

Perceived Effectiveness of ITK among Livestock Owners

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ABSTRACT

India has a very rich heritage of indigenous health control and treatment systems that have been used for animals since generations. These indigenous practices percolates from one generation down to the next by oral transmission and considered to be the holistic approach for livestock management methodologies adopted by non-literate cultures. Today, many indigenous knowledge systems are at risk of becoming extinct because of rapidly changing natural environments and fast pacing social, economic, political and cultural changes on a global scale. The basic objective of this research is directed towards studying the perceived effectiveness of indigenous technical practices in relation to their parallel scientific technologies among livestock owners of Bundelkhand region in terms of cost, accessibility, compatibility, sustainability, adaptability, rationality and complexity regarding Hemorrhagic Septicemia (H.S.) disease in animals.

Key Words: Indigenous technical knowledge; Perceived effectiveness; Hemorrhagic septicemia;

India has a very rich heritage of traditional health control and treatment systems (Ayurvedic, Unani and Homeopathic) that have been used for animals since generations. The traditional practices are considered to be as old as domestication of various livestock species. These practices have been percolating from one generation down to the next by oral transmission and considered to be the holistic approach for livestock management methodologies adopted by non-literate cultures. The word 'indigenous' means "native born, originating or produced naturally in a country or in a specified area" and the word 'knowledge' means "assured belief, practical skill, that which is known, learning, enlightenment" (Reijntjes *et al.*, 1992). The importance of documenting ancient/indigenous/traditional knowledge has recently gained a momentum all over the world including India. In USA a Centre of Indigenous Knowledge and Rural Development (CIKARD) was established at IOWA University in 1987. Further in the area of research and development the USA has also taken lead by establishing the Office of Alternate Medicine (OAM) in 1992 under National Institute of Health (NIH).

In India, several non-government organizations (BAIF, Pune; Jagaran Vikas Kendra, Udaipur;

ANTHRA, Pune; SALIHOTRA, M.P.; Appropriate Technology of India, Ahmedabad; Women's organization for rural development (WORD), Ahmedabad and Grass Roots Innovation Augmentation Network (GIAN), Gujrat are reported to be involved in documentation and validation of indigenous technical knowledge system.

It is a well known fact that the bearers of ITK's are basically the local people including farmers, rural artisans, landless labourers, rural women, animal husbandry practitioners, etc, which earn their livelihood through their capacity of having systematic knowledge as well as knowing the mechanism of how indigenous practices work for various ailments of animal husbandry.

Today, many indigenous knowledge systems are at risk of becoming extinct because of rapidly changing natural environments and fast pacing economic, political, and cultural changes on a global scale. Practices vanish as they become inappropriate for new challenges or because they adapt too slowly. However, many practices disappear only because of the intrusion of foreign technologies or development concepts that promise short-term gains or solutions to problems without being capable of sustaining them. This over estimation of modern practices doesn't last long because

of the side effects that triggered by the increased use of chemicals in various areas of life. This lead to a reconsideration of traditional systems of treatment and thus a increased demand of natural products in form of drugs, foods, cosmetics etc. has been noticed in recent years.

The indigenous technical knowledge system also helps the ITK 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 owner, bearing scientific knowledge because such people who serve the community with great sacrifice and selfless motto in their minds are afraid to tell others about the usefulness of the drug looking to their 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.

METHODOLOGY

This study was conducted purposively in the five districts namely Jhansi, Lalitpur, Jalaun, Hamirpur and Banda in the Bundelkhand region of Uttar Pradesh. Bundelkhand inhabited by about 5 percent of the states population is a semiarid and resource poor region, where rainfed extensive agriculture is commonly practiced. The livestock owners of this area are very poor and the productivity of animals is also very less, hence chance of getting a large number of indigenous technical knowledge are better.

Four villages from each district were purposively selected depending upon the concentration of livestock species as well as known to use indigenous technical knowledge for various practices among animals. In total, 47 resource personnel's were identified using nomination method and RRA technique, which were interviewed and documentation of indigenous technical knowledge were performed. The collected ITK were thoroughly screened with the help of experts, which were exposed to resource persons to identify the most commonly used ITK. Thus, in total twenty ITK were selected for twenty different animal husbandry practices. These ITK were then enlisted with their parallel scientific technologies and data were collected from two hundred randomly selected respondents (ten from each village).

This paper deals with the perceived effectiveness of ITK and their parallel scientific technology among randomly selected livestock owners.

RESULTS AND DISCUSSION

The results in Table 1 show the frequency distribution and Table 2 show the mean values of perceived effectiveness of ITK and PST among livestock owners for haemorrhagic septicaemia disease in livestock in terms of cost, accessibility, compatability, sustainability, adaptability, rationality and complexity. The livestock owners themselves or on the advice of local healers treat haemorrhagic septicaemia disease of livestock by an indigenous preparation consisting of 50 gms of til bark or leaves, 50 gms of turmeric, 50 gms

Table 1. Perceived effectiveness of ITK and their PST of livestock owners regarding haemorrhagic septicaemia in animals

S. No.	Parameter	Indigenous Technical Knowledge (ITK)					Parallel Scientific Technology (PST)				
		MF	FGE	FSE	FLE	NF	MF	FGE	FSE	FLE	NF
1.	Cost	44	90	34	20	12	4	12	76	70	38
2.	Accessibility	4	52	114	28	2	16	20	48	78	38
3.	Compatability	92	64	27	8	9	14	22	45	78	41
4.	Sustainability	84	68	32	8	8	22	22	45	78	33
5.	Adaptability	104	58	22	8	8	4	28	48	78	42
6.	Rationality	87	61	34	14	4	69	61	28	6	36
7.	Complexity	26	92	42	30	10	20	30	75	46	29

Table 2. Mean value of perceived effectiveness of ITK and their PST regarding haemorrhagic septicaemia in animals

S.No.	Parameter	Cost	Accessibility	Compatability	Sustainability	Adaptability	Rationality	Complexity
1.	ITK	2.67±0.078 ^a	2.14±0.050 ^a	3.11±0.076 ^a	3.06±0.074 ^a	3.21±0.075 ^a	3.06±0.073 ^a	2.47±0.075 ^a
2.	PST	1.37±0.065 ^b	1.49±0.087 ^b	1.45±0.081 ^b	1.61±0.085 ^b	1.37±0.073 ^b	2.61±0.102 ^b	1.83±0.082 ^b
3.	Total	2.02±0.60	1.81±0.050	2.28±0.069	2.34±0.067	2.29±0.069	2.84±0.064	2.15±0.058

a-b : Values bearing different superscripts within a column differ significantly (P<0.01)

a-b *: Values bearing different superscripts and (*) with in a column differ significantly (P<0.05)

of lal duddhi, 50 gms of sarson grains, 100 ml of lemon juice and 100 gms of tulsi leaves. All these items are grinded to prepare a viscous suspension, which is fed to the animal @50 gms twice a day for two days to cure haemorrhagic septicaemia disease of adult livestock. However the scientific technology suggests :

1. Isolation of infected animals in a separate barn.
2. Immediate vaccination of all non affected animals.
3. Supportive therapy for infected animals including administration of broad-spectrum antibiotics.

There was a significant difference in the perceived effectiveness of ITK (2.67 ± 0.078) and PST (1.37 ± 0.065) in terms of cost at 1% level. The livestock owners have graded ITK as most cost favourable which may be due to the reason that all the ingredients used are available at their doorsteps or in village itself and secondly such preparations were prepared in a large amount by a group of villagers so that they may provide it to a huge number of animals at the same time. Similarly, the scientific methods of controlling haemorrhagic septicaemia disease was graded as cost favourable to least extent, since they have to purchase costlier medicines to get their animals treated at veterinary hospitals. Hence scientific method is costlier, time consuming and also makes them to leave their fields.

A significant difference was also seen in the perceived effectiveness of ITK (2.14 ± 0.050) and PST (1.49 ± 0.087) in terms of its accessibility. This shows that ITK is easily accessible to the livestock owners in the local flora and fauna of the village or with the local healers. They prefer to use ITK because they believe that this may lead to increase in immunity of the animal without any loss in the production capacity of animals. The accessibility to PST is less and farmers avoid it with the misconceptions that it may cause fever, loss of appetite, decrease in production and sometimes even death.

As far as perceived effectiveness of livestock owners between ITK and PST in terms of compatibility is concerned, there was a significant difference between ITK (3.11 ± 0.076) and PST (1.45 ± 0.081) at 1% level. It shows that ITK used is compatible to greater extent to the livestock owners whereas the PST 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,

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traditional values and can be performed through available resources.

In terms of sustainability there was significant difference in the perceived effectiveness of ITK (3.06 ± 0.074) and PST (1.61 ± 0.085) at 1% level among livestock owners. This reveals that the livestock owners have graded ITK as favourable to a greater extent and PST as favourable to some extent in terms of its sustainability. This may be due to the fact that the livestock owners have nourished and furnished their ITK's since generations and found to be more sustainable than PST's.

Regarding adaptability there was also a significant difference in the perceived effectiveness of ITK (3.21 ± 0.075) and PST (1.37 ± 0.073) at 1% level by the livestock owners. This reveals that livestock owners have graded ITK as adaptable to a greater extent and PST as least adaptable. This may be due to the fact that the livestock owners visualized the past experiences of treating their animal with both ITK and PST. However, since ITK is cost effective, easily accessible and adapted to their socio-cultural environment, it is widely adapted among the livestock owners.

There was also a significant difference between ITK (3.06 ± 0.073) and PST (2.61 ± 0.102) at 1% level in terms of rationality as perceived by the livestock owners. The livestock owners have perceived ITK as more rational as compared to PST, which may be due to the fact that experimental evidences performed since generations have led to development of an inspiration, an opinion or a statement of reasons which makes the ITK as more rational than PST.

As far as complexity is concerned, there was a significant difference in the perceived effectiveness between ITK (2.47 ± 0.075) and PST (1.83 ± 0.082) at 1% level among livestock owners. It shows that the livestock owners perceived ITK as favourable to a greater extent and PST as favourable to some extent. All the ingredients used in ITK are either available with the local healers or available locally, hence less complex in preparation and usage. However in case of PST they have to rely on annual vaccination and treatments (in affected animals) as prescribed by veterinarians, which is more complex for them. The results of this study are in line with the findings of Honey Bee (1992), Dwivedi (1998), Agarwal (1995), Rollefson & Rathore (1996).

CONCLUSION

The study reveals that there is a significant difference in the perceived effectiveness of ITK and PST among livestock owners at 1 percent level of significance in all the seven aspects viz., cost, accessibility, compatability, sustainability, adaptability, rationality and complexity in relation to haemorrhagic septicaemia disease in animals. The livestock owners perceive ITK as more favourably accepted among the rural communities owing to its cost effectiveness, local availability in the flora and fauna of the village, less complex in preparation and administration, compatible to social and cultural habitats and sustainable. The available ITK are based on the trials performed by their ancestors since generations and found effective in rural settings where veterinary facilities are not available in emergency cases. However, farmers are slowly making

modification in their behaviour, making them adapted to it more favourably as compared to PST.

The above research study reveals that the Bundelkhand region is very rich in ITK's and similar studies should be taken up covering the whole Bundelkhand region and other parts of the country / world to prepare a documentary of this authentic knowledge base. Experimental trials of ITK's must also be conducted to identify the cost-effectiveness, accessibility, compatibility and sustainability of ITK's in comparison to modern scientific technologies. It is also the need of the hour to establish a Central apex body for the formulation of policies and programmes for identification of education and training needs to popularize the indigenous veterinary knowledge in India as well as to establish an linkage with organizations having experiences in ITK.

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