WEEKLY EPIDEMIOLOGICAL REPORT

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Ministry of Health

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Malaria (Part II)

This is the second in a series of three-article on Malaria

Diagnosis and treatment

Early diagnosis and treatment of malaria reduces disease and prevents deaths. It also contributes to reducing malaria transmission.

The best available treatment, particularly for *P. falciparum* malaria, is Artemisinin-based combination therapy (ACT).

WHO recommends that all cases of suspected malaria be confirmed using parasite-based diagnostic testing (either microscopy or rapid diagnostic test) before administering treatment. Results of parasitological confirmation can be available in 15 minutes or less. Treatment solely on the basis of symptoms should only be considered when a parasitological diagnosis is not possible. More detailed recommendations are available in the "Guidelines for the treatment of malaria" (second edition).

Antimalarial drug resistance

Resistance to antimalarial medicines is a recurring problem. Resistance of *P. falciparum* to previous generations of medicines, such as Chloroquine and Sulfadoxine-pyrimethamine (SP), became widespread in the 1970s and 1980s, undermining malaria control efforts and reversing gains in child survival.

In recent years, parasite resistance to artemisinins has been detected in 5 countries of the Greater Mekong subregion: Cambodia, Laos, Myanmar, Thailand and Viet Nam. While there are many factors that contribute to the emergence and spread of resistance, the use of oral artemisinins alone, as monotherapy, is thought to be an important driver. When treated with an oral artemisinin-based monotherapy, patients may discontinue treatment prematurely following the rapid disappearance of malaria symptoms. This results in incomplete treatment, and such patients still have persistent parasites in their blood. Without a second drug given as part of a combination (as is provided with an ACT), these resistant parasites survive and can pass on to a mosquito and then another person.

If resistance to artemisinins develops and spreads to other large geographical areas, the public health consequences could be dire.

WHO recommends the routine monitoring of antimalarial drug resistance, and supports countries to strengthen their efforts in this important area of work.

More comprehensive recommendations are available in the "WHO Global Plan for Artemisinin Resistance Containment (GPARC)", which was released in 2011. For countries in the Greater Mekong subregion, WHO has issued a regional framework for action titled "Emergency response to artemisinin resistance in the Greater Mekong subregion" in 2013.

Prevention

Vector control is the main way to reduce malaria transmission at the community level. It is the only intervention that can reduce malaria trans-

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mission from very high levels to close to zero.

For individuals, personal protection against mosquito bites represents the first line of defense for malaria prevention.

Two forms of vector control are effective in a wide range of circumstances.

Insecticide-treated mosquito nets (ITNs)

Long-lasting insecticidal nets (LLINs) are the preferred form of ITNs for public health distribution programmes. WHO recommends coverage for all at-risk persons; and in most settings. The most cost effective way to achieve this is through provision of free LLINs, so that everyone sleeps under a LLIN every night.

Indoor spraying with residual insecticides

Indoor residual spraying (IRS) with insecticides is a powerful way to rapidly reduce malaria transmission. Its full potential is realized when at least 80% of houses in targeted areas are sprayed. Indoor spraying is effective for 3–6 months, depending on the insecticide used and the type of surface on which it is sprayed. DDT can be effective for 9–12 months in some cases. Longer-lasting forms of existing IRS insecticides, as well as new classes of insecticides for use in IRS programmes, are under development.

Antimalarial medicines can also be used to prevent malaria. For travellers, malaria can be prevented through chemoprophylaxis, which suppresses the blood stage of malaria infections, thereby preventing malaria disease. In addition, WHO recommends intermittent preventive treatment with Sulfadoxine -pyrimethamine for pregnant women living in high transmission areas, at each scheduled antenatal visit after the first trimester. Similarly, for infants living in high-transmission areas of Africa, 3 doses of intermittent preventive treatment with sulfadoxine-pyrimethamine is recommended, delivered alongside routine vaccinations. In 2012, WHO recommended Seasonal Malaria Chemoprevention as an additional malaria prevention strategy for areas of the Sahel sub-Region of Africa. The strategy involves the administration of monthly courses of Amodiaquine plus sulfadoxine-pyrimethamine to all children under 5 years of age during the high transmission season.

Insecticide resistance

Much of the success to date in controlling malaria is due to vector control. Vector control is highly dependent on the use of pyrethroids, which are the only class of insecticides currently recommended for ITNs or LLINs. In recent years, mosquito resistance to pyrethroids has emerged in many countries. In some areas, resistance to all 4 classes of insecticides used for public health has been detected. Fortunately, this resistance has only rarely been associated with decreased efficacy, and LLINs and IRS remain highly effective tools in almost all settings.

However, countries in sub-Saharan Africa and India are of significant concern. These countries are characterized by high levels of malaria transmission and widespread reports of insecticide resistance. The development of new, alternative insecticides is a high priority and several promising products are in the pipeline. Development of new insecticides for use on bed nets is a particular priority.

Detection of insecticide resistance should be an essential component of all national malaria control efforts to ensure that the most effective vector control methods are being used. The choice of insecticide for IRS should always be informed by recent, local data on the susceptibility target vectors.

In order to ensure a timely and coordinated global response to the threat of insecticide resistance, WHO has worked with a wide range of stakeholders to develop the "Global Plan for Insecticide Resistance Management in malaria vectors" (GPIRM), which was released in May, 2012. The GPIRM puts forward a five-pillar strategy calling on the global malaria community to

- plan and implement insecticide resistance management strategies in malaria-endemic countries
- ensure proper and timely entomological and resistance monitoring, and effective data management
- develop new and innovative vector control tools
- fill gaps in knowledge on mechanisms of insecticide resistance and the impact of current insecticide resistance management approaches; and
- ensure that enabling mechanisms (advocacy as well as human and financial resources) are in place.

Sources:

Malaria, available at *http://www.who.int/mediacentre/factsheets/fs094/en/*

Compiled by Dr. C U D Gunasekara of the Epidemiology Unit

To be Continued

Table 1: Selected notifiable diseases reported by Medical Officers of Health 04th – 10th April 2015 (15th Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishma-niasis		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	54	3535	2	62	0	4	0	25	0	48	3	86	0	2	1	15	0	3	10	164	0	12	0	0	**50**	**50**
Gampaha	16	1605	0	22	0	3	0	7	0	10	2	152	0	6	1	58	0	0	0	62	0	7	0	0	**33**	**67**
Kalutara	12	588	2	33	1	4	0	14	1	65	7	109	0	0	1	11	0	1	6	98	0	14	0	0	**46**	**54**
Kandy	0	490	0	42	0	4	0	13	0	2	0	19	1	23	0	65	0	0	0	76	0	4	0	1	**17**	**83**
Matale	0	288	0	21	0	0	0	3	0	3	0	19	0	4	0	15	0	0	0	7	0	2	0	3	**15**	**85**
NuwaraEliya	0	76	3	89	0	1	2	8	0	0	1	9	1	27	1	36	0	0	1	20	0	18	0	0	**46**	**54**
Galle	0	283	0	24	0	0	0	2	0	6	0	55	0	22	0	4	0	0	0	60	0	13	0	0	**0**	**100**
Hambantota	0	133	0	10	0	0	0	4	0	4	0	32	0	16	0	16	0	0	0	31	0	4	0	89	**0**	**100**
Matara	5	185	0	27	0	3	0	4	0	44	2	72	0	17	0	11	0	0	4	87	0	9	0	21	**100**	**0**
Jaffna	5	963	0	207	0	7	0	122	1	25	0	9	0	453	0	7	0	1	0	65	0	5	0	0	**17**	**83**
Kilinochchi	0	32	0	31	0	0	0	3	0	25	0	1	0	7	0	0	0	1	0	8	0	0	0	0	**0**	**100**
Mannar	0	68	0	4	0	0	0	4	0	1	0	8	0	15	0	0	0	0	0	0	0	0	0	0	**20**	**80**
Vavuniya	0	56	0	8	0	4	0	24	0	2	0	9	0	11	0	1	0	1	0	6	0	3	0	1	**25**	**75**
Mullaitivu	0	60	0	10	0	2	0	4	0	1	0	2	0	6	0	1	0	0	0	1	0	2	0	3	**20**	**80**
Batticaloa	5	897	8	98	0	4	1	7	1	78	0	2	0	0	0	0	0	0	1	13	0	10	0	0	**29**	**71**
Ampara	0	20	0	16	0	0	0	1	0	0	0	6	0	0	0	1	0	0	9	81	0	3	0	0	**43**	**57**
Trincomalee	5	321	1	12	0	0	0	15	0	22	1	10	0	2	1	5	0	1	0	29	0	2	0	1	**33**	**67**
Kurunegala	6	636	1	58	0	2	0	3	0	10	2	94	0	13	1	15	0	1	6	153	0	7	2	29	**56**	**44**
Puttalam	0	374	0	13	0	2	0	1	0	6	0	17	0	7	0	1	0	0	0	27	0	8	0	1	**15**	**85**
Anuradhapura	2	230	0	21	0	1	0	2	8	44	1	107	2	13	0	7	0	0	0	59	1	12	2	77	**32**	**68**
Polonnaruwa	1	109	0	22	0	2	1	6	0	0	1	38	0	1	0	3	0	0	1	46	0	11	0	35	**43**	**57**
Badulla	2	294	0	48	0	3	0	3	0	5	0	22	2	35	0	46	0	2	3	44	2	22	0	4	**35**	**65**
Monaragala	0	88	0	38	0	1	0	8	0	2	2	89	1	24	2	22	0	1	0	33	0	5	0	8	**45**	**55**
Ratnapura	1	374	3	99	0	3	0	14	0	1	2	114	1	23	0	118	0	0	1	37	0	12	0	4	**44**	**56**
Kegalle	4	211	3	30	0	5	1	34	0	3	6	87	5	20	1	42	0	0	1	71	0	14	0	0	**55**	**45**
Kalmune	5	342	0	39	0	0	0	1	0	13	0	2	0	0	0	0	0	0	4	47	0	2	0	0	**15**	**85**
SRILANKA	**123**	**12258**	**23**	**1084**	**1**	**55**	**5**	**332**	**11**	**420**	**30**	**1170**	**13**	**747**	**9**	**500**	**0**	**12**	**47**	**1325**	**3**	**201**	**4**	**277**	**34**	**66**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 10th April , 2015 Total number of reporting units 337 Number of reporting units data provided for the current week: 117 C**-Completeness

Table 2: Vaccine-Preventable Diseases & AFP

04th – 10th April 2015 (15th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2015	Number of cases during same week in 2014	Total number of cases to date in 2015	Total number of cases to date in 2014	Difference between the number of cases to date in 2014& 2015
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	00	20	25	-20%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	%
Mumps	00	00	00	00	00	00	01	00	01	02	08	108	229	-53.1%
Measles	10	00	04	00	01	02	00	03	04	24	26	584	1355	-57.1%
Rubella	00	00	00	00	00	00	00	00	00	00	00	04	06	-33.3%
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	03	%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	04	06	-33.3%
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	00	06	17	-64.7%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	%
Whooping Cough	00	00	00	00	00	01	00	00	01	02	00	30	24	+25%
Tuberculosis	08	15	05	17	12	12	10	05	13	97	205	2688	3088	-13.1%

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

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ON STATE SERVICE

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