



A RETROSPECTIVE STUDY OF MALARIA IN TAMIL NADU STATE IN INDIA

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AUTHOR'S CONTRIBUTION

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

Background: To the best knowledge of the author, there is no available literature on the status of Malaria in Tamil Nadu. Hence the preparation of this document.

Objectives: To assess the Annual Parasite Incidence (API) and number of Malaria cases in Tamil Nadu as recently as possible (from 2017-2021).

Methods: By studying the documents prepared by the National Centre for Vector Borne Diseases (NCVBD) and doing a web search on Malaria in Tamil Nadu.

Results: It is seen that the Annual Parasite Incidence (API) of Malaria in Tamil Nadu had come down to the very low level of 0.05 in 2018 and that there were only 772 cases of Malaria in Tamil Nadu during 2021.

Conclusions: Tamil Nadu is very close to achieving near-elimination goals but will have to take active measures to reach it.

Keywords: Malaria; Tamil Nadu; API; NCVBD; WHO.

1. INTRODUCTION

Tamil Nadu is in the southern part of India. It is bordered by Andhra Pradesh and Karnataka in the north, Kerala in the west, Bay of Bengal in the east and the Indian Ocean in the south (Fig. 1). The diagnosis of Malaria in Tamil Nadu is carried out both by Rapid Diagnostic Kits as well as by Microscopy.

2. MATERIALS AND METHODS

The study design included analysis of the annual reports of the Malaria Division of the National Centre for Vector-Borne Diseases Control (NCVBDC) for 2017 and 2018 and a web search for information on Malaria in Tamil Nadu. The reason that the 2017 and 2018 data were used were that they were the most

recent for which district level data on API were available.

3. RESULTS

According to the most recent data available on the NCVBDC website (data for 2018), the API for Tamil Nadu was 0.05 [2]. It's comparison with the API from 2017 can be seen from the following table (Table 1).

Here, it is seen that the API in 2018 was less than what it was in 2017.

In 2018, the API was not uniform throughout the state but varied from district to district. This can be seen from the following table (Table 2).

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Fig. 1. Map of Tamil Nadu [Source: [1]]

Table 1. API of Tamil Nadu, 2017 and 2018

State	Year	
	2017	2018
Tamil Nadu	0.07	0.05

[Sources: [2] and [3]]

Table 2. API of the Districts of Tamil Nadu, 2018

S. No.	District	API
1	Kancheepuram	0.00
2	Chengalpattu	0.00
3	Thiruvallur	0.01
4	Vellore	0.05
5	Tirupathur	0.00
6	Tiruvannamalai	0.08
7	Cuddalore	0.00
8	Villuppuram	0.02
9	Kallakurichi	0.00

S. No.	District	API
10	Thanjavur	0.01
11	Thiruvavur	0.01
12	Nagapattinam	0.01
13	Tiruchirappalli	0.03
14	Karur	0.00
15	Ariyalur	0.00
16	Perambalur	0.00
17	Pudukottai	0.01
18	Madurai	0.01
19	Theni	0.01
20	Dindigul	0.01
21	Ramanathapuram	0.06
22	Sivagangai	0.00
23	Virudhunagar	0.01
24	Thirunelveli	0.01
25	Tuticorin	0.02
26	Kanyakumari	0.08
27	Salem	0.02
28	Namakkal	0.01
29	Dharmapuri	0.01
30	Krishnagiri	0.00
31	Coimbatore	0.00
32	Tiruppur	0.00
33	Erode	0.00
34	The Nilgiris	0.00
35	Chennai	0.42

[Source: [2]]

Table 3. Data on Malaria Cases in Tamil Nadu, 2019, 2020 and 2021

Reference Period	Total No. of Malaria Cases in the State	No. of Malaria Cases from Chennai	Chennai %
2019	2088	1452	69.5
2020	891	728	81.7
2021	772	585	75.8

[Sources: [4]]

Further search revealed the following information on Malaria cases in Tamil Nadu during 2019, 2020 and 2021 and is shown in the following table (Table 3).

4. DISCUSSION

Beginning in 2017, there has been a decline in the incidence of Malaria in Tamil Nadu. Chennai contributes to the bulk of the Malaria cases in the state.

In 2016, the Government of India adopted a framework for Malaria Elimination in India covering the period 2016 – 2030 [5]. This was based on WHO's Global Technical Strategy for Malaria covering the period 2016 – 2030 which was adopted in 2015 and updated in 2021 [6].

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 2023 and India is about to reach the halfway mark of the period from 2016 to 2027.

The limitation of this study was that the API of Malaria was not consistently assessed across the study period from 2017 to 2021 either from NCVBDC data or web searches.

5. CONCLUSION

Although Tamil Nadu did not reach zero Malaria cases in 2021, it did reach an API of 0.05 during 2018. Therefore, it is a good candidate for being among the first few states in the country close to being able to achieve near-elimination goals. The need for entomological and epidemiological studies is very much there in order to achieve the elimination goal.

CONSENT AND ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. Map of Tamil Nadu.
Available: https://www.bing.com/images/search?view=detailV2&ccid=7CZXINVI&id=8AAC272594B391945E344D5C52E3F5A413B033B8&thid=OIP.7CZXINVI_664PILzraIdfgHaJL&mediurl=https%3a%2f%2f1.bp.blogspot.com%2f-nqA5SX8yh9k%2fXo6L-uLGmHI%2fAAAAAAAAAOMs%2fZy6Rc0uxT1sPK3rcSpfV8kbgdv2s6PuxgCLcBGAsYHQ%2fs640%2ftamilnadu%252Bdistricts%252Blist%252B2020-map.png&exp=640&expw=516&q=Tamil+Nadu+District+Map&simid=608010740595322938&FORM=IRPRST&ck=CE681144C7445600AEBBA33449241784&selectedIndex=6&ajaxhist=0&ajaxserp=0
Accessed on 6 June 2022.
2. Government of India. Annual Report of National Vector-Borne Disease Control Programme; 2018.
Available: <https://nvbdc.gov.in/Doc/Annual-Report-2018.pdf>
Accessed on 25 August 2021.
3. Government of India. Annual Report of National Vector-Borne Disease Control Programme; 2017.
Available: <https://nvbdc.gov.in/Doc/Annual-Report-2017.pdf>
Accessed on 31 August 2021.
4. Government of Tamil Nadu. Health and Family Welfare Department.
Available: <https://tnhealth.tn.gov.in/tngovin/dph/dphdbmal.php>
Accessed on 6 June 2022
5. Government of India. National Framework for Malaria Elimination in Indi; 2016 – 2030.
Available: <https://nvbdc.gov.in/WriteReadData/1892s/National-framework-for-malaria-elimination-in-India-2016%E2%80%932030.pdf>
Accessed on 17 September 2021.
6. World Health Organization. Global Technical Strategy for Malaria; 2016 – 2030.
Available: <https://www.who.int/publications/i/item/9789240031357>
Accessed on 17 September 2021.