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HEALTH, DISEASES AND TREATMENT: AN ANTHROPOLOGICAL INVESTIGATION ON BAIGA, GOND AND KOL TRIBES OF MADHYA PRADESH (INDIA)

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ABSTRACT

The present investigation aims to document the general status of health, health care delivery system, diseases and health care seeking behaviors and choice of treatments among the Baiga, Gond and Kol tribals of the state of Madhya Pradesh (India) on the basis of data obtained from primary as well as secondary sources. This study is based on empirical investigation among 720 respondents hailing from the Baiga, Kol, Gond and other tribes of Dindori District of Madhya Pradesh. The study reveals that life style, food habits, environmental conditions, unfavorable changes in weather and wrath of supernatural powers are perceived as major causes of various diseases by the tribals of this area. For the treatment of various ailments, the tribal people visit native healers and resort to indigenous knowledge system. Native healers follow various methods of diagnosis and as per diagnosis they prescribe treatment, which may include treatment through propitiation, through offerings to malevolent and benevolent spirits, exorcism and treatment through extraction of diseases. Treatment by magico-logical performances, spelling chants/mantras and breaking powers of witch, treatment by jagar and treatment by herbal plants or animal derivatives/ethno-zoological therapies are also practiced in the study area.

Keywords: *Health, Dindori, Public Health, Traditional Healers, Baiga, Kol, Gond, Gunia.*

INTRODUCTION

Since its inception, health related researches have been a significant part of anthropology. However, it is only within the past quarter-century that inquiry in this area has been systematized and synthesized into the area of specialization known (but not unequivocally so) as Medical Anthropology (Sobo, 2004:3).

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Medical anthropology as a science of man can help in the management of health mainly by providing information on the concept of health, hygiene, cure and medicine. All cultures have their own concept of health, hygiene, disease, cure and medicine (Gurumurthy, 1990). Knowledge derived from sub-fields of anthropology, including medical anthropology, ecological anthropology and ethnomedicine on the issues of health, disease, treatment, nutrition, indigenous knowledge and health care delivery system, is of direct relevance to health management planners.

Recent decades have seen growing participation by medical anthropologists in medical research and public health as a result of which this branch is becoming the single largest sub-discipline in anthropology. In current scenario, a growing number of medical research projects and public health interventions are involving medical anthropologist - or closely related social science disciplines- in some capacity. Increasingly, anthropologists and health professionals work hand-in-hand in an interdisciplinary effort to alleviate suffering (Pool and Geisser, 2005).

'Medical anthropology' then is a bio-cultural approach and is an emerging sub-discipline in our nation. It is associated with holistic study of health, illness and related misfortunes, as these are culturally perceived, labeled, classified, experienced and communicated on one hand and socially constructed roles, statuses and institutional networks which are believed to help in the health enhancing process, on the other, with a view to identify cross-cultural similarities and variations in the patterning of such behavior (Joshi, 1990). Hasan and Prasad (1959) defined medical anthropology on the grounds of its broad objectives as, "That branch of 'Science of Man' which studies biological and cultural aspects of man from the point of view of understanding the medical, medico-historical, medico-legal, medico-social and public health problems of human beings". Medical Anthropology seeks explanations of the causes and cures of people with ill health, their belief system, etc., as every culture and society has their own concepts of health, disease and cure, and the specialist from whom they receive the treatment. Another closely associated sub-discipline which is having deep interface with human health is 'Ecological Anthropology', which Orlove (1980) considers as the study of the relations among the population dynamics, social organization and culture of human population and the environment in which they live. Environment is a complex system of interacting groups or populations of different plant and animal species living under a limited range of geological and climatic conditions. A human society is regarded as just another group or species within this complex ecosystem. Human society has to adapt to environmental challenges: to physical and chemical factors in the environment, to the presence of other species and to the threat posed by other sub-groups of the same species.

Understanding Health and Disease

World Health Organization (WHO) defines health as "A state of complete physical mental and social well-being and not merely the absence of diseases and infirmity." It is well recognized that health is not the exclusive domain of medical science because every culture, irrespective of its simplicity and complexity, has its own beliefs and practices concerning diseases. No culture works with a meaningless approach in its treatment of diseases. Every culture evolves its own system of medicine in order to treat diseases in its own way. Thus, treatment of diseases may vary from group to group. To understand health and health related problems in a proper perspective, it is very important consider the socio-cultural issues, economic dimensions and environmental aspects. This is more relevant in the context of tribal people, particularly living in the rural areas (Mishra, 2012).

Health is an important aspect of development and an important issue. Health has gained enormous popularity in various cultures across the whole world. We see a cultural variation in regard to the concept of health and its implications. Therefore, the notion related to health varied with the variation of cultural system, space, time and situation.

As far as an anthropologist is concerned, he/she generally sees "health" as a broad construct, consisting of physical, psychological, and social well-being, including role and functionality. Such a definition works much better cross-culturally than one that links health only to "disease" which technically means simply a biomedically measurable lesion, anatomically or psychological irregularity (Sobo, 2004). The term disease literally means "without ease" dis-ease, i.e., the opposite of ease when something in wrong with bodily functions.

Majumdar (1933) opined that "Disease is a vital problem for society primitive or advanced and every society have developed its own recipe for the treatment and cure of the various diseases. Primitive system of medicine or even magic has much to commend, and so long as the people faith in the system they own, it helps them to tide over periods of crisis and reduces the mental conflicts that they evoke. Disease is a biometrically measurable lesion or anatomical or physiological irregularity when compared with illness".

According to Campwell *et al.* (1979) "A disease is the sum of the abnormal phenomena displayed by a group of living organism in association with a specified common characteristic or set of characteristics by which they differ from the norm for their species in such a way as to place them at a biological disadvantage". This definition, which we shall call the general definition, allows for the logical heterogeneity of "diseases," since features derived from any of several fields of study may be specified to characterize the patients on the study of whom the description of an individual disease is based. The sorts of features commonly used can be ranged in hierarchy rising from clinical description or syndrome, through abnormalities of structure and function, to causation. Each of these

features tends to displace its antecedent as medical knowledge advances; and definition in terms of cause seems to be accepted as the desirable endpoint (Campwell, 1979).

Approaches to classification of diseases

Several kinds of classifications have been used to describe diseases over the ages. Since the 18th century, several classification approaches of the diseases have been attempted and some of the major ones of these are outlined as follows:

William Farr's Classification: In 1839, William Farr, a British physician and epidemiologist, called attention to the importance of a uniform statistical classification of morbidity and mortality. His first attempt in 'nosology' (disease classification) for statistical purposes appeared in the 'First Annual Report of the Registrar–General of Birth, Death and Marriages in England in 1837-38. He classified diseases into three classes: (1) The first for those that occur endemically or epidemically, in other words, the communicable diseases, which provided an index of salubrity; (2) The second class was for those diseases that arise sporadically, these he subdivided anatomically in to diseases of the nervous system, respiratory organs, etc.**;** (3) His third group included death by violence. Farr emphasized that no classification could be successful unless a uniform and precise nomenclature was adopted that "would preclude the same diseases being designated by four or five different names".

Bertillon Classification: The 1891 International Statistical Institute (ISI) meeting in Vienna marked the beginning of true international acceptance of statistical lists of causes of death and sickness led by Jacques Bertillon, French statistician, demographer, mathematician and Head of Statistics for the city of Paris. Bertillon presented three lists of 44, 99 and 161 conditions with subdivisions designated A, B, C, etc. Bertillon had adopted, for main heading, the anatomical site rather than the nature of disease. Bertillon enlisted diseases as general diseases**,** diseases of nervous system and sense organs**,** diseases of circulatory system**,** diseases of respiratory system, diseases of digestive system**,** diseases of genitourinary system, puerperal diseases**,** diseases of skin and annexes, diseases of locomotor organs**,** malformations**,** diseases of early infancy**,** diseases of old age**,** effects of external causes and ill-defined diseases.

ICD-10 Classification: WHO has been engaged in continuous revisions of the Bertillon's classification and the current version is the tenth revision of the 'International Classification of Diseases and Related Health Problems' (ICD-10). According to Mony and Nagraj (2007), the ICD-10 is a hierarchal classification containing a list of code categories describing all disease concepts. The ICD-10 contains twenty-two chapters (which cover 2046 categories of diseases), each identified by a Roman numeral and associated alphabet(s) (Table-1).

Table-1: Classification of Diseases in ICD-10

Code	Details of Disease	Code	Details of Disease
I	Certain infectious and parasitic diseases	XII	Diseases of the skin and subcutaneous tissue
II	Neoplasms	XIII	Diseases of the musculoskeletal system
III	Diseases of the blood and blood-forming organs, and the immune mechanism	XIV	Diseases of the genitourinary system
IV	Endocrine, nutritional and metabolic diseases	XV	Pregnancy, childbirth and the puerperium
V	Mental and behavioral disorders	XVI	Certain conditions originating in the perinatal period
V1	Diseases of the nervous system	XVII	Congenital malformations and chromosomal abnormalities
VII	Diseases of the eye	XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified
VIII	Diseases of ear	XIX	Injury, poisoning and certain other consequences of external causes
IX	Diseases of the circulatory system	XX	External causes of morbidity and mortality
X	Diseases of respiratory system	XXI	Factors influencing health status and contact with health services
XI	Diseases of the digestive system	XXII	Codes for special purposes (e.g. diseases of uncertain etiology)

ICD-11: Development of the ICD-11 started in 2007 and a stable version of the ICD-11 was released on 18 June 2018, and officially endorsed by all WHO members during the 72nd World Health Assembly on 25 May 2019 which has replaced ICD 10 (https://en.wikipedia.org/wiki/ICD-11). Disease classifications have been applied to a large and growing number of purposes, which can be grouped roughly into three major clusters: 1. Clinical uses; 2. Public health uses, including provision of a basis for health statistics and a shared language for health policy, and 3. Disease related research.

In the above backdrop, at this juncture, it is highly pertinent to clarify the rationale of the present study selecting the Bajag Forest Range of Dindori District in Madhya Pradesh. Quality epidemiological data on various diseases among the tribals of Bajag forest range of Dindori district is almost non-existent, though the Indian Council of Medical Research (ICMR) collected data on some diseases in certain villages and among some tribes.

Indian Tribal populations are the indigenous groups. They inhabit widely hilly, forest, desert and costal area in different concentration. Tribal groups are homogeneous, culturally firm having developed strong magico-religious health care system of their own and they live and survive in their own style. Although the concept of well-being and the notion of the disease vary between different tribal groups, yet in tribal habitat, a person is usually considered to be afflicted with some diseases if he/she is incapable of doing the routine work which is usually being expected to be carried out by that individual in the society. Symptoms such as pains and ache, weakness, prolonged cough, mild fever, wounds, etc., are not taken seriously as symptoms of diseases (Kshatriya, 2004). Most of the studies conducted on tribal communities have indicated the importance of understanding the socio-cultural dimensions of health and diseases. A number of deities are often associated with diseases as diseases are considered by tribals to be connected with the interference of the supernatural agency or ascribed to wrath of supernatural forces. The nature of treatment in such cases is also made accordingly. Among most of the tribal communities, a

number of specialists or native healers are there whose services are sought at times of illness.

The present study aims to explore the status of health and to examine the etiology of the diseases prevalent in the Bajag Forest Range. It also aims to find out types of diseases and prevalent indigenous methods of treatment in Bajag Forest Range area.

MATERIALS AND METHODS

Sampling: Fieldwork for this study was conducted in different phases between the 2011 and 2015. In order to receive a representative sample of the whole universe and taking into consideration the qualitative nature of present study, both probability and non-probability sampling techniques for multi-phase sampling units were applied. Sample size for present study is 720 individuals, which included 300 Baiga, 200 Gond, 120 Kol and 100 persons belonging to other tribal groups of the area. The data were collected by administering an interview schedule as well as participant and quasi participant observation among tribal males and females, native traditional medical practitioners (Gunia), witch doctors (Panda), head of PHC-CHC and private health practitioners

Demographic and ethnomedicinal data of the study area was collected from nine villages of Bajag development block and Bajag Forest Range of Dindori District (Figure-1). The selected villages were forest (F) and revenue villages (R) situated in different gram panchayats while two nearest villages from block head quarter were also considered for the study. A detailed interview 'schedule' was developed and duly administered for ethnomedicinal and health related investigations.

Parameters of present ethnomedicinal and health related study included profile of the households, drinking water and toilets facilities, health related infrastructure, medical pluralism, awareness about local health traditions, knowledge about medicinal plants ant its availability and assessment of treatment other than traditional remedies.

The Study Area: Present study was conducted among the tribal inhabitants of Bajag Forest Range of Dindori District of Madhya Pradesh state of India. Dindori District is situated in the eastern part of Madhya Pradesh. Dindori also shares boundary with Chhattisgarh State. It touches Anuppur in east, Mandla in west, Umariya in north and Bilaspur District of Chattisgarh state in south. The holy river Narmada passes through the district. It is situated at a height of 1100 meter above sea level amongst herbal-rich Maikal and Satpuda mountain ranges. The district consists of seven development blocks and forest ranges namely Dindori, Sahpura, Mehandwani, Amarpur, Bajag, Karanjia and Samnapur.

The Baiga, Kol and Gond are the major tribes inhabiting the Bajag Forest Range. Baiga is included in Particularly Vulnerable Tribal Groups (PVTGs).

They are also traditional priest and medicine man. Baiga has been least affected by the process of modernization and globalization in comparison to 'Gond' and 'Kol'. The Gond tribe is considered to be one of the most ancient tribes of India with a continuing history of several thousand years. The Gond is largest tribal group of India with a population of 4 to 5 million. The Kol is also an important tribal community of central India. Eastern Hindi or Chhattisgarhi is spoken by most of tribals of the study area. In general, the Baiga are below medium to short- stature with a long narrow head shape and a flat nose. The Kols are below medium height and predominantly have long and narrow heads with a long or oval face and a moderately broad nose. The Gonds are below medium to short-statured with a long and narrow head shape and a flat nose (Singh, 1994). Their diet consists of edible roots, fruits and tubers as well as rice and coarse grain; they are predominantly non-vegetarian. They are fond of drinking local liquor prepared from mahua (*Madhuca lingifolia*). Polygamy is prevalent among the both Gonds and Baigas.

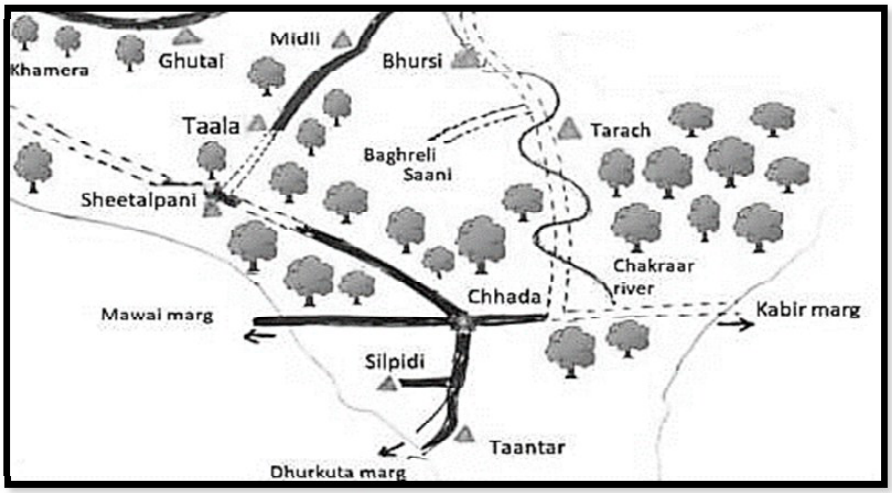

Figure-1: Map showing location of villages in Bajag Forest

RESULTS AND DISCUSSION

The study enumerates the general status of health, determinants of health, disease patterns and its modes of treatment, etiology and cure of diseases, health care delivery system, health care practices and health care seeking behaviors and choice of treatments among the tribal populations of Dindori District of Madhya Pradesh (India).

General Health Status

Health may be defined as a state or condition of physical, mental, social and spiritual well-being which enables a person to take proper care of his/herself, to live happily and to perform the required social roles as a responsible member of

society with commitment to promote the general well-being of others and to share their sufferings (Singh, 2000:6). In tribal societies the concept of health, fitness and diseases varies among different tribal groups. They attribute any misfortune, including diseases and death, to the displeasure/wrath of their supreme supernatural being, to other deities, supernatural forces and their ancestors. It is believed among them that the supernatural beings cause disease as a punishment for any immoral behavior or violation of social norms (Krishna, 1995).

Table-2: Perception of Tribals about Health

S. No.	Perceptions of tribes regarding their health	Percentage
1	Look neat and clean	41.80
2	Eat Properly	55.55
3	Straight Posture	27.77
4	Happy Life	38.88
5	Active in day-to-day life	25.00
6	Able to perform hard physical works	52.77

Total No. of Respondents =720

So far as studied tribes are concerned, they have their own specific perceptions about health. In the tribe under study, a healthy person is the one who looks neat and clean (41.80%), eats properly (55.55%), has a straight posture (27.77%), has a happy life (38.88%), is active in day-to-day life (25.00%), and is able to perform hard physical work (Table-2).

Determinants of health: The domestic hygiene and environment is an important factor affecting the health. In the present study, the term determinants of health includes type of dwellings the tribes live in, the facilities available within their abode like water supply, ventilation, kitchen, toilets, water disposal facilities and conditions.

Living Space and Housing: Investigation of housing characteristics of study area (table 4) revealed that a majority of tribals in this study (97.64%) own kaccha house and only a small number of them (2.35%) reside in a pucca house (Table-3).

Table 3: Constructions/Type of House

S. No.	Type of Houses	No. of Houses	Percentage
01	Kaccha House	580	97.64
02	Pucca House	14	2.35

Among these, more than 40.90 percent houses have only single room along with a kitchen. The percentage of two room houses among tribals of study area is 42.08 percent, and houses with three or more number of rooms in this area was found to be 17 percent. Houses are scattered and very poorly ventilated. Majority of the Baiga own single room house (23.73 %) and Gonds (19.19 %) own two roomed houses.

Floor Plan of the Houses and its health implications: From the point of view of survival, living space is as much important as food. Housing refers to a physical structure that gives shelter to human beings and the environment of that structure, which includes all basic facilities and amenities needed for physical, mental and social well-being of family and individual. The form and structure of rooms and houses is also associated with status of health. Proper arrangement of house is also an indicator of good health. So, to study the health as well as sanitary conditions of the people residing in it is also necessary to study the arrangement of houses. Figure-2 and Figure-3 showcase the floor plan of houses in Bikrampur and forest village of Jalda. The study of houses in relation to health and sanitary conditions reveals that the houses do not have proper facility of drainage for disposal of waste water and lack separate room and kitchen for cooking as they cook their food, where they sleep, which is highly hazardous to health. Water drains out from their

Table 4: Distribution of houses as per number of rooms

Sl. No	Number of Rooms	Number of Families	Percentage	
01	One	Baiga	141	23.73
		Kol	54	9.09
		Gond	38	6.39
		Others	10	1.68
		Total	**243**	**40.90**
02	Two	Baiga	58	9.76
		Kol	47	7.91
		Gond	114	19.19
		Others	31	5.21
		Total	**250**	**42.08**
03	Three or above	Baiga	14	2.35
		Kol	17	2.86
		Gond	40	6.73
		Others	30	5.05
		Total	**101**	**17.00**

Total Households covered = 594(Baiga HH: 213, Kol HH: 118, Gond HH: 192, Other HH: 71)

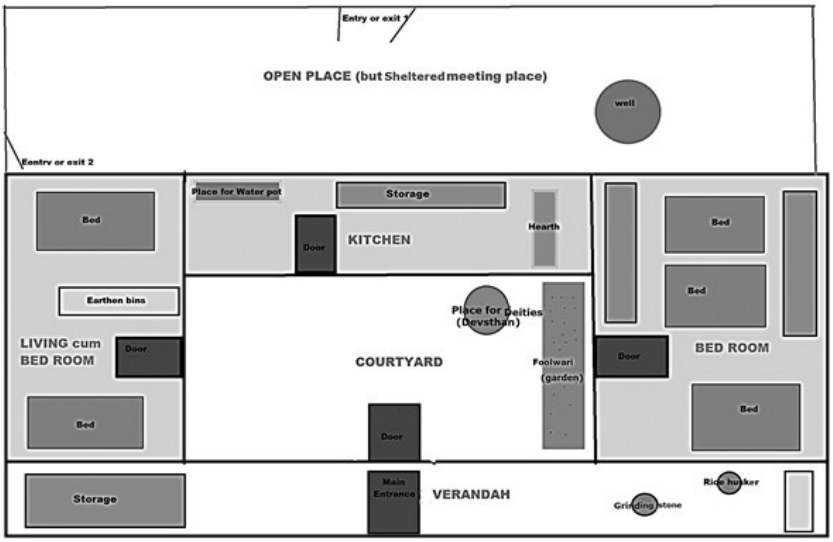

Figure-2: Floor Plan of the one room house in Bikrampur

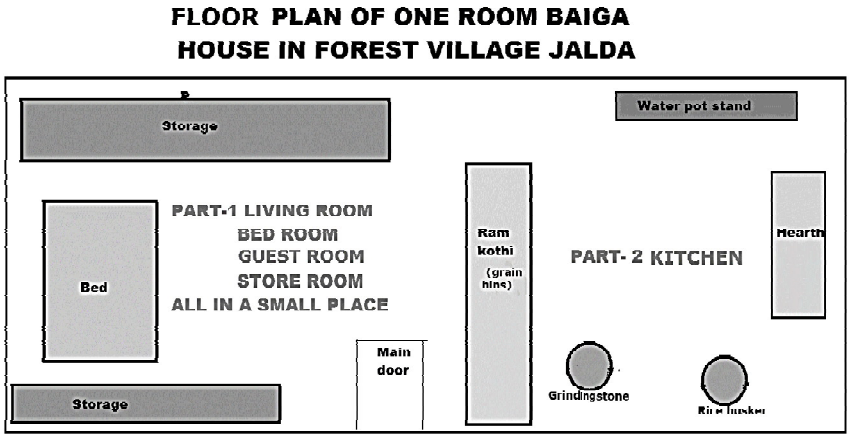

Figure-3: Floor Plan of the one room Baiga house in forest village Jalda

houses around it as they do not have proper sewerage system and this causes the spread of insects, hives, flies, and other micro-organism which are carrier of many types of infectious diseases. Moreover, houses do not have proper ventilation, resulting into suffocation and they inhale polluted air as a result of which they suffer several health issues and diseases. It is known that the smoke produced from traditional *chulhas* (hearths) is highly hazardous to health and the people here are least aware of it. Another problem noticed here was overcrowding, which also gives rise to poor and unhygienic living conditions.

Safe Drinking Water: Prime source of drinking water in the study area is Nallah, Jhiriya, open well and hand pumps, but they give preference to well and jhiriya water for drinking purpose. Table-5 shows the main sources of water

used by the tribals in study area. It is clear from Table-5 that there are 30 hand pumps and 46 wells in the study area. Only 7 hand pumps in forest villages are being used by residents. Most of them used well for fetching drinking water and Jhiriya is the second popular source of drinking water. According to Regional Medical Research Centre for Tribals Jabalpur, (RMRCT; now ICMR-NIRTH) 50% drinking water sources of study area had high concentration of chemicals like fluoride which lead to high level of contamination and affect human health to a large extent.

Table-5: Main sources of water in the study area

S. No.	Name of Village	Source of Water					No. of Dependent Residents
		Hand Pump	Well	Jhiriya	Nallah	River	
1	Jalda (F)	03	05	04	02	01	869
2	Bona (F)	02	02	05	02	01	1065
3	Khamera (F)	04	05	02	01	01	898
4	Tantar (F)	03	04	03	04	01	954
5	Tarach (F)	05	04	05	02	02	909
6	Bajag (R)	05	07	00	01	02	1703
7	Padariya (R)	03	09	00	02	02	1752
8	Bikrampur (R)	03	06	01	02	01	1184
9	Midli (R)	02	04	02	02	01	1070

(F= Forest village, R= Revenue village)

Table-6 shows the general mode of purification and habits of tribals of the study area towards purification of water before drinking. It is evident from the Table that a majority (94.78%) of the tribals of the area use boiled water only during illness and cloth is used as a filter by (32.49%) of the tribals of this area.

Table-6: Mode of purification for drinking water

S. No.	Mode of Purification	Number of Family	Percentage (%)
01	Boil before Drinking	31	5.21
02	Boil only during Illness	563	94.78
03	Use cloth as a Filter	193	32.49

Total HH Covered =594 (Baiga-213, Kol-118, Gond-192 and Others- 71)

Sanitation: Environmental sanitation is an important factor in determining the health status. Insufficient drainage and sewerage system, lack of safe drinking water and tap water supply, unhygienic housing practices and open defecation habits combined with unhygienic practices are responsible for many diseases among the tribals of study area. It is not surprising that the status of sanitation among tribals of study area has been found to be highly pathetic and requires urgent attention. Due to lack of proper drainage system, sullage water flows outside the house or directly to a nearby pit and gets accumulated in it. House sullage water also carries some organic discard and accumulates there.

Stagnant water provides safe and ideal breeding ground for mosquitoes and other germs. Refuse is collected outside the house and is generally disposed near the house.

It was observed that toilet facility is not available in most of the households in the study area. People of the study area prefer to defecate in the open space surrounding their habitations. They prefer open space because it requires fewer amounts of water and their villages lack tap water supply. After the defection they preferably wash their hands with water using soil or ash and they rarely wash their hands with soap.Toilet facilities in the villages is insufficient. In fact, Jalda and Bona Villages lacked toilet facility. Baig Village had the highest number (8) functional toilets. On the other hand, Khamera and Tantar Villages had 1 toilet each, Tarach and Midli Villages had 2 each and Padariya and Bikrampur Villages had 4 toilets each.

The populations of study area do nothing in order to maintain hygienic condition. They do not have separate bath place and place for washing their clothes. They do not take bath regularly. Some people take bath at an interval of a week. Very few were found who take bath regularly. They wash their hairs at an interval of 6-7 days. They brush their teeth using twig. Very few people use tooth paste or powder. They never use tooth brush. Most of them wash their hands with ash and a few also use soap. Rai or mustard oil is applied on their body by both males and females and put in ears by the people to get ease from ear wax.

In general, tribals of this area were not aware of the ill effects of unhygienic conditions on their health. They do not know about the existing interface between disease and sanitation, which is one of the important causes for generation of the disease. Such unhygienic conditions are also produced by the improper storage of garbage. Heaps of garbage are scattered randomly and are stored near the houses or village, which is a prime cause for producing flies, mosquitoes, other insects, as well as bacteria.

Food and Food Habits: Food is an important factor for determining the health status of an individual and a community. The staple diet of the tribals of the study area is rice. They generally eat three times a day. They take breakfast between 6-8 a.m., locally called '*juara*', they usually drink '*pej*' of *kodon*, kutki, maize or rice. General lunch time, locally called '*basi*', is from 3-4 p.m., which consists of pej-bhaji and rice. People take dinner (locally called '*biyari*') between 7-8 p.m., which generally consists of rice, dal, vegetables, non-vegetarian food items and sometimes roti of wheat or madiya. Tribals of the study area prefer '*dhan*' and '*kodon*' rice. In their menu, pulses hold an important place and nearly all the tribals of the study area intake pulses at least once a day. There are various types of pulses for example Masoor, Urad, Batri, Moonga and Arhar/ Rahar which are used by the tribals. Various varieties of vegetables like 'Chench bhaji', '*Chakoda bhaji*', '*Pakri*', '*Girul*', '*Munga*', '*Pihri*' and tubers, etc., are consumed by them. They primarly eat green leaves (*bhaji*).

Most of the tribals in the study area are non-vegetarian. They are fond of taking meat and mutton. Different varieties of mutton and meat are prepared by them. They usually eat pork and chicken. They do not purchase fruits from market but collect these from nearby forest areas; the consumption of fruits depends on the season and availability in the forest. They do not usually prefer to consume milk, but when they get it they convert it into ghee. But when they get it, they also mix milk into the '*pej*' consumed by children.

Tribals of the study area were found to be too much addicted to drinking of liquor, locally known as '*Mand*' or '*Daru*'. Mostly males consume it daily but females drink it on some special occasions and festivals. They make liquor from flowers of Mahua. Several forms for preparation of '*Phool' Daru* is found here which is brewed locally by the people themselves.

DISEASE PATTERNS AND MODE OF TREATMENT:

Quality epidemiological data on various diseases among the tribals of Bajag forest range of Dindori district is almost non-existent. The Indian Council of Medical Research (ICMR) has collected data on some diseases in certain villages and among few selected tribes only. Qualitative impressions of the tribals, doctors and NGOs working in the study areas are some of other sources utilized to make conclusions. Based on the above, we can draw some broad generalizations, which are given as under:

***Morbidity pattern and prevalence of diseases in the study area*:** Though, general health of the tribals in the study area is normal but they are found to be suffering from several diseases, which can be broadly classified into the following categories:

- ***(i)*** *Malnutrition* : Low birth weight, under-nutrition of children, lower body size of Adults, Anemia**,** Iron deficiency**,** Vitamin A and B deficiency.
- ***(ii)*** *Maternal and child health***:** Higher infant mortality rate, high under five mortality rate (U5 MR), Neonatal mortality, acute respiratory infections, Diarrhoea.
- ***(iii)*** *Communicable Diseases***:** Malaria, TB, HIV, Filaria, Leprosy, Typhoid, Cholera, Jaundice, Viral diarrhea, Viral gastro-enteritis, Viral fever, Skin diseases.
- ***(iv)*** *Non-communicable Diseases:* Diabetes, Hypertension, Stroke, Cancer
- ***(v)*** *Hereditary Diseases:* Sickle cell and G6PD deficiency.
- ***(vi)*** *Accidents and Injuries***:** snake bites, animal bite, burns, falls, cut, violence, and road accidents.

Table-7 displays the morbidity pattern among the Baigas and Gonds, of the study area. It clear that among the Baiga community skin related diseases and

urinary disorders are more common while among the Gonds community cases of cough, cold and fever and stomach disorders were more prevalent. Baiga community is more affected with malaria, jaundice and asthma as compared to the Gonds, who are more affected with tuberculosis and cancer in comparison to the Baigas.

Table-7: Morbidity Pattern among the Tribals

S. No.	Name of Disease	No. of Cases	
		Baiga	Gond
01	Cough, cold and fever	56	87
02	Stomach related diseases	40	52
03	Skin related disorders	127	45
04	Malaria	36	16
05	Jaundice	24	17
06	Stone	05	07
07	Tuberculosis	07	08
08	Piles	06	03
09	Asthma	16	09
10	Urinary disorders	60	47
11	Cancer	00	02
12	**Total**	**377**	**293**

Preferred/ Prevalent modes of treatment: For treatment of the diseases, tribals under study make use of traditional (Guniyayi -Jadi- Jantar; Dhumi-Dham) as well as modern (Allopathy) mode of treatment. However, they gave first preference to traditional medical system (46%). In this firstly a tribal prefers to visit Guniya for Jadi-Jantar (38%), followed by the Panda (7%) for Dhumi-Dham/jhaad-foonk. The 4% tribals of the study area prefered allopathic system of medicine. It was observed that in most of the tribal villages, different modes of treatment like spiritual, herbal and allopathic, all go side by side also known as 'medical pluralism' and 48% tribal people have equal faith in all kind of treatments. So we can say medical pluralism exists in the study area.

Etiology/Causation and cure of diseases- The tribals people are hard-working and their health is generally good. They have their own perception regarding health and healthy person. When a person could not move, has physical discomfort, is unable to perform daily activities, is bed ridden, is having certain psychological disorder, then that person is considered to be ill by the tribals. Among the tribals of this area, most diseases are believed to have their origin either in witchcraft or in the personalistic and spontaneous and inexplicable hostility of unseen beings. Table-8 presents a summary of the responses of the participants pertaining to causative factors of the diseases.

Table-8: Causative factors of diseases

S. No.	Causes of Diseases	Response (%)	No. of Respondents
1	Natural causes only	25	180
2	Super-natural only	23	167
3	Both	49	355
4	Not answered	3	18
5	Total	100	720

It can be observed in Table-8 that 25% of the tribals believe in natural causes while 23% of the tribals believe that supernatural causes are only reasons for spread of any disease.

Diseases due to Natural causes: Generally, the tribals of the study area attributed all diseases to the evil spirit, but now they have begun to think in terms of natural causes too. According to their beliefs, diseases may be broadly divided into those that grow from within the body and those that are due to external physical causes. The former include fever, small pox, cholera, measles, dysentery, etc., while the latter refer to all sores, burns, cuts and fractures. The internal diseases are caused by evil spirits. Natural diseases have been proved by them to be curable through medicinal treatment and observing precautions associated to foods and drinks; and those caused by influence of sprit of any other super natural power.

The tribals of the study area believe that cold, cough and malarial fever are caused by drinking cold water in cold seasons and that malaria may also get develop from mosquitoes. Thus, fever may be caused by drinking a lot of water when a person have cold, headache may be due to a hot breeze blowing into a man's nostrils and ears. Venereal diseases arise from our own bodies. The tribals of the study area are gaining awareness about infectious and contagious diseases.

Diseases due to super natural causes: The tribals of the study area have firm belief in activities of the '*mata'* or mothers of diseases and epidemics. Each one of these goddesses inflicts some particular kind of sickness. These fearful beings, who by a curious twist of fate has been given the sacred and beautiful name of mother, that may attack human and animal. The story of the origin of the "mata" or mother of diseases can be seen in Elwin (1939).

DIAGNOSIS AND CURE OF DISEASES:

In case of illness in a tribal family, first they consult a Baiga Gunia, the spirit doctor and medicine man. When Gunia goes to bed side of a sick people his first task is that of diagnosis. Table-9 shows different types of diagnostic tests used by traditional medical practitioner of the area.

Table-9: Methods of Diagnosis

S. No.	Methods of Diagnosis	Response (%)	No. of Respondents
01	Nadi Dekh kar	44.16	318
02	Kadhi Chaatkar	50.00	360
03	Ban- Bati	1.9	14
04	Pidha-Ghumna	00	00
05	Dhumi-Dham	3.88	28

As can be seen in Table-9, diagnosis by pulse counting, reading face and forehead is a popular method of diagnosis as 44.16% of the tribals accepted it. Diagnosis by '*Kadhi dekhna'* or '*Bari Kadhi*' is the most popular method of diagnosis used by Gunia with Supa-Tuma and 50% tribals believed in this method of diagnosis. Diagnosis by 'Ban-Bati' Test was applied by 1.9% of tribal healers. Diagnosis by '*Barua'* and the '*Dham'* Test and Castor plant leaf test is also one of the methods of diagnosis and only 3.88% tribals resorted to it.

Treatment by the Divine Healers: The tests mentioned in Table-9 are applied by divine healers of the tribal areas. When the divine healer successfully diagnoses the nature and causes of the disease from which his patient is suffering, he immediately prescribes the proper treatment to ensure his recovery. Treatments used by divine healers (Guniya) of the study area may include treatment by making the appropriate offerings**,** treatment by driving or extracting the disease away, treatment by breaking the power of witch, treatment by the use of mantra**,** treatments by Jagar and treatment by herbal remedies prescribed by traditional healers.

Treatment by herbal remedies prescribed by traditional healers: There are many divine herbs popular among the tribals of the study area which are used as medicines after performing the rituals of worship by divine healers and self too which endow them with super natural powers. They believe that these herbal remedies are capable to cure not only diseases but to get rid of ghost and malevolent spirits too. Traditional healers of the study area informed the researchers about different herbal medicines for treating about 40 diseases. A data base of 200+ medicinal plants has been prepared by the researchers during present study and the field work. Some secondary sources are also used during this study for the purpose of ethnomedicinal data. To treat an ailment sometimes plants are used with the spells (Sahoo and Mohanty, 2019) and other rituals. Some healers give medicine for the treatment of ailments while others prescribe lotions and potions extracted from a plant. They used variety of medicines for different ailments. It was observed during study that they seldom reveal their ways of treatment and healing to others especially to outsiders. They very hardly get ready to share traditional knowledge as they want to keep this knowledge highly confidential. Sahoo and Mohanty (2019) argue that traditional medicines are called primitive, mystical and esoteric due to our education/orientation which does not prepare us to comprehend their sophistication.

Treatment by the modern medical practitioners: According to the

medical practitioners of Bajag block, some common diseases and health problems found in the study area include fever, malaria, diarrhoea, vomiting, tuberculosis, dysentery, cough and cold, urinary disorders, skin diseases, joint pain, body pain, liver and kidney related problems, piles, snake and dog bite, jaundice, abortion, still births, fertility, accidental injuries, tooth ache, anaemia, etc. According to the practitioners, such problems occur because of lack of awareness about health and disease management, poverty, malnourishment and lack of proper health facilities and treatment at the nearby areas. And one most common factor is blind faith of the tribal inhabitants on the spiritual healers of the area.

These days, the tribals of the study area are also taking medical treatment which is available at CHC and PHC and private medical clinics, though they use medicines only for ordinary diseases and external ailments. They have a fear of inoculation. When the Jaundice broke out in Jalda-Bona, it was very big problem for health and district administration to persuade the tribals (Baiga in majority) to get inoculated. But now a day they are getting aware of the fact that modern medicine is efficacious for some diseases, hence, they receive treatment from doctors or other health workers. In case of epidemics, they still think medical aid to be futile and must resort to indigenous healing or worship and service of the deities like *'Murra Dev'* and *'Piri Dashahi'*. The tribals overestimate the power of super naturals, spirits, and their faith in the Guniya-Panda still remains unchallenged, though among the educated or young generation the western/modern medicine is gaining popularity. Hence, it can be said that their belief in efficacy of the prescriptions of Guniya-Panda and their indigenous methods of treatment has not reduced till date. The tribals still believe that if the diseases have been caused by a supernatural agency, no medical treatment will be effective, unless the influence of the super natural powers get controlled or removed by the divine healers.

In the study area there are many chemists and private medical practitioners with proper degree (02 with BUMS, BHMS or other valid degree) and also those without any valid degree (06 without valid degree medical practitioner). Total four chemist shops and six private doctors were found to be practicing in Bajag Market, while one was practicing in Padariya Village and another was practicing in Jalda Village. The tribals of the study area frequently visit them for the treatment of ailments. These medical practitioners provide prescription for various ailments even on credit.

DISCUSSION AND CONCLUSIONS

The tribals of the study area have their own view about health. In other words, we can say that the perspective of the people regarding health in the area is somewhat different from the modern definition of health. A person who is able to eat properly is considered healthy by the people here and 55 percent of them believe in this perspective. A person able to do hard physical work is considered as healthy and those who believed that ability to perform hard physical work is

a factor of good health constitute 52 percent of the total studied population. Among these, 41 percent believed that a person who lives in a tidy manner and wears clean clothes is considered as a healthy person. Interestingly, 28 percent tribals in the present sample believe that a person who can walk straight is healthy. Only 25 percent believe that those who are active in their daily life and perform their tasks quickly are healthy.

Generally, we see that most of the people of area are healthy but upon more thorough investigation, we found that many types of diseases are prevalent in this area. Due to unbalanced dietary intake, many people suffer from malnutrition resulting in health issues such as birth of underweight infants, anaemia in women, iron and folic acid deficiency, abnormal growth of children, etc. According to ICMR, infant mortality rate and maternal mortality rate in this area are in an alarming state. Infant mortality rate and maternal mortality rate among Kols is higher than the Gonds and Baigas. IMR and MMR among the Baigas is less because due to their forest dwelling nature they have sufficient access to traditional solutions for a safe delivery. Diseases like diarrhea, jaundice, typhoid, etc., are highly prevalent in this area. Main reason behind this is unavailability of sources of safe drinking water. Apart from these, several communicable diseases as well as vector borne diseases like malaria, tuberculosis, filaria, leprosy, viral fever and many kinds of skin diseases, etc., affect health of the people from time to time in the study area. In other words, a big chunk of population suffers from these diseases. In addition, life style diseases, diabetes, cancer, etc., are also emerging as a new menace in this area. Recently in July 2018, a Baiga male aged 48 has died in Jalda Village due to intestinal cancer. ICMR report indicates that people in this area, especially Baigas, are also affected by G6PD deficiency and sickle cell anaemia. (http://www.nirth.res.in/publication).

According to doctors of the area, malnutrition, unhygienic conditions, accidents, change in weather, etc., are prime causes for rise of diseases. But, according to tribals, apart from above factors, wrath of supernatural powers is the major cause and evil eye, sorcery, witchcraft, masan also effect health of tribals. If one breaches the taboo he is believed to suffer from diseases in future. It is also believed by tribals that if a person is ill due to influence of supernatural powers, then only Gunia and Panda can cure him. They cannot be treated by doctors or medical practitioners.

Two types of treatments are prevalent among these tribes which include traditional/indigenous and modern or allopathic medical treatment. Mostly these people are more dependent on traditional medical system like *Jadi-Jantar, Pandai, Dhumi-Dham*, etc., than on allopathic medical system.

It can be concluded that the way of their life style, food habits and environmental sanitation, unfavorable changes in weather and supernatural powers are major causes of various diseases among tribals under study. When these people get ill, they visit *Gunia* for the treatment, who is their first preference

for treatment. Native/ traditional healers apply various methods of diagnosis and, as per diagnosis, they prescribe certain solution which includes making offerings to supernatural deity, treatment by exorcism, extraction of the diseases, treatment by spells, treatment by Jagar and treatment by herbal plants or animal derivatives. If any person is considered ill due to wrath of God or Goddess, then Gunia makes offerings to propitiate them in the form of hen, goat, pig and sacrifice it, as situation demands.

Now a days tribal people are developing interest in modern medical systems also but still have strong faith and reverence for their traditional methods of healing. These people are widely known for their herbal treatment and green remedies. The Baiga tribals of this region are traditionally performing healing practices. During present investigation, it was found that the Baiga tribe basically provides health care facilities to the neighboring tribals, like Gond tribe, who are involved in agricultural pursuits to provide food security to the people. Agaria tribe makes iron tools and implements for agriculture as well as hunting, Panika tribe's work is to provided cloths to people and Yadavas help in cattle grazing for the whole village. Each tribal is interconnected with deep interface. However, few changes could also be noted with development.

Thus from the results of the present study, it can be concluded that the concept of health among these tribals is not very clear and they have mixed thoughts influenced by each other, regarding health and hygiene.They believe in super natural powers and they accept that diseases occur in this area due to wrath of super natural powers. They give first preference to traditional medical system for the treatment. Gunia, Panda, Vaidya and Sunmai are the traditional healers of this area in which Gunia is most important. They treat people as a part of their social service and don't expect and accept any fee for healing sessions. They have sufficient traditional healers in their society and have a treasure or wealth of medicinal plants in their forest areas.

The government medical services and infrastructures in this area are not satisfactory and require overhauling. Many a times there is a dispute or misunderstanding between the traditional healers and the local administration. As a result of government efforts some people have shown interest towards Allopathy. Baigas have a very deep and extensive grasp over indigenous/ traditional medical system. The Bajag Forest Range has highly valued medicinal plant and herbs available, which are being used by the traditional healers. Diseases like Malaria, sickle cell anemia, G6PD, jaundice, typhoid, etc., are the most prevalent diseases in this area. They are also aware of vector borne diseases. This awareness has been possible due to joint effort and interest of local people, Indian Council of Medical Research (ICMR) Jabalpur regional center and government; their concerted efforts have helped in controlling and to pull down the cases of malaria in the study area. Due to awareness, created by government efforts, now a day these people are using iodized salt in their food. There are several programs which are implemented for pregnant women like inoculation

for mothers and neonates. With the help of 'Poorak and 'Poshan Aahar' programmes, proper supplements are provided to the children to prevent them from malnutrition. But situation still demands more attention. Several efforts have been made and certainly this will help in accomplishing the goal of "Health for All".

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