

REVIEW ARTICLE

A Study of Malaria in Jharkhand State

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Abstract

Background: The aim of India is to reach zero Malaria cases by 2027 and then wait for three years before WHO can grant Malaria-free status certification. It is already the beginning of 2022 and India is about to reach the halfway mark of the Malaria Elimination framework period of 2016 to 2027. **Objectives:** To see how far Jharkhand has reached about Malaria elimination targets. **Methods:** By reviewing documents published by the National Vector Borne Disease Control Programme (NVBDCP). **Results:** The Latehar District of Jharkhand had a very high Annual Parasite Incidence (API) of 10.86 during 2018. **Conclusions:** If interventions like the treatment of positive patients and asymptomatic carriers occur, the API will be expected to decrease drastically.

Keywords

Malaria; Jharkhand; API

Introduction

Jharkhand is a state located in the northern part of India and bordered by Chhattisgarh on the west, Bihar in the north, West Bengal in the east, and Odisha in the south. It consists of 24 districts.(1)

The Government of India, in 2016, adopted a framework for Malaria Elimination in India covering the period 2016 – 2030.(2) This was based on WHO's Global Technical Strategy for Malaria, covering the same period, adopted in 2015 and updated in 2021.(3)

The aim is to reach zero Malaria cases by 2027 and then wait for three years before WHO can grant Malaria-free status certification. It is already the beginning of 2022 and India is about to reach the halfway mark of the period from 2016 to 2027. The API at the national level also came down significantly (it was 0.32 during 2018)(4).

However, if districts like Latehar in Jharkhand, which had an API of 10.86 during 2018, are unable to control their Malaria problem, then the likelihood of reaching zero Malaria cases by 2027 would be difficult. That is why there is a need to undertake this study of Latehar District to see what can be done to overcome the problem.

Aims & Objectives

To see how far Jharkhand has reached about Malaria elimination targets

Material & Methods

The study design included analysis of the annual reports of the Malaria Division of the NVBDCP for the years 2017 and 2018.

Results

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 Jharkhand was 1.48.(4) However, by going through the data for Jharkhand 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.(4) ([Table 1](#))

So, it is seen that out of the twenty-four districts, Malaria is highly concentrated in mainly Latehar District. From the map given in ([Figure 1](#)), this district shares its borders with Chhattisgarh on the west as well as other districts of Jharkhand in the north, east and south

It may be further useful to study what was the trend of the APIs in the Latehar District over the years. For this, the website of the National Vector-Borne Disease Control

Programme was referred to and the following findings were observed (Table 2)

Discussion

It is observed that there is a slight decrease in the API between 2017 and 2018. The percentage of cases in Latehar which were due to Plasmodium falciparum was 14.05% in 2018 while it was 29.94% in 2017 showing that there is a predominantly Plasmodium vivax problem there(4,5). Whether this trend continued into 2019 is unknown because the APIs for 2019 has not been published by NVBDCP 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(6,7). 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 i.e., there was a drop of about 49% in the number of cases(8). That means there was some useful effect of these campaigns. The reservoirs of the Malarial parasite, i.e., the humans, were effectively treated, thereby reducing the number of those 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 Latehar District, the API

may come down further and more quickly in Jharkhand 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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Tables

TABLE 1 API OF THE DISTRICTS OF JHARKHAND STATE, 2018

S. No.	District	API
1	Bokaro	0.18
2	Chatra	2.48
3	Deoghar	0.03
4	Dhanbad	0.04
5	Dumka	0.32
6	East Singhbhum	0.59
7	Garhwa	3.87
8	Giridih	1.86
9	Godda	0.62
10	Gumla	1.16
11	Hazaribagh	1.19
12	Jamtara	0.01
13	Khunti	2.77

S. No.	District	API
14	Koderma	1.17
15	Latehar	10.86
16	Lohardaga	1.46
17	Pakur	0.32
18	Palamau	2.75
19	Ramgarh	0.25
20	Ranchi	0.27
21	Sahibganj	0.82
22	Saraikela	3.10
23	Simdega	2.84
24	West Singhbhum	5.43
STATE	Jharkhand	1.48

TABLE 2 API OF LATEHAR DISTRICT, 2017 AND 2018

District	Year		
	2017	2018	2019
Latehar	12.76	10.86	Data not available

Figures

FIGURE 1 MAP OF JHARKHAND

