

Profile of Malaria Incidence in Cibalong Subdistrict Garut Regency in 2009 Until 2011

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Abstract

The monitoring of malaria incidence in Cibalong Subdistrict Garut Regency from 2009 until 2011 has been done. This is a descriptive study. The Institution of Research and Community Service of Universitas Padjadjaran collected and monitored the profile of malaria disease. Monitoring data of malaria were gathered from medical record at Public Health Centre of Cibalong in 2011. There were 71 cases in 2009: 59 cases in 2010, and 102 in 2011. All cases were infected by *Plasmodium Vivax*. In conclusion, from 2009 to 2011 malaria incidence increase, but not all villages has become infected malaria. Simpang, Maroko, Mekarmukti, and Cigaronggong were free from malaria incidence since 2009 to 2011, Sagara and Mekarwangi were free from malaria incidence since 2010 to 2011.

Key words: Cibalong subdistric, endemic disease, Garut regency, malaria.

Introduction:

Malaria is an endemic disease and until now it is a major public heath problem in some region throughout Indonesia such as the beach area of North West Java, e.g. Cibalong Subdistrict.¹

Malaria incidence was higher in village than urban areas in all West Timor, West Java and Central Java. Number of very high-risk malaria villages was higher in dry than wet seasons in all areas.²

Reported versus actual malaria morbidity and mortality Morbidity and mortality statistics for malaria in Indonesia are routinely under-reported. According to the Household Health Survey conducted by the Central Bureau of Statistics in both 1995 and 2001, an estimated 15–30 million people suffered from at least one attack of malaria in their lifetime.²⁻³

During 2010, the confirmed malaria cases and malaria deaths were reported as 2.3 million and 2 426 respectively in the Region, whereas the WHO /HQ estimated malaria cases and deaths were around 28-41 million and 49000 respectively (Source: World Malaria Report, 2010). The highest number of confirmed cases were reported from India (1 495 817) followed by Myanmar (420 808) and Indonesia (229 819), whereas the lowest number of cases were reported from Bhutan (520) followed by Sri Lanka (684) and Nepal (4 075) . Similarly, the highest number of deaths were reported from India (1023) followed by Myanmar (788) and Indonesia (432) and lowest number of deaths were reported from Sri Lanka (0) followed by Bhutan (2) and Nepal (6). The highest Annual Parasite Incidence (API) per 1 000 population at risk of malaria was reported from Timor Leste (41.9 API) followed by Myanmar (11.2 API) and Indonesia (2.0 API) whereas the lowest incidence was reported from Sri Lanka (0.14 API) followed by Nepal (0.19 API) and DPRK (0.90 API). It may be noted that due to change in definition, the population at risk of malaria in the SEA region has changed considerably. This has affected the morbidity (API) and mortality figures to some extent in 2010. The other malaria-metric indicators like, Pf% was highest in Bangladesh (93%) followed by Myanmar (92%) and Timor Leste (75%) whereas lowest in Sri Lanka (2.5%), followed by Nepal (25.4%) and Bhutan (33.7%) respectively except DPRK where only *P. vivax* exist. The highest positivity rate was reported from DPRK (53.8%) followed by Myanmar (41.9%) and Indonesia (25.4%), whereas the lowest SPR was reported from Sri Lanka (0.07%) followed by Bhutan (0.93%) and India (1.41%) respectively (Tab. 3). Although *P. falciparum* incidence remained stable, but its percentage increased from 12.93% in 1977 to more than 60% in 2010 in the Region (Fig. 5 [PDF 298 KB]).The increasing proportion of *P. falciparum* may be the result of rising trend of drug resistance, presumptive treatment with chloroquine suppressing *P. vivax*, and the use of mono-valent RDT (for Pf only) in the Region. It is worth mentioning that increase in confirmed cases in the Region from last 2-3 years is basically by increased case detection in the countries specially in Indonesia, Myanmar, Bangladesh and India using donor's fund. Sri Lanka and DPRK now entered in to malaria pre-elimination phase where as rest of the countries are still in control phase.^{4,5}

Stoops CA, et al in 2006, found the species of *Anopheles* in Sukabumi: *An. Aconitus*, *An. annularis*, *An. Barbirostris*, *An. Flavirostris*, *An. Indefinites*, *An. Kochi*, *An. Maculates*, *An. Minimus*, *An. Peditaeniatus*, *An. Subpictus*, *An. Sundaicus*, *An. Tessellates*, *An. Vagus*.⁶

Syafruddin D, et al in 2010 found the existence of the insecticide-resistant allele, 1014F, in malaria vectors in Sumatera. It is important to explore the extent of the distribution of resistance alleles among the mosquito populations as various mosquito borne diseases such as Dengue, Filariasis, Japanese Encephalitis and Chikungunya, are endemic to Indonesias.⁷

Method

The Institution gave workshop about the elimination of mosquito growth and the preventive system of malaria disease on 26 July, and the assistance did until October. The results or the data of malaria incidence and species of parasite were gathered from medical record at Public Health Centre of Cibalong Subdistrict from 2009 to 2011.

Result and Discussion

The situation of malaria incidence and species of parasite in Cibalong Subdistrict from 2009 to 2011, can be seen at the table 1 below.

Table 1. Malaria Incidence in Cibalong Subdistrict Garut Regency from 2009 to 2011

No.	Village	Year		
		Number of Malaria Incidence		
		2009	2010	2011
1.	Mekarsari	11	15	40
2.	Karyasari	5	8	16
3.	Karyamukti	21	21	28
4.	Sancang	22	15	17
5.	Simpang	-	-	-
6.	Maroko	-	-	-
7.	Sagara	10	-	-
8.	Mekarmukti	-	-	-
9.	Cigaronggong	-	-	-
10.	Mekarwangi	2	-	-
	Total Number	71	59	102

From 2009 to 2011 malaria incidence increase, and Simpang, Maroko, Mekarmukti, and Cigaronggong are free from malaria incidence. Sagara and Mekarwangi in 2010 to 2011 are free from malaria incidence.

Table 2. Types of *Plasmodium* in Cibalong Subdistrict Garut Regency from 2009 to 2011

Types of <i>Plasmodium</i>	Species of Parasite (year)		
	2009	2010	2011
<i>P. vivax</i>	71	59	102
<i>P. palcifarum</i>	-	-	-
<i>P. mix</i>	-	-	-

The parasite in Cibalong Subdistric is *P. vivax*.

Conclusion

In conclusion, from 2009 to 2011 malaria incidence increase, but not all villages infected. Simpang, Maroko, Mekarmukti, and Cigaronggong were free from malaria incidence since 2009 to 2011, Sagara and Mekarwangi were free from malaria incidence since 2010 to 2011.

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