

## Original Research Article

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# Assessment of treatment seeking behavior of malaria suspected fever patients attending urban health and training centre

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## ABSTRACT

**Background:** As malaria is among the leading public health problems globally as well as in India, early diagnosis and treatment of cases is one of the key interventions for its control and elimination. Present study was done to assess treatment-seeking behaviour and associated factors among malaria suspected patients.

**Methods:** Present study was carried out at urban health and training center, Sagar, Madhya Pradesh. The hospital based prospective study by facility based identification of patients. Study was undertaken from 1<sup>st</sup> Oct 2018 to 31<sup>st</sup> March 2019. All malaria suspected cases of fever cases who got tested for malaria. Purposive sampling technique. After a pilot study final questionnaire regarding treatment seeking behavior were used to collect information from 285 patients of fever data was analyzed in word excel 2007 using percentage and proportion.

**Results:** In present study we found that out of 285 patients only 54 (18.94%) patient approached health facility within 24 hours. Majority of patient 93(32.63%) adopted self medication practice, 20.00% patient, who did nothing and waited for self resolution of fever. Majority of 39.82% answered mildness of disease as a reason for delay in getting treatment.

**Conclusions:** A low proportion of malaria-suspected patients sought treatment within 24 h of fever onset compared to the national target. Awareness about the advantage early treatment-seeking need to be increased through health education and behavioural change communication.

**Keywords:** Treatment-seeking behaviour, Self medication, Malaria suspected case

## INTRODUCTION

Malaria continues to be a major killer of mankind, especially in developing countries including India. It is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected mosquitoes. Malaria is caused by *Plasmodium* parasites. The parasites are spread to people through the bites of infected *Anopheles* mosquitoes, called "malaria vectors", which bite mainly between dusk and dawn. There are four parasite species that cause malaria in humans:

*Plasmodium falciparum*, *Plasmodium vivax*, *Plasmodium malariae*, *Plasmodium ovale*. The burden of malaria in the South East Asian Region (SEAR) is still high; it is second to Sub-Saharan Africa. WHO estimated that there were 28 million cases and 38 000 deaths due to malaria. Annually in the past ten years, India, Indonesia and Myanmar contributed more than 90% of the reported malaria cases and deaths in the SEA Region.<sup>1</sup> Malaria continues to pose a major public health threat in India, particularly due to *P. falciparum* which is prone to complications. In India, about 27% population lives in

malaria high transmission (>1 case / 1000 population) area and about 58% in low transmission (0-1case/1000 population) area. About 92 percent of malaria case and 97% of death due to malaria reported from North Eastern States, Chhattisgarh, Jharkhand, M.P, Orissa, Andhra Pradesh, Maharashtra, Gujarat, Rajasthan, W.B, and Karnataka.<sup>2</sup> Prevalence rate of malaria, in rural Madhya Pradesh (6342 per one lakh) is about 27 percent higher than in the urban area (4977 per one lakh). Madhya Pradesh contributed 30% of total malaria cases, 60% of total falciparum cases and 50% of malaria deaths in the country.<sup>3</sup> Studies in Madhya Pradesh have found that between 80–87% of malaria cases were caused by *P. falciparum*.<sup>4</sup> Early diagnosis and effective treatment are among the principal strategies for control of malaria. Effective treatment of fever has been hampered by inappropriate treatment and self treatment practices.<sup>5</sup> Prompt and appropriate treatment is essential to reduce the severity and complexity of the disease, and minimize economic burden and long-term adverse effects on the health system. Delay in diagnosis and treatment of malaria increases morbidity and mortality. With the above background this study was carried out with objective to assess treatment seeking behavior of fever patients attending OPD at urban health and training centre Chameli Chouck Sagar.

## METHODS

Present study was carried out at urban health and training center Sagar, Sagar is a division of Madhya Pradesh located in Bundelkhand region of Madhya Pradesh.

### Study design

The hospital based prospective study by facility based identification of patients.

### Study period

Study was under taken from 1<sup>st</sup> Oct 2018 to 31<sup>st</sup> march 2019.

### Sample size

All malaria suspected cases of fever cases who got tested for malaria at UHTC from 1<sup>st</sup> October 2018 to 31<sup>st</sup> march 2019.

### Sampling method

#### Purposive sampling technique

A 'pilot study' was carried out and necessary correction had been done and final questionnaire regarding treatment seeking behavior were used to collect information from 285 patients of fever. In case children less than 5 years information were taken from parents of children, and data was analyzed in word excel 2007 using percentage and proportion.

## RESULTS

In present study we found that out of 285 patients, 102 (35.78%) reported to health facility between 4-5 days, followed by 83 (29.12%) after five days from initiation of fever, only 54 (18.94%) patient approached health facility within 24 hours (Table 1). Majority of patient 93 (32.63%) adopted self medication practice this was followed by 71 (24.91%) patient received treatment from health facility, 43 (15.08%) went to chemist; this was followed by 57 (20.00%) patient, who did nothing and waited for self resolution of fever (Table 2).

**Table 1: Duration of fever before approaching to health facility.**

S. no.	Duration of fever	No. of cases (%)
01	<1 day	54 (18.94)
02	2-3 days	61 (21.40)
03	4-5 days	102 (35.78)
04	>5 days	83 (29.12)
<b>Total</b>		<b>285 (100.00)</b>

**Table 2: initial measure taken after onset of fever.**

S. no.	Primary steps taken by the patients	No. of cases (n=285)	%
01	Received treatment from health facility	71	24.91
02	Went to chemist	43	15.08
03	Practiced self-medication	93	32.63
04	Home remedy	21	7.36
05	No treatment taken	57	20.00
<b>Total</b>		<b>285</b>	<b>100.0</b>
			0

**Table 3: Facility preferences of fever cases (71 patients).**

S. no.	Site of treatment	No. of cases (%)
01	Govt. health facility	48 (67.60)
02	Private hospital	23 (32.39)
<b>Total</b>		<b>71 (100.00)</b>

Table 3 show that out of 71 patients who received treatment, 48 (67.60%) patient received treatment in govt. health facility and remaining 23 (32.39%) received treatment from private hospital. In this study among 285 only 54 (18.94%) received treatment within 24 hours of onset of fever, remaining 231 (81.05%) received treatment after 24 hours of commencement of fever, of which majority of patient 92 (39.82%) answered mildness of disease as a reason for delay in getting treatment, 70 (30.30%) patients mentioned self medication for fever as a reason of delay in getting treatment, in 16.01% and 13.85% cases reason for delay in getting treatment were financial constrain and home remedy respectively (Table 4). Among 70 (30.30%)

respondent who practiced self medication, 48 (68.57%) consumed analgesic and antipyretics while 22 (31.42%) respondent took antipyretics as well as antibiotics in self medication (Table 5).

**Table 4: reason of delay in getting treatment.**

S. no.	Reason for delay	No. of cases	%
01	Financial constrain	37	16.01
02	Self perceived mildness of disease	92	39.82
03	Practiced self medication	70	30.30
04	Home remedy	32	13.85
<b>Total</b>		<b>231</b>	<b>100.00</b>

**Table 5: Distribution of cases according medication use in self-medication.**

S. no.	Medication use in self-medication	No. of cases (%)
01	Analgesic and antipyretics	48 (68.57)
02	Antipyretics and antibiotics	22 (31.42)
<b>Total</b>		<b>70 (100.00)</b>

## DISCUSSION

In present study we found that out of 285 patients, 102 (35.78%) approached health facility to between 4-5 days of initiation of fever, followed by 83 (29.12%) after five days from initiation of fever, only 54 (18.94%) patient approached health facility within 24 hours (Table 1). The study indicates that practice of self-medication and considering fever as mildness of disease may be the main cause of delay in diagnosis of malaria. In a similar study Grietens et al found that 58.1% of patients sought treatment within the first 3 days of symptom onset, whereas 20.7% sought treatment between day 3 and day 6; 21.2% waited for 7 or more days to seek treatment.<sup>7</sup> Similarly Matta et al found that out of 200 fever cases 66.5% patients waited for more than three days before consulting a doctor.<sup>8</sup> Deressa et al found in their study that only 13% had sought treatment within first 24 hours of onset of illness, most waited until the second day of fever onset. 23% individual were neither approached to health facility nor received any form of treatment.<sup>9</sup> Wei Xu et al in their study noticed that 87.5% of the patients sought treatment; 32.0% (118) sought it within 24 hours, 49.2% (181) after 48 hours.<sup>10</sup>

In our study (Table 2) we observed that majority of patient 93 (32.63%) adopted self medication practice as primary steps after getting fever. 71 (24.91%) patient preferred to received treatment from health facility, 43 (15.08%) went directly to chemist received medicine from there; 20% patient who did nothing and waited for

self resolution of fever. In their study Matta found that out of 200 fever cases, 51 (25.5%) patients adopted self medication.<sup>8</sup> In a similar study Unnikrishnan et al observed similar finding that 33% of the respondents practiced self medication with analgesics and antipyretics when they first developed the symptoms, 51% respondents went to the health facility.<sup>11</sup> Borah et al revealed in their study that self medication were practiced by 59% patients.<sup>12</sup> Patel et al revealed in their study that 67.8% patients consulted private practitioner for fever. Only 13.6% went to government health system for taking treatment. 11% cases took self-medication while 3.4% used home remedies as treatment. 66.67% patient received treatment in govt. health facility and remaining 33.33% received treatment from private hospital.<sup>13</sup> Singh RK reported that a large number of patients (77.9%) were taking treatment from the nearest Primary Health Centre and 12.6% were taking treatment from privet clinics.<sup>14</sup> Unnikrishnan et al observed 24% respondents went to the government hospital and Primary Health Centre, 27% went to the private hospital for the treatment.<sup>11</sup> It is observed in many study that majority of patients went to hospital after three days or more of fever for getting treatment and preferred over counter medication as the first line of management. This finding suggests that fever is not perceived as a serious symptom.

Majority of patient 83 (41.29%) answered self-medication as a reason for delay in getting treatment, followed by 48 (23.88%) mentioned fever to be mild illness, 38 (18.91%) mentioned financial constrain as a reason for delay in getting treatment. 32 (15.92%) patient reported late because of home remedy. Deressa in a similar study found that 23% individual were neither taken to health facility nor received any form of treatment. The main reason being mild illness (41%), financial constrain (37%), distant health facility (18%).<sup>9</sup>

In our study maximum 48 (68.57%) respondent of received analgesic and antipyretics, 22 (31.42%) respondents took antipyretics and antibiotics in self medication. In a study Matta et al found that out of 51 (25.5%) patients who tried self medication 21 (41.1%) had taken antibiotic and antipyretic for fever.<sup>8</sup> Unnikrishnan et al in their study 33% of the study population practiced self-medication with analgesics and antipyretics. Among them majority of patients 37 (44.58%) answered fever to be mild illness as a reason for self-medication, followed by 26 (31.33%) who adopted self-medication because livelihood surpasses the other issue, 20 (24.10%) respondent practiced self medication because distances may compromise other commitments a reason for self medication.<sup>11</sup>

In our study we found that out of 71 patients who received treatment, 48 (67.60%) patient received treatment in govt. health facility and remaining 23 (32.39%) received treatment from private hospital. Above table shows that among 285 only 54 (18.94%) received treatment within 24 hours of onset of fever, remaining

231 (81.05%) received treatment after 24 hours of commencement of fever, of which majority of patient 92 (39.82%) answered mildness of disease as a reason for delay in getting treatment, 70 (30.30%) patients mentioned self medication for fever as a reason of delay in getting treatment, in 16.01% and 13.85% cases reason for delay in getting treatment were financial constrain and home remedy respectively. Singh et al reported that a large number of persons (77.9%) were taking treatment from the nearest primary health centre and 12.6% were taking treatment from privet clinics.<sup>14</sup> Unnikrishnan et al observed 24% respondents went to the government hospital and primary health centre, 27% went to the private hospital for the treatment.<sup>11</sup>

Among maximum 70 (30.30%) respondent who took self medication; 48 (68.57%) consumed analgesic and antipyretics while 22 (31.42%) respondent took antipyretics as well as antibiotics in self medication. In a study Matta et al found that out 51 (25.5%) patients who tried self medication 21 (41.1%) had taken antibiotic and antipyretic for fever.<sup>8</sup> Unnikrishnan et al in their study revealed that 33% of the study population did self-medication with analgesics, antipyretics and anti malarials and majority of patients 37 (44.58%) answered fever to be mild illness as a reason for self-medication, followed by 26 (31.33%) who adopted self-medication because livelihood surpasses the other issue, 20 (24.10%) respondent practiced self medication because distances may compromise other commitments a reason for self medication.<sup>11</sup>

## CONCLUSION

A low proportion of fever patients sought treatment within 24h of fever onset compared to the national target. This reduces the effectiveness of malaria control and elimination efforts due to its direct impact on treatment. Early treatment-seeking behaviour is key in the prevention and control of malaria. Health messaging or social and behavioral change communication may be crucial in advancing knowledge to the community about the advantage of seeking early treatment. Strengthening SBCC will have a valuable contribution in avoiding problems related to treatment-seeking behavior. It seems there is much to be done on the behaviour of communities, especially regarding seeking early treatment.

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