

## Review Article

### A Study of Malaria in Odisha State

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**Objective :** To find out the status of Malaria in Odisha.

**Methods :** By studying the most recent data available on the National Vector Borne Disease Control Programme (NVBDCP) website.

**Results :** Out of the 30 districts of Odisha, Malaria is highly concentrated in mainly Malkangiri District.

**Conclusions :** If an approach of universal diagnosis and radical treatment like that which was used in the “Malaria-mukt Bastar” campaigns of Chhattisgarh is adopted in Malkangiri District, it is possible that the Annual Parasite Incidence (API) may come down there quickly.

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**Key words :** Malaria, Odisha, Malkangiri.

Odisha is a state located in the Eastern part of India and bordered by Chhattisgarh on the West and the Bay of Bengal in the East. It consists of 30 Districts.

#### Methods :

According to the most recent data available on the National Vector-Borne Disease Control Programme website (data for the year 2018), the Annual Parasite Incidence (API) for Odisha is 1.48<sup>2</sup>. However, by going through the data for Odisha state, it is seen that the Malaria problem is not equally distributed in the Districts; it is focal as can be seen from the following information<sup>2</sup> (Tables 1 & 2).

#### Results :

So, it is seen that out of the 30 districts, Malaria is highly concentrated in mainly Malkangiri District. From the map given in Fig 1, this District shares its borders with Chhattisgarh on the west and Andhra Pradesh on the East.

It may be further useful to study what was the trend of the APIs in Malkangiri District over the years. For this, the website of the National Vector-Borne Disease Control Programme was referred to and the following findings observed:

It is observed that there is a nearly three-fold decrease in the API between 2017 and 2018. Whether this trend continued into 2019 is not known because the APIs for 2019 have not been published by NVBDCP

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#### Editor's Comment :

- Malkangiri District in Odisha has the highest API followed by Gajapati and Phulbani Districts. If an approach of universal diagnosis and radical treatment like that which was used in the “Malaria-mukt Bastar” campaigns of Chhattisgarh is adopted in these and other Districts, it is possible that the overall API may come down quickly in the State.

yet. However, in Chhattisgarh, during 2020 and 2021, four rounds of “Malaria-Mukt Bastar” took place wherein every person living in each of the villages in the Bastar region had their finger pricked and a drop of blood drawn which was examined for the Plasmodium antigen using Rapid Diagnostic Kits. These campaigns detected the Malarial antigen in both febrile persons and asymptomatic carriers and the most recent round was held from June 15, 2021, till July 31, 2021. If the diagnosis was *P vivax*, Chloroquine and Primaquine were given to the patient. If it was *P falciparum*, Artemisinin-based Combination Therapy (ACT) and Primaquine was provided. Mixed infections were treated by ACT and Primaquine<sup>4,5</sup>. As a result, though in the one year preceding till November 2019 there were 5272 cases of Malaria in the Bastar region, during the following year till November, 2020 there were only 2696 cases ie, there was a drop of about 49% in the number of cases<sup>6</sup>. That means there was some useful effect of these campaigns in that the reservoirs of the Malarial parasite ie, the humans were effectively treated thereby reducing the number of those persons who could be sources of infection to the female Anopheline mosquitoes.

#### Conclusion :

If an approach of universal diagnosis and radical

treatment like that which was used in the “Malaria-mukt Bastar” campaigns is adopted in Malkangiri District, it is possible that the API may come down further and more quickly in Odisha State, especially if it must reach the target of zero cases of Malaria by 2027. This would enable the country to receive the certification of Malaria elimination in 2030.

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**REFERENCES**

- 1 Registrar General of India 2011. Map of Odisha. Available at [https://censusindia.gov.in/DigitalLibrary/Data/Census\\_2011/Map/Orissa/00\\_Orissa.pdf](https://censusindia.gov.in/DigitalLibrary/Data/Census_2011/Map/Orissa/00_Orissa.pdf). Accessed on 16 November 2021.
- 2 Annual Report 2018. National Vector-Borne Disease Control Programme. Available from: <https://nvbdcp.gov.in/Doc/Annual-Report-2018.pdf>. Accessed on 25 August 2021.

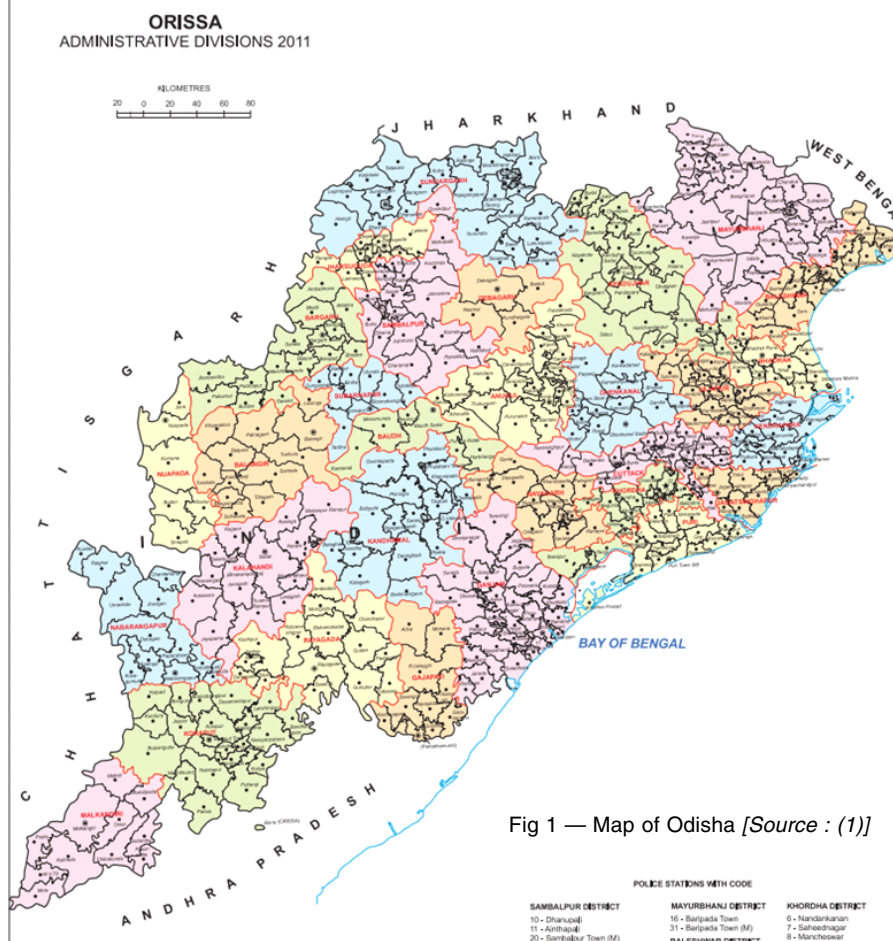


Fig 1 — Map of Odisha [Source : (1)]

Table 1 — API of the Districts of Odisha State, 2018

District	API	District	API
Anjul	0.48	Kendrapada	0.03
Balasore	0.05	Keonjhar (Odisha)	1.42
Bargarh	0.44	Khurda (Khordha)	0.14
Bhadrak	0.06	Koraput	4.58
Bolangir	0.32	Malkangiri	13.85
Boudh	0.53	Mayurbhanj	0.81
Cuttack	0.04	Nawarangpur	2.37
Deogarh	0.50	Nayagarh	0.49
Dhenkanal	0.19	Nuapada	0.86
Gajapati	6.23	Puri	0.05
Ganjam	2.43	Rayagada	4.73
Jagatsinghpur	0.04	Sambalpur	0.32
Jajpur	0.14	Sonepur (Subarnapur)	0.66
Jharsuguda	0.35	Sundergarh	1.87
Kalahandi	5.17	Odisha	1.48
Phulbani (Kandhamal)	5.65		

[Source : (2)]

Table 2 — API of Malkangiri District, 2017 and 2018

District	Year		
	2017	2018	2019
Malkangiri	37.33	13.85	Data not available

[Source: (2) and (3)]

- 3 Annual Report 2017. National Vector-Borne Disease Control Programme. Available from: <https://nvbdcp.gov.in/Doc/Annual-Report-2017.pdf>. Accessed on 31 August 2021.
- 4 <https://theprint.in/health/while-covid-raged-chhattisgarh-covered-over-6000-villages-under-malaria-mukt-bastar-project/537481/>. Accessed on September 16, 2021.
- 5 <https://www.patrika.com/raipur-news/fourth-phase-of-bastar-free-malaria-campaign-against-malaria-anemia-6905880/>. Accessed on September 16, 2021.
- 6 [https://nhm.gov.in/New\\_Updates\\_2018/Innovation\\_summit/7th/DCCP/DCCP-%20PPTs%20%287%29/CG-Best%20Practices%20MMB1.pptx](https://nhm.gov.in/New_Updates_2018/Innovation_summit/7th/DCCP/DCCP-%20PPTs%20%287%29/CG-Best%20Practices%20MMB1.pptx). Accessed on 20 September 2021.