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Research Article

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A Research on Polyhedral Treatment of Constipation in Cattle Found In the Rural Areas of Rajasthan

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Abstract

The general scientific term for conventional animal health care that offers inexpensive substitutes for allopathic medications is ethnoveterinary medicine. Alternatives to manufactured medications and pharmaceuticals that are more affordable, practical, and sustainable include using indigenous ethnoveterinary remedies. For traditional community-based methods to veterinary care to continue, ethnoveterinary knowledge is extremely important. Cattle frequently experience constipation after being given a diet that contains indigestible fibre followed by prolonged handling and transportation when dehydration and stress are present. The cattle do appear to be uncomfortable and exhausted. Constipated animals are straightforward to identify. Generally, enema treatments are used to relieve constipation. The rectum is injected with warm, soapy water. In this research we prepared a bolus with the help of traditional herbs like ajwain, triphala, cucumber powder, chauli powder, senna powder, black salt and sugar to treat constipation in cattle. The bolus contains herbal ingredients which provide relief to the cattle.

Key words: Ethno Veterinary, Livestock, Traditional, Constipation, Herbal, Treatment etc.

1. Introduction

The foundation of the rural economy is cattle farming, which also supports social and cultural ideals including ancestor rites, lobola (bridal) payments, purification, and enduring rural lifestyles. Particularly in small-scale cooperative farming areas, cow farming is a component of livestock production and serves as a catalyst for improving household food security and reducing poverty [1].

According to a common definition, ethnoveterinary medications are those that are utilised in ethnic group areas for folk skills, beliefs, knowledge, practises, and procedures connected to animal health and to treat a variety of ailments. The general scientific term for conventional animal health care that offers inexpensive substitutes for allopathic medications is ethnoveterinary medicine. The use of conventional ethnoveterinary medicines offers a more affordable, practical, and long-lasting substitute to synthetic drugs and pharmaceuticals [2,3].

For traditional community-based methods to veterinary care to continue, ethnoveterinary knowledge is extremely important. This is especially significant in the backdrop of developing and growing nations, where regional economies and food security depend greatly on animal health, particularly that of livestock [4].

Traditional veterinary medicine is referred to modern science as ethno veterinary medicine. Research in these areas is frequently conducted as part of a community-based strategy to enhance animal health and offer fundamental veterinary services in rural areas. The care of people's animals is also covered by ethnoveterinary medicine, including their knowledge, abilities, techniques, practices, and beliefs. Often the only option for farmers to treat sick animals, ethnoveterinary medicine can play a significant role in animal production and the development of rural livelihoods. These medications offer beneficial substitutions for and enhancements to western-style veterinary treatment [5-8].

Figure 1: Ayurveda Herbs and Species

Current research and potential future developments on the significance of an ethnoveterinary method for studying animal health are intended to inform and spur new lines of inquiry. In order to promote animal health, sustainable development calls for a deliberate effort to integrate indigenous knowledge systems with modern research This is true not only in rural locations where access to conventional veterinary healthcare may be restricted, but also in light of the rise in antibiotic resistance and demand for complementary and alternative medicines to improve the health of both livestock and companion animals [9,10].

2. Application of Ethno veterinary

A local animal healthcare system known as ethno-veterinary medicine is one that incorporates the customary values, information, expertise, procedures, and practices of a particular civilization [11].

• It includes the spiritual components related to the therapeutic methods as well as the conventional management of veterinary diseases and their treatments.

• The method used to create ethnoveterinary medications differs depending on the active substances to be extracted, the delivery route, and the intended medical use (prophylaxis or therapies).

• Livestock owners and ranchers mix medical plants, animals, minerals, and other inorganic ingredients to create infusions, decoctions, powders, drips, fumes, pastes, and ointments.

Because synthetic drugs are expensive or because of staffing issues in agriculture extension services, ethno veterinary medicine is frequently unavailable. It is seen as being basic, environmentally friendly, contextually suitable, and based on culture. As a result, ethno-veterinary medicine is crucial to the system of care for animals.

3. Methodology

3.1 Preformulation Study

In reformulation study it was observed that all the ingredients were stable with each other and didn't respond to any incompatibility like discoloration, acidification and liquefaction etc.

S.No.	Ingredients	Quantity given [gm]	Quantity taken [gm]
1.	Ajwain	20	8
2.	Triphala	40	4
3.	Cucumber Powder	40	6
4.	Chauli Powder	40	6
5.	Senna Powder	50	7
6.	Black Salt	10	2
7.	Sugar	133.34	q.s

Table 1: formula for polyhedral bolus

4. Procedure:

- All the required ingredients (herbs and seeds) were collected from respective plants.
- The collected ingredients (herbs) were dried completely in a few days by sunlight.
- All dried herbs and seeds were grinded into powder.
- On the other side made sugar syrup whose concentration is 66.6%w/v.
- Grinded powder was mixed in sugar in sugar syrup as required to make up 133.32gm mixture.
- The mixture was rolled and given proper shapes of bolus.
- The prepared mixture was packed and labeled.

5. Results and Discussion

6. Evaluation Test

7. Organoleptic Property

- Color: black color
- Odor : Characteristic odor
- Taste : sweet like taste
- Shape & size: The size and shape of the bolus can be as per choice. In this case the shape was cylindrical.

8. Hardness

The force needed to break a bolus across its diameter is referred to as the hardness. Using a Monsanto Hardness tester, the hardness of each bolus was assessed. The hardness was found to be in the range of 2.25 kg/cm2 - 3.5 kg/cm2.

9. Friability

It is an indicator for tablet mechanical strength. It was determined using the Roche friabilator. The friabilator was loaded with a pre-weighed bolus. With each revolution, the plastic chamber of a friabilator, which rotated at 25 revolutions per minute, dropped the bolus six inches away. For at least 4 minutes, the bolus was rotated in the friabilator. After being dusted and reweighed, the test bolus weight loss was a measure of friability and was stated as a percentage as follows:

%Friability = loss in weight / Initial weight x 100

= (0.5/120) x 100

= 0.41 %

10. Weight Variation

I.P. procedure for uniformity of weight was followed. Twenty bolus were taken and their weight was determined individually and collectively on a digital weighing balance. The average weight of one bolus was determined from the collective weight.

Sample	Individual weight	Average weight
Bolus 1	7gm	7.06gm
Bolus 2	7.3gm	
Bolus 3	7gm	
Bolus 4	7gm	
Bolus 5	7gm	
Bolus 6	7.5gm	
Bolus 7	6.8gm	
Bolus 8	6.8gm	
Bolus 9	7gm	
Bolus 10	7.2gm	

Table 2: Weight variation test

11. Disintegration Test

The test was carried out on 6 bolus using the apparatus specified in I.P.-1996 with distilled water as a disintegration media at 37°C ± 2°C and the time for complete disintegration of the bolus with no palatable mass remaining in the apparatus was measured in. The time taken for complete disintegration was 7 minutes.

12. Discussion

In order to reduce the negative effects associated with using currently available modern treatments for constipation, the current investigation involved the creation and evaluation of polyherbal bolus. The herbal components utilised in this formulation include properties that are biologically active and exhibit anti-oxidant, bacteriostatic, spasmolytic, cytotoxicity, anti-gastric ulcer, as well as a reduction in water absorption, making them useful as a treatment for anorexia and constipation. The bolus had been prepared and administered to animals traditionally. In this research a modified form of bolus was prepared and various evaluation tests were carried out on them to check their primary characteristics and suitability to animals. The complete disintegration value of 7 minutes suggested that the bolus would be easily soluble in the gut after administration. Other evaluation parameters also yielded desirable results. There is no restriction of season or place provided medicinal plants and other ingredients are available locally. A few medicinal plants if not available can be substituted with other plants based on experience or by consulting with local herbal healers.

13. Conclusion

The extent of veterinary medicine is broad, encompassing all domesticated and wild animal species, as well as a large spectrum of ailments that may impact various species. The aforementioned description makes it seem like an ethnoveterinary approach would be a different technique to treat anorexia and constipation in calves. Although the length of the treatment is a little bit longer than with traditional antimicrobial therapy, it is more cost-effective than the earlier one, making it advantageous for struggling farmers in rural areas. In addition to other issues with antibiotic use, such as antimicrobial resistance, adverse effects from herbal medicine are not

a major worry. Therefore, the use of an ethnoveterinary approach may be encouraged for the treatment of as many diseases as possible, in addition to calf anorexia and constipation.

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Ethical Approval

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Declaration of Competing Interest

All authors do not report any conflicts of interest in the writing of this letter.

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