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MALARIAL PARASITE; SLIDE POSITIVITY RATE AT SHIKARPUR DISTRICT SINDH PAKISTAN

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ABSTRACT: Objectives: To determine the slide positivity rate and to document the different species of malarial parasite at district Shikarpur, Sindh, Pakistan. **Design:** A retrospective study. **Setting:** This study was conducted at district Malaria control centre Shikarpur with collaboration of Pathology Department CMC Larkana and Leishmaniasis/Mosquito Zoology Lab: University of Balochistan Quetta over the period of one year i.e. 2006. **Patients and Methods:** During the study period blood smears were prepared from the suspected cases of malaria. The patients with differentiated fever referred from various areas of Shikarpur District by general practitioners, basic health units, rural health centres and taluka hospitals were included in the study for confirmation of malaria. The parasites were identified by using Giemsa stained thick and thin smears following Mansen-Bahar and Bell, 1987. **Results:** During the study period total of 67550 Blood smears were examined irrespective of age and sex and 740 were confirmed for malarial parasites, giving an overall slide positivity rate of 1.09%. Plasmodium falciparum was identified in 267 (36.08%) cases and plasmodium vivax in 473 (63.92%) cases. **Conclusion:** The slide positivity rate of malarial parasite in this study was 1.09% and plasmodium vivax found as most predominant species in this part of the world.

Key words: Malarial parasites, slide positivity rate.

INTRODUCTION

Malaria is one of the major health problems and is the most prevalent infections in the developing and under developing world causing significant morbidity and mortality. Pakistan is almost in the middle of malaria belt around the globe among tropical and subtropical country. Some 270 million new cases per year occurs in the world wide among the 95% cases are reported from these areas. At present the fatality of malaria infection is about double as many people as does AIDS and half a billion people of world develop chronic anemia due to malaria¹. The drug resistances of malarial parasite give rise more seriousness in spread of malarial infection². Among the four species of plasmodium infects the human beings viz P.vivax, P.falciparum, P.malariae and P.ovale, the two

P.vivax and P.falciparum are endemic in Pakistan³. P.falciparum infection is associated with high morbidity and mortality due to high degree of parasitemia and cerebral malaria⁴. A lot of work has been carried out in various parts of Pakistan, but no work regarding prevalence of malaria infection in Shikarpur has been done. Keeping in view of the importance of the disease, the present study has been designed to find out the prevalence of malarial parasites in Shikarpur District

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MATERIAL AND METHODS

The study was carried out at District Malaria Control Centre Shikarpur with collaboration of Pathology Deptt: CMC Larkana and Leishmaniasis Mosquito Zoology Lab University of Balochistan Quetta. The study was carried out over the period of one year i-e 2006. Malaria cases were detected through Passive case detection (PCD: Slide collected through another source like hospital, NGO is called passive case detection) and active case detection (ACD: Slide collection through malarial staff like Malaria Supervisor is called active case detection). The patients with differentiated fever referred from various areas of Shikarpur District by general practitioners, basic health units, rural health centers and taluka hospitals were included in the study for confirmation of malarial parasites. The parasites were identified using Giemsa stained thick and thin blood smears.

RESULTS AND DISCUSSIONS

A total of 67550 blood smears were examined irrespective of age group of patients residing in different locations of Shikarpur. The variations were observed among different locations of taluka headquarter including

residents of scattered rural areas (i.e. out side the taluka headquarters). The overall prevalence of malarial infection in Shikarpur District was found to be 1.09%. The predominant species was *P.vivax* 473 (63.92%), where as *P.falciparum* was 267 (36.08%) cases. No case of mixed infection was detected.

Malaria constitute one of the most important public health problems in developing countries and main cause of morbidity and mortality⁵. Pakistan being a tropical and agricultural country where majority of population lives in rural area with existing defaulted irrigation system and improper dumping of garbage and other wastes contributes to malarigenic potential⁶.

Amongst all the four species of malarial parasites *P.vivax* and *P.falciparum* are most common in Indo-Pakistan (white and Bremen, 1994). This study also shows *P.vivax* as the predominant species in most parts of Shikarpur District. Similar observations have been made by various authors from different areas of Pakistan^{3,7,8}. Infection with *P.falciparum* require more attention being serious than other species due to severe and fatal complication of cerebral malaria⁴.

Table-I. Malarial parasite species prevalence

A.C.D					P.C.D				
Slides	P.V	P.F	Mix	Total	Slides	P.V	P.F	Mix	Total
17501	No:39 81.25%	No:09 18.75%	0	No: 48	46790	No: 390 63.82%	No: 221 36.18%	0	No: 81
Others					Total				
Slides	P.V	P.F	Mix	Total	Slides	P.V	P.F	Mix	Total
3259	No:44 54.32%	No:37 45.68%	0	No: 81	67550	No: 473 63.90%	No: 267 36.08%	0	No:740

Prevention of malaria is one of the important aspects of reducing the prevalence of malarial infection which can be achieved by vector control, timely case management and personal protection measures. The existing breeding sites for mosquitoes like canals and other permanent water bodies need to be sprayed for larval control with

the help of local malaria control programme. Alongside these interventions, effective community education campaigns need to be launched to encourage the use of personal protection measures e.g. repellents, protective clothing, screening, bed nets etc against mosquito bites.



CONCLUSION

This study concludes that though predominant species in most parts of Shikarpur District was Plasmodium vivax, but prevalence of P. falciparum cannot be ignored. This requires timely implementation of malaria control measures and effective health care delivery system and proper monitoring and reporting.

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