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Participatory validation of the ethno-veterinary practices followed by the livestock farmers in the vicinity of Ranthambore Tiger Reserve, India

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The livestock farmers in the vicinity of Ranthambore Tiger Reserve (RTR) have a large knowledge of indigenous knowledge regarding the use of various plant species, herbs, shrubs, homemade ingredients, etc., for the treatment of various health problems in the livestock. The current study was aimed at documenting and evaluating the traditional veterinary practices used by livestock owners to treat common health issues in animals, such as retained placenta, blood in urine, skin conditions, and constipation. The research was conducted in a specifically chosen area, namely the Critical Tiger Habitat and buffer of the tiger reserve and a 360 livestock farmers were interviewed from the 30 villages in the vicinity of the Ranthambore Tiger Reserve. An open-ended interview schedule was used to record ethno-veterinary practices. To facilitate participatory evaluation of the identified practices, the Quantification of Indigenous Knowledge (QuIK) method was employed. To treat four common health ailments, the farmers used 15 ethno-veterinary methods. Uses of *Triticum aestivum* to treat retained placenta, roots of *Urtica dioica* L. against the haematuria, paste of *Azadirachta indica* for skin disease, and roots of *Citrullus colocynthis* L. for treatment of constipation in the livestock were found most effective practices. Hence, before further replication and application, the pharmacodynamics of these ethno-veterinary practices could be investigated.

Keywords: Ethno-veterinary practice, Indigenous, Livestock, Ranthambore Tiger Reserve

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Since ancient times, herbal remedies and plant-based concoctions have been widely used to treat a variety of ailments across the globe, reflecting a deep connection with humans[1]. Because of higher cultural acceptance, compatibility with the human body, and less side effects, such formulations are still the mainstay of basic health care for roughly 75-805 of the world's population, particularly in third-world nations[2,3]. Herbal mixtures are widely used in rural India as home treatments for various ailments[4]. In the vicinity of the Ranthambore Tiger Reserve (RTR) is an abode to a plethora of plant species and homemade ingredients that have been used repeatedly by the locals to cure many health problems in the livestock. Dry deciduous forests and open grassy meadows are found in Ranthambore Tiger Reserve.

There are 539 flowering plant species in the tiger reserve flora. These plant species are not only used for the livestock but also used for the treatment of human health problems. Livestock farmers use plant species available in the reserve area and also use the tree, plants, the mixture of the ingredients, etc., for the treatments of the various ailments of the livestock. This medicine is cheaper and more cost-effective than modern medicine[5,6].

Animal husbandry and crop cultivation is an integral part of their life and help their livelihood. Farmers in the vicinity of RTR are unable to access modern veterinary facilities due to a lack of awareness and knowledge about modern medicine and rely entirely on their traditional knowledge to care for their sick animals. Ethnoveterinary practices among livestock farmers arises through the integration of modern and traditional knowledge, development of innovative formulations, systematic documentation, community-based research, capacity building, cultural preservation, market integration, and environmental sustainability. This dynamic interplay between tradition and innovation enhances the efficacy and sustainability of ethnoveterinary

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practices. These knowledge treasures are poorly documented, and the knowledge base is in danger of extinction. Therefore, it is necessary to document and assess these ancient traditions 'perceived success. The pharmacodynamics of the effective techniques discovered can be explored further and replicated for future usage. Hence, the purpose of this study was to document and appraise ethnoveterinary treatments used to treat common livestock health problems.

Material and Methods

Study area

There are 54 Tiger Reserves in India which cover 5.26% geographical area of India. Out of 54 as shown in Figure 1, Ranthambore Tiger Reserve (RTR) was selected purposively due to the highest number of villages (306 villages) with one million human population in its vicinity, and these people are mostly dependant on the livestock as well as agricultural activities for their livelihood, and depend on their traditional knowledge for treatment of various livestock diseases. For the documentation of the ethno-veterinary practices, a study was carried out from September 2021 to November 2021, and for the assessment to identify best ethno-veterinary practices study has been conducted in January 2022.

Data collection

RTR is divided into two zones: the Critical Tiger Habitat, also called the Core Zone (comprising Ranthambore National Park, Sawai Madhopur Wildlife Sanctuary, and Sawai Man Singh Wildlife Sanctuary), and the buffer zone (Kaila Devi Wildlife Sanctuary). From these areas, 18 villagers from the Critical Tiger Habitat and 12 villagers from the buffer zone were randomly chosen. Additionally, 12 livestock farmers were randomly selected from each village, making up a sample of 360 livestock farmers from 30 villages. These farmers were interviewed at their homes using an open-ended interview schedule to document the ethno-veterinary practices they used to treat livestock diseases. Prior informed consent was obtained from the village heads through a process that included explaining the research's purpose, sponsors, potential benefits, possible challenges for people and the environment, and the methodology. The village heads were provided with a summary of the research findings to review before giving consent for sharing and publishing the traditional knowledge and practices as ethno-veterinary practices.

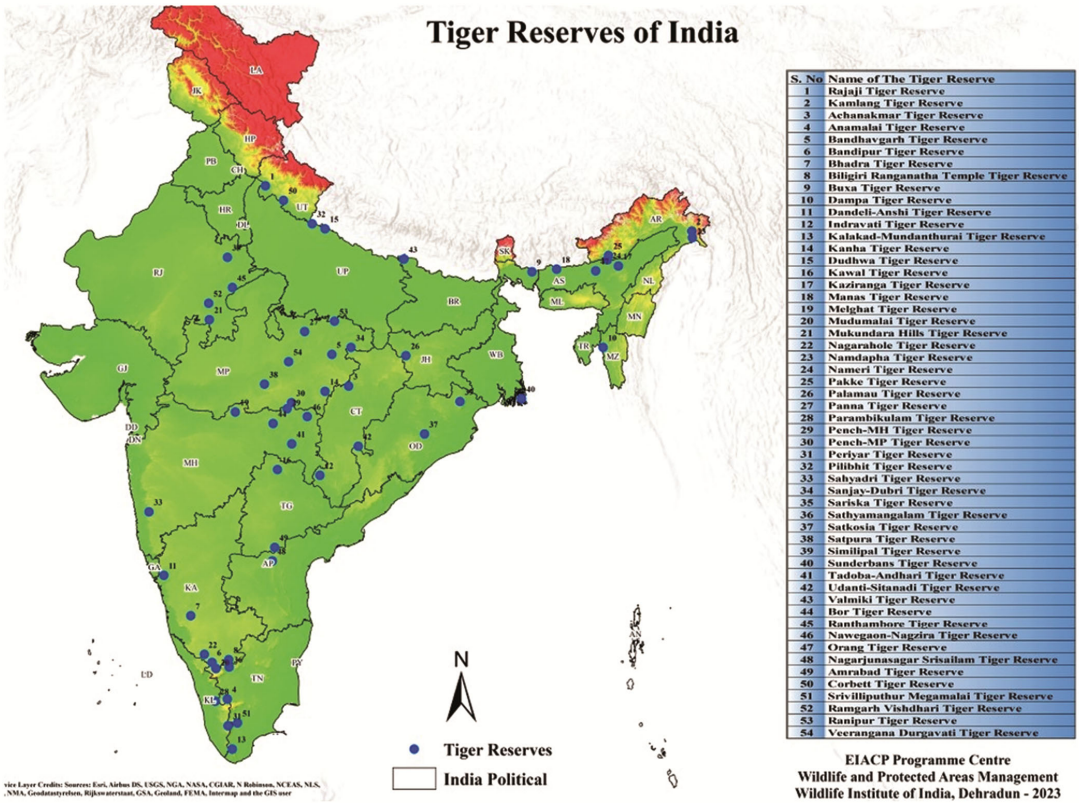

Fig. 1 — Tiger Reserves of India (Source: Wildlife Institute of India, Dehradun)

Data analysis

The evaluation of ethno-veterinary practices was conducted using the QuIK (Quantification of Indigenous Knowledge) method, which involved key informants. This method, known as QuIK, was created by De Villiers in 1996[7]. The core idea behind this method is that farmers have a deep understanding of their farming environment, and many solutions can be derived from the shared experiences of the farming community and informal experiments conducted over time. It helps uncover the practices of successful farmers, allowing this knowledge to be shared with a broader group. The QuIK methodology offers a fast and cost-effective way to gather information on ethno-veterinary practices.

In the QuIK tool, the matrix ranking method is integrated with an interview schedule to gather quantitative data from key informants. Farmers primarily relied on ethno-veterinary methods to treat four common livestock health issues: retained placenta, haematuria, skin diseases, and constipation. As a result, these four ailments were chosen for a participatory evaluation of the ethno-veterinary practices used to address them. The significant practices, as recognized by pastoralists, were selected for inclusion in QuIK.

Five practices were chosen to assess their relative effectiveness in treating retained placenta. Similarly, three practices were selected to evaluate their efficacy in addressing haematuria and skin diseases, while four practices were examined for their effectiveness in treating constipation. A participatory assessment was conducted by identifying key informants through the Sociometric method from the group of selected livestock farmers, all of whom had extensive knowledge of the chosen ethno-veterinary practices[8].

A total of 32 key informants were selected for a participatory assessment of ethno-veterinary practices used to treat retained placenta and haematuria, while 53 and 29 key informants were chosen for evaluating practices used to treat skin diseases and constipation, respectively. Four parameters-availability, ease of preparation, healing effect, and minimal side effects-were used to evaluate and compare the effectiveness of the identified practices. The key informants were asked to allocate a specific number of stones from a matrix for each criterion, reflecting their perception of the practices. The data from each key informant were considered independent, and the collected data across different criteria were analyzed using one-way analysis of variance. To determine the most effective practices, a modified version of Duncan's Multiple Range Test (DMRT) was applied[9].

Result and Discussion

Ethno-veterinary practices used against retained placenta in the livestock by the farmers

Retained placenta (RP), also referred to as retained fetal membranes or retained cleansing, is a condition where the placenta remains attached to the uterus after delivery[10]. When the fetal membranes on the calf's side of the placenta do not detach from the maternal side, retained placenta (RP) occurs. Membrane separation typically happens after the calf is born, as early separation can be a factor leading to stillbirth. The inability to evacuate foetal membranes within 24 h of parturition is commonly characterized as RP[11]. Dystocia, milk fever (metabolic disorders), and twin births are the most common causes of retained placenta. The degenerating, discoloured, and eventually foetid membranes hanging from the vulva are the symptoms of RP. The retained membranes may occasionally remain within the uterus and be undetectable, so in that case, their presence may be indicated by a foul-smelling discharge. The farmers used five practices for curing retained placentas in the livestock in the study area (Table 1). In the first

Table 1 — Ethno-veterinary practices used by the farmers for treatment of retained placenta in the livestock

Practice	Scientific name	Family	Local name	Habitat	Mode of use
First	*Desmostachya bipinnata*	Poaceae	Kush Ghass	Shrub	Leaves of *Desmostachya bipinnata* crushed and given to animals with water
Second	*Acacia nilotica* (Linn.) (Fig. 2)	Mimosacae	Babul	Tree	Decoction of old thrones (at least 2-3 years old) is given to the animal for easy removal of the placenta just after delivery
Third	*Tridax procumbens* L.	Asteraceae	Ghamra	Herb	Paste of leaves is mixed with the ash of cow dung and given to animals orally with water
Fourth	*Citrus medica* L.	Rutaceae	Galgal	Shrub	Fruits of *Citrus medica* L are fried in oil and given to eat with either cattle feed or directly given to animals
Fifth	*Triticum aestivum*	Poaceae	Gehoo	Plant	Boil at least 3 kg wheat grains with 400 g jaggery and given to animals

practice, they crush leaves of *Desmostachya bipinnata* and give to animals orally with the help of either water or Chapati (Flat Bread), which helps to reduce body temperatureof the livestock. *D. bipinnata* is used in various religious activities as well as in the case of retained placenta in the animals[12] and also used in the treatment of various stomach problems in livestock[13]. In the second practice, farmers give decoction of old thrones (at least 2 - 3 years old of tree) to the animal for easy removal of placenta just after delivery. A paste of *Tridax procumbens* L. leaves is prepared and mixed with the ash of cow dung and given to animals just after delivery for easy removal of the placenta in the third practice. In case of the fourth practice, farmers used fruits of *Citrus medica* L. and boiled them in oil, then gave to the animals either in feed or water. Fruit juice of *C. medica* is mixed with powdered fruits of *Cuminum cyminum* and is given for prolapse of the uterus before delivery in buffaloes[14,15]. In the last fifth practice, the livestock keeper boiled at least five kg grain of *Triticum aestivum* (Fig. 2) along with half kg jaggary and offered it to animals for eating for easy removal of the placenta.

Fig. 2 — Few plant species and material used as ethno-veterinary practices in the study area

Participation in validation of ethno-veterinary practices for treatment of retained placenta in the livestock by the farmers

To evaluate ethno-veterinary methods for treating retained placenta in livestock by farmers near RTR, 42 key informants were interviewed. Matrix ranking was used to assess each method based on criteria such as availability, ease of preparation, effectiveness, and minimal side effects, with scores ranging from 1 to 5. The results, shown in Table 2, reveal noticeable differences among the various ethno-veterinary practices. The fifth practice with use of *T. aestivum* was perceived as most effective in terms of availability, healing, and having a lower level of side effects and as a result it was judged as the most effective practice as compared to the others but, in terms of ease in preparation use of *D. bipinnata* was perceived most effective practices in comparison to the others, there is no significant difference between two, three, fourth and fifth practices in terms of ease in preparation but having significant difference with the first practice. So in terms of the overall effect, first practice was found to be the second most effective practice. The fourth practice which was not easily available, took much time to heal and also had a higher level of side effects, was given last rank by the farmers, and was found to be the least practice in use in comparison to other practices. If the placenta is not removed within 24 h, owners used boiled grains of wheat and offered them to animals for easy removal of placenta in the Holstein Cow[16].

Ethno-veterinary practices used against haematuria in the livestock by the farmers

Hematuria is a condition characterized by the sporadic presence of blood in the urine, often resulting from malignant tumors in the bladder. This untreatable disease poses a serious issue in various regions worldwide. Generally, farmers follow three ethno-veterinary practices for treating haematuria in their animals, such as buffalo and cattle. A brief detail of the ethno-veterinary practices is presented in Table 3. In first practice, the root of *Urtica dioica* L. is ground with the help of grinder, then given to animals once a day for three days to cure haematuria. Around 200 g roots of *U. dioica* L is also given to livestock such as cattle, buffalo, sheep, and the goat for curing haematuria in the Jammu Kashmir region, and 4-5 liter rice water is also suitable for curing haematuria[17]. Farmers also used an infusion of seed flour of *Trigonella foenum-graceum* Linn (Fig. 2) is given to animals orally either in water or in fodder for treatment of haematuria in the second practice. Farmers followed these practices to increase the milk yield of the animals in the Jammu and Kashmir state of India as well[18]. Furthermore, in the third practice, livestock keepers followed *Ficus religiosa* Linn. (Fig. 2) *Ficus religiosa* leaf juice has been used to treat asthma, cough, sexual difficulties, diarrhea, haematuria, ear-ache and toothache, migraine, eye problems, and other ailments in folk medicine[19].

Participation in validation of ethno-veterinary practices for treatment of haematuria in the livestock by the farmers

For the assessment of ethno-veterinary practices, 32 key informants were interviewed with four criteria, availability, ease of preparation, healing effect, and lower level of side effects, with a scoring pattern of 1-3. The matrix of decision criteria concerning each

Table 2 — Participatory assessment of ethno-veterinary practices for treatment of retained placenta in the livestock by the livestock farmers (n=32)

Criteria	First practice	Second practice	Third practice	Fourth practice	Fifth practice
Availability	3.59 ± 0.169^{b} (II)	2.22 ± 0.164^{c} (IV)	2.04 ± 0.149^{c} (V)	2.41 ± 0.172^{c} (III)	4.61 ± 0.091^{a} (I)
Ease in preparation	3.59 ± 0.228^{a} (I)	2.87 ± 0.198^{b} (III)	2.78 ± 0.128^{b} (IV)	2.72 ± 0.262^{b} (V)	2.96 ± 0.186^{b} (II)
Health effect	2.70 ± 0.208^{c} (III)	2.20 ± 0.148^{d} (V)	2.37 ± 0.153^{c} (IV)	3.33 ± 0.209^{b} (II)	4.48 ± 0.097^{a} (I)
Lower level of side effect	2.57 ± 0.234^{c} (III)	3.24 ± 0.165^{b} (II)	2.35 ± 0.143^{c} (V)	2.37 ± 0.193^{c} (IV)	4.48 ± 0.102^{a} (I)
Overall effect	12.43 ± 0.420^{b} (II)	10.52 ± 0.327^{c} (IV)	9.54 ± 0.327^{d} (V)	10.89 ± 0.422^{c} (III)	16.52 ± 0.234^{a} (I)

(a,b,c,d means bearing different superscripts in a row under each criterion differ significantly ($p<0.05$). The multiple comparisons are based on the DMRT Post Hoc test. Values in parenthesis indicate the respective rank under each criterion).

Table 3 — Ethno veterinary practices used by the farmers for treatment of haematuria in the livestock

Practice	Scientific name	Family	Local name	Habitat	Mode of use
First	*Urtica dioica* L.	Urticaceae	Bichhuwa Pati	Shrub	Grind the root of *Urtica dioica* L and give it to animals once a day for three days
Second	*Trigonella foenum*-graceum Linn.	Fabaceae	Methi	Plant	Infusion of seed flour of *Trigonella foenum*-graceum Linn is given to the animal daily for three days to cure haematuria
Third	*Ficus religiosa* Linn.	Moraceae	Pipal	Tree	Leaf extract is given orally to the livestock (after giving a bath) to cure haematuria

practice for curing haematuria of livestock such as buffalo and cattle is presented in Table 4. The first practice used the root of *U. dioica* L and was perceived as most effective in the lower level of side effects, and the case of healing effect. There is no significant difference in the comparison of other practices as well as in overall effect. In the case of the second practice, it was found most effective in the case of availability, and the third practice used *F. Religiosa* Linn. Having easy preparation also had a significant difference compared to others. The mean and standard error scores in the overall effect, first practice was found to be the most effective practice for curing haematuria in livestock.

Ethno-veterinary practices used against skin disease in the livestock by the farmers

The farmers used a total of three practices (Table 5) for curing skin diseases such as scratches, itching, etc. on the skin of livestock such as buffalo, cattle, and other livestock. In the case of the first practice, farmers took a whole plant from the nearby forest area and rubbed it on the whole body and affected area of the animals. In the second practice, livestock herders prepared a paste of *Urginea indica* (Roxb.) and applied it to affected parts of animals. Feeding leaves of Jungli Pyaj to animals was found to be the most effective practice against skin disease in animals of the Central Himalayan Region of India[20]. In the third practice, farmers crushed the leaves of Neem (*Azadirachta indica)* (Fig. 2) and prepared paste, then applied it to the affected parts of the animals for curing skin diseases in the livestock. Neem is considered as a wonder tree in the Indian subcontinents and it has been used not only for animals but for humans mostly used in various ailments like Dermatitis Eczema, Acne, Bacterial, Fungal infections, and other skin disorders[21].

Participation in validation of ethno-veterinary practices for treatment of skin disease in the livestock by the farmers

A participatory assessment involving 53 key informants was carried out to identify the most effective practice for treating livestock skin diseases among farmers. The three practices were evaluated based on four criteria: availability, ease of preparation, healing effectiveness, and minimal side effects. The findings, shown in Table 6, indicated that the third practice, *A. Indica* was deemed superior in all the four categories. Consequently, it was considered the most effective ethno-veterinary treatment for livestock skin diseases. While the first

Table 4 — Participatory assessment of ethno-veterinary practices for treatment of haematuria in the livestock by the livestock farmers (n=32)

Criteria	First Practice	Second Practice	Third Practice
Availability	1.66 ± 0.139^{b} (III)	2.56 ± 0.134^{a} (I)	1.78 ± 0.108^{b} (II)
Ease in preparation	2.06 ± 0.148^{b} (II)	1.38 ± 0.108^{c} (III)	2.56 ± 0.089^{a} (I)
Health effect	2.19 ± 0.122^{a} (I)	1.91 ± 0.158^{a} (II)	1.88 ± 0.147^{a} (III)
Lower level of side effect	2.41 ± 0.126^{a} (I)	2.00 ± 0.135^{b} (II)	1.59 ± 0.141^{c} (III)
Overall effect	8.31 ± 0.267^{a} (I)	7.84 ± 0.308^{a} (II)	7.81 ± 0.281^{a} (III)

(a,b,c means bearing different superscripts in a row under each criterion differ significantly ($p<0.05$). The multiple comparisons are based on the DMRT Post Hoc test. Values in parenthesis indicate the respective rank under each criterion).

Table 5 — Ethno-veterinary practices used by the farmers for treatment of skin diseases in the livestock

Practice	Scientific name	Family	Local name	Habitat	Mode of use
First	*Heliotropium indicam* L.	Boraginaceae	Hathajodi	Plant	The whole plant of *Heliotropium indicam* L. is rubbed on the affected area of animals
Second	*Urginea indica* (Roxb.)	Asparagaceae	Jungli Pyaj	Herb	Paste of *Urginea indica* applied on the affected parts of the skin of animals
Third	*Azadirachta indica*	Meliaceae	Neem	Tree	Paste of *Azadirachta indica* leaves applied on the affected parts of animals

Table 6 — Participatory assessment of ethno-veterinary practices for treatment of skin disease in the livestock by the livestock farmers (n=53)

Criteria	First practice	Second practice	Third practice
Availability	1.64 ± 0.097^{b} (II)	1.49 ± 0.069^{b} (III)	2.72 ± 0.062^{a} (I)
Ease in preparation	1.42 ± 0.091^{b} (III)	2.17 ± 0.100^{a} (II)	2.42 ± 0.099^{a} (I)
Health effect	2.08 ± 0.120^{a} (II)	1.66 ± 0.089^{b} (III)	2.25 ± 0.114^{a} (I)
Lower level of side effect	2.09 ± 0.118^{b} (II)	1.49 ± 0.069^{c} (III)	2.42 ± 0.106^{a} (I)
Overall effect	7.23 ± 0.213^{b} (II)	6.81 ± 0.155^{b} (III)	9.79 ± 0.214^{a} (I)

(a,b,c means bearing different superscripts in a row under each criterion differ significantly ($p<0.05$). The multiple comparisons are based on the DMRT Post Hoc test. Values in parenthesis indicate the respective rank under each criterion).

and second practices did not show a significant difference in overall effectiveness at $p<0.05$, the first practice, *Heliotropium indicum* L, was recognized as the second most effective. It was rated second in terms of availability, healing effect, and minimal side effects.

Ethno-veterinary practices used against constipation in the livestock by the farmers

Constipation is characterized by the difficult or incomplete passage of dry, hardened faeces. Reduced water intake, prolonged food scarcity, environmental or social stress that makes them reluctant to defecate, altered nutritional and management practices, or painful pelvic disease can all cause this. The farmers used four ethno-veterinary practices against constipation in livestock (Table 7). In the case of first practice, decoction of roots of *Citrullus colocynthis* L. is given to the animal twice a day for two-three days. The use of dried pulp of *C. colocynthis* has been used not only for constipation but also used for curing so many ailments such as edema, bacterial infections, cancer as well as diabetes[22]. First farmers used to take about 50-60 g seeds of *Ricinus communis* Linn then directly given to animals either in water or chapatti for 4-5 days to cure constipation in the second practice. Ball made of Cumin/*Jeera* (*C. cyminum*) seeds (5 g) and jaggery (50 g) and fed to the animals were very effective against constipation[23]. Furthermore, in the third practice, livestock keepers prepare a paste of pods of *Cassia fistula* Linn and then given to animal thrice a day for two days. In the case of last fourth practice, powder of leaves of *Cassia fistula* Linn is prepared and mixed the prepared paste into a small quantity of mustard oil then given to affected animals for curing constipation. The bark of ethno-botanical plants like *Celtis australis* Linn is used for fractured bones as well as for the treatment of constipation[24].

Participation validation of ethno-veterinary practices for treatment of constipation in the livestock by the farmers

To assess ethno-veterinary practices for treating constipation in livestock, 29 key informants were interviewed. The relative effectiveness of each treatment option was assessed using matrix ranking across four criteria: availability, ease of preparation, healing effectiveness, and side effect reduction. Each criterion was rated on a scale from 1 to 4, as presented in Table 8. The results in the table highlight clear distinctions among various ethno-veterinary practices. The first practice was perceived as most effective in terms of healing effect, and lower level of side effects. There is no significant difference in healing effect with other practices, but having a significant difference at <0.05 indicates lower level of side effect, so in case of overall effect this practice was found to be the most effective practice against constipation in the livestock. In the second practice, use of *R. communis* Linn. was easily prepared by the farmers. However, the ingredients of this practice are not easily available in the forest as well outside of the forest, so this practice was found to be the second most effective practice. Third practice was use of *Cassia fistula* Linn. It was easily available, but it

Table 7 — Ethno-veterinary practices used by the farmers for treatment of constipation in the livestock

Practice	Scientific name	Family	Local name	Habitat	Mode of use
First	*Citrullus colocynthis* L.	Cucurbitaceae	Papad Pinda	Climber	Decoction of roots is given to the animal twice a day for two-three days
Second	*Ricinus communis* Linn.	Euphorbiaceae	Arandi	Shrub	About at least 50-60 g seed is given orally with fodder for 4-5 days (Fig. 2)
Third	*Cassia fistula* Linn.	Fabaceae	Amaltas	Tree	The paste of pods *Cassia fistula* Linn. is given twice a day along with wheat bread to animals for two days
Fourth	*Annona squamosa* Linn. (Fig. 2)	Annonaceae	Sitafal	Tree	Leaves powder of *Annona squamosal* Linn. Mixed with mustard oil and given to affected animals

Table 8 — Participatory assessment of ethno-veterinary practices for treatment of constipation in the livestock by the livestock farmers (n=29)

Criteria	First practice	Second practice	Third practice	Fourth practice
Availability	2.38 ± 0.201^{b} (III)	2.14 ± 0.177^{b} (IV)	2.83 ± 0.222^{a} (I)	2.66 ± 0.218^{a} (II)
Ease in preparation	2.59 ± 0.246^{a} (III)	2.79 ± 0.207^{a} (I)	2.69 ± 0.173^{a} (II)	1.93 ± 0.171^{b} (IV)
Health effect	2.76 ± 0.203^{a} (I)	2.59 ± 0.202^{a} (II)	2.48 ± 0.208^{a} (III)	2.17 ± 0.217^{a} (IV)
Lower level of side effect	3.07 ± 0.216^{a} (I)	2.79 ± 0.195^{a} (II)	1.97 ± 0.161^{b} (III)	1.97 ± 0.161^{b} (IV)
Overall effect	10.79 ± 0.472^{a} (I)	10.31 ± 0.362^{a} (II)	9.97 ± 0.459^{a} (III)	8.72 ± 0.409^{b} (IV)

(a,b means bearing different superscripts in a row under each criterion differ significantly ($p<0.05$). The multiple comparisons are based on the DMRT Post Hoc test. Values in parenthesis indicate the respective rank under each criterion).

could be better in terms of healing effects and has higher side effects than other practices. The use of *Annona squamosa* Linn is difficult to prepare, and takes much time to prepare, hence perceived as least effective in the lower level of the side. It was found to be the least effective practice against constipation in livestock.

Conclusion

Livestock farmers in the vicinity of the RTR highly depend on their traditional knowledge for the treatment of ailments of the livestock. Participatory assessment appraised the use of *Triticum aestivum* to treat retained placenta, roots of *Urtica dioica* L. against the haematuria, paste of *Azadirachta indica* for skin disease, and roots of *Citrullus colocynthis* L. for treatment of constipation in the livestock were found most effective practices. Concerns about efficacy, quality, safety, and dose standardization continue to exist. As a result, the pharmacodynamics of these ethno-veterinary methods must be evaluated urgently before they can be replicated and used.

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Conflict of Interest

The authors hereby declare that there is no conflict of interests in the concerned paper.

Author Contributions

DCM, BSM, SG: Developing a research idea or hypothesis; DCM, BSM, AC, SG: Assisting in the design of the methodology to achieve the research objectives; BSM: Overseeing and managing the research process; DCM: Conducting surveys, monitoring progress, and managing data; AC, BSM, GS: Supporting the logical interpretation and presentation of findings; AC, DCM, GS: Reviewing necessary materials.

Prior Informed Consent

Informed consent was obtained from all livestock farmers who participated in this survey-based study.

Data Availability

The figures and tables supporting the results of this study are included within the article, and the original datasets are available from the first author or the corresponding author upon request.

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