

# PREVALENCE OF MALARIAL PARASITES IN LARKANO DISTRICT, SINDH, PAKISTAN

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## ABSTRACT

**Background:** Malaria is one of the most prevalent infections in developing countries causing significant morbidity and mortality. The aim of this study was to determine the prevalence of malarial parasites in Larkano district.

**Methodology:** This descriptive study was carried out for a period of one year from January 2005 to December 2005, at District Larkano, in collaboration with Chandka Medical College, Larkano and Zoology Department, University of Balochistan, Quetta, Pakistan. The surveillance data by malaria control program was collected from febrile cases of all age groups. These patient with fever were referred from various areas of Larkano District by private clinics and public sector clinics. The parasites were identified by using Giemsa stained thick and thin smears.

**Results:** During the study period blood smears of 87617 patients were examined and 1474 were found positive for malarial parasites, giving the overall prevalence rate of 1.67% among febrile patients. *Plasmodium falciparum* was found in 779 and *Plasmodium vivax* in 695 cases giving the ratio of 1.1:1.

**Conclusion:** The prevalence of malaria parasite is 1.67% among febrile patients in Larkano district, Sindh, Pakistan and *Plasmodium falciparum* is the predominant species.

**KEYWORDS:** Malaria parasite, Malaria, Prevalence rate.

## INTRODUCTION

Malaria constitutes one of the major health threats to a wide population across the tropical and subtropical areas of the world. It has overwhelming importance in the developing world and causes over one million deaths each year.<sup>1</sup>

Pakistan is a tropical agricultural country where majority of the population lives in rural areas with defaulted irrigation system and improper dumping of garbage and other wastes contributing to malariogenic potential.<sup>2</sup>

Among the four species of plasmodium known to infect humans, *P. vivax* and *P. falciparum* are prevalent in Pakistan.<sup>3</sup>

*P. falciparum* is associated with highest morbidity and mortality and is characterized by a high degree of parasitemia.<sup>4</sup>

A great deal of work has been carried out on malaria in various areas Pakistan, but no work on

prevalence of malaria has been done in Larkana District.

Keeping in view the importance of this disease the present study was designed to estimate the prevalence of malaria in Larkana District.

## MATERIAL AND METHODS

This study was conducted at District Malaria Control Centre Larkano, with collaboration of Pathology Department Chandka Medical College Larkano and Leishmaniasis /Mosquito Zoology Laboratory, University of Balochistan, Quetta, Pakistan.

The study was carried over the period of one year in 2005.

Patients having fever were referred for confirmation of malarial parasites by both private clinics and public sector facilities from various parts of Larkano District.



Figure: A photograph of Larkano city showing the surrounding environment.

After proper labeling the thick and thin blood smears were prepared and stained by Giemsa stain and examined for malaria parasite.

## RESULT

A total of 87617 patients irrespective of age group residing in different locations of Larkano District were examined for malarial parasites.

Among these 57014 (65%) were males and 30603 (35%) females.

The overall prevalence of malaria infection was 1.67%.

Out of these *P. falciparum* was found in 779 and *P. vivax* in 695 cases, with a ratio of 1.1:1. No case of mixed infection was detected.

## DISCUSSION

Malaria is one of the most important public health problem occurs primarily in tropical and subtropical areas<sup>5</sup>. More than 200 million people worldwide have malaria, and more than 1 million die of it each year, making it the most common and lethal infectious disease<sup>1,6</sup>. Pakistan is almost in the middle of malaria belt around the globe among tropical and subtropical countries where majority of population is living in rural areas<sup>7</sup>. In towns the defaulted sewerage system, stagnant water, improper dumping of garbage contribute to the spread of malaria<sup>8</sup>.

Among four species of malarial parasite, *P. vivax* and *P. falciparum* are common in Pakistan<sup>9</sup>. In 60's to early 80's *P. vivax* was predominant species but now the incidence of *P. falciparum* has considerably increased as it has been reported by various workers over last decades.<sup>4,10,11</sup> Our study also showed that the prevalence of *P. falciparum* is higher than *Plasmodium vivax* which requires more attention, *P. falciparum* being serious than other species due to severe and fatal complications like cerebral malaria, and black water fever.

## CONCLUSION

The prevalence of malaria is 1.67% among febrile patients in Larkano district, Sindh, Pakistan, and *Plasmodium falciparum* is the predominant species.

Anti-malarial measures should be strengthened to control the disease.

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