ETHNO VETERINARY IN TRADITIONAL LIVESTOCK OF RURAL AREAS OF NORTH KHORASAN PROVINCE IN IRAN

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Abstract. Ethno pharmacology is defined as a slipt up approach for novel drug overture by providing valuable data about medicinal plants in different cultures. Identification and documentation data of medicinal plants in veterinary treatments of north khorasan province in the past, take the aim of this ethno pharmacological study. North khorasan province with different climates and wide diversity in plant species located in the Northeastern of Iran. Ethno veterinary data was collected from rural areas of two city of north khorasan province, Bojnord and Shirval, over an 8-month period in 2017. The medical plants and traditional knowledge of ethno veterinary practices that used for livestock remedy gathered from 20 local informants and practitioners in animal husbandry from the past, by face to face interview and semi-structured questionnaires. In this present investigation, 19 plants founded to be used in treating illness and problems of sheep and cattle. In this research also the amount of number of use (NU), frequency of citation (FC) and Relative cultural importance (RCI) indecies determined.

Key words: Ethno pharmachology,Frequency of citation. Number of use, North khorasan province, Relative cultural importance.

Introduction. Lots of medicinal plants provided by nature which play a major part in the treatment of diseases in human and very different animals (wild and domestic) that has been a traditional practice(1).

The richest entity and source of medicines, food supplement, pharmaceutical and chemical industries for manufacturing drugs are plants. Ethno veterinary research, defined by McCorkle as the "systematic investigation and application of veterinary folk knowledge, theory and practice"(2). Cotton CM in 1996 presented principels of an ethno botanical investigation and applications of these studies (3). Research into ethno veterinary medicine is often accepted as part of a community-based approach that being used to alleviate animal problems and prepare basic veterinary services in rural areas(4). Animal rearing is the major occupation of the largest population of north khorasan province from past to now(5). This province is located in northeastern of Iran and has different climates (humid tropical, dry weather, semi-arid,)(5). Homemade herbal remedies and animal herbal remedies handed down over generations in this region of Iran. Traditional veterinary medicine knowledge like all other traditional knowledge systems is handed down orally from generation to generation. Indeed, the use of herbal treatment in veterinary medicine in north khorasan dates back to several centuries with documented evidences and it may disappear because of rapid socioeconomic, environmental and technological changes and as a result of the loss of cultural heritage under the guise of civilization so dissemination and documentation them through systematic studies of such knowledge about important plants in veterinary medicine has been seen as an approach for novel drug discovery with less cost, less side effect and less withdrawal time(6-8).

Valuable works have been done world widely on the documentation of ethno veterinary practices. Jabbar A(9), DC Pal(10), Monteiro MVB (11), McCorkle (12), Pande and Kuma (13), Catley and Mohammad(14), Kohler-Rollefson and Rathore(15), Mondal *et al(1)* Lans *et al. (16),* Heffernan *et al.(17),* Wan Yama(18), Waihenya *et al. (19, 20),*Tabuti *et al.*(21) and Yirga *et al. (22)* have documented the medicinal plants used to remedy domestic animal diseases, but in Iran very little research has been conducted on the study and documentation of ethno veterinary medicines and these investigations are an instantaneous need in different climates of Iran.

The current study forms the first report to elucidate the ethno veterinary medicinal plants used by rural area to treat and control veterinary diseases in the north khorasan province of Iran.

Material and method. Area of study. Climate diversity of Northern Khorasan, has a dramatic difference with its neighboring. The northern Khorasan is naturally enclosed between the Kope Dagh mountains in the north and the Alborz trail, Aladagh, Shah Jahan in the south, and a total of mountainous lands with fertile plains among the mountains, which have very favorable conditions for farming and animal husbandry.(23)

The present study was conducted in rural areas of Bojnord and Shirvan city of north khorasan province. Bojnord is the largest city in this province that lies in a Kope Dagh range between 57^0 20 E Longitudes and 37^0 28 L Latitude and Shirvan is the second largest city in north khorasan province that lies above sea level range between

$57^0$93 E Longitudes and 37^0 40 L Latitude (24). Shirvan has an area of 3789km^2 and having the population of 256518, Bojnord has an area of 6157km^2 and having the population of 428930 (25, 26).

Most of the people in these two cities live in rural areas and still depend on natural sources, agriculture and animal husbandry. In villages of bojnord and shirvan people train and rear sheep and cattle (26, 27) .

Compilation and assessment of data. Information regarding ethno veterinary plants related to livestock ailments in rural part of bojnord and shirvan collected by interviewing 20 local well – known practiced sheep and cattle breeders and using semi-structured questionnaires (fig1).Five visits made for Data collecting in different villages. Information gathered from expertise ranchers who knew well about the indigenous plants, their local names, parts used, preparation in herbal medicine, mode of administration, dosages, and uses in treating various ailments and diseases. The images of intended plants showed to participants from internet browsers like google for more certitude. Interviews were conducted after obtaining prior oral consent from all participants. The common name and medicinal value of data of a person were further authenticated with other participants.

Fig1: semi-structured questionnaires of this study

Scientific name of plant	Name and phone number of informant	ses	dosage	Mode of administration	Part of the plant used	Plant harvest season	Application report	Local name of plant	ame of village

Results and Discussion:

Table 1: Ethno veterinary uses of medicinal plants in studied areas

Scientific name	Local name	family	Part used	Ethno veterinary use
Verbascum	*Mahur,khargushak*	*Scrophulariaceae*	*Leaves& flowers*	*Snake bite treatment and ulcer healation*
Citrullus colocynthis	*henzel*	*Cucurbitaceae (Pumpkinfamily)*	*fruits*	*Elimination internal and out side parasites*
Ferula gummosa	*Barijeh (ghasni)*	*Apiaceae*	*Roots& dried stems& gum*	*Endotoxemia treatment, fever and Increased milk production*
Ferula assa feotida	*koma*	*Apiaceae*	*stems*	*Ulcer healation*
Pervoskia abrotanoids karel	*Afzal afshan*	*Lamiaceae*	*flowers*	*Bloating treatment and ulcer healation*
Silybum Marianum	*kharmaryam*	*daisy*	*All parts*	*Increased milk production and improve carcass quality in sheep*
Cirsium vulgare	*kangar*	*daisy*	*All parts*	*Increased milk production and nourishing for week animals*
Peganum harmala	*spand*	*Zygophyllaceae*	*Seeds& roots*	*Theileriosis and mastitis treatment,*
Nicotiana rustica	*tanbaku*	*Nightshade*	*Dried stems*	*Elimination internal and out side parasites*
Scientific name	**Local name**	**family**	**Part used**	**Ethno veterinary use**
Biebersteinia multifida Dc	*Ghan tapeh*	*Biebersteiniaceae*	*Leaves & flowers*	*Bloating and digestive problems*
brassica napus	*kolza*	*Cabbage*	*Dried stem & leaves*	*Shortening the growth period in lambs*
Alcea rosea	*Gol khatmi*	*Mallows*	*flowers*	*Stomach pains*
Achillea millefolium	*bumadaran*	*daisy*	*Leaves & stems*	*Ulcer healation*
Allium altissimum Regel	*Sim-kesh*	*Amaryllidaceae*	*Stems& leaves*	*Ulcer healation*
Simuti	*simuti*	*-*	*stems*	*Stomach pain*
Punica granatum	*anar*	*Punicaceae*	*Dried fruit shells*	*diarrhea*
Galega officinalis	*Alafe shir*	*legumes*	*Stems & leaves*	*Increased milk production*
Schumannia	**anghozeh**	*Apiaceae*	*gum*	*Intestinal worm elimination & Increased milk production*
Berberis integrrima	*fermigh*	*Berberidaceae*	*fruits*	*bloating*

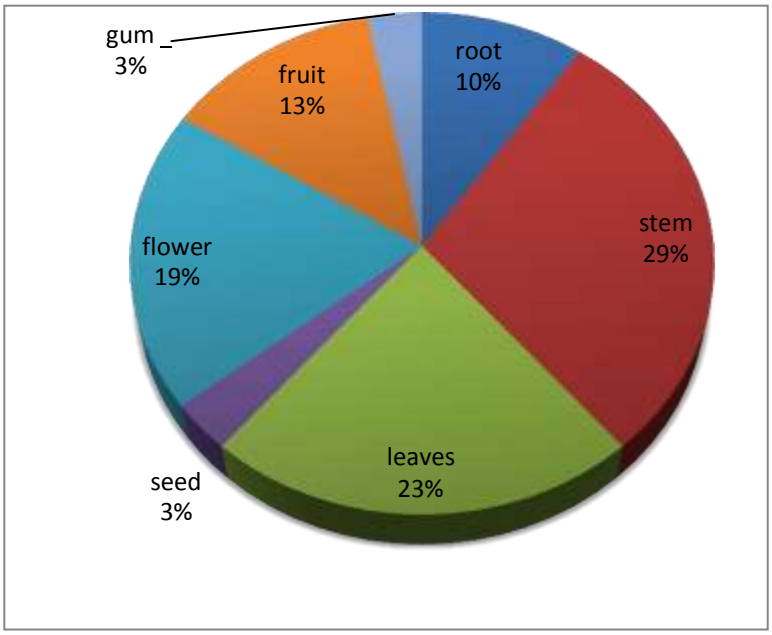

Figure2: The use of plant parts involved in remedy preparations

Collected information of local medicinal plants during this study were used for treating livestock were about 19 plants. The plant parts like leaves, root, stem, tuber, young shoots, whole plants, fruit, rhizome, seed and bark were used to treat different problems and diseases in cattle and sheep. In the past, remedy the nine common diseases and problems among the livestock done with these 19 plants in rural areas of north khorasan

The results of the present study revealed that the different types of plants like *Verbascum, Citrullus colocynthis, Ferula gummosa, Ferula assa feotida, Pervoskia abrotanoids karel, Silybum Marianum, Galium aparine* **,** *Circium vulgare, Peganum harmala, Nicotiana rustica,Berberis integrrima, Biebersteinia multifida Dc, Punica granatum, Berassica napus, Alcea rosea, Schumannia, Punica granatum* and *Achillea millefolium* were surveyed and reported to be traditionally used by ranchers in rural areas of shirvan and bojnord. Only one medicinal plant of these areas (*Simuti*) didnt found scientific names.

Traditional medicine among the people of north khorasan province is based on oral prescribing method or enema. The most common ailment of livestock documented in study area were digestive system problem like inflation, bellyache, diarrhea and constipation

Ethno botany plants used by ranchers for increased milk production were in next level in this study.

From the past, emaciation, decrease in livestock growth and theirs productions caused by internal and external parasitic diseases created many attempts to remedy parasitic diseases by medicinal plants. 4 plant species were recorded that were commonplace for the parasitic disease treatment among native people of rural areas of Bojnord and Shirvan cities.

This field survey have been conducted in 3 villages: Celluli,Ughaze and Abdolabad to document the use of *Verbascum* for curing Snake bite in sheep, cattle and dog.

During the survey it was noted that the method of drug preparation from ethno butany plants in the same plants in many cases not varied very much from individual to individual. Steeped or soaking in Boiling water for several hours and crushing and grinding are the most common methods of drug extraction and purification.

Results also indicated that those multipurpose medicinal plants are common in many different areas like *Ferula gumosa, Peganum harmala* and *Citrullus colocynthis, used by local inhabitants for curing different ailments of livestock like parasitic diseases, abdominal pain and milk production enhancement. Ethno botany plants used by ranchers and farmers in north khorasan province were mostly collected from nature. The results of the present study revealed that the different parts of plants like root, stem, leaf, flower and seed used by people for treatment of veterinary diseases (fig2). The all parts of Silybum marianum*, leaf of *Circium vulgare*, dried stem of *Ferula gummosa* and stem and leaf of *Galium aparine* were traditionally use d for increasing milk production in ewes and cows.

3 indices evaluated some features and property of any medicinal plants in any local area, number of use(NU), frequency of citation (FC) and Relative cultural importance (RCI). These substantial indices in ethno pharmacology studies facilitate evaluation the importance and valuability of any medicinal plant among the people of any local area. Number of use(NU): is a simple index that indicate the number of use from any species of medicinal plant in order to treat different diseases.(fig3)

Frequency of citation (FC): shows the local importance of every species of medical plant with reference to the informants who cited uses of these plant species (fig4) (28).

Relative cultural importance (RCI) indices are applied in ethno botany to calculate a value per folk or biological plant taxon. These approaches can provide data amenable to hypothesis-testing, statistical validation, and comparative analysis (fig5)(29).

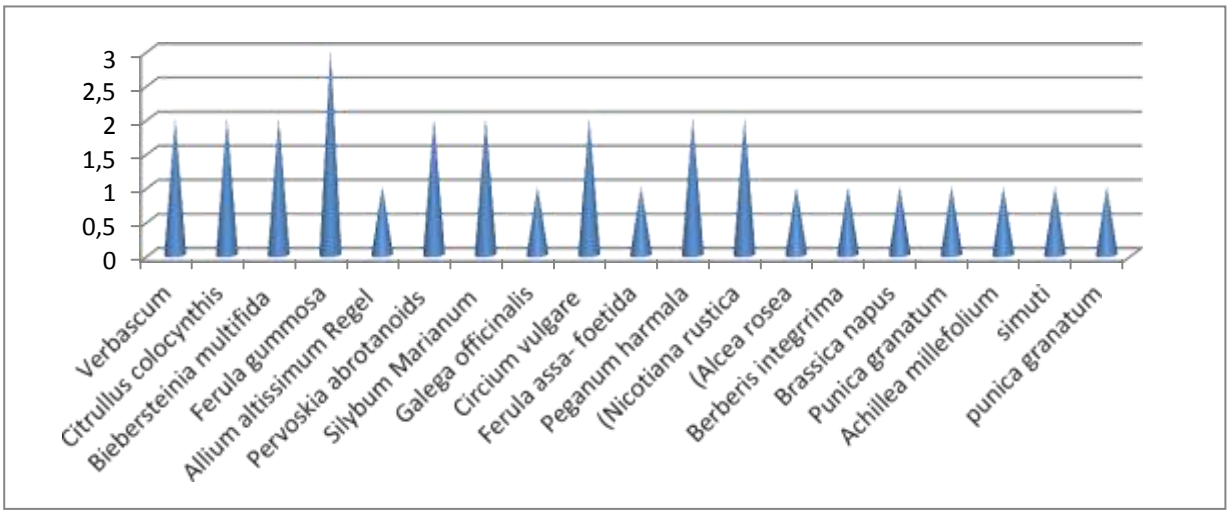

Fig3: the chart of number of use for any medicinal plant in rural areas of Bojnord and Shirvan cities.

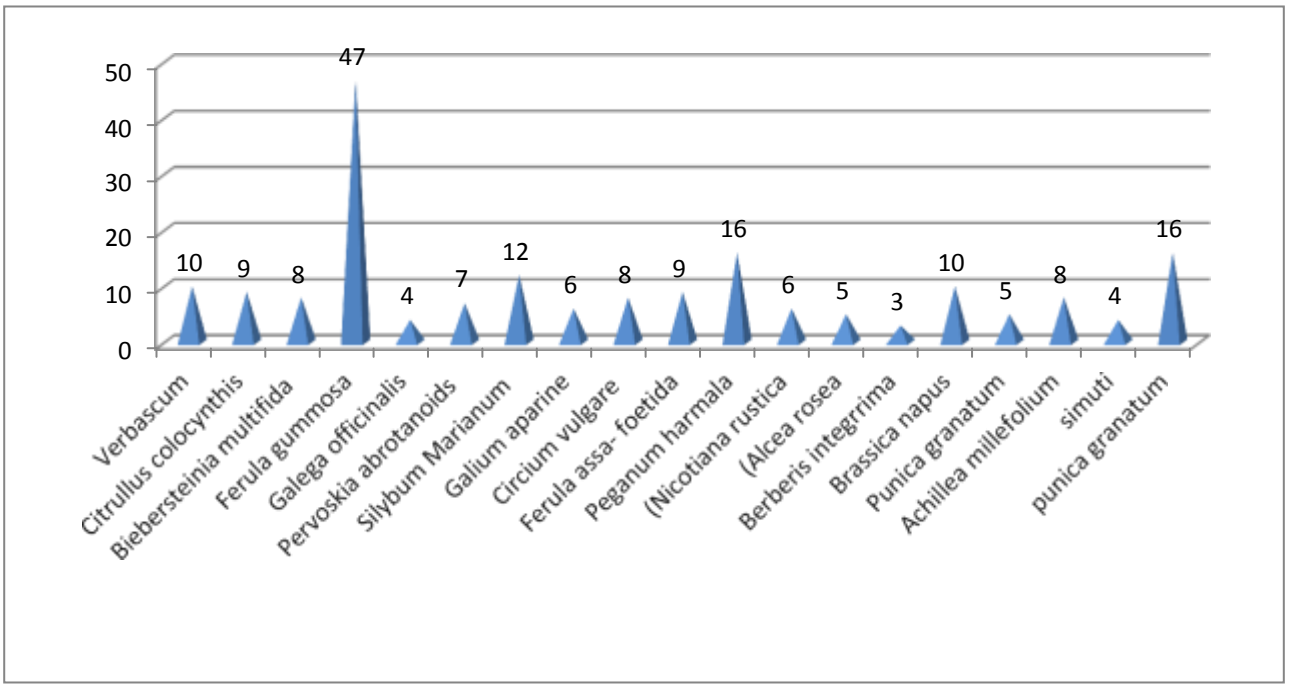

Fig4: the chart of frequency of citation for any medicinal plant in rural areas of Bojnord and Shirvan cities.

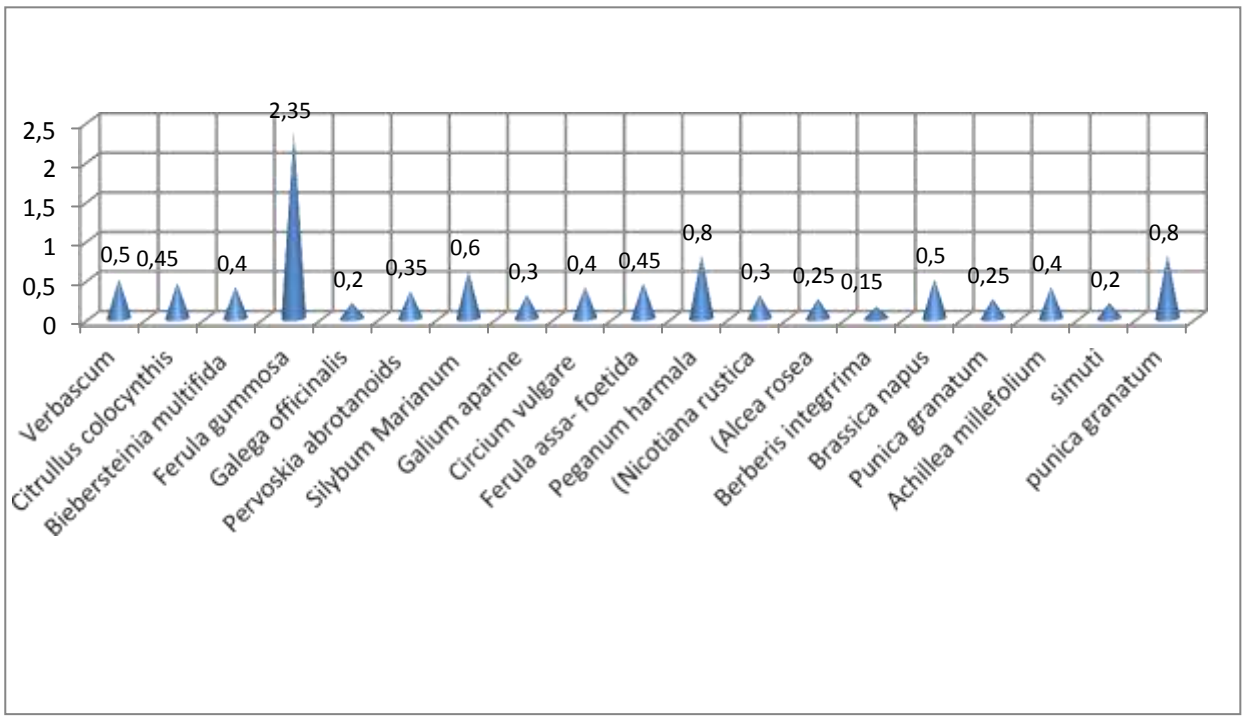

Fig4: the chart of number of cultural importance index use for any medicinal plant in rural areas of Bojnord and Shirvan cities.

North khorasan province is very rich in floral diversity with high endemism and particularly. *Ferula gummos*, *Ferula assa feotida*, *Ferula assa- foetida*, *Berberis integrrima* and *Alcea rosea* were the endemic flora of the north khorasan. Therefore, efforts are needed to conserve these floral species as they have high ethno veterinary and medicinal value. Furthermore, the use of chemical drugs is not only ineffective and causes side effects but also Antibiotic resistance and medicinal remnant are common problems with next difficulties.
Hence, plant based drugs are increasingly important in the field of pharmachology.

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EFFECT OF EXPECTED VOLATILITIES IN STOCK RETURN ON ACCRUALS OF WORKING CAPITAL

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Introduction. Investors invest their cash funds in common shares of profit units basically to achieve more cash and make more profit. According to the theory of representation, the two groups of owners and managers are opposite. Given the asymmetry of information available between the managers of a company and the beneficiaries in the company's activities, the investment process in the company is based on confidence. But managers use their own choice of accounting methods to increase their wealth (Dechow & Ge, 2006). It is in these circumstances that choices of managers will be important for investors, because reported corporate profits are considered as one of the important criteria for decision making and as the most important criteria for the assessment of performance and the determination of the value of an economic establishment. It is always used by a wide range of users such as shareholders, investors, stock brokers etc.

The accepted accounting principles allow many transactions to be recorded in one or more different ways. For example, among the methods of inventory evaluation, methods for calculating depreciation of fixed assets, or methods for identifying profits for long-term contracts, one can choose one of them and then change it again. Activities such as the timing of the registration of sales, the reduction of inventories and equipment, the repair and implementation of equipment and the like are carried out by the management (Habib, 2004). Optional choices of management in financial literature has been considered in two aspects: 1. Managing profit by manipulating real activities; and 2. Managing profit through manipulating accruals (Alhadab et al, 2012). Therefore, the understanding of accruals for users of financial statements is important because the users need to know the good and bad of manipulating profits by the management through using accruals of working capital.