Perceptions and practices on malaria in a rural population of Koraput district, Odisha

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ABSTRACT

Background: Malaria is a mosquito-borne disease caused by a protozoan parasite i.e. Plasmodium parasites. It is one of the most prevalent disorders worldwide. India ranked the fourth-highest number of death cases. In Odisha, more than two-thirds of malaria cases are reported from ten southern districts. A high risk of malaria infection is found in Koraput district of Odisha. The present study aims to access the knowledge, attitude, and practices (KAP) about malaria among the individuals of Koraput district, Odisha.

Methods: This is a cross-sectional study and 258 respondents were taken randomly from five villages of Koraput district. Data on demographics as well as knowledge, attitude, and practices about malaria was collected by using self-modified and pretested schedules.

Results: A significant number of the respondent (97.29%) have reported that they had heard about malaria. 37.60% of respondents answered that they knew it from television, followed by health workers (23.26%) and friends (20.54%). The majority (98.06%) of the sample reported that it is caused by mosquito bites. Almost 63% of the respondents were consulted with a doctor whereas 24.81% consulted first to traditional healers of that region. The majority (99.22%) has a mosquito net and 98.83% of them were used it after a proper wash.

Conclusions: Although the study found good knowledge on malaria, still further awareness is required to elevate the present status. In this study most of the respondents had a good level of knowledge about malaria, however, attitude and practices about malaria prevention still need to be improved.

Keywords: Malaria, Knowledge, Attitudes, Practices, Koraput
Nauapada, are commonly known as the KBK region (backward region of Odisha) which falls under high risk of malaria infection zone. More than two-thirds of the case is reported from 10 Southern districts which are mostly backward and tribal area.

The study aims to access Knowledge, Attitude, Practice (KAP) of malaria among the individual of Koraput District.

METHODS

A cross-sectional study was carried out in five villages namely, Tentuliguda, Piteiguda, Kutunipadar, Chhindmaliguda, and Khialiguda of Koraput district, Odisha. The field survey was carried out from January 2021 to March 2021.

The villages and the respondents were selected by using a random sampling technique. A total of 258 individuals, from 258 households (one member from each household), aged between 15 and 80 were recruited for the present study. The sample size was calculated with confidence level 95%, absolute precision (d) as 5%, anticipated proportion (p) as 8%

Socio-demographic data were collected by using schedules. To access knowledge, attitude, and practice on malaria, pretested and self-modified questionnaires were administered.

Informed consent was taken from the participants who were included in the current study. The ethical approval was approved by the Research Advisory Committee (RAC), Central University of Odisha. Data analysis was done by using the MS Excel (version 2010) software tool.

RESULTS

A total of 258 respondents ages between 15 and 80 were recruited for the study, out of which 171 are males and 87 are females. The mean age among males was 40.23 years and that of females was 39.90 years. Almost 60% of the respondents were non-literate and the mean literacy rate was 5.4.

Table 1 deals with respondents’ knowledge of malaria. There are 97.29% of respondent have heard about malaria disease. 98.06% of respondent’s knowledge that malaria is caused by mosquito bites whereas 0.39% have said that it is due to bacteria and 1.55% have agree that it is due to all types of mosquito and bacteria. 91.09% have answered that malaria can be affected twice and 89.92% believe that tablets can completely cure malaria. 51.94% agreed that malaria can be transmitted to another person from the affected one, 40.70% said that it is not transmitted and 7.36% don’t have any idea regarding this. Coming to the source of information on malaria, 37.60%, 20.54%, 3.10%, 15.50% and 23.26% came to know from television, friends, relatives, neighbours and know from a health worker, respectively.

Table 2 deals with the status of respondents’ attitudes towards malaria. It was found that 51.16% population is going for immediate treatment whereas 48.84% of the respondents are not going for immediate treatment of malaria. 6.98% received their first treatment from the traditional healers, locally known as Dishari. 62.79% population has their preference for modern medicine. 24.81% preferred to consult with ASHA. 5.43% have preferred both Dishari and modern medicine. Regarding the symptom of malaria, 12.40% reported that chill with fever, 15.50% fever with a headache, 13.95% said that fever is the symptom of malaria, 12.79% answered that chill with weakness, 15.89% fever with body pain, 12.02% agreed on fever with vomiting, 6.98% said fever with loss of appetite, 5.81% fever with diarrhoea, and 4.65% fever with shivering. Af few individuals (8.53%) knew about anti-malarial drugs.

Analysing the test detected to malaria, 97.29% knew that blood test is to be done, 0.78% replied that urine test is done, 3.88% revealed that both urine and blood test are done, 12.02% answered that they did not know. Responses concerning the best way to cure malaria was, 50.39% of respondent said that medicine is the best way to cure, 40.31% believed that both medicine and injection are needed, only 0.78% have answered that ethnomedicine is the best way for treatment, and 1.55% have expressed that both modern medicine and traditional medicine are necessary for treatment.

Continued.
| Questions                                | Responses | Male (n=171) | %   | Female (n=87) | %   | Total (n=258) | %   |
|------------------------------------------|-----------|--------------|-----|---------------|-----|---------------|-----|
| Malaria severe in children              | Yes       | 26           | 15.20 | 10            | 11.49 | 36            | 13.95 |
|                                          | No        | 30           | 17.54 | 18            | 20.69 | 48            | 18.60 |
|                                          | Don’t know| 115          | 67.25 | 59            | 67.82 | 174           | 67.44 |
| Malaria severe in pregnant women         | Yes       | 11           | 6.43  | 7             | 8.05  | 18            | 6.98  |
|                                          | No        | 45           | 26.32 | 14            | 16.09 | 59            | 22.87 |
|                                          | Don’t know| 115          | 67.25 | 66            | 75.86 | 181           | 70.16 |
| Transmission of malaria                  | Yes       | 95           | 55.56 | 39            | 44.83 | 134           | 51.94 |
|                                          | No        | 65           | 38.01 | 40            | 45.98 | 105           | 40.70 |
|                                          | Don’t know| 11           | 6.43  | 8             | 9.20  | 19            | 7.36  |
| Do you about ITN?                        | Yes       | 150          | 87.72 | 74            | 85.06 | 224           | 86.82 |
| Causes of malaria                        | No        | 21           | 12.28 | 13            | 14.94 | 34            | 13.18 |
|                                          | Mosquito  | 169          | 98.83 | 84            | 96.55 | 253           | 98.06 |
|                                          | Bacteria  | 0            | 0.00  | 1             | 1.15  | 1             | 0.39  |
|                                          | All       | 2            | 1.17  | 2             | 2.30  | 4             | 1.55  |
| How you know about malaria?              | TV        | 65           | 38.01 | 32            | 36.78 | 97            | 37.60 |
|                                          | Friends   | 39           | 22.81 | 14            | 16.09 | 53            | 20.54 |
|                                          | Relative  | 6            | 3.51  | 2             | 2.30  | 8             | 3.10  |
|                                          | Neighbour | 25           | 14.62 | 15            | 17.24 | 40            | 15.50 |
|                                          | Healthworker | 36   | 21.05 | 24           | 27.59 | 60            | 23.26 |
| Is malaria getting normal?              | Yes       | 142          | 83.04 | 75            | 86.21 | 217           | 84.11 |
|                                          | No        | 11           | 6.43  | 3             | 3.45  | 14            | 5.43  |
|                                          | Don’t know| 18           | 10.53 | 9             | 10.34 | 27            | 10.47 |
| Malaria causes convulsion                | Yes       | 48           | 28.07 | 22            | 25.29 | 70            | 27.13 |
|                                          | No        | 49           | 28.65 | 26            | 29.89 | 75            | 29.07 |
|                                          | Don’t know| 74           | 43.27 | 39            | 44.83 | 113           | 43.80 |
| Malaria causes anaemia                  | Yes       | 17           | 9.94  | 9             | 10.34 | 26            | 10.08 |
|                                          | No        | 68           | 39.77 | 25            | 28.74 | 93            | 36.05 |
|                                          | Don’t know| 86           | 50.29 | 53            | 60.92 | 139           | 53.88 |

Table 2: Status of respondents’ attitudes towards malaria.
Table 3 deals with the status of respondents’ practices towards malaria. It was found that 99.22% of respondents have a mosquito net, but 81.01% of respondents were sleeping under a mosquito net. 20.93% answered that they were using repellent to protect from malaria. Only 8.91% are using mosquito coil. 76.74% are burning cow dung to protect from a mosquito bite. 92.64% have expressed that they closed the door and window during the time of night. 98.06% covered their arm and leg during the time of night. 74.42% cleared their household waste disposal and 88.37% buried mosquito breeding sites. Regarding the status of acquiring of mosquito net, 97.66% received from the government, 0.78% number of the respondent has purchased and 1.56% are getting mosquito net both from government and also by purchasing from the market. Out of all the respondents 61.26% washing their bed net if needed, 34.38% answered that they wash the bed net once a month, 1.58% washed it once in six months, 1.58% have responded that they washed it once in a year, and 2.37% have responded that they washed it once in a year.

Table 3: Status of respondents’ practices towards malaria.

| Questions                           | Responses                                | Male (n=171) | Female (n=87) | Total (n=258) |
|-------------------------------------|------------------------------------------|--------------|---------------|---------------|
|                                     | %                                        | %            | %             | %             |
| Do you know about Anti-malarial drug| No                                       | 154          | 82            | 236           | 91.47         |
|                                     | Blood                                    | 142          | 73            | 251           | 97.29         |
|                                     | Urine                                    | 2            | 0             | 2             | 0.78          |
|                                     | Blood + urine                            | 6            | 4             | 10            | 3.88          |
|                                     | Don’t know                               | 21           | 10            | 31            | 12.02         |
| What test need to be done to detect malaria? | Medicine                                | 85           | 45            | 130           | 50.39         |
|                                     | Injection                                | 0            | 0             | 0             | 0.00          |
|                                     | Medicine + injection                     | 70           | 34            | 104           | 40.31         |
|                                     | Herbal medicine                          | 13           | 7             | 20            | 7.75          |
|                                     | Medicine + injection+ Herbal medicine    | 3            | 1             | 3             | 1.16          |
| Best way to cure malaria?           | Quinine                                  | 1            | 2             | 3             | 1.16          |
|                                     | Chloroquine                              | 5            | 0             | 5             | 1.94          |
|                                     | Paracetamol                              | 14           | 2             | 16            | 6.20          |
|                                     | don’t know                               | 151          | 83            | 234           | 90.70         |
| What is the Treatment of malaria?   |                                         |              |               |               |
|                                     | Quinine                                  | 1            | 2             | 3             | 1.16          |
|                                     | Chloroquine                              | 5            | 0             | 5             | 1.94          |
|                                     | Paracetamol                              | 14           | 2             | 16            | 6.20          |
|                                     | don’t know                               | 151          | 83            | 234           | 90.70         |

Continued.
DISCUSSION

In this study, 97.29% of respondents have heard about malaria disease and mainly through the source of television (37.60%), which is similar to the findings of previous studies. Majority of respondents (89.66%) answered that tablets can cure malaria. 28.29% of respondents have buried mosquito sites. In this study, 74.42% of respondents have known that malaria is caused by mosquito bites. A similar study has been done by Gupta et al., Madne et al, Joshi et al, and Tyagi et al 88.37% of respondents have buried mosquito sites. Only 62.79% numbers respondents had an attitude of consulting doctors for fever in any one of the family members. A similar study was carried out by Gupta et al. and Gupta et al still they are going to traditional healers (Dishari) for a consultant as their first preference of treatment. Appropriate knowledge of awareness in the study is lagging, and this type of result is found by Joshi et al. In this study, 74.42% of respondents had a practice of cleaning the household surrounding for the prevention of malaria disease, similar results were also found by an earlier study. In this study area, Dichlorodiphenyltrichloroethane (DDT) was sprayed before 3 years; it should be sprayed twice annually. Here it was also found that 98.83% of respondents are washing their mosquito net, according to them this medicated insecticide-treated net (ITN) itching to their skin and for this reason, they washed the mosquito net. Almost half of the population did not go for immediate treatment.

By considering time and resources, the present study could not recruit a large sample size. The malaria patients were selected by self-reporting.

CONCLUSION

This study entails that respondents were familiar with malaria, its symptom, and a way to prevention. This article tries to give emphasizes on the fact that it should be purely controlled only after the strengthening of the Primary Health Centre (PHC), cleaning of uncovered breeding sites, and strengthening of manpower in the health sector. In this study most of the respondents had a good level of knowledge to eradicate malaria but attitude and practices about malaria prevention still need improvement regarding malaria, while it entails that respondents would seek the treatment not quickly if they developed symptoms. Therefore, it should be concluded that grassroots level strategies should be constructed to enhance the proper implantation and control measures to maximize the protective practices towards malaria.

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