

Epidemiological Study of Malaria among the Oraon Tribe of Jashpur District

Priyanka Lakra*, Moyna Chakravarty**

Author Affiliation: *Research Scholar **Professor, SoS in Anthropology, Pt. R.S.U. Raipur (C.G.), 492010.

Reprint Request: Prof. Moyna Chakravarty, SOS in Anthropology, Pt. Ravishankar Shukla University, Amanaka G.E. Road, Raipur, Chhattisgarh 492010.
E-mail: moynaanthro@gmail.com

Abstract

Oraon is a predominant tribe of Northern part of Chhattisgarh state. Chhattisgarh accounts for 2% of the total population of the country but it contributes more than 16% of the total malaria cases. For the present investigation two development blocks were selected from Jashpur district in order to report the precise knowledge of local epidemiological features of malaria among the Oraons. Out of 243 households selected for the purpose 10.7% were affected with Malaria. Females of reproductive age showed a higher occurrence of malaria in 20-44 years age group as compared to males. Correlation of malaria with type of house, animal domestication, excreta disposal, drainage system showed non significant results. Only toilet facility showed significant results.

Keywords: Epidemiology; Malaria; Oraon; Jashpur; Chhattisgarh.

Introduction

Dynamics of malaria is a local phenomenon and vary from place to place (pattanayak et al.1994). Chhattisgarh state accounts for 2% of the total population of the country but contributes >16% of the total malaria cases, 23% of plasmodium *falciparum* cases and 7% of deaths due to malaria in the country (Singh et al. 2004).

Chhattisgarh was earlier a part of the state of Madhya Pradesh which was recognized as a separate state in 2000. The total population of the state according to 2011 census is 25,540,196 and covers an area of 135,194 square km. Northern part of Chhattisgarh is a tribal belt and is recognized for its ethnic variation and has huge natural resources, which is known as Jashpur- Surguja region. Jashpur district is divided into upper ghat and lower ghat. The government has specified two tribal communities as primitive viz Pahari Korwa and Birhors. Oraons, Kanwars, Bhuijyans, Khariyas, Pandos, Nagesias, Asurs are the other tribal populations residing in Jashpur. The total population of Jashpur according to 2011 census is 8, 52,043.

For the present investigation two development blocks viz Manora and Bagicha were selected from upper ghat and two blocks viz Kunkuri Pharsabaha from lower ghat. The beliefs and customs of the local tribe in Jashpur are quite unique. Oraon tribe in India constitutes around 8.2% of the total population which mainly depends on agriculture for earning their living. They are also known as "Kurukh" which is related to Dravidian family.

Human populations live in societies, where behaviour and attitudes are shaped by interaction among people, which in turn are governed by the conventions and laws of the society. In short, epidemiology studies disease within a cultural context and population exist in a physical environment which is a dominant force in determining health. Malaria is currently the world's most widespread and serious vector borne disease. Malaria associated morbidity and the cost of treatment are important burden and create barriers for the overall social and economic development. There are large number of risk factors that influence vulnerability to malaria including proper knowledge about malaria transmission and prevention,

demography and socio-economic status of different population groups (Yadav et al. 2014). In 109 countries malaria is considered to be endemic. Over one million deaths occur each year with 300-500 million episodes of malaria illness globally. WHO estimated that there are 15 million cases in India annually and around 15,000 mortality per annum based on case fatality rates. 8 central peninsular states viz. Chhattisgarh, Jharkhand, Orissa, Madhya Pradesh, Gujarat, Maharashtra, Rajasthan and Andhra Pradesh are areas of high prevalence for malaria. Studies pertaining to knowledge, attitude and practices showed that direct interaction with the communities plays an important role in circumventing malaria problem (Klein et al, 1995). Precise knowledge of local epidemiological features of malaria will provide the basis not only for planning and choosing appropriate control measures but also for selecting methods for monitoring the progress and evaluating programmes. There is no study regarding the relationship of socio environmental and health characteristics of Oraon tribe of Jashpur district of Chhattisgarh. Therefore, an attempt has been made to investigate the impact of different epidemiological factors on frequency of malaria among the Oraon tribe of Jashpur.

Material and Methods

Purposive sampling method was adopted for

selecting four blocks of Jashpur district. Random sampling method was adopted for selecting five villages from each block and from each village 20 households were selected by random sampling for primary data collection. Besides demographic data collected by means of interview schedule information on various aspects of mosquito bite, breeding place of mosquitoes, measures of prevention, traditional cultural practices related to malaria, concept of disease and environmental factors which affect malaria were also considered. Data was processed in Ms-Excel data sheet, SPSS software package was used keeping in view the specific objective of the study.

Objective

1. To know the incidence and determinants of malaria among the Oraon tribe of Jashpur district.
2. To study the factors influencing the high frequency of malaria in the district.

Result and Discussion

Data for the present investigation comprised of 243 (215 where males and 28 females). 70.87% had nuclear family type and 28.39% had joint family. The table reveals that 20.99% of the households have

Table 1: Household characteristics of the respondents of various tribes of Jashpur district, C.G.

S.N.	Characteristics	Types	Number	Percentage
1	House type	Kachcha	190	78.2
		semi-pucca	40	16.5
		Pucca	13	5.3
2	Occupation	Labour+agriculture	67	27.6
		Agriculture	137	56.4
		Service	36	14.8
		Business	3	1.2
3	Animal domestication	Far from home	24	9.9
		nearby home	219	90.1
4	Excreta disposal	far from home	81	33.3
		nearby home	162	66.7
5	Drainage system	No drainage	22	9.1
		Closed	12	4.9
		Open	209	86.0
6	Toilet facilities	No	187	77.0
		Yes	56	23.0
7	Location of house	plain area	7	2.9
		far from forest	73	30.0
		nearby forest	163	67.1
8	Monsoon	Unhygienic	56	23.0
		Mosquito breeding time	95	39.1
		Storing of water in bunkers	76	31.3
		Suddenly changing in weather (warm to cold)	16	6.6

		Disease	Correlations				
			House type	Animal domestication	Excreta disposal	Drainage system	Toilet facilities
Disease	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	243					
House Type	Pearson Correlation	.023	1				
	Sig. (2-tailed)	.726					
	N	243					
Animal Domestication	Pearson Correlation	-.019	-.462**	1			
	Sig. (2-tailed)	.765	.000				
	N	243	243	243			
Excreta disposal	Pearson Correlation	.037	-.366**	.410**	1		
	Sig. (2-tailed)	.565	.000	.000			
	N	243	243	243	243		
Drainage system	Pearson Correlation	.022	.077	.057	-.044	1	
	Sig. (2-tailed)	.732	.230	.377	.493		
	N	243	243	243	243	243	
Toilet facilities	Pearson Correlation	.127*	.492**	-.376**	-.277**	.096	1
	Sig. (2-tailed)	.048	.000	.000	.000	.134	
	N	243	243	243	243	243	243

*. Correlation is significant at the 0.05 level (2-tailed)

**.. Correlation is significant at the 0.01 level (2-tailed)

less than 4 members and 54.74% of them had more than 5 members. Majority of the respondents had kachcha type of house (78.2%) and 70.78% had walls made of mud. 72.43% had facility of light but only 10.70% of the population had proper ventilation. About 56.4% of the populations were engaged in agriculture.

The study revealed that the location of 67.01% of the population were near forest and 77.0% had no toilet facility. They disposed the excreta inside their house premises. Majority (86%) of the respondents had opened drainage system and 90.12% had dwelling place attached to shelter for domestic animals.

Out of 243 households of Oraon tribe 26 (10.70%) were affected with malaria. Females showed a higher percentage of malaria as compared to males. The table shows that higher frequency of malaria was observed in 35-39 years age group and females in all the reproductive age groups from 20-44 years showed a higher occurrence of malaria as compared to males.

Correlation matrix relationship of malaria disease with variables such as type of house, animal domestication, excreta disposal, drainage system and toilet facilities showed significant results only with toilet facility at 0.01 level of significance.

The highest percentage of the respondents adopted the method of burnt cow dung cakes and neem leaves. Next in preponderance was rice husk and burnt neem leaves (10.5%). 8.25% of the respondents used rice husk and burnt cow dung cakes. Majority of the respondents used leaves of neem. Sindhuvar leaves, rice husk, cow dung cakes, kerosene, mosquito coil and few mosquito repellents

are also used for mosquito control. The percentage of people using mosquito coils, repellents and nets was quite low compared to the indigenous methods of control of mosquitoes due to the distance of shops from where they can purchase the repellents. Sindhuvar leaves are also chewed as a remedial measure of malaria.

In case of fever the populations under study do not seek the advice of doctors but they generally prefer to take home remedies either through self medication or some local healers. They get their blood examined for malaria in case of persistent fever after undergoing local treatments. The study reveals that the tribals of Jashpur believe that malaria is caused primarily by wrath and displeasure of the deity therefore, diagnosis and treatment of malaria is primarily carried out at home according to ethno medicinal perceptions in the tribal groups studied.

Recommendation

It is recommended that campaigning programme for mosquito control should be intensified before the rainy season in the area under study. Street play, video/audio advertisements in local language should be organized. Every women should be examined with due care for malaria in case of any of kind of fever to cope with the challenges of management of malaria at primary level.

References

1. Census of India (2001): Table on individual

- scheduled caste (SC) and scheduled tribe (ST).
Government of India Ministry of Home Affairs. <http://censusindia.gov.in>.
2. Kothari, C.R. (2004): *Research Methodology: Methods and Techniques*. Second edition, New Age International (P) Ltd., Publishers, New Delhi.
 3. Lakra, P., Chakravarty, M., (2015): Epidemiological study of malaria among the tribes of Jashpur district, C.G., *Global journal of multidisciplinary studies*, 4(11): 52-58.
 4. Last, J.M. (1988). *A dictionary of epidemiology* (4th ed). *Oxford University Press, New York*. Cited from Park, K. (2002).
 5. Oraon, P.C. (2003). *Land and people of Jharkhand*. Publication Jharkhand tribal welfare research institute, Ranchi.
 6. Park, K. (2002): *Preventive and Social Medicine*. 17th edition M/S Banaridas Bhanot Publication Jabalpur.
 7. Pattanayak, S., Sharma, V.P., Kalra, N.L., Sharma, R.S., *Malaria paradigms in India and control strategies*. *Indian J. Malariol.* 1994; 31: 141-199.
 8. WHO (1963). *Terminology of Malaria & Malaria Eradication*, Geneva.
 9. WHO. (2011). *World Health Organization*, Geneva.
 10. Yadav, K., Dhiman, S., Rabha, B., Saikia, P.K., & Veer, V., *Socio-economic determinants for malaria transmission risk in an endemic primary health centre in Assam, India*. *Infectious Diseases of Poverty*. 2014; 3: 19.
-