

Documentation of Ethno Veterinary Medicine in Livestock at Tando Jam, Mode of Preparation and the Efficacy of Locally Available Remedies

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ABSTRACT

Background: The aim of this investigation was to document the ethnoveterinary practices used in livestock at Tando Jam. The information was gathered on prevalence of different disease along with their application techniques in the unexplored well agricultural region Tando Jam District Hyderabad.

Methodology: A total of 80 respondents were selected randomly 10 by 10 each from eight villages from Tando Jam as well surroundings of the Tando jam to get information through interviews and a specific english version questionnaire on prevalence of different disease in livestock and medium used for to treatment of disease along with their application techniques in all 52 samples for the different species and 10 in most common plant species belong to six well known families were selected. *Asteraceae* family plants were used in the mixed form, skin disease, diarrhea and gastrointestinal helminthiasis were observed more common and majority of plants were used for buffaloes (18) and cow (10) and no significant difference was observed among both sexes.

Conclusion: Adult farmers had more ethno veterinary knowledge as compared to younger ones. Plants of *Asteraceae* could be further investigated *in vitro* for further search of some valuable bioactive compounds and younger generation should be educated regarding ethno veterinary practices.

Keywords: *Asteraceae*; Efficacy; Ethno veterinary; Mode of preparation; Prevalence

INTRODUCTION

Ethno Veterinary Medicine (EVM), the medications, other than modern synthetic drugs that livestock holders are using now. The knowledge, skills, methods, practices and beliefs about the care of the animals denotes ethno veterinary medicine. Ethno veterinary knowledge is acquired through practical experience and has traditionally been passed down orally from generation to generation EVM is most wide spread among herdsmen and village livestock producer in Sindh Pakistan. Due to expensive modern veterinary inputs and services which are not readily available as well, most of these livestock owners, use the ethno veterinary practices. Through this practice traditional remedies are locally available, cheaper and herdsmen and livestock owners readily identify the signs of diseases. Nowadays ethno veterinary medicine is gaining much popularity because of it is easily affordable by developing countries. Moreover, dubious quality of allopathic drugs which create development of chemo resistance in livestock due to random use of anthelmintic, antibiotics e.g.

ivermectin, ampicillin and tetracycline and their adverse effects such as antibiotic and hormone residues in milk and other animal products are huge drawbacks to divert the attention from modern vet medicine to EVM. However most widespread interest in documenting and validating ethno veterinary practices arose in the early 1980s. Since then, several studies have been carried out, many reports have been written and numerous conferences and workshops held. These activities saved ethno veterinary knowledge from extinction, most of the knowledge resided with elderly community members and disappeared as they died. The introduction of modern practices also made it difficult for the younger generations to appreciate and use the beliefs and practices of their forefathers [1].

MATERIAL AND METHODS

Despite recent efforts to promote the use of ethno veterinary knowledge worldwide, much information is only documented in field reports and scientific publications. Few practical manuals

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have been written to help animal healthcare workers, farmer leaders and farmers to actively train others in the use of effective and validated ethno veterinary practices. The aim of this research is to help livestock agents and farmers promote the use of ethno veterinary medicine practices in animal healthcare, focusing on livestock diseases. Ethno veterinary remedies are accessible, easy to prepare and administer, at little or no cost at all to the farmer. The ethno veterinary techniques include treatment and prevention of disease, extensive materia-medica preparation, ecto and endo parasite control, fertility enhancement, bone setting and poor mothering management. The potential contributions of a well-developed ethno veterinary scheme as illustrated by the practices above cannot be overemphasized. So the main objectives of our research are:

- To document the scattered knowledge of ethno veterinary practices used for maintaining the health and curing disease in livestock in Tando Jam.
- To provide information that will be of some valuable researchers testing the efficacy of locally available remedies and findings alternate to conventional medicine that will help them in developing useful information for the farmers.
- To assess the present status of ethno veterinary knowledge in Tando Jam area.
- To address the need that along with modern veterinary medicine effective traditional alternatives is a suitable solution for animal health problems.
- To gather, record, and document indigenous knowledge of the people on medicinal plants in the study area.
- To collect and identify traditional medicinal plant specimens used in the study.
- To document the management and conservation measures practiced in the study area. To provide recommendations that would contribute to the development of strategies for conservation and sustainable management of medicinal plants in the study area.

World Health Organization estimates that at least 80% of people in developing countries depend largely on indigenous practices for the control and treatment of various diseases affecting both human beings and their animals. Recently according to WHO more than 70% of Asia’s population and over 50% of the population in Pakistan cannot afford formal health care system and are dependent on technically simple financially affordable and effective traditional medicine herbal medicinal products represent a fast growth area of health care products for companion animals. Hence present study is designed to know about ethno veterinary practices in Tando Jam (Table 1) [2].

S.No	Disease	Medium	Administrat ion	Prognosis
1	Rinderpest	Fish odder, charkho and red color	Mix and give orally	V.good
2	Tympany	Brassica oil, anja alam	Given orally	Good

3	Piroplasmosis	Glucose, gur, molasses	Orally	Good
4	Mastitis	Kalijeri, Red chilli and misri	Mix all and given orally	Fair
5	Endoparasite	Dalcheni and Haldi	Mix and give orally	Good
6	Tick infection	Garlic	Administer 125 g pounded bulb per oz	Excellent
7	Uterine prolapsed after birth	Bhang	Grind 50 g leaf in 250 ml of water and administer per oz after parturition	V.Good
8	Diarrhea	Yoghurt, Banana leafs	Grind leafs with yoghurt and give orally with feed	Good
9	Bone protection	Devi	Paste of leafs with fruits apply to releaf the pain	V.Good
10	Hematuria	Ghee obtain from goat milk	Ghee was given orally	Fair
11	Udder wound	Neem leafs	Apply at affected area	V.Good
12	Cough	Sulemani chai	Give orally	Good

Table 1: Ethno veterinary practices applied to treat sick buffaloes in Tando Jam.

Experimental design

A public survey based cross sectional study was conducted to investigate ethno veterinary knowledge, Skill and practices in Tando jam district Hyderabad Sindh, Overall approximately 52 respondents farmers were selected having livestock including buffalo, cattle, sheep and goat. These 80 respondents were

selected randomly 10 by 10 each from eight villages from Tando Jam as well surroundings of the Tando Jam to collect the needed information a specific questionnaire was given on spot for each plant and animal species and later identified using taxonomic tools in the relevant volumes of the flora of Tando Jam. Finally, the findings of the study specimen's standardized questionnaire have been deposited at the Sindh Agriculture university Tando Jam Pakistan [3].

Study area profile

Tando Jam is a town and the Municipal Committee of Hyderabad district in the Sindh province from Pakistan. It is located at the 25°25'60N 68°31'60E and lies about 18 km away from the Hyderabad city Pakistan, it covers total area 6 km² (2 sq mt) at elevation of 25 m-30 m (75 ft) above the sea level with average maximum to minimum temperature 30°C-40°C, and 12°C-15°C respectively, according to 2017 population is approximately 50,000 from total population in the area half of the is rural population which directly depends on agricultural for domestic use and exchange of merchandise with urban inhabitants (Table 2).

S.No	Disease	Medium	Administration	Prognosis
1	Stomatitis	Egg yolk	Egg yolk given orally	Good
2	Tick infestation	Mehndi	Grind the dried leaf into fine powder mix with water makes paste and topically apply on the affected area	Good
3	Uterine prolapse after birth	Bhang	Grind 50 g leaf in 250 ml of water and administer per oz after coarturation	Excellent
4	Pneumonia	Ajwain, Sunnd, zeera and sunf.	Mix equal quantity of all with 75 g of black salt 500 gm of ghurr boil in 2 liter of milk and give orally	Excellent
5	Diarrhea	Yoghurt, banana leaves	Grind leaves with	Good

			yoghurt and give orally with feed	
6	Udder wound	Neem leafs	Wound wash with neem leaves water	Fair
7	Constipation	Alumn and March	Alumn and march both were given orally	Satisfactory
8	Severe Pain	Ghurr	Juice of ghurr used orally	+Ve Response

Table 2: Ethno veterinary practice applied to treat sick cattles Tando Jam.

Data collection

The data collection was done over a specific period of 6 months and the interviews was made by using specific structured questionnaire in simple english version, whereas, essential for confirmative information with view to the local name of ethno veterinary medicinal plants, their methods from the preparation, diseases treated with traditional remedies, route administration, and parts medicinal plants involved were recorded. Traditional the researchers with help of traditional veterinary assistants and practitioners made field visits to take samples of each medicinal plant in respective area.

Data quality assertion

By the means of data quality assertion throughout interview, in every informer data was contacted at least two to three times for intended for the same ideas and the validity of the information was recorded and approved, only the relevant data were taken into account. Furthermore, to the data superiority was assertion through training of data collectors, assurance of instruments.

Statistical study

A descriptive statistics study state that, generally mean ± Standard Error of Means (SEM) in general was continuous has variable among animal species and their frequency analysis were performed to summarize the ethno medicinal pant product data reported from the responding persons. The data were subjected to statistical analysis using Statistical Package for Social Sciences (SPSS) (Figure 1).

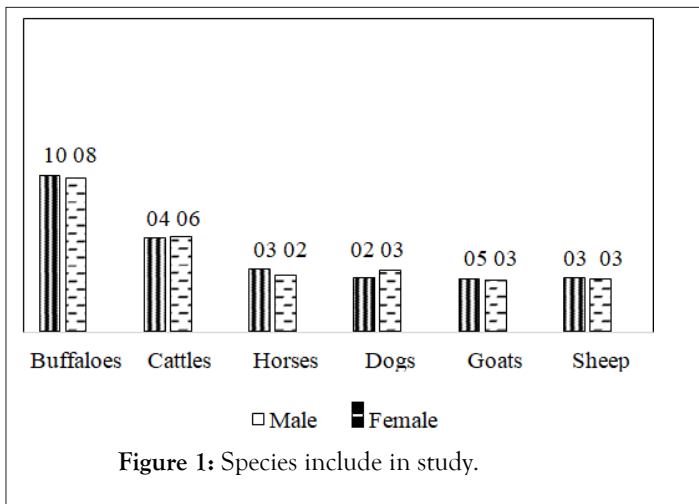


Figure 1: Species include in study.

Ethical approval and consent to participate

This survey study was approved by the institutional review from Sindh Agriculture University Tando Jam Pakistan. However the validity of their conventional possession owner was completely assured in proceed our data. throughout data collection an endeavour was orally made to encourage the conventional healers of livestock this cooperation is of great benefit to the country and also disclosure of their knowledge of the ethno veterinary medicine will beneficial for the continued practice of their art.

RESULT

In the present study, Tando Jam areas were selected for the documentation of Ethno Veterinary Medicine (EVM) practice prevailing among the village former, in addition, local veterinary officers and veterinary assistants were interviewed to get an insight into the current status of EVM in relation to modern veterinary medicine in the study area.

- Farmers raising livestock (cattle, buffalo, goat and sheep and canine owners (keeping the dogs for the fighting or companionship).
- Traditional healers providing veterinary health services to buffalo, cattle, goat and sheep.
- Veterinary officers and veterinary assistants involved in the delivery of modern veterinary health services.

The information was collected on prevalence of different disease in livestock (cattle, buffalo, goat, sheep and dog) and medium used for treatment of disease long with their application techniques in all 52 of different species.

The result in the relation in disease of above animals along with ethno veterinary practices for their treatment and techniques of application are presented in (Table 3).

S.No	Disease	Medium	Administrat ion	Prognosis
1	Stomatitis	Egg yolk	Egg yolk given orally	Good

2	Tick infestation	Mehndi	Grind the dried leaf into fine powder mix with water makes paste and topically apply on the affected area	Good
3	Uterine prolapse after birth	Bhang	Grind 50 g leaf in 250 ml of water and administer per oz after oarturation	Excellent
4	Pneumonia	Ajwain, sunnd, zeera and sunf.	Mix equal quantity of all with 75 g of black salt 500 gm of ghurr boil in 2 liter of milk and give orally	Excellent
5	Diarrhea	Yoghurt, banana leafs	Grind leafs with yoghurt and give orally with feed	Good
6	Udder wound	Neem leafs	Wound wash with neem leaves water	Fair
7	Constipation	Alumn and March	Alumn and march both were given orally	Satisfactory
8	Severe Pain	Ghurr	Juice of ghurr used orally	+Ve Response
9	ETV	White zeera, cutilo sirus	Orally	Good
10	Diarrhea	Yoghurt, neem tree leaf	Grind leafs with yoghurt and give orally with feed	Fair

11	Udder wound	Neem leaves	Wound wash with neem leaves	Good
12	Gastrointestinal helminthiasis	Jamal ghuta	Mix with water and give orally	Fair
13	PPR	Fish odder and charkho	Mix and given orally	Excellent
14	Constipation	Alumn, march	Alumn and march both were given orally.	Satisfactory
15	Nipsis	Thora waja	Putic of leaves are applied to wound to treat nipsis and promote healing	Good
16	Severe abdominal	Arhand	Arhand is mix with khameer wheat floor and give orrraly to treat the pain	V.Good
17	Colic	Mustard oil, hing,	Mix all these and give orally to heal	Good
18	Myiasis	caustic soda Arro	Mix the leaf with water and put water into the wound	Good
19	Gastrointestinal helminthiasis	Barri elaichi	Grind one dried fruit of elaichi and give orally	V.Good
20	PPR	Fish odder, charkho	Mix and given	Excellent

orally

Table 3: Ethno veterinary practices applied to treat sick goats in Tando Jam.

Disease of buffalo and their local treatment

There is several disease that attack buffalo and loss our economy, locally the people treat their buffalo and their problems by various ethno veterinary practices. The data in this regards obtained from Tando Jam is presented. The result shows the buffalo diseases, their treatment and techniques which are used for these diseases like rinderpest, tympany, proplasmosis, mastitis, endoparasites, tick infection, uterine prolapse after the birth, pneumonia, diarrhea, hematuria, udder wound and flue/cough (Figure 2).

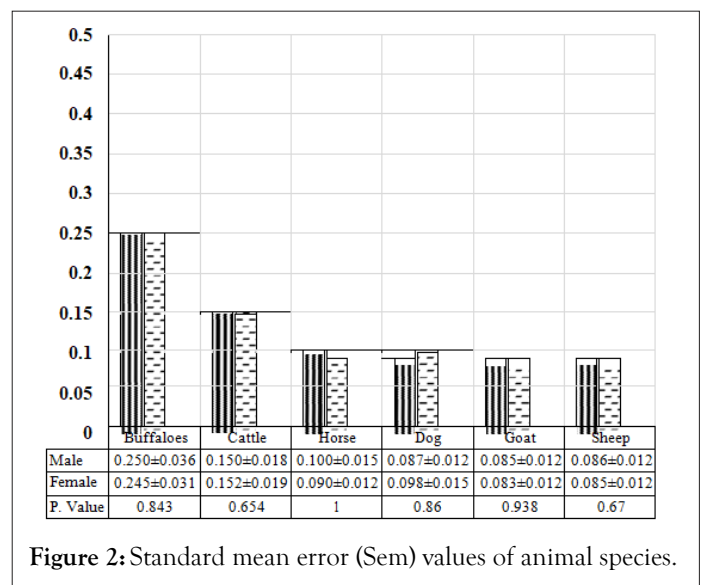


Figure 2: Standard mean error (Sem) values of animal species.

Disease of cattle and their local treatment

Numerous disease that attack Cattle, locally the people treat their cattles and their problems by the different ethno veterinary practices. The data in this regards obtained from tando jam is presented. The cattle common diseases, their treatment and their techniques which are used for these diseases like stomatitis, tick infection, uterine prolapsed, pneumonia, diarrhea udder wound and severe pain.

Disease of goats and their local treatment

The goat small ruminant attacked by numerous bacterial and viral diseases, locally the people treats their goats and their problems by different ethno veterinary practices. The data in this regards obtained from Tando Jam is presented. There was a common goat diseases, their treatment and techniques which are used for their diseases like ETV, diarrhea, udder wound, gastrointestinal helminthiasis, PPR and constipation.

Disease of sheep and their local treatment

The sheep small ruminant coincide by numerous bacterial and viral diseases, locally the people treats their goats and their problems by the different ethno veterinary practices. The data in this regards obtained from Tando Jam is presented. The sheep diseases, their treatment and techniques which are used for their diseases like myiasis, gastrointestinal helminthiasis and PPR.

Disease of dogs and their local treatments

The dog coincide by numerous bacterial and viral diseases, locally the people treat dogs and their problems by different ethno veterinary medicines. The data in this regards obtained from Tando Jam is presented. The dog diseases, their treatment and techniques which are used for their diseases like nipsis and severe abdominal pain.

Disease of horse and their treatment

There is several disease that attack horse and loss our economy, locally the people treat their horses and problems by various ethno veterinary medicine. The data in this regards obtained from Tando Jam is presented. Common horse diseases, their treatment and techniques which are used and most common diseases colic treated by following medium.

DISCUSSION

Ethno veterinary medicine is widely spread among herdsmen and village livestock owners in sindh. For most of these livestock producers, modern veterinary inputs and services are not enthusiastically available and are most expensive. Herdsmen and livestock owners readily identify the signs of disease. Traditional remedies are locally available and easier to get. Ethno veterinary medicine is attaining popularity because it is affordable by developing countries. Moreover, questionable quality of allopathic drugs and development of chemo resistance in livestock due to random use of antihelminthic, antibiotics for instances. Ivermectin, ampicillin and tetracycline and their unfavourable effects such as antibiotic and hormone residues in the milk and other animal products are sufficient drawbacks to divert the attention from modern vet medicine to EVM. Ethno veterinary practice is a system that is based on folk beliefs, traditional knowledge, skills, methods and practices used for curing disease and maintaining health of animals. The present study was carried out to document the ethno veterinary practices used in livestock in Tando Jam and its surrounding areas, the information was collected on prevalence of different diseases in buffaloes, cattle, dogs, horse and sheep and medium used for treatment of diseases along with their application techniques. The findings of the study showed that buffalo suffering from pneumonia was treated with: Ajwain, sunnd, zeera, sounf which was given orally as, mixing equal quantity of all with 75 g of black salt 500 gram of Gurr boil in 2 liter of milk. Cattle suffering from disease stomatitis and their treatment were Egg yolk given orally glycerin applied on the wound. Cattles suffering from constipation was treated with alunm and march both were given orally. Goat suffering from gastro intestinal helminthiasis and was treated with jamal ghota by making fine

powder of it and mixing with water. Goat having mastitis lemon citris and ghur medium was given as treatment.

Sheep having myiasis was treated medium arro by mixing the leaf with water and putting water into the wound. Dog suffering with severe abdominal pain was treated by arhand is mix with the khamir wheat flour and give orally to treat the pain. Horse that was suffering with colic the medium used for colic was mustard oil, hing costic soda, first mix all these and give orally to the heal. This above results are partially supported. A total 10 plants were used to cure 37 common ailments of milk yielding animals of Tando Jam. *Fabaceae* and *Asteraceae* (3,3 species) was the most represented family, along with *Cucurbitaceae*, *Solanaceae*, *Brassicaceae* and *Musaceae* (1, 1, 1 and 1 species) and Leaves (25.5%) were the most frequently used plant parts, herbs (33.7%) the most frequently used life-form the most used source for the ethno veterinary practices this result show the similarity. This study documents for the animal diseases, ethno veterinary plant remedies and the related traditional knowledge in three Nu villages of the Gongshan county. This study was carried out in three Nu villages of Gongshan county between July 2009 and february 2010. Data was obtained through the use of semi-structured questionnaires, field observation and PRA tools. A total of 60 Nu respondents (34 men and 26 women) provided information on animal ailments and ethno veterinary plant medicines used for livestock production. The major and most common animal diseases among livestock skin conditions, diarrhea, heat, fevers, colds, and parasites such result show corresponding with dilshad SMR. This study was aimed to document the Ethno Veterinary Practices (EVPs) used for the control and treatment livestock diseases in Tando Jam district Hyderabad sindh. The information was collected using rapid and participatory rural appraisal techniques through interviews and focused group discussions with 175 Traditional Veterinary Healers (TVHs) over a period of 6 months. Thus, 10 different plant species belonging to 6 different families were documented from the study area for the treatment and prophylaxis of their bovines, caprine, canine and equine species this result show similarities with Kumar and Tripathi. Study was undertaken to explore, understand and document the livestock and livelihood related social realities and their interlink ages in rural societies of Sundarbans. Four case studies were conducted Kumar and Tripathi, this study was undertaken to explore, understand and document the livestock and livelihood related social realities and in 4 purposively selected distinct villages under 4 blocks of sundarbans. It was found that the rural inhabitants of study villages still had a traditional way of living though the impact of urbanisation was also visible in material culture and other aspects of life. A total 80 respondents were selected randomly 10 by 10 each from eight villages as well surroundings of the Tando Jam to collect the needed information a standardized from the questionnaire was given on spot for each plant and animal species and later identified using taxonomic tools in the relevant volumes of the flora of tando jam this result corresponding. The use of medicinal plants constitutes major part of Ethno Veterinary Medicine (EVM), the climatic conditions and geographic location of Pakistan provides conducive conditions for the growth and propagation of widely diverse species of medicinal plants so this conducted survey ethno veterinary

medical practice is widespread among herdsmen and village livestock owners around Tando Jam where livestock in the country are concentrated our questioning of 80 herdsmen and village livestock producers revealed that the ingredients used in these indigenous practices include plant extracts, seeds, leaves, tubers and roots of various plants would be beneficial for future research.

CONCLUSION

In our Survey based study, suggested that farmers of eight villages of Tando jam have extensive ethno veterinary knowledge, skills and practices. In this tentative activity, efforts were made to document ethno veterinary knowledge, practices and plants of veterinary importance. Meanwhile, the study enabled us to document about 10 species of medicinal plants that have been used against 37 types of livestock diseases in study area, so far. In general, it was concluded the farmers and traditional healers mostly prefer ethno veterinary medicine over allopathic medicine because it is easily available having almost no side effects of ethno veterinary medicine and cheaper as compare to the allopathic, the most of the herdsmen are uneducated but they had great knowledge and technique about the traditional usage of medicine.

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