlebotomine species, only some 30 of them have been positively identified as vectors of the disease. The phlebotomine sandfly, is found throughout *the world's inter-tropical and temperate regions*. Only the female sandfly transmits the protozoa. Sand flies become infected by biting an infected animal (for example, a rodent, dog or person). During a period of 4 to 25 days, the parasite continues its development inside the sandfly where it undergoes a major transformation. When the now infectious female sandfly feeds on a fresh source of blood, its painful sting inoculates its new victim with the parasite, and the transmission cycle is completed. Sand flies make no noise when they fly or jump, so people may not realize they are being bitten. Sand flies are very small and may be hard to see; they are only about one-fourth the size of typical mosquitoes.

Sand flies are most active from dusk to dawn. They are less active during the hottest times of the day. The female sandfly lays its eggs in the burrows of certain rodents, in the bark of old trees, in ruined buildings, in cracks in house walls, in animal shelters and in household rubbish, as it is in such environments that the larvae will find the organic matter, heat and humidity which are necessary for their development .

Rarely, leishmaniasis is spread from a pregnant woman to her unborn baby. Leishmaniasis can also be spread by blood transfusions or contaminated needles.

VARIOUS FORMS OF LEISHMANIASIS

Leishmaniasis is a parasitic disease spread by the bite of infected sand flies. There are several different forms of leishmaniasis. The most common form is cutaneous leishmaniasis, which causes skin sores. Visceral leishmaniasis, which affects some of the body's internal organs, (most commonly the spleen, liver and bone marrow) is the most serious of the infections. Mucocutaneous forms affect mucous membranes.

HOW SOON MIGHT LEISHMANIASIS SYMPTOMS APPEAR AFTER INFECTION?

People with cutaneous leishmaniasis usually develop skin sores within a few weeks (sometimes as long as months) of when they are bitten. People with visceral leishmaniasis usually become sick within several months (rarely as long as years) of when they are bitten. Because it is a parasitic disease, if left untreated, reactivation can occur long after initial signs and symptoms resolve.

WHAT ARE THE SIGNS AND SYMPTOMS OF LEISHMANIASIS?

People with cutaneous leishmaniasis have one or more chronic skin lesions where infected sand flies have fed .normally produce skin ulcers on the exposed parts of the body such as the face, arms and legs. These lesions are generally unresponsive to antibiotics or topical steroids. The esions start as a papule that often enlarges and then ulcerates. Some are surrounded by concentric silvery scales; some are raised pink plaques. Scabs may develop. The sores can change in size and appearance over time and some will heal spontaneously. The disease can produce a large number of lesions - sometimes up to 200 - causing serious disability and invariably leaving the patient permanently scarred, a stigma which can cause serious social prejudice. The sores can be painless or painful. Some people have swollen lymph nodes near the sores.

Visceral leishmaniasis - also known as kala-azar. People who have visceral leishmaniasis typically have chronic fever, weight loss, and sometimes an enlarged spleen or liver; usually the spleen is larger than the liver. Some patients have swollen glands. Patients usually have elevated liver function
tests or low blood counts, including low red blood cell count, low white blood cell count, and/or low platelet count.

In mucocutaneous forms of leishmaniasis, lesions can lead to partial or total destruction of the mucous membranes of the nose, mouth and throat cavities and surrounding tissues.

Sources

1. LEISHMANIASIS Information for Clinicians. A Collaborative Effort of DHCC, AFIOH/RSR,DHSD, USACHPPM, & WRAMC.
2. Leishmaniasis fact sheet : The disease and its epidemiology. (http:// www.leishmaniasis\WHO The disease and its epidemiology.htm)
3. Urbanization: an increased risk factor for leishmaniasis . *Weekly Epidemiological Record*, N° 77, 44, 1 November 2002 (http://www.who.int/wer)
4 Leishmaniasis fact sheet : Burden of the disease. (http:// www.leishmaniasis\WHO Burden the disease .htm)

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 Continued in the next issue

Table 1: Vaccine-preventable Diseases & AFP

12th - 18th June 2010(24th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2010	Number of cases during same week in 2009	Total number of cases to date in 2010	Total number of cases to date in 2009	Difference between the number of cases to date in 2010 & 2009
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	01	01	00	00	00	00	00	00	02	03	42	39	+ 07.7 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	-
Measles	00	00	00	00	00	01	00	00	00	01	00	43	63	- 31.7 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	12	13	- 07.7 %
Whooping Cough	01	00	00	00	00	00	00	00	01	02	00	14	30	- 53.3 %
Tuberculosis	51	01	04	01	28	04	24	01	00	114	142	4205	4521	- 07.0 %

Table 2: Newly Introduced Notifiable Disease

12th - 18th June 2010(24th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2010	Number of cases during same week in 2009	Total number of cases to date in 2010	Total number of cases to date in 2009	Difference between the number of cases to date in 2010 & 2009
	W	C	S	N	E	NW	NC	U	Sab					
Chickenpox	03	11	04	03	06	04	03	01	05	40	463	1797	9741	- 81.5 %
Meningitis	03 CB=3	02 ML=1 KN=1	03 GL=2 MT=1	00	00	09 KN=9	05 PO=1 AP=4	01 BD=1	05 KG=2 RP=3	28	24	858	487	+ 76.2 %
Mumps	01	01	04	01	03	00	04	00	01	15	39	470	905	- 48.1 %
Leishmaniasis	00	00	00	00	00	00	02 AP=2	00	00	02	08	155	428	- 63.8 %

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.

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.

Dengue Prevention and Control Health Messages

To prevent dengue, remove mosquito breeding place in and around your home, workplace or school once a week

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

12th - 18th June 2010(24th Week)

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	145	2354	6	124	6	13	1	35	0	25	8	318	0	5	0	30	0	1	**85**
Gampaha	35	2136	2	45	1	13	1	27	0	9	2	206	0	5	0	50	1	4	**33**
Kalutara	10	803	0	93	0	10	0	12	0	65	2	179	0	1	0	17	0	1	**25**
Kandy	5	725	1	168	0	1	0	14	0	2	3	50	4	83	0	30	0	1	**35**
Matale	2	386	0	202	0	2	0	16	0	67	1	62	0	4	0	28	0	0	**58**
Nuwara	3	81	9	191	0	0	0	67	0	82	0	16	1	39	0	25	0	0	**62**
Galle	39	504	1	122	0	3	2	2	1	12	1	41	1	4	0	7	0	3	**84**
Hambant	15	387	1	36	0	3	0	1	2	9	3	51	0	50	0	4	0	0	**64**
Matara	12	216	5	94	0	3	1	3	3	42	1	183	3	78	1	11	0	0	**100**
Jaffna	60	2227	18	121	0	2	8	352	0	5	0	1	1	104	1	40	0	2	**75**
Kili-	0	2	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**0**
Mannar	8	106	2	23	0	0	1	33	0	10	0	0	0	0	0	12	0	0	**100**
Vavuniya	5	501	2	21	0	2	2	28	0	8	0	2	0	1	0	10	0	1	**75**
Mullaitivu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Batticaloa	0	1048	8	75	0	2	0	15	0	28	0	9	0	1	0	3	0	2	**79**
Ampara	1	77	1	41	0	1	0	6	0	6	0	27	0	0	0	9	0	1	**29**
Trincomal	8	762	8	90	1	8	0	3	0	9	2	11	1	10	0	13	0	2	**60**
Kurunega	26	681	6	141	0	13	3	18	0	8	3	201	0	28	3	62	0	1	**65**
Puttalam	6	638	3	48	0	4	0	40	0	124	0	57	0	0	0	15	0	0	**67**
Anuradha	9	773	0	34	0	2	0	5	0	32	3	50	1	22	0	27	0	3	**74**
Polonnar	10	254	0	45	0	1	0	2	0	7	0	47	0	1	12	30	0	0	**86**
Badulla	4	346	1	91	0	1	0	57	0	13	1	40	0	45	0	56	0	0	**60**
Monaraga	2	303	1	105	0	1	1	24	0	4	1	27	0	29	0	56	0	1	**45**
Ratnapur	69	1275	7	247	0	4	0	10	0	22	9	222	1	34	1	58	0	2	**56**
Kegalle	16	492	6	76	2	8	1	27	0	19	4	123	1	8	2	46	0	0	**82**
Kalmunai	1	470	3	123	0	1	0	5	1	1	0	0	0	0	0	8	0	1	**38**
SRI LANKA	**491**	**17547**	**91**	**2358**	**10**	**98**	**21**	**803**	**07**	**609**	**44**	**1923**	**14**	**552**	**20**	**647**	**01**	**25**	**61**

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 18th June, 2010 Total number of reporting units =311. Number of reporting units data provided for the current week: 195
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.

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