

Indigenous Knowledge of Animals, Minerals and Beverages Used as Medicines among the Tangkhul Nagas of Manipur

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Abstract

Animal and its products have been an important means to successful adaptation of human throughout its evolutionary journey. Since prehistoric periods, their parts, and their products have been the source of human survival along with plant and its products. It also forms a basis for indigenous medical system and later for bio or modern medical system. Hence, before it vanishes completely from the memory of the people, the urgency to document this vast knowledge arises, as it is fast disappearing. *Method:* Field survey was conducted on 5 rural villages of this community, and data were obtained from 55 selected informants with the help of interview schedule. The informants include local herbalists, traditional and divine healers, cultivators, midwives, and they were all 50 years and above who were believed to be the only surviving age-group of people who still have the local medical knowledge. *Result:* 23 animal species and its products were reportedly used in the treatment of several diseases and ailments in the surveyed villages. These animal species belong to the classes of mammals (09), insect (03), avian (03), reptiles, amphibians, oligochaeta, malacostraca, gastropoda and chilopoda. Some of the most commonly treated diseases or ailments are burnt body, fever, mumps, measles, stone case etc. *Conclusion:* It was found that the use of animal and its products for medicines are no longer prevalent among the majority of the studied population, or for that matter even the knowledge itself is disappearing at a very fast pace from the general population. One may argue that it was the result of the introduction of 'modern biomedicine' which in fact has also been responsible on one side, on the other hand, majority of these animals have disappeared while others are continuously endangered due to unregulated and excessive hunting and clearing of their habitats. It is high time for the people including the government to realize the need to conserve animals and their habitats before it became something of the past.

Keywords: Animal; Medicine; Manipur; Tangkhul Naga; Indigenous Knowledge.

Introduction

For centuries, human beings have been using and nurturing nature as a basic source of their survival, including treatments for infirmities; human medical practices include the use of plants, animals, and

minerals in the production of remedies [1]. In other words, medicinal animal resources have long been present in all societies and continue even up to the present day [2]. Since ancient times, animals and products derived from different organs of their bodies have constituted part of the inventory of medicinal substances used in various cultures; such uses still

exist in ethnic folk medicine [3]. In India, since times immemorial, great work has been done in this field and documented in the words like *Ayurveda* and *Charaka Samhita*, nearly 15-20 percent of the Ayurvedic medicine is based on animal-derived substances [4].

In the present medical development, 'modern biomedicine' although, have been established in all the medical systems of the people, including within the tribal communities, the indigenous medical system i.e., the crude form of using animals and plants as medicines could be still found among several tribal groups, though not as keen and popular as before. Tribal folks are also still the real custodians of the knowledge of medicinal plants and animals. Likewise, this vast knowledge of certain plants, animals and minerals that have curative and palliative effects were transmitted from one generation to another which is the outcome of bold experimentation through trial and error method over hundreds of years [5].

According to Vedavathy, ethnomedicine or indigenous medical system is the mother of all other systems of medicine such as, *Ayurveda*, *Siddha*, *Unani*, *Nature cure* and even "modern biomedicine". However, since many tribal cultures are increasingly threatened by the force of acculturation and assimilation to dominant culture, the need to document their vast pool of undocumented knowledge including the use of animals as medicines became an urgent task of the scholars. In other words, since, very little is known about the animal species being used for medicinal and to some extent, in rituals, it is important that such information be collected, collated and measures be taken to provide a framework for the conservation of the same [6]. Likewise, this study is an attempt to document the indigenous knowledge of animals, minerals and beverages used as medicines by the Tangkhul Nagas of Manipur.

People and Area of Study

Tangkhul Nagas live in the present North-Eastern part of India and the North-Western part of Myanmar. They inhabit mainly in and around Ukhrul district, one of the 9 districts of Manipur covering areas of 4544 sq. km with a population of 183,115 [7]. The India State Forest Report (ISFR) of the Forest Survey India, 2011, Dehradun, indicated that the total area under forest cover of Ukhrul district is 3549 sq. km (Very Dense forest – 181 sq. km, Moderately Dense forest – 988 sq. km, Open Forest Area of 2380 sq. km and scrub-1 sq. km). The total area under forest cover

accounts for 78.10 % of the geographical area of 4544 sq. km with rich biodiversity [8]. The people are Indo-mongoloid race, speaking Tibeto-Burman language. Generally, they are fair looking, medium body physic and stature, fun loving and generous people.

They have been living in their forested mountains – sowing and harvesting paddy, brewing rice beer, dancing, singing and hunting heads (abolished) for centuries. Village, community and family life are the most important essence of their lives in the past and present as well. They settled in villages which were economically and politically independent unit, and each village is well demarcated to avoid inter-village feuds. However, the present generation has witnessed and undergone tremendous and drastic change in their economics, politics, religious beliefs and practices, and also in their sociocultural settings. They are a community that has experienced transitions from 'tradition' to 'modernity', and the processes of change are still continuing.

Methods of Data Collection

Indigenous knowledge of animals and its products, minerals and beverages used as direct medicine or in preparation of medicines were collected from 5 Tangkhul villages of the Ukhrul district with the help of interview schedule administered on 55 key informants (males-32, females-23) during the month of September to December 2012. All the key informants were older people of 50 years and above, selected based on their experience, recognition as an expert and knowledge related to indigenous medicines. They hailed from various professions, which are cultivators, bone setters, traditional 'medicine men' or healers, divine healers, government health workers, and bureaucrats.

Interview questions include the local names of the animals, minerals and beverages, its uses, parts used, modes of preparation and administration. Later, the locally identified animals were recorded with their scientific names and family by cross-checking with relevant standard literatures [9, 10], and from internet sources.

Findings

Traditionally, the Tangkhuls used several species of animals in pursuit of their indigenous medical system of treating different types of diseases and ailments. The study results are presented in alphabetical order by their scientific names, followed

by common names/local names, family names, parts used and medicinal uses of the animal species (Table 1). In this study, a total of 23 different animal species belonging to 23 families have been identified in treating over 30 different ailments and diseases. These animal species falls under different classes of mammals (09), insect (03), avian (03), reptiles, amphibians, oligochaeta, malacostraca, gastropoda and chilopoda. In some of the animals, the whole body part were used in preparation of medicines, while in others, their by-products like eggs, blood, specific organ, flesh, fats, urine, honey, feather, bile salt, bone marrow, cooked soup, fur or hair, venom, etc. were used in treating different types of illnesses and ailments.

The method of preparation of medicines was primarily through decoction in combination with water, honey and some other medical plants. It is

also observed that certain animal species were used to treat more than one ailment. Modes of administration of medicines were through external applications and internal consumption taken orally.

Table 2 & 3 also represents 2 minerals and 2 beverages reported by the people for having several medical applications. Some of the most common ailments or diseases treated by animal species and its by-products were cancers, body burnt injuries, allergies, fractured bones, swollen limbs, backaches, ulcers, antidote to snake venom, energy revitalizer, malaria, jaundice, mumps, stomachache, asthma, diarrhea, contraceptive substance, stone case, eye problem, measles, skin disease, cold and cough, etc. Similarly, some of the ailments and diseases treated by minerals and beverages were anti-poison, digestive problems, diarrhoea, cough, mumps, tonsillitis, blood pressure, cold, anaemia, etc.

Table 1: Animals used as medicines

SI. No	Scientific name	Common name/Local name	Family	Parts & Medicinal uses
1	<i>Antilocapra americana</i>	Antelope/ Sirao	Antilocapridae	Bone marrow of this animal is considered effective for treating fracture bones. It is also used as ointment by arthritis patient, in minor swollen limbs and backache.
2	<i>Apis mellifera</i>	Honeybee/ Gahaa	Apidae	Honey is used to treat mouth ulcer, cold and cough, stomach problems and skin rashes. It is also taken by womenfolk to assist in contraception. Many diviners also used honey in their medical preparation.
3	<i>Bos taurus</i>	Cattle/ Seimuk	Bovidae	Fresh urine is collected while a cow is urinating and a drop or two is put into the infected eyes. This halts the infection to spread.
4	<i>Canis lupus familiaris</i>	Dog/ Tangkhul Hui/Fa	Canidae	If a dog bites a person, it is advised to pull some fur of that very dog and placed on the beaten portion immediately. People believed that the dog's fur prevent the spread of rabies. Besides, dog meat is considered as one of their favorite food. Its soup is also considered to be one of the best energy revitalizer and to bring quick recovery after child birth. Dog meat soup or meat is to be taken if a person blood pressure is low. Concocted dog meat soup with dog's gold bladder (salt bile) also serves in typhoid, malaria and jaundice problems. During winter season dog meat serves to maintain body temperature warm.
5	<i>Cimex lectularius</i>	Bed bug/ Ngamat	Cimicidae	It is crushed and eaten with fruits like banana, mangoes etc. to treat typhoid and malaria.
6	<i>Euroscaptor micrura</i>	Mole/ Kafa	Talpidae	Meat of mole is used to treat typhoid and dry cough in children.
7	<i>Fejervarya limnocharis</i>	Frog/ Khaifa	Dicroglossidae	Roasted frog is good for a skin disease (nimzat) caused by bacteria that breed in stagnant water. This disease resembles a blister or burnt between the fingers and toes that itch intolerably. Also eaten by the womenfolk for quick recovery after delivery of baby.
8	<i>Gallus gallus</i>	Chicken/ Har	Phasianidae	Chicken soup is taken in treating measles, diarrhoea, jaundice and also good for energy revitalizing especially delivering mothers and energy exhausted patient. Traditionally, it is also believed that chicken can save victim of snake bite by placing chicken anus rightly on the bitten wounds. It is said that chicken anus has the ability to suck back the poisonous venom from the victim. As a result, after some minutes the chicken's skin is said to become bluish black and ultimately die.

9	<i>Glenurus gratus</i>	Ant lion/ Thanakokok	Myrmeleontidae	Ant lion whose larvae are picked to treat boil by grinding and smearing on the swollen area of the boil. Through this, the boil is believed to erupt quicker and could be easily removed from the body.
10	<i>Homo sapiens sapiens</i>	Human/ Mikumo	Hominidae	Pubic hair is considered to have the potential to stop wounds bleeding by placing the hair on the open cut of the wounds. Moreover, a drop of first urine is also considered good for infected eyes so also good for treating toes and nails infection caused especially by contaminated water.
11	<i>Lumbricus terrestris</i>	Earthworm/ Kachai	Lumbricidae	Earthworm is an antidote to snake venom. It is crushed to be eaten along with fruits like banana, apple, orange etc. to treat snake bite. The best and hygienic place to collect earthworm is from the foot of the banana trees.
12	<i>Macaca leonina</i>	Northern pig-tailed macaque/ Nayong	Cercopitheciidae	Monkey skull is concocted with water (boiling water) leaving it to boil for at least 15-20 minutes. Then, take it out of the boiling water; wrapped with thin cotton clothes and placed on the swollen area of the mumps. Within 2 to 3 days the mumps patient's condition will be improved. The soup serves as pain killer against stomach ache to children. Traditionally, people also believed that keeping the skull above the door wards off spells cast by witchcraft, sorcerers and evil spirits.
13	<i>Orycteropus afer</i>	Aardvarks/ Ngaleihok	Orycteropodidae	The fats of 'Ngaleihok' is used as an ointment and considered as good remedy for back ache and joint pains etc.
14	<i>Passer domesticus</i>	House Sparrow/ Konghee	Passeridae	House sparrow meat or its soup is believed to possess a good value for sexual potency.
15	<i>Pomacea canaliculata</i>	Snail/ Korphungla	Ampullariidae	Snail is cooked and given to children suffering from chickenpox or measles. It is also advised to those persons who are seriously wounded to have snail for it assist in quick recovery.
16	<i>Potamiscus manipurensis</i>	Crab/ Khaireo	Potamidae	Crab serves as antidote to measles. It is also used as a contraceptive substance by the women folks. Unwanted or unprepared pregnancies are believed to have prevented by eating crabs. Not only that, crushed crabs are used for expelling maggots from the wounds of domesticated animals.
17	<i>Pteropus g. giganteus</i>	Short-nosed Indian fruit bat/ Vachap	Pteropodidae	Cooked bats' meat are given to children who frequently urinate (bed wetting), it is also good for asthma patient. Urine removed from bats are considered helpful for stone case problem as it is believed to have the power to breaks the stone in the urinary tract/kidney or in the gall bladder.
18	<i>Python molurus</i>	Python/Rarei	Pythonidae	Python fat is considered very effective remedy for bodily burnt injuries. It is also applied over the body to ward off witchcraft. There is a belief that witches are incapable of surpassing the snake spirits, as it is very powerful. Flesh either fresh or dried is concocted with hot boiled water to treat allergic complexities.
19	<i>Scolopendra subspinipes</i>	Centipede/ Seithat	Scolopendridae	Centipede is captured alive and put into liquor in a container. While it struggles to escape, it produces its venom. The end product or mixture of the two substance i.e. venom and liquor is considering as one of the best medication for patient with ulcer and cancers alike.
20	<i>Thomomys bottae</i>	Rat/Shiwok	Geomyidae	Rat meat is considered to be as good as mole meat especially for dry cough. It is best prepared by steaming. Administration of soup serves well specially for those who don't take alcohol. Thus, children respond much quicker than adult to this medical recipe.
21	<i>Tylotriton verrucosus</i>	Himalayan Salamander	Salamandridae	Kidney problems
22	<i>Upupa epops</i>	Hoopoe/ Kazeihar	Upupidae	This bird is considered to have the potential to crush stones formed in the urinary bladder, kidney or in the gall bladder. The whole parts, from the feathers to the claws are believed to have the potency against stone problem inside human body.

23	<i>Ursus tibetanus</i>	Himalayan Black Bear/ Singom	Ursidae	Bile salt (Singomthi) removed from the gall bladder is believed to possess considerable medicinal values, and it is potentials for curing many hosts of diseases. From common cold to varieties of ailments, especially cancer is fought with this medicine. Concoction of hot water and honey or concoction with other herbal medicine is commonly prepared by ethnomedical practitioners.
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Table 2: Minerals used as medicine

Sl. No	Local name	English name	Medicinal Uses
1	Haomachi	Rock salt (brine salt)	It is used to prevent mumps, tonsillitis, blood pressure, cold and cough; good in anaemia and best for cooking green leafy vegetables which enable to remain greenish when cooked. It is also said to prevent the appearance of early grey hair.
2	Leiti	Soapy clay	It was once as shampoo to wash hair. It leaves the hair shinny and soft. It prevents dandruff. It was also used as washing soap.

Table 3: Beverages used as medicine

10	Local name	English name	Medicinal Uses
1	Khor, Zam, Chakhanra	Rice beer	Rice beers locally brewed are intoxicating drinks. It is also taken to absorbpoison properties in the food. They are also good for digestive or constipation problem.
2	Shakshitheira	Gooseberry juice	After having stored inside a tide container for a long period of time to ferment, its extracted juice is taken during diarrhoea, cough and other stomach ailments.

Conclusion

The use of animals for medical applications are no longer prevalent, nor popular among the Tangkhul population. Even if the practice still exists (in the form of occasional use among certain section of the villagers), it is no longer their first choice of treatment to the prevailing diseases or ailments. However, prior to the introduction of 'modern biomedicine' into the community, they entirely depended on animals, plants and their derivatives for treating all types of diseases and ailments prevailing within the community. All their medicines were extracted from either animals or plants, because they were found to be very effective in treating several diseases and ailments including those mentions above. Moreover, the fact that these extracts from animals and plants were effective was seen in their huge and healthy physic, less presence of diseases and ailments resulting to low mortality and also by their ability to successfully adapt to the harsh environmental condition of the past. Nonetheless, after the introduction of 'modern biomedicine' which no doubt proved to be more effective and soothing have virtually replaced their 'crude-raw' form of indigenous medicines derived from animals and plants. Since then, animals are no longer hunted for medicines, but for home consumption, and as a result of this excessive

hunting, these animals which were once seen strolling around their village compound are no longer seen even in the thickly forested area. Some of the animals have completely disappeared from the area which was once highly populated, while others are increasingly pushed into dangers. In addition to excessive hunting of animals by the people, major threats to the very existence of these medicinal animals or for that matter any kind of animal includes, overexploitation of natural resources including uncontrolled and excessive harvesting of forest timber due to poverty, clearing of forest for agricultural activities that destroy their habitats, rapid human population growths, weak wildlife policy and legislations, etc. Thus, it is imperative that local people realize the importance of the conservation of animals and plants which goes hand in hand with the very successive existence of the human species itself. It is also high time for all the people including the government and the people of this community particularly the villagers to work collaboratively in taking sharp measures to stop clearing of forest and jungles or the animals' habitats. Hunting of any kind of animal must be also banned by the government in consultation with the local people. Finally, the people of this community and the government must also ensure the effective implementation of the laws and regulations from the ground level to the top.

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