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ETNOZOOLOGICAL SURVERY OF NOMADIC TRIBS FROM DROUGHT PRONE REGION SANGOLA, DIST. SOLAPUR (MS) INDIA

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ABSTRACT

India is the country where, over million communities are actively involved in traditional health workers. They includes village bone setter, herbal medicine practitioners specializing in jaundice, paralysis, children diseases, eye diseases, poison healing etc., and midwives. Zootherapy is the healing of human diseases by use of therapeutics obtained or ultimately derived from animals. Present study deals with survey of ethnozoological knowledge of nomadic tribes from drought prone region Sangola of Maharashtra (India). About 21 animal species are used in treatment of 34 different human health aliments.

KEYWORDS: Ethnozoology, Nomadic tribes, Human health, Zootherapeutic.

INTRODUCTION

In India, the earliest information on the art of caring for animals was provided by the sacred texts of the *Vedic* religion. The oldest *Vedic* literature consists of collections of hymns, liturgical chants and sacrificial or magical formulae, mainly in verses, which constitute the *Veda* proper (1,500-1,000 BC) [1]. The first systematic knowledge of pharmacalogy is found in *Caraka Samhita*. In his *Samhita*, Caraka discussed this subject in a separate section named *Kalpopanisad* or *Kalpasthana*. According to Caraka, "medicines are derived from three sources - animal, mineral and vegetal. Animals, honey, milk and milk products, bile, fat, bone-marrow, blood, flesh, excreta, urine, skin, semen, bone, tendon, horn, claw, hoof, hair, down and gall-stone are also used in medicines." According to Sharma (1992) [2], the ancient literature describes that the effectiveness of a drug in ayurveda depends on *virya* (Semen), which is defined as the power by which a drug acts. Hence to maintain the affectivity of the drug during pharmaceutical processing one requires to extract the *virya* in the product in the best possible way, because if the *virya* does not come or comes out incompletely, the product

would not be capable to produce the desired effect. In India 4639 ethnic communities using 8000 plant species and more than 200 animals in treating health problems[3]. According to W.H.O. about 70 to 80 % of world population uses folk medicines [4, 5]. Since ancient time animals and animal derived product are important elements of the medical inventory used for human throughout world (Lev, 2003) [6]. The use of medical animal is common in both rural and urban areas and such animals area sold by herb vender in public market all over world [7, 8, 9]. Animal based medicinal products accounts for billions of dolor per year globally through trades of animals and animal product [10]. Historical documents about medicinal descriptions of animal substances such as honey, lizard blood, sperm whale ambergis, and musk deer glands, among others in ancient Egypt such as the Ebers Paypyrus (1550 B.C) [11, 12]. About 252 pharmaceutical essential chemicals have been selected by World Health Organization, having 11.0% come from plants and 8.7% from animals [13]. In United States of America, about 27 drugs are animal in origin [14] The use of local resource is closely linked to historical background and medicinal knowledge through many generations. Some natural product used in folk medicine can have serious adverse effect [15] In India, there are over million communities are actively involved in traditional health workers. About 60,000 village bone setter, 60,000 herbal medicine practitioners specializing in jaundice, paralysis, children diseases, eye diseases, poison healing etc., and around 7,00,000 midwives [16]. Zootherapy is the healing of human diseases by use of therapeutics obtained or ultimately derived from animals. [17] Medicine has remained one of the many fascinating areas in ancient Chinese culture. First known to be documented in the Yellow Emperor's Canon of Medicine, is believed to have been practiced in as early as 475 to 221 BC. [18] The phenomenon of zootherapy is marked both by abroad geographical distribution and very deep historical origins. As some authors have shown, animal-based medicines have been utilized since antiquity. [19, 20]

Study Region

Sangola is considered as drought prone area of Solapur district (MS) India as it come under semi arid area of Maharashtra. Sangola is one of the thirteen talukas of Solapur district of Maharashtra stretches between 17" 26' ^{0}" North latitude 75" 12' ^{0}" East longitudes and 517 meters above means sea level. Sangola taluka constitutes about 113 villages. The rainfall is scanty and ill distributed through the region. In such situations, many of the farmers and communities are rely on raring of cattle, sheep and goat. The special ethnic group of Sangola includes, Dhangar, Sangar, Dawari, Vanjari, Gonjari, Dombari, Partdhi etc. Nagpanthi

Dawari, Gosavi. Further ethnic culture is enriched by tribes like Gondhali, Nandiwale, Otari, Bahurupi, Lohar, Rajput lohar, Bairagi, Bava, Kolhati (Dombari), Mairal (Dangat), Shikalgar, Vaidu, Vasudev, Banjara. These communities, reside in rural and remote areas of taluka and devoid of basic infrastructural facilities. These ethnic groups are widely distributed throughout tahsil and have considerable communication with each other. As a result, most of the ethnozoological information is passed by one group to another and from one generation to the next. Dhangar or Shepherd communities are dominant group are the pastures. They have knowledge of ethnological information which was acquired through the experience, experimentation, observations, trials and errors method and are transferred orally from one generation to the other without any documentation.

MATERIALS AND METHODS

Study was conducted for ethnozoological information about animal and their products used in traditional medicine from drought prone region Sangola during 2013-14 The information were collected through interview and group discussion with selected nomadic tribe (Dhangar). Ethnomedicinal information collected includes, local name of animals, mode of preparation and administration. The scientific name and species of

Figure 1: Member of Ethnic Community, Dhangar

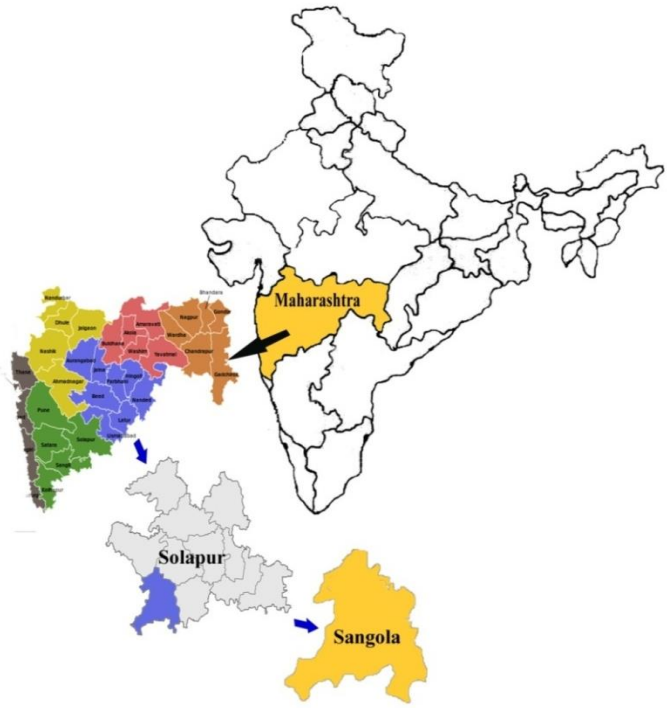

Figure 2: Study Region, Sangola, (India)

RESULTS AND DISCUSSION

Table-No.1. Animal species used in medical treatment by Nomadic tribe of drought prone region Sangola (India).

Common name of animal	Local name	Scientific name	Part used	Treated disease
Human	Manav	Homo sapiens (Linnaeus, 1758)	Urine	Wound healing
Goat	Sheli / Bakari	(Capra hircus (Linnaeus, 1758)	Urine	Tuberculosis
			Dropping	Inflammation
			Bones of leg and skull	Soup is used to cure weakness and early recovery after delivery (Calcium supplement) .
			Milk	To massage baby body
			Spleen	Eye site
Sheep	Mendhi	(Ovis aries) (Linnaeus, 1758)	Milk	general fever (Children)
			Spleen	Eye sight
Cow	Gai	Bos taurus	Beef	Tuberculosis
Cat	Manjar	Felis domesticus (Linnaeus, 1758)	Meat	Tuberculosis
Hare	Sasa	Lepus nigricollis (F. Cuvier, 1823)	Blood	Child abdominal pain
Fox	Kolha	(Vulpes bengalensis) (Shaw, 1800)	Tail	Magic rituals
Deer	Harin	Antilope cervicapra (Linnaeus, 1758)	Horn	Asthma
Peacock	Mor	Pavo cristatus(Linnaeus, 1758)	Feathers	Sexual impotence
Pigeon	Kabutar / Parava	Columba livia (Gmelin, 1789)	Blood	Paralysis
Fowl	Kombadi	Gallus gallus domesticus. (Linnaeus, 1758)	Gizzard (Inner mucus membrane)	Kidney stone
			Egg (yellow yolk)	Cough
			Egg shell	Harpies
Varanus	Ghorpad	Lacerta varius (Shaw, 1790)	Meat	Joint and back pain
Cobra	Nag	Naja naja (Laurenti, 1768)	Skin (With egg shell)	Harpies
Frog	Beduk	Rana tigrina (Linnaeus, 1758)	Gall bladder	Asthma
Fish	Masa	Found in well	Whole fish	Asthma
Honey bee	Madhmashi	Apis dorsatav (Fabricius, 1793)	Honey hive	Eye diseases
			Honey	Cough and eye problems
Scorpion	Vinchu	Palamnaeus swammerdami (Thorell, 1876)	Sting bite	Joint pain
Crab	Khekada	Cancer(Linnaeus, 1758)	Whole animal	Supplement of calcium
Bivalve mollusc	Shimpla	Lamellidens corrianus (Lea, 1834)	Shell	Supplement of calcium
Earthworm	Gandul	Pherethema posthuma (Kinberg, 1866)	Whole Body part	Milking in woman
Leech	Jalu	Hirudina granulossa	Leech	Old wound

The present study revealed the traditional knowledge of treating various kinds of ailments using different chordates and non-chordate animal and their products by the

nomadic tribes of Sangola. In present study 21 animal species (Chordate-15 and non-chordate-06) were used to treat 34 human health aliments by nomadic tribes from drought prone region Sangola, district Solapur (MS) India. The non-chordate species comprises 06 classes used to treat 07 human health aliments; Mammals contributed large number as medicinal use includes 08 species (Table No. 1). Nomadic communities are highly engaged in pasture and moves from place to place in search of grazing ground for their herd. They have acquired knowledge from their previous generation which was undocumented. Majority of health aliments were treated by using products form sheep and goat origin which are easily available for them. This study also indicates the rich knowledge about ethnozoology of these people in relation to traditional medicine. This information will be useful for further research in the field of zootherapy, ethnozoology and conservation point of view. Mahomoodally and Muthoorah (2014) [23] recorded, 17 species distributed in 9 families, namely, mammals (3), insects (3), birds (2), fish (2), reptiles (2), worms (2), amphibians (1), crustaceans (1) and molluscs (1). Zootherapy was used to treat 13 categories of diseases. Gallus domesticus was the most highly used species with a use value of 0.23 followed by Bos taurus (use value of 0.19) in treating kidney stone gizzard of gallus domesticus used in natural remedies by the Chinese community in Mauritius. Similar observation were recorded in present study having same pattern of ethnozoological use of animals. Custo-Neto [24] (1999), reported that many animals are frequently used to treat respiratory illness (Asthma and Bronchitis). Alve and Rosa [25] (2008) repotted 113 animal species are used to treat in asthma in Brazil. In present study, nomadic tribe of the region used 08 animal species to treat respiratory illness includes tuberculosis (Goat urine, Cat, Beef) asthma (gall bladder of frog, fishes, deer horn) and for cough (Egg yolk, Honey, Deer horn). Milk of Goat (Capra indica) is used for sun stroke, urine is used for tuberculosis among tribes of Nagaland, [26]. Tribes around Pench National Park used various parts of goat to treat various human health aliments like, urine (tuberculosis), droppings (swelling) milk (sunstroke) and bones for preparation of soup in treatment of asthma [27]. Casts of Naja naja is used to treat herpes in human. In central Nepal Tamang people cast of slough is used for treatment of leprosy. Honey is used to treat wound, ulcer and burns, and is considered as antibacterial agent [28]. Honey bees (*Apis indica*) are used as food source and are eaten raw by tribes of Arunachal Pradesh. Honey is used in the treatment of hepatic and gastrointestinal disorders, gastric ulcer and wound healing[29]. In present study, nomadic tribes used honey hive with larvae to prevent eye diseases. Bee venom is responsible for anti-arthritic and anti-inflammatory effect having tetra metric polypeptide melitin [30]. He further commented that, margalotoxic has been isolated

from scorpion venom which is useful in treatment of autoimmune diseases or in preventing the rejection of organ transplant. In present study, nomadic tribe of study region using scorpion bite in treating joint pain.

Frog has therapeutic advantage to cure intestinal illness used by Indian tribe on the bank of Rio Grande [31]. Scraped secretion of tree frog *phyllomedusa bicolor* is used in the treatment of depression, shock, Alzheimer's [32, 33]. In present study, nomadic tribes using gall bladder of frog (*Rana tigrina*)(Engulf, gall bladder of frog coated with wheat flour) in treatment of asthma. Ali et al., (2012) [34] reported 6 avian species having medical applications used to treat various kinds of diseases by tribes of Chhatisgarh, India. Duck, Hornbill, Imperial eagle, Kite and Vultures are used in paralysis and joint pain. Duck and hornbill were used in impotency and loss of sexual vigor. In present study, peacock *(Pavo cristatus)* feathers are used to maintain sex power and in sexual impotency. In Rajasthan ash of peacock feather is used for diarrhea, dysentery and for infertility by Saharia tribes.

Conclusion

Medicinal value of animals that were used for remedial purposes in the past and are still used as such to the present day is part of traditional and ethnic medicine. This knowledge was acquired by trial and error methods and is transferred from generation to generation. Nomads of the study region are pastures. They shift from one region to another region. So, they have acquired traditional knowledge of use of medicinal plant and animals which are available easily. This knowledge is relevant to science and human society, even though it does not offer any future profit or the development of new drugs and in the field of etnozzology, ethnopharmacology and conservation point of view.

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