DOI: 10.14260/jemds/2014/3592

ORIGINAL ARTICLE

CHARACTERISTICS OF MALARIA CASES ATTENDING OPD OF A MEDICAL COLLEGE HOSPITAL CIMS, BILASPUR, CHHATTISGARH

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HOW TO CITE THIS ARTICLE:
Bhanu P. Singh. "Characteristics of Malaria Cases Attending OPD of a Medical College Hospital CIMS, Bilaspur, Chhattisgarh". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 52, October 13; Page: 12053-12058, DOI: 10.14260/jemds/2014/3592

ABSTRACT: Malaria is a protozoal disease caused by infection with parasite of the genus Plasmodium and transmitted to human by certain species of infected female Anopheles mosquito. A typical attack comprises three stages: cold stage, hot stage and sweating stage. The clinical features of malaria vary from mild to severe and complicated, according to the species of parasite. In present study total 4063 blood slides were examined for malaria parasites in year 2013. Slide positivity rate and slide falciparum rate were 25.3% and 71.5 % respectively. Pl. falciparum constituted 18.1% of the malaria cases.

KEYWORDS: SPR=Slide positive rate, SFR= Slide falciparum rate, PF=Positive Falciparum.

INTRODUCTION: Malaria continues to be a major public health problem globally. In India, the situation of malaria is of great concern, the problem is even worse among tribal population. This report deals with malaria cases reported in a tertiary level hospital of Chhattisgarh, a tribal dominated state of India.

This hospital caters almost the entire state as well as the bordering districts of other states: Jharkhand, Orissa Madhya Pradesh. Behaviorally, most of males in this region go out in the neighboring towns for employment and women, children and geriatric population stay back in the villages. This results in constant admixture of population between rural and urban areas and becomes a leading factor for spread of malaria in both directions.

METHODOLOGY: This record-based descriptive study was conducted in January to December 2013 with the objective to find out proportion of fever patients attending medical OPD of the hospital, positive for malaria as well as the types of parasites involved and also to study the seasonal variation of malaria cases. Reference period of our retrospective study was January to December 2013. Reports of pathological investigations of patients with clinical suspicion of malaria for the said period were collected from Central laboratory.

We studied a total of 4063 blood reports and the finding are presented in table 1.Overall slide positivity rate and slide falciparum rate were 25.3% and 71.5 % respectively. Pl. falciparum constituted 18.1% of the malaria cases. This observation is very alarming and calls for immediate attention by the concern authority. No declining trend is observed over the years and it's a matter of concern.

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RESULTS: Table analysis and results are given below.

Month wise	Blood Slides Examined	Positive for Malaria	SPR (%)	SFR (%)	Pf. (%)
Jan	309	149	48.2	91.9	44.3
Feb	310	90	29.0	93.3	27.1
March	215	67	31.2	80.6	25.1
April	234	40	17.1	65.0	11.1
May	208	54	26.0	98.1	25.5
June	356	16	6.3	25.0	1.6
July	370	54	14.6	98.1	14.3
August	394	80	20.3	38.8	7.9
September	402	123	30.6	72.4	22.1
October	491	182	37.1	63.2	23.4
November	368	83	22.6	43.4	9.8
December	406	67	16.5	55.2	9.1
Total	**4063**	**1005**	**25.4**	**71.5**	**18.1**

Table 1: Various indicators related to malaria from JAN to DEC 2013

Figure 1: By bar diagrammatic presentation, it is showing that total no. of positive cases are increasing July to Jan gradually.

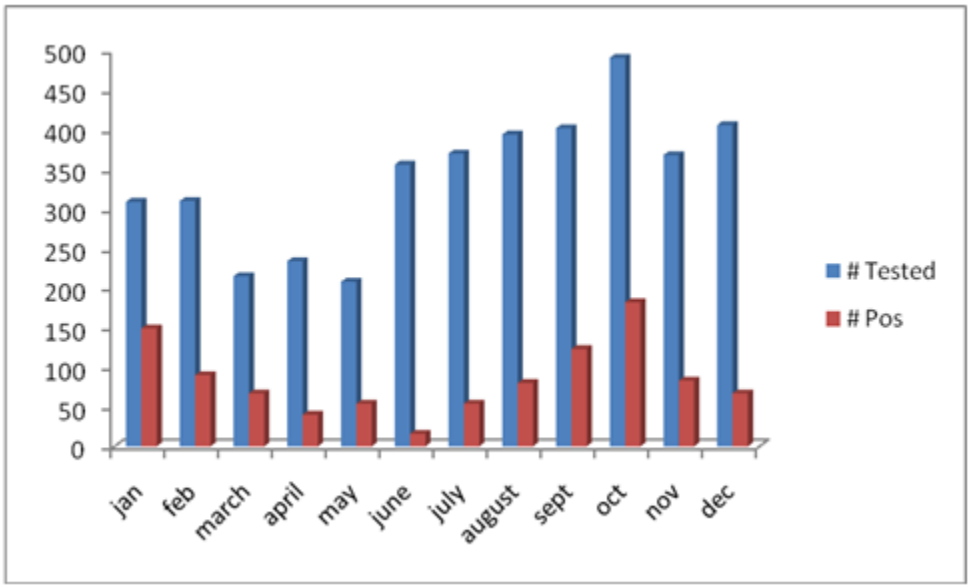

Figure 1

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Figure 2: Trends of % Positivity:-By line diagram we look percent positivity are gradually after June to October (37.1%).After that trends are down. In January month it is high (48.2%) then fluctuate till June (4.5%) downly.

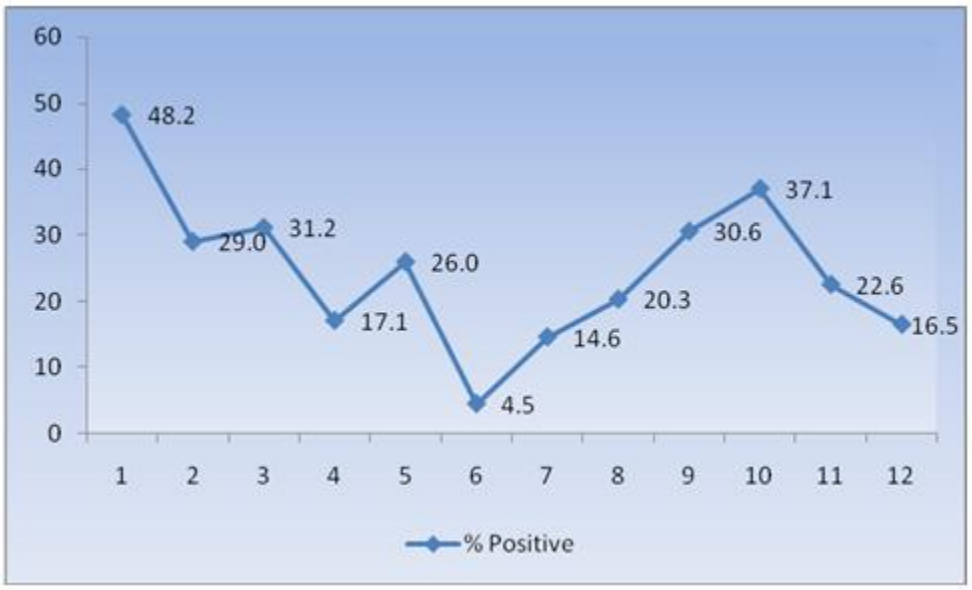

Figure 2

Figure 3: This error bar diagram is representing maximum and minimum expectation of % positive cases. In the month January to May there is outlier.

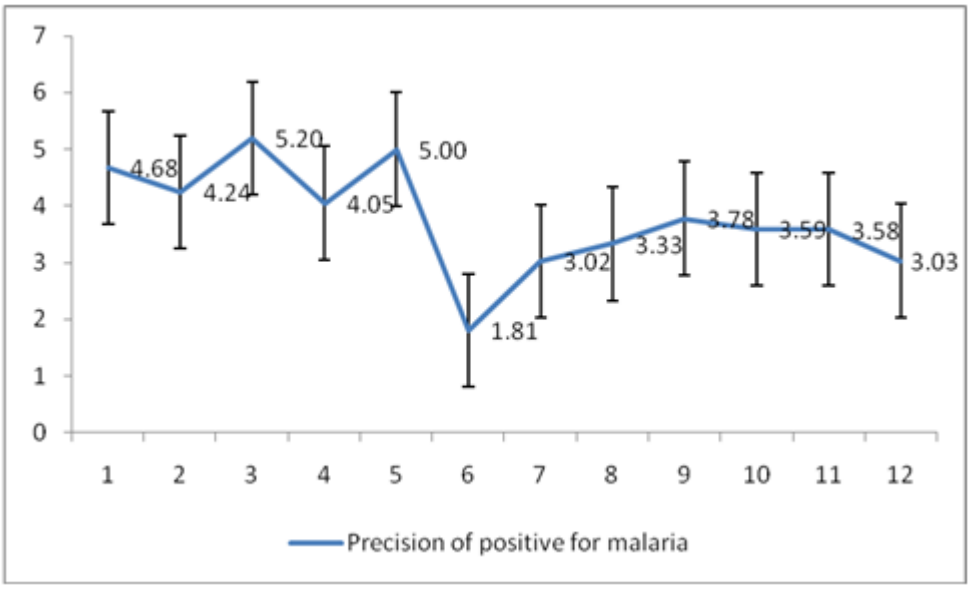

Figure 3

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Figure 4: Trends of % Positivity:-By line diagram we look trend of % Slide falciparum rate, according to January (91.9%) to December (55.2%) is overall going own. But in midtime May (98.1%) is going up then suddenly down in June (25.0%).July (98.1%) is going up then down slowly in August (38.8%).

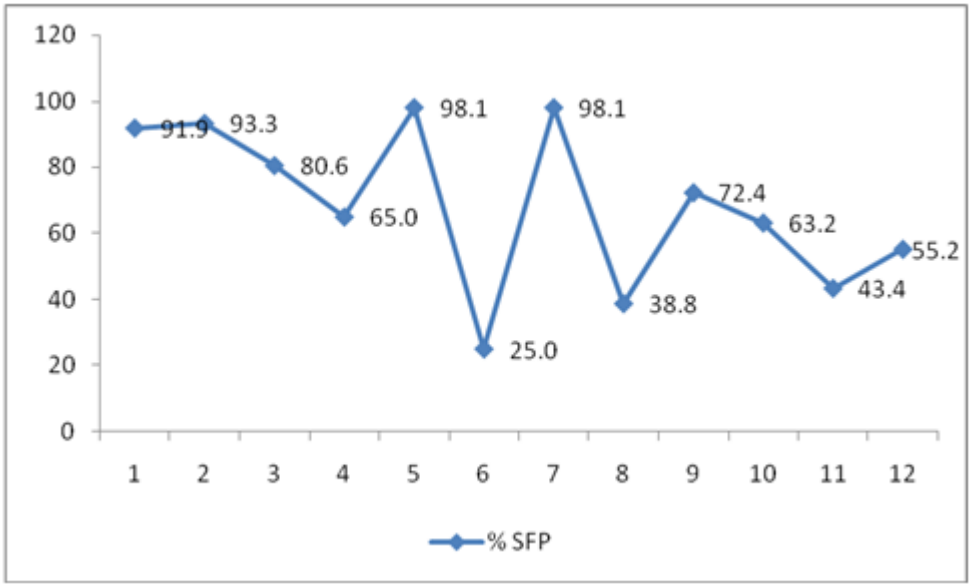

Figure 4

Figure 5: This error bar diagram is representing maximum and minimum expectation of % positive cases. In the month June there is outlier.

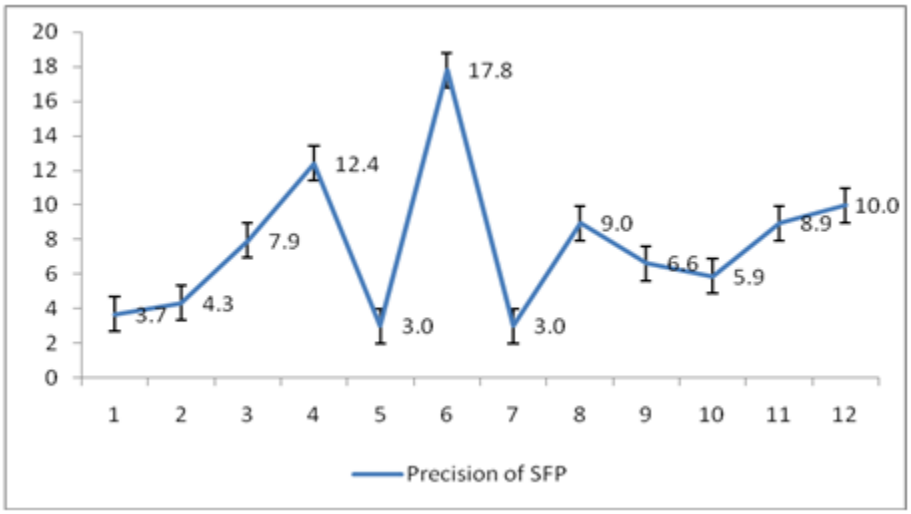

Figure 5

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Figure 6: Trends of % Positivity:-By line diagram we look trend of % positive falciparum cases out of Total examined. According to January (44.3%) to December (9.1%) is overall consistently going down. But in midtime May (25.5%) is going up then suddenly down in June (1.1%).July (14.3%) is going up then down slowly in August (7.9%).

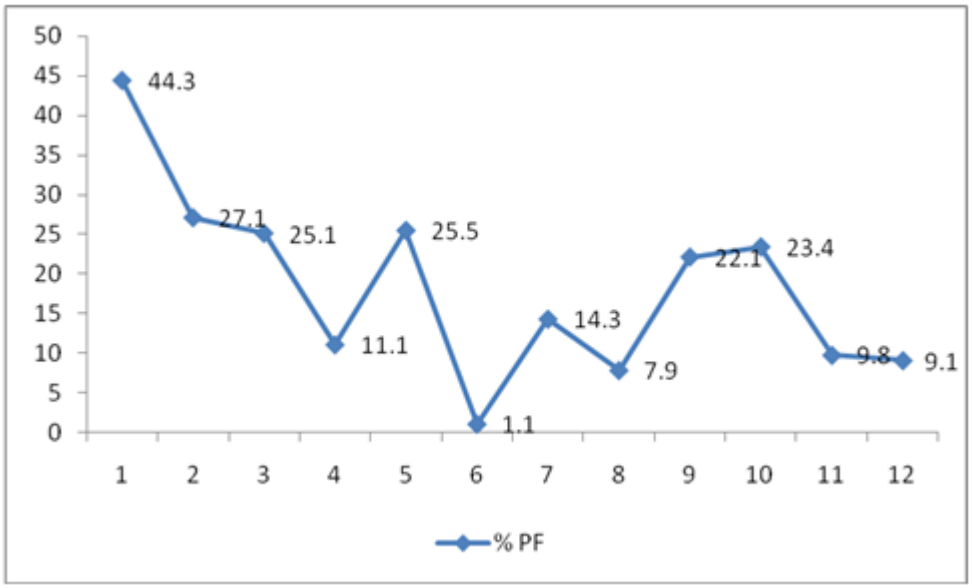

Figure 6

Figure 7: This error bar diagram is representing maximum and minimum expectation of % positive falciparum cases. In the month June there is outlier.

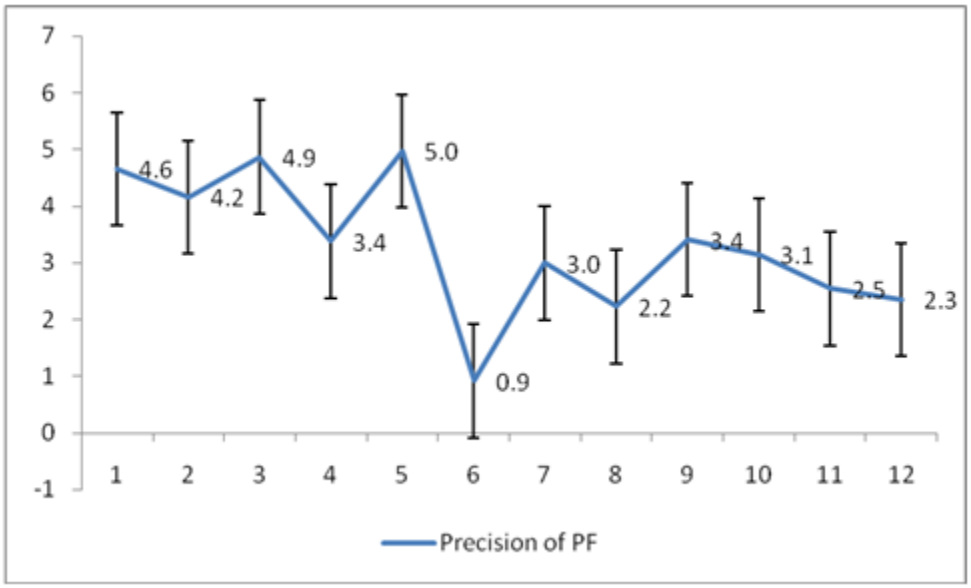

Figure 7

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CONCLUSION & DISCUSSION: Further analysis with month wise distribution of cases shows that malaria cases start increasing from June every year and remain more or less high till October; thereafter it tends to fall gradually. Similar finding were also reported by Prajapati et al.[1]

Chhattisgarh presents a tribal pattern of malaria. This is contrary to finding of Bonnlander et al.[2] in a study done in Haiti who observed that the peak malaria season was November to January, a few months rainy season. Hence, Babiker et al[3] commented that "Greater awareness of the risk of malaria by travelers and medical practitioners must be encouraged".

RECOMMENDATION: Understanding the dynamics of seasonal variation is important not only in controlling the disease in the community but also enables us to plan before hand to cope with the challenges of management of Malaria at primary, secondary and tertiary level.

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Date of Submission: 23/09/2014.
Date of Peer Review: 24/09/2014.
Date of Acceptance: 04/10/2014.
Date of Publishing: 10/10/2014.