

**PERCEIVED EFFECTIVENESS OF INDIGENOUS TECHNICAL  
KNOWLEDGE AMONG LIVESTOCK OWNERS OF DANG  
DISTRICT IN SOUTH GUJARAT**

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**ABSTRACT**

India has a very rich heritage of indigenous health care and treatment systems that have been used for animals since generations. These indigenous practices percolate from generation to generation by word of mouth and is considered to be a holistic approach of livestock management adopted by traditional farmers which are at risk of extinction. The basic objective of this research was to study the perceived effectiveness of indigenous technical practices in relation to their parallel scientific technologies among livestock owners of Dang region in terms of cost, accessibility, compatibility, sustainability, adaptability, rationality and complexity regarding bloat which is commonly occurring ailment in animals.

**KEYWORDS:** Perceived Effectiveness, Indigenous Technical Knowledge (ITK), Morden Veterinary Drug (MVD), Livestock Owners, Dang

**INTRODUCTION**

Modern medicine is thought to be able to solve almost all health problems of man and animals. But this overestimation of modern medicine has changed in the course of “green wave” since 1970s, particularly in industrialized countries. The “green wave” has been characterized by an increasing demand for natural products in the form of food, drugs and cosmetics and was mainly triggered by the side effects resulting from the increased use of chemicals in various areas of life including treatment. Reconsideration of traditional medicinal systems in industrialized countries and the fact that modern medicine is too expensive for many developing countries were the main reasons for the decision of World Health Organization (WHO) in the 1970s to promote traditional medicinal system by checking scientifically the efficacy of plants used in traditional medicine and to identify the principles responsible for genuine therapeutic effects Bizimana (1997). ITK system helps the practitioners to cope with problematic situations and to survive even in the face of tremendous odds. Today, such indigenous technical practices are dwindling fast with the death of the practitioner because they serve the community with great dedication and selfless motto and are hesitant to tell others about the preparation of drugs fearing misuse and exploitation. Hence, it is necessary to identify the perceived effectiveness of such indigenous practices for their further scientific validation in various national and international research organizations.

## MATERIALS AND METHODS

This study was conducted in Dang district (Fig 1.) located  $20^{\circ} 39' - 21^{\circ} 50' N$  longitude &  $72^{\circ} 29' - 73^{\circ} 51' E$  latitude in Southern Gujarat. Out of the total 311 villages spanning 1764 sq.km, 15 villages were selected which contain more animal population. Total 150 respondent were selected, 10 from each village by simple random sampling method. From an extensive survey in the selected villages it was found that bloat was a commonly occurring ailment among ruminants. The livestock owners themselves or on the advice of local healers treated bloat by an indigenous preparation consisting of 50 gm Hing (*Ferula asafoetida*) + 50 gm Ajavain (*Trachyspermum ammi L.*) + salt in 250 ml butter milk. All these ingredients were grinded to prepare a viscous suspension, which was drenched to the animal twice a day for two consecutive days to cure bloat in adult animals.

Rank ordering was used to give scores on 10 point scale for perceived effectiveness in terms of cost, accessibility, compatibility, sustainability, adaptability, rationality and complexity in ITK(ITK) and Morden Veterinary Drug (MVD) by the farmers. Data were analyzed using Wilcoxon Signed rank test to ascertain significant differences between perceived effectiveness of ITK and Morden Veterinary Drug used to treat bloat by livestock owners of Dang district.

## RESULTS AND DISCUSSIONS

The perceived effectiveness of ITK and MVD among livestock owners for treating bloat in terms of cost, accessibility, compatibility, sustainability, adaptability, rationality and complexity has been presented in Table 1.

There was a highly significant difference in the perceived effectiveness of ITK and MVD in terms of cost. The livestock owners have graded ITK as costlier favorable which may be due to the inclusion of cost effective ingredients in the medicinal preparation. Similarly, scientific methods of bloat treatment were graded as costlier, since they had to purchase costly medicines to get their animals treated at veterinary hospitals. Additionally for treating their animals using scientific methods they had to leave their fields causing indirect monetary losses.

A highly significant difference was also seen in the perceived effectiveness of ITK and MVD in terms of its accessibility. This shows that ITK was easily accessible to the livestock owners from the local flora and fauna of the village or from the local healers. They preferred to use ITK because they believed that this might lead to increased immunity in animals without causing any loss in production. The accessibility to MVD was less and farmers avoid it due to the misconception that it might cause fever, loss of appetite, decrease in production and sometimes even death.

As far as perceived effectiveness of livestock owners between ITK and MVD in terms of compatibility was concerned, there was a significant difference between ITK and Morden Veterinary Drugs. It showed that ITK used was compatible to a greater extent to the livestock owners whereas the MVD had been graded as least compatible by the livestock owners. This difference may be due to the fact that the ITK used by livestock owners suits their beliefs, habits, traditional values and can be obtained from available natural resources.

In terms of sustainability, there was highly significant difference in the perceived effectiveness of ITK and MVD among livestock owners. This revealed that the livestock owners have graded ITK as favorable to a greater extent and MVD as favorable to some extent in terms of its sustainability. This might be due to the fact that the livestock owners have been using ITK since generations and found it to be more sustainable than Morden Veterinary Drugs.

Regarding adaptability there was also highly significant difference in the perceived effectiveness of ITK and MVD by the livestock owners. This revealed that livestock owners have graded ITK as adaptable to a greater extent and MVD as least adaptable. This might be due to the fact that the livestock owners visualized the past experiences of treating their animals with both ITK and Modern Veterinary Drugs.

However, since ITK is cost effective, easily accessible and adapted to their socio-cultural conditions, it is widely adopted by the livestock owners. There was also a highly significant difference between ITK and MVD in terms of rationality as perceived by the livestock owners. The livestock owners have perceived MVD as more rational as compared to Indigenous Technical Knowledge, which may be due to the fact that the result obtained from use of MVD was faster and immediately observable than Indigenous Technical Knowledge.

As far as complexity is concerned, there was highly significant difference in the perceived effectiveness of ITK and MVD among livestock owners. It shows that the livestock owners perceived MVD as favorable to a greater extent and ITK as favorable to some extent. Reason behind this finding might be due to complexity in preparing ITK medicine in contrast to MVD which is available at medical store or from veterinarian in ready to use form and hence they perceived ITK as more complex than Modern Veterinary Drugs. The findings of this study are partially in agreement with the findings of Dwivedi (1998) and Singh and Chauhan (2010).

## CONCLUSIONS

### Summary

This study revealed that there was a significant difference in the perceived effectiveness of ITK and MVD among livestock owners in all the seven aspects viz., cost, accessibility, compatibility, sustainability, adaptability, rationality and complexity in relation to the treatment of bloat. The livestock owners perceived ITK as more favorably accepted among the rural communities owing to its cost effectiveness, local availability within the flora and fauna of the village, compatible to social and cultural habitats and sustainable and adaptable. Simultaneously they also perceived ITK as more complex in preparation and less rational than Modern Veterinary Drugs. Experimental trials of ITK must be conducted to identify the cost-effectiveness, accessibility, compatibility and sustainability in comparison to modern scientific technologies.

## ACKNOWLEDGEMENTS

Authors are thankful to tribal chieftains and traditional healers for providing valuable information.

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**Table 1: Comparison Between Mvdand Itkusing Wilcoxon Signed Rank Test**

S. No.	Parameter	Rank (N)			Mean Rank		Z Value
		MVD	ITK	Tie	ITK	MVD	
1	Cost effectiveness	111	12	27	32.87	65.17	-8.693 <sup>a**</sup>
2	Accessibility	126	6	18	46.33	67.46	-9.399 <sup>a**</sup>
3	Compatibility	137	1	12	8.50	69.95	-10.222 <sup>a**</sup>
4	Sustainability	148	0	2	0.00	74.50	-10.600 <sup>a**</sup>
5	Adaptability	80	42	28	52.36	66.30	-4.041 <sup>a**</sup>
6	Rationality	17	106	27	64.49	46.47	-7.700 <sup>b**</sup>
7	Complexity	2	139	9	71.86	11.00	-10.312 <sup>b**</sup>

a=based on positive ranks(ITK), b=based on negative ranks(MVD)