



ISSN 2278 – 0211 (Online)

Medicinal Use of Fauna in the Indigenous Medicine System of Gendewuha and Kumeraaftit Kebeles of Metema Woreda, North West Ethiopia

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Abstract:

Indigenous zoo-therapy is one of the health care mechanisms to treat human ailments in the world. This is not exception in Gendewuha and Kumeraaftit Kebeles of Metema woreda, North West Ethiopia. The Metema woreda people, both the urban and rural, utilize indigenous zoo-therapy which transferred from generations to generations orally and provided by indigenous practitioners/healers, elders and any ordinary knowledgeable people. This article try to explore the indigenous way of treating various kinds of human ailments by using various vertebrate and invertebrate; wild and domestic animals; taboo and edible animals. Different animals used for medicinal purposes in different ways such as meat, urine, feces, bone, skin, blood, fat, honey, milk, butter, bile, egg, etc.. Some are used for internal diseases where as others are crucial for external pathologies like wounds and skin diseases. Medicinal animals used for the treatment of different diseases such as tuberculosis, mad dog biting, impotence (sexual), asthma, snake biting, pellagra, evil eye, skin diseases, etc. Field work conducted with purposefully selected Gendewuha and Kumeraaftit people of Metema woreda with the help of key informant interview with semi structured questions on the identification of medicinal animals, their medicinal body parts, diseases treated by medicinal organs of animals and the usage of such medicines for treatment. Further, the article explores the challenges hindering the access and sustainable utilization of animals for health care.

Keywords: Medicinal fauna, Indigenous medicine, Zootherapy, Gendewuha and Kumeraaftit Kebeles

1. Introduction

“Zoo-therapy is the treatment of human ailments with remedies made from animals and their products” (Uniyal, et al, 2006). Throughout history animals have been used for food, transportation, medicine and other uses such as plowing. The use of organs or parts of animals as medicine is the basis of many traditional therapeutic practices (Rocha, et al., 2008). Animals have significant contributions in the indigenous health care systems of various cultures. However, they are little researched compared to that of plants. The following statement clearly explains the importance of animals in the treatment of human ailments. “All human culture which presents a structured medical system will utilize animals as medicines” (Bennett, et al., 2000).

Animals have been used as medicinal resources for the treatment and relieve of a myriad of illnesses and diseases in practically every human culture (Costa-Neto, 2005). Various human societies use animals for medicinal purposes in biomedicine, complementary and alternative medical systems (Alves and Rosa, 2013). Alves (2008) indicated that 104 genera and 30 families of the reptiles are used in indigenous medicines. In the Shoka Tribes of District Pithoragarh, Uttaranchal, India, 19 different diseases or disorders were being treated using the animal products (Negi and Palayal, 2007). Vayas, et al., (2009) also notes that traditional medicines derived from domestic animals is used by Rebari community of Rajasthan, India, for the treatment of several human ailments.

Like other indigenous medicinal practices, medicinal fauna is used throughout the world in both developing and developed countries where the biomedicine is also widely accessible. It is due to the fact that indigenous medicinal fauna is prepared often from locally available animals. When necessary, it is used for treatment by mixing with medicinal plants and minerals. Sometimes, medicinal fauna practices are accompanied by magico-religious prayers. According to Alves (2011:11) animals used as “raw materials for remedies prescribed clinically and are also used in the form of amulets and charms in magic-religious rituals and ceremonies”. Beyond its importance for healthcare, animals contribute for the indigenous medicine system, which serves as a source of income at household and national levels. It is practiced by traditional healers (herbalists, bone setters, spiritual healers, and traditional birth attendants) and knowledgeable elders. Likewise, Adeola (1992) reported the importance of some wild Animal’s body parts in the traditional medicine system of Nigeria. Medicinal animals are essential in both traditional and biomedicine practices (Kaufmann, et al., 2014).

Though medicinal animals are not easily accessible compared to that of indigenous medicinal plants, the indigenous medicinal fauna is used in the Chinese traditional herbal medicine, the Indian Ayurvedic medicine, the Brazilian traditional medicine system, the Korean traditional medicine system, the Japanese traditional medicine system and the Egyptian, South African, Ethiopian traditional medicinal systems to mention few. Various animal tissues such as tiger bones, antelope, buffalo or rhino horns, deer antlers, testicles

and penis of the dog, bear or snake bile are used for the treatment of human ailments in China (Still, 2003). Indigenous medicines extracted from the animal kingdoms in Ethiopia include honey, butter, and sheep fat (Dejene, 2014). Endashaw (2007) notes indigenous animals are also one of the Ethiopian indigenous medicinal wisdoms.

In Ethiopia it is also expected that more than 80% of the population is still dependent on indigenous medicines and practiced both in rural and urban areas. However, there is no adequate research on indigenous medicines in general and mainly on medicinal fauna which has significant contributions in the treatments of human ailments. Indeed, it is not only in Ethiopia but also in the rest of the world indigenous medicinal fauna is under researched. In line with this, Alves (2011) notes that though medicinal animals are widely used in different countries for health care, it is little researched compared to medicinal plants. Hence, Ethiopia is not exception in this regard. Although animal-derived remedies constitute an integral part of folk medicine in many parts of the world, particularly for people with limited or no access to mainstream medical services, their role in health care has generally been overlooked in discussions about public health, conservation and management of faunistic resources, and ecosystem protection. (Alves, et al., 2007). Only some researches like Gelahun (1989) tried to list around 23 animals used for the treatments of human diseases in Ethiopia.

The medicinal animals in this article comprises of indigenous medicinal animals for the indigenous health care as a treatment for human diseases and injury, and animals used for foods and drinks in the day to day lives of people and have medicinal value beyond their nutritional value. Further, this article explore medicinal animals and their medicinal body parts, utilization and the challenges that hinder the sustainable indigenous use of such medicinal animals by taking one urban and one rural purposefully selected *kebeles* (lower district units) of Metema *woreda* (district) in North Gondar.

2. Study Area

The Metema *woreda* has 19 rural administrative *kebeles* (Shenfa, Tumet, Agamwuha, Gubayjababit, Lencha, Shashege, Gendewuhaabirshagn, Meqa, Akushara, Temechela, Zebachbahir, Achera, Meshaha, Lastaawasa, Kumeraaftit, Kokit, (Mender 6, Mender 7 and Mender 8), Dasgundi, and Lemlemterara) and 2 urban administrative *kebeles* (Gendewuha, divided in to sub kebele 01 and sub kebele02, and MetemaYohanis). Among these *kebeles* only two (Gendewuha from urban *kebeles* and Kumeraaftit *kebele* from the rural *kebeles*) were purposefully selected based on the informal conversation with informants in the Metema *woreda* where both of them are known in the practice of indigenous medicine and many practitioners are available there.

Gendewuha is located in the east of Gendewuhabirshagn, west of Kumeraaftit, north of Zebachbahir, and south of Agamwuha *kebeles*. Likewise, kumeraaftit *kebele* is located in the east of Gendewuha sub *kebele* 02, west of Kokit, north of Zebachbahir, and south of Agamwuha *kebeles*. The areas have many of the animals that are used to prepare indigenous medicines, though now a day they are endangered as a result of several reasons. The community has strong confidence in indigenous medicine for they believe it could heal disease that a modern medicine cannot.

3. Methods

The research was designed as qualitative research method. In addition to the field work, review of literature dealing with the indigenous use of medicinal animals was carried out. The size and composition of the sample of participants and informants was determined by purposive and snowball sampling as it is common with qualitative research.

Information on different aspects of medicinal animals in the Kumeraaftit and Gendewuha *kebeles* of Metema *woreda* collected by direct interviews of known healers, customers and any other knowledgeable persons. Key informant interview with semi-structured questions has been used for the data collection. Indigenous customers, healers, religious men, elders and other ordinary, but knowledgeable people who have been purposefully selected through informal conversation with residents in the above mentioned *kebeles* have been interviewed. Both men and women based on their knowledge of indigenous zoo-therapy, selected as a key informant for the interview. They are asked about the body parts used to prepare remedies, mode of preparation, diseases for which medicines are prescribed and the usages of medicinal animals. These and other related information have been collected and recorded using note books and tape recorders. All informants has been recruited and interviewed by using the objectives and key informant interview guides. Moreover, information regarding zoo-therapeutic animal's scientific and English names identified through relevant literatures.

4. Animals Used for Medicine in Gendewuha and Kumeraaftit *kebeles* of Metema *Woreda*

According to informants, some of the domestic animals used for indigenous medicine includes, camel, hen, goat, sheep, ass, dog, cow, horse and wild animals such as monkey, bat, hyena, pig, ostrich, python, porcupine, etc. Some of such animals are important to treat even those diseases like different cancers and culturally defined illnesses which cannot be easily healed by modern medicines.

When one of the family members fall sick people use medicines extracted from such medicinal animals depending on the type of the disease. If the disease is malaria and the others, which can be treated by modern medicine, they would take them to hospitals. If they cannot be healed by modern medicine, they would take patients to indigenous medicine practitioners. Some of the diseases treated using medicinal animals include Tuberculosis, mad dog biting, impotence (sexual), asthma, snake biting, pellagra, evil eye, Hemorrhoids, skin diseases, etc. Indigenous medicine in the study areas can be prepared from domestic, wild, vertebrate, invertebrate, taboo and edible animals. Animals used for indigenous medicinal purposes in Gendewuha and Kumeraaftit *kebeles* of Metema *woreda* classified and discussed as follow:

4.1. Vertebrates Medicinal Animals

4.1.1. Mammals

The following table reveals some medicinal mammals used to treat human ailments in Gendewuha and Kumeraaftit *kebeles* of Metema *woreda*

Amharic Name	English/Common Name	Scientific Name	Parts Used	Disease Treated	Ways of Medicinal Use
<i>Midaqua</i>	Bush duiker	<i>Sylvicapra Grimmia</i>	Meat	Leprosy	Eating its flesh
<i>Kebero</i>	Fox	<i>Canismesomelas</i>	Meat and brain	Epilepsy	Eating by preparing in a stew form and smearing the head with the meat
<i>Yemedafiyel</i>	Gazelle	<i>Soemmeringi</i>	Horn	Eye disease and skin disease	Smearing the eye and the victim skin by burning the horn and mixing with its bile and marrow
<i>Yeletitwof</i>	Bat	<i>Chiroptera</i>	Meat	Liver disease and Rabbis	Prepare it in stew form and have the patient eat
<i>Yedurasama</i>	Pig	<i>Potomochoerusporeus</i>	Meat and blood	Leprosy	Drinking the blood and eating the meat by preparing in stew form
<i>Dikula</i>	Bushbuck	<i>Traglyphusscriptus</i>	Meat and bone	Internal body cancer	Drinking in the form of broth (bouillon)
<i>Tinchel</i>	Rabit	<i>Lepushabessinicus</i>	Blood	Asthma	Drinking the Blood
<i>Wusha</i>	Dog	<i>Canisfamiliaris</i>	Excrement	Gun wound	The excrement is used to smear the wound
<i>Lam</i>	Cow	<i>Bosindicus</i>	Butter	Pellagra and other skin diseases	Effective when used by mixing and smearing the victim skin with it
<i>Ahiya</i>	Ass	<i>Equs Asinus</i>	Excrement	Mad dog disease	Mixing together and letting the patient drink and run for few minutes. Then after the disease will release in the form of feces.
			Milk	Chancroid	Drinking the raw milk
<i>Gimel</i>	Camel	<i>Camelus Camelidae</i>	Milk and meat	Diabetes, stomachaches and liver infection	By drinking the fresh milk and eating its meat prepared in a stew form
			Milk	Malaria	Drinking the milk
			Urine	Common cold and coughs	Mixing it with milk and drinking it
<i>Jib</i>	Hyena	<i>Hyaenidae Carnivora</i>	Hide	Evil eye	By laying the patient on the hide and hanging a piece of the hide in the neck
			Eye lash	Sleeping problem	Hanging it in the neck
			Meat	Possessed by evil spirit	After giving the patient the meat telling him/her what he/she ate
<i>Kerkero</i>	Wathrog	<i>Phacochoerusaethiopicus</i>	Meat	Swelling	Eating the fresh meat
			Tooth	Toothache	Heating the teeth with fire and smearing
<i>Fiyel</i>	Goat	<i>Capra Hircus</i>	Milk and blood	Malaria	Boiling and drinking

					both the milk and the blood separately.
<i>Feres</i>	Horse	<i>Eqqus Caballus</i>	Urine	Epilepsy	Drinking the urine
<i>Jart</i>	Porcupine	<i>Hystricomorph Hystricidae</i>	Blood	Skin diseases–fungus	Smearing the skin with it
			Meat	Asthma, stomach problems, and urine complications	Eating by preparing it in a stew form
			Liver	Stomachache	Eating the raw liver
<i>Beg</i>	Sheep	<i>Bovidae Ovis</i>	Milk	Cough	Boil milk with salt and dinking
<i>Zinjoro</i>	Monkey	<i>Macacamulatta</i>	Meat	Skin and internal diseases	Eating by cooking in the form of broth
			Blood	Epilepsy	Smearing the wound with the blood

Table 1: medicinal mammals used to treat human ailments in Gendewuha and Kumeraaftit kebeles of Metema woreda

4.1.2. Birds

The following table shows medicinal birds used to treat human ailments in Gendewuha and Kumeraaftit kebeles of Metema woreda

Amharic Name	English/Common Name	Scientific Name	Parts Used	Disease Treated	Ways of Medicinal Use
<i>Gugut</i>	Owl	<i>Nocturnalistrigiformes</i>	Flesh	Cancers	The dried meat is believed to treat various cancers
<i>Doro</i>	Chicken	<i>Gallus domesticus</i>	Egg	Evil eye	Prepare it by adding some medicinal plant and painting on the head of children
				Bone fracture	Preparing stew by adding different plant ingredients
			Egg	-snake bite	Drinking the raw egg
<i>Qoq</i>	Partridge	<i>Perdixperdix</i>	Meat	Asthma	Preparing the meat in stew form and have the patients eat. In addition, in the form of broth it heals those people with asthma
<i>Segon</i>	Ostrich	<i>Struthio Camelus</i>	Fat	Paralyzed leg	Smearing the leg with it

Table 2: medicinal birds used to treat human ailments in Gendewuha and Kumeraaftit kebeles of Metema woreda

4.2. Invertebrate Medicinal Animals

The table below illustrates some of the invertebrates (insects) used to heal human diseases in Gendewuha and Kumeraaftit kebeles of Metema woreda

Amharic Name	English/Common Name	Scientific Name	Parts Used	Disease Treated	Ways of Medicinal Use
<i>Nib</i>	Honey Bee	<i>Apismellifera.</i>	Honey	Infection of respiratory system (cough, asthma)	Better when it is also mixed with garlic
<i>Tazma nib</i>	Forest honey	<i>Apismellifera</i>	Honey	Constipation and Tuberculosis	Eating
<i>Tinzeza</i>	Beetle	<i>Coleoptera</i>	The whole body	Dry cough	Boiling and drinking

Table 3: Insects used to heal human diseases in Gendewa and Kumeraaftit kebeles of Metema woreda

Among medicinal animals explored in Metema woreda of Gendewuha and Kumeraaftit kebeles, fish, amphibians, and reptiles except one animal python whose bile fat is used for ear problem by spilling on it and for body swelling by smearing the body with it, the rest are uncommon in the indigenous medical practices. It is due to the fact that the indigenous use of medicine depends on the availability of medicinal resources, animals in this case, and the knowledge of medicines. However, mammals take the lion's share in the zootherputic system of these kebeles.

As shown on the above tables, different animals used for medicinal purposes in different ways such as flesh, urine, feces, bone, skin, blood, etc. Some and or others are used for internal diseases and others are crucial for external pathologies. Animal body parts used for remedy for human diseases include fat, honey, milk, butter, urine, feces, meat, skin, bones, bile, liver, eggs, horn, etc. Indigenous medicines extracted from animals can be powder medicine, liquid medicine and ointment medicine.

Such medicines are distributed by the practitioners simply based on the need of the customers, patients. Customers go to the practitioners and take appropriate medicine by describing their health problems. As a result of the effectiveness, relatively low cost, and accessibility of indigenous medicines, currently, customers develop a positive attitude towards indigenous medicine in general and medicinal animals in particular.

5. Challenges

There are many challenges in relation to the utilization of medicinal animals to heal patients. Some animals have disappeared due to the deforestation of plants, shelter and food source of animals. For example, ostrich and wathrog have already disappeared from the study areas. Some of the knowledgeable people of medicinal animals of the study areas are not full-time practitioners of the indigenous medicines, rather engaged in this activity if a certain disease occurs and a reserve medicine is not available at their homes. Since the medicines do not have specified price attached on them, the patients do not discriminate those who could afford them from those who do not. In addition, there is widespread bias among the practitioners /healers in serving the patients based on kinship relationships and so on. The other problem is that the uses of the medicines face challenge and discrimination in their social life for those medicines is banned by religious leaders. This is due to the fact that since patients do not have information from which animals or organs of animals are prepared. For this reason they cannot identify whether the medicines have taboo ingredients. Illegal hunting is also the other problem in relation to the loss of medicinal fauna. The secrecy of the knowledge of indigenous zoo-therapy and the lack of well documentation of body parts, the preparation, prescriptions and usage of medicinal animals are also other barriers in the sustainable utilization of medicinal fauna through the indigenous medicine system of Gendewuha and Kumeraaftit *kebeles* of Metema *woreda*.

6. Conclusion

The Kumeraaftit and Gendewuha people use wild, domestic, vertebrate, invertebrate, culturally taboo and edible animals, mainly those available in their surroundings for different medicines. In these *kebeles*, beyond their plowing, transportation, harvesting, subsistence, prestige, and other economic and social benefits, domestic animals have medicinal value in their indigenous medicinal system. Others even who are considered harmful animals like hyena are crucial in the indigenous medicinal system of the study areas. Both the hard organs such as teeth, bone and soft parts such as meat, skin, fat, bile, urine, milk, blood, honey, feces etc. are prepared and consumed in the form of drinks, ointments, hanging in the neck, etc. for internal diseases, external body pathologies and other culturally defined illnesses. However, medicinal animals are little researched and most of them are endangered as a result of several reasons such as deforestation of plants which are their basic needs. Therefore, documenting the indigenous medicinal fauna knowledge and wisdom, collaboration between indigenous practitioners and modern pharmacologists, and conservation of plants and breeding medicinal animals are some of the issues that should be done for the sustainable utilization of indigenous zoo-therapy. Doing so will further help to protect the ecosystem and the environment in general.

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