

Dengue Status in South East Asia Region: An Epidemiological Perspective

Introduction

Dengue is the most rapidly spreading vector borne disease. An estimated 50 million dengue infections occur annually and approximately 2.5 billion people live in dengue endemic countries (WHO 2008). World Health Organization, Regional Office for South East Asia, 2008, SEA/RC61/R5 Dengue prevention and control concerned with the emergence and re-emergence of dengue as a serious public health threat in countries of the Region and gave emphasis that the global climate change has resulted in the emergence and re-emergence of dengue in the Region with an increase in outbreaks and it has far-reaching cross-border and international implications. There is need to strengthen dengue surveillance, prevention and control systems. The efforts has been made by the South-East Asia and Western Pacific regions for developing the Asia-Pacific Dengue Strategic Plan, 2008-2015 focusing on reversing the increasing trend of dengue and importance of community ownership and multi-sectoral interventions as key strategies in prevention and control of dengue. The Member countries are requested to implement the bi-regional Asia-Pacific Dengue Strategic Plan, 2008-2015.

In 2008, for the South East Asia region as a whole, there is about 18% increase in the number of reported cases and about 15% increase in the number of reported dengue deaths as compared to the same period in the previous year. There was substantial increase in the reported cases of dengue in Thailand, Indonesia and Myanmar. The peak months in 2008 of dengue transmission was in Indonesia was February, June in Thailand and July in Myanmar.

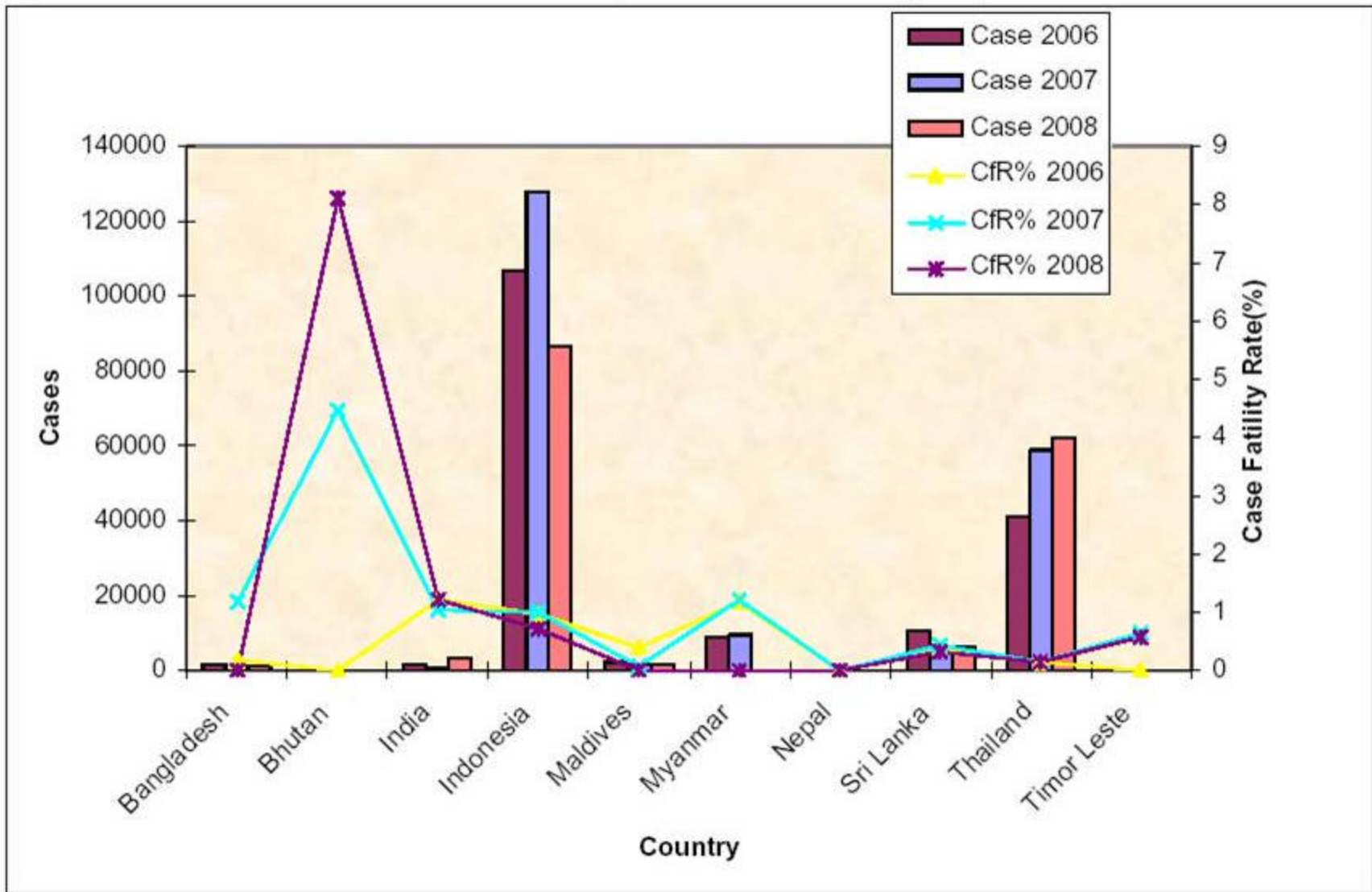
The case fatality rate in Thailand is below 0.2%, in Indonesia and Myanmar it is around 1%. However there are some focal outbreaks away from the urban areas that have case fatalities even up to 3 to 5% in India, Indonesia and Myanmar.

Table 1 DHF cases and Case Fatality Rate in SEA Region, 2006-2008

Country	Cases			Death			CFR		
	2006	2007	2008	2006	2007	2008	2006	2007	2008*
Bangladesh	2198	466	1181	11	0	0	0.50	0	0
Bhutan	106	112	37	0	5	3	0	4.46	8.11
DPR Korea	0	0	0	0	0	0	0	0	0
India	12317	5534	11476	184	69	79	1.49	1.25	0.69
Indonesia	106425	188115	101656	1132	1599	737	1.06	1.01	0.73
Maldives	2836	1570	1476	10	2	3	0.35	0.13	0.20
Myanmar	11049	15033	14480	130	171	100	1.2	1.1	0.7
Nepal	22	3	6	0	0	0	0	0	0
Sri Lanka	11964	7135	5644	44	24	19	0.37	0.33	0.33
Thailand	46829	65581	76059	59	95	91	0.13	0.14	0.12
Timor-Leste	144	156	108	0	1	1	0	0.64	0.56

***Up to September 2008**

Figure 2 DHF Cases and Case Fatality Rate in SEA Region, 2006-2008



Bangladesh

In Bangladesh dengue is predominantly endemic in urban areas. The transmission season starts in June-July every year. In 2007 altogether 466 cases were reported. Maximum number of cases reported in August/September 2007 and 2008. The case fatality rate 0.5 in 2006 and there is no death in 2007 and 2008.

Bhutan

Dengue hemorrhagic fever (DHF) reported continuously during the year 2006-2008. The total number of DHF cases during the year 2006-2008 (upto September) were 106, 112 and 37 respectively. This shows that during 2008 number of cases has been reduced. However, the case fatality have been double (8.11%) in comparison to 2007 (4.46%). The cases have been reported in all age group.

India

DF/DHF have been showing regular occurrence in all over India. Most of the urban areas are having turned vulnerable for DF and DHF. In 2006 the total number of cases was 12317 which was reduced in 2007 that were 5534 and 11476 in 2008 up to November which is showing increasing trends. The peak transmission occurred in the month of October and August to November is high transmission season. Due to better case management the case fatality rate is going to be down which was 1.49% and 1.25% in 2006 and 2007 respectively and 0.69% in 2008.

Indonesia

DHF is endemic through out the country. All four serotypes (DENV 1 - 4) are endemic in most of the large cities of the country. In Indonesia dengue is predominantly endemic in urban areas where more than 35% of the country's population lives. In 2007 all together 188115 cases were reported. In 2007 maximum cases were reported from Jakarta and West Java (each reported more than 25,000 cases). East Java and Central Java reported between 10,000 to 20,000 cases and Bali, East Kalimantan and Lampung, South Sumatra, Yogyakarta, West Sumatra, North Sumatra, north Sulawesi, South Kalimantan, South Sulawesi reported between 1000 to 5000 cases each and the rest of the provinces reported less than 1000 cases.

During 2008 maximum number of the cases (17,604) reported during January 2008. The trend of the diseases is in reducing during the consecutive months. The month wise trend of the year 2007 and 2008 were compared and data shows that there is significant reduction in the morbidity of DHF in during all the months. The case fatality rate in 2006 and 2007 were almost similar and it is slightly higher than 1% and 0.73% in 2008.

Maldives

In Maldives during the past every year dengue cases have been reported around the year. Past three/four year's data shows that the dengue trend is in increasing order with few deaths. Dengue reporting statistics shows that during the year 2005 to 2008 altogether 1126, 2836, 1570 and 1476 cases reported. The case fatality rate varies from 0.13 to 0.35 Percent.

Myanmar

In Myanmar the reported cases in 2007 are 15033 which is an increase of about 26% as compared to 2006 with 11049. In 2008, a dengue outbreak started in week 27 and week 28 was the peak period after which there was gradual reduction of the cases in the subsequent weeks. The states/divisions that reported maximum cases were Mon, Yangon, Ayayarwaddy, Kayin, Tanintharyi, Rakhine, Mandalay, Magway, Sagaing and fewer number of cases reported from a few more other states. The case fatality rate is slightly above 1 percent in 2006 and 2007 but slightly reduced in 2008 that is 0.70%.

Nepal

Nepal officially started reporting DHF cases since 2006. The morbidity data shows that total number of 22, 3 and 6 cases have been reported during the year 2006-2008. Many of the cases have reported history of the travel to the India and other dengue endemic countries in the region. Serological epidemiological studies have suggested that the local transmission of the disease has been established. No dengue death has been reported.

Sri Lanka

In Sri Lanka dengue has been reported through out the year with highest number of the cases in January 2008. During the year 2006 and 2008 reported dengue cases were 11964, 7135 and 5644 cases respectively. The data reported that during 2008 the morbidity has been reduced. The case fatality rate is consistent during 2006-2008 that varies from 0.33%-0.37 %. The country has developed dengue control strategy that includes ensure proper case management, strengthen surveillance, implement integrated vector control strategy and social mobilization for promotion of healthy behavior.

Thailand

In Thailand the cases increased from 46829 to 65581 during the same period of 2006 and 2007 (40% increase). In Thailand dengue cases have been reported all over the year with significant increase to 76059 cases during 2008. In the country every year dengue is reported from all four regions: Northern, Central, North-Eastern and Southern. In June 2008, outbreaks were reported from Trat province, 400 kilometers southeast of Bangkok, on the Cambodian border, Bangkok, Chiangrai, Phetchabun, Phitsanulok, Khamkaeng Phet, Nakhon Sawan, Phit Chit in Northern Zone of Thailand. The reported data revealed that during all months' number of DHF case fatality rate maintained to add 0.12% which shows that better management of cases at the hospital.

Timor Leste

In Timor Leste the cases reported from 2005 to 2008 are 1128, 144, 156 and 180 respectively. The case fatality rate 0.64 and 0.56 in 2007 and 2008 respectively.

Conclusion

The transmission season for dengue in India, particularly Delhi, began in August, and is expected to peak in October and November. Indonesia has shown a gradual increase of reported cases since 2000 with the most number of cases reported in 2007 (over 150,000). It is likely that the figures for 2008 will edge close to last year's as dengue is transmitted year-round in Indonesia, with a tendency to peak between December and February. The Maldives and Sri Lanka usually see an increase in the number of dengue cases between May and June and again from November to December. Myanmar has shown higher number of cases in July. An effective approach must include community ownership, inter sectoral collaboration and coordination across relevant ministries for the effective implementation of prevention and control of this vector-borne disease. The Asia Pacific Dengue Strategic Plan (2008-2015) is meant to aid countries in reversing the rising trend of dengue by enhancing their preparedness; enable them to promptly detect, characterize and contain outbreaks; and limit the spread of dengue.

The way forward for prevention and control of dengue through implementing the Biregional Dengue Strategy (2008-2015) (SEARO and WPRO) consisting of six elements: (1) dengue surveillance, (2) case management, (3) outbreak response (4) integrated vector management, (5) social mobilization and communication for dengue and (6) dengue research (vaccine development, combination of both formative and operational research).

References

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