

# Surveillance of Malaria Cases among Residents of Villages of Tarwa Block Azamgarh

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## Abstract:

Malaria is a protozoal disease caused by infection with parasites of genus plasmodium and transmitted to man by certain species of infected female anopheles mosquito. This mosquito is mainly found in tropical countries.

Study was conducted in villages of Tarwa block, Azamgarh Uttar Pradesh, India. It was a cross sectional study where total 50 cases were studied. It was found that maximum affected population were from 10-45 year age group. Also found that all cases were suffering from fever followed by myalgia (82%), headache (78%) and retro-orbital pain in 73% of cases.

During this surveillance study it was found that main source of mosquito breeding were standing water, containers, drains and gutters, water storage tanks, bird baths, flower pot saucers, ponds and lakes, pools, septic tank and sewage and marshes and wetlands.

**Keywords :** Malaria, Vector, transmission, agent, fever, surveillance, mosquito.

Malaria Surveillance:

1. Malaria surveillance is a systematic process of collecting, analyzing and interpreting data related to malaria cases and the factor influencing its transmission. The main goal of malaria surveillance is to monitor the distribution, trends and impact of malaria in a given population.
2. Malaria surveillance typically includes case reporting and notification, data collection, data analysis and interpretation and dissemination of data to higher authorities for making further guidelines.
3. A Malaria surveillance system consists of the tools, procedures, people and structures that generate information on malaria cases and deaths. The data generated by such surveillance may be used for planning, monitoring and evaluating malaria control programmes.

## Types of Malaria surveillance:

Malaria surveillance involves various approaches and methods to systematically monitor the distribution, trends and impact of malaria in a population. Depending upon the method of data collection malaria surveillance may be grouped as

**(a) Active surveillance:** It includes an active search for cases. eg. house to house surveys. It is conducted by 'surveillance workers' who visit houses for testing. Active surveillance is particularly useful for detecting asymptomatic cases.

**(b) Passive surveillance:**

Passive surveillance involves the routine reporting of malaria cases by healthcare facilities like hospitals, clinics as part of their regular operations. Health care professionals treat patient and data collected by them is also reported to the relevant health authorities. eg. national notifiable disease surveillance system. The cases those escaped active surveillance are screened.

Passive surveillance provides valuable data on the number of cases, demographics and geographic distribution of malaria.

**(c) Sentinel surveillance:** It may be active or passive. It involves the systematic collection and analysis of data from selected sites or populations that are considered representative of a larger population. These sites or populations known as "sentinel sites" are chosen based on some specific criteria that make them likely to reflect broader disease trends or characteristics.

In sentinel surveillance data collection is often more intensive than in routine surveillance systems allowing for detailed information to be gathered about the health status of the selected sites or populations. By closely monitoring specific sites or populations sentinel surveillance contributes to improved disease prevention, control and response efforts.

**c) Introduction:**

Malaria is a mosquito borne infectious disease that affects humans and other animals. Causative agent is plasmodium parasite which is transmitted to human beings through the bites of infected female anopheles mosquitoes.

Once these parasites enter the blood stream they go to liver where they multiply and mature. After multiplication and maturation in liver they re-enter the blood stream infecting and destroying red blood cells, leading to clinical phase of malaria important clinical feature of malaria includes high fever, sweating, chills, muscle pain, headache, fatigue, nausea and vomiting and abdominal pain.

In Severe cases malaria can lead to complications such as severe anemia, respiratory distress. Kidney failure and cerebral malaria which is fatal and can cause death.

**d) Objectives**

Objective of this malaria surveillance conducted in villages of Tarwa block of district Azamgarh was

- i. To attain first hand familiarity with the challenges in working with organizations addressing societal needs.
- ii. To learn data operations and analysis to understand and learn the components which cater the running of a programmes.
- iii. To understand and experiences the work proceedings in an organizations.
- iv. To identify high risk areas and early detection of disease outbreak.
- v. To track demographic trends and the monitoring the progress towards elimination.

**Methods:**

To understand the demographics and high risk areas for malaria cases. Cross sectional study was conducted in villages of Tarwa block.

There was a total 50 cases of Fever reported in October month of 2022 in villages of Tarwa Block of which 20 were men, 23 women and 7 were children.

Among the four villages namely, Akhalpur, Bhagwanpur, Dandaval and rasulpur, studied, the highest number of cases were from Dandaval. The majority of fever cases were in 10-45 years of age group. Out of 50 fever cases after recommendation from doctor for blood investigation only 34 patients went for blood investigation out of which 3 positive cases of malaria reported.

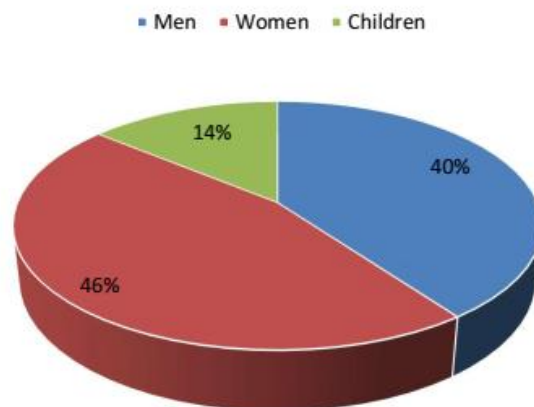
**(g) Field data Analysis**

During october 2022, 50 cases of fever reported in village akhalpur, Bhagwanpur, Dandaval and Rasulpur of Tarwa block, district Azamgarh. Trained health workers worked with the primary investigator to collect data in a predesigned format. They conducted house-to-house surveys to identify fever cases in affected villages and also looked for any affected patients from the four villages admitted at the Tarwablock primary health centre.

(ii) A total of 350 water holding containers from the 4 villages were searched for breeding sites of anopheles larvae, both indoor and outdoors. During this an average 83% of water holding containers showed the presence of Anopheles Larvae.

(iii) In total of 50 cases of Fever reported 20 were men, 23 women and 7 children among the four villages studied. Maximum cases of fever were from Dandaval.

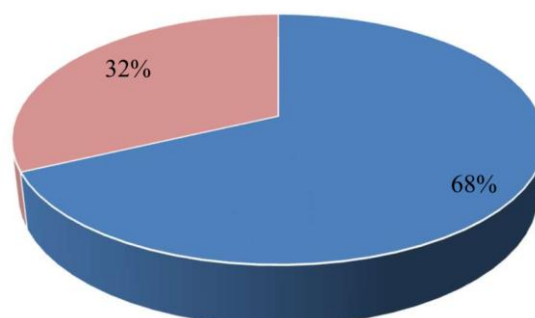
**Patient Ratio Suffering with Fever**



(iv) When doctor recommended for blood investigation only 34 went for blood investigation out of 50 patient; of which 3 patients were reported positive for Malaria.

**Ratio of Patients went for Diagnostics**

■ Went for Diagnostics    ■ Opted Treatment without Diagnostics



### (H) Conclusion

There is enough evidence that Mosquito breeding sites plays Crucial role in such type of fever outbreak. The rain water accumulated in pits, used tyres, earthen pots, plastic and earthen tea cups thrown here and there after use, flower pot saucers provide favoured mosquito breeding which led to mosquito borne disease.

The mosquito borne diseases including malaria may be reduced by destroying mosquito breeding sites on one hand and preventing mosquito bites using mosquito nets, mosquito repellents etc on other hand.

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