



Constraints Perceived by the Pastoralists of Hilly Regions of Jammu and Kashmir in the Utilization of Indigenous Technical Knowledge

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Authors' contributions

This work was carried out in collaboration between all authors. Author AMK designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author MSB guided the author AMK during whole research period and edited the manuscript. Author SAK managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

This article provides a systematic analysis of the challenges perceived by pastoralists of hilly regions of Jammu and Kashmir in the utilization of Indigenous technical knowledge. Semi-structured interviews were used to collect primary data from 120 ITK users. The findings indicated that practitioners faced various challenges in managing their indigenous knowledge. Inability to identify the right plant, no scientific validation, modification and optimization of indigenous technical

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knowledge, perception about indigenous technical knowledge that it is out dated, inconvenient and time consuming nature of indigenous technical knowledge were most serious constraints perceived by the indigenous technical knowledge practitioners.

Keywords: Indigenous technical knowledge; constraints; Jammu and Kashmir; pastoralists; plants.

1. INTRODUCTION

Indigenous Technical Knowledge (ITK) is a system that is based on folk beliefs, traditional knowledge, skills, methods and practices used for curing diseases and maintaining health of animals [1,2]. Traditional veterinary medicine knowledge like all other traditional knowledge system is handed down orally from generation to generation and it may disappear because of rapid socioeconomic, environmental, technological changes and as a result of the loss of cultural heritage under the guise of civilization [1,3]. So in order to preserve this treasure it is imperative that this knowledge must be documented and conserved through systematic studies before it is lost forever.

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

2. MATERIALS AND METHODS

The study was conducted in Doda district of Jammu and Kashmir state. The established prevalence of nomadism and traditional farming

system in the hills and valleys of this region was considered fit for such a study. Doda district comprises of 8 blocks. Out of these 8 blocks, 4 blocks where indigenous technical knowledge was extensively practiced were selected purposely. The selected blocks were Bhaderwah, Bhalesa, Thathri and Marmat. A comprehensive list of the villages of the selected blocks was prepared. Three villages were selected purposely from each selected block where indigenous technical knowledge was extensively used for the treatment of animals. Thus, a total of 12 villages were selected. For selection of the respondents, 10 pastoralists who were known for using indigenous technical knowledge were selected purposely from each village. Thus, a total of 120 respondents were selected for the study. The data was collected with the help of a semi-structured interview schedule through personal interview technique during the months of May to August in years 2012-2013, as the study area receives heavy snowfall in winters. Prior informed consent of some most famous traditional healers of Bhaderwah region was taken. Responses were obtained in the areas about the availability of plants/ingredients, documentation of indigenous technical knowledge, negative attitude towards ITK, changing scenario and limitation of ITK. The constraints were divided into different parts. The respondents were asked to rate them on three point continuum i.e. very serious (score = 3), serious (score = 2) and somewhat serious (score = 1), based on seriousness of the perceived constraint. The constraints were then ranked based upon their degree of hindrance.

3. RESULTS AND DISCUSSION

The indigenous technical knowledge users were interviewed with regard to the constraints they experienced in practicing such techniques. Among the constraints related to the ingredients/plants, lack of ability to identify right plants was perceived as the most serious constraint, as during the study it was found that majority of the respondents were of old age so it was difficult for them to collect plants, whereas the younger people were not able to identify the right plant. More or less similar findings have

been reported earlier by other workers like Mondal et al. [4] who observed that proper identification of the species was absolutely necessary as wrong identification lead to serious health problems for the animal including death. Excessive use of insecticides and pesticides was the second major constraint reported by the respondents of study area. This was because these insecticides and pesticides were thought to be responsible for the destruction of the plants/herbs used in ITK, similar findings were also reported by Rakesh et al. [5] from Arunachal Pradesh.

Among various constraints related to documentation and negative attitude towards ITK. The most serious constraints perceived by ITK practitioners was that no step had been taken for scientific evaluation, modification, and optimization of ITK. This is in agreement with the findings of Lans [6] Tekle [7] and Zongo et al. [8] who observed that, little or no research was

focused on traditional veterinary medicine to understand the underlying science and promote validation procedure and processes. Negative attitude of allopathic doctors towards ITK was perceived as second serious constraint. Whereas less attention paid by government and difficulty in publication of local innovations in newspapers and regional or other magazines was reported as the least serious constraint faced by ITK users.

Among various constraints related to changing scenario, perception about ITK that it is out dated and inclination of people toward allopathic system was classified as major constraint faced by ITK users, which they describe as one of the main reason for its poor dissemination. Fielding [9] also reported that indigenous technical knowledge was considered out fashioned, and accompanied with lack of information regarding its use, the modern drugs were found to be easier to use and apply.

Table 1. Constraints related to availability of ingredients/plants

S. no.	Constraints	Score	Rank
1	Lack of ability to identify right plants	234	1
2	Excessive use of insecticides and pesticides destroy the plants/ herbs used in ITK	145	2
3	Non-availability of plants and other ingredients used in ITK	143	3
4	Many herbs are becoming extinct	136	4

Table 2. Constraints related to documentation and negative attitude towards ITK

S. no.	Constraints	Score	Rank
1	No scientific evaluation, modification, and optimization of ITK	235	1
2	Negative attitude of allopathic doctors towards ITK	175	2
5	Less attention paid by government towards ITK	154	3
4	Lack of publication of local innovations in regional or other magazines and news papers	147	4
5	No link between ITK users and other institutes related to animal husbandry	146	5
6	No recognition of the work done by ITK users	137	6
7	ITK has no written document	136	7
8	No platform where ITK users can share their knowledge with others	134	8

Table 3. Constraints related to changing scenario

S. no.	Constraints	Score	Rank
1	Perception about ITK that it is out dated	242	1
2	Inclination of people toward allopathic system	238	2
3	People do not pay after getting services of ITK practitioner	140	3
4	Development of resistance by various diseases makes ITK impractical	135	4

Table 4. Constraints related to limitations of indigenous technical knowledge

S. no.	Constraints	Score	Rank
1	Inconvenient and time consuming	232	1
2	Many ITK's become extinct due to non-practice by younger generation	226	2
3	Incompatibility of ITK with modern techniques	187	3
4	ITK takes long time to cure the animal disease	184	4
5	Particular method is often very localised and the scope for its dissemination is limited	147	5
6	ITK is not a complete panacea for treating animals	136	6
7	ITK treatment varies in their effectiveness, according to the season, method of preparation	135	7
8	ITK has little or nothing to offer against the acute viral diseases of animals	134	8
9	ITK changes from area to area	133	9

Among various constraints related to limitations of ITK practices the most serious constraint was that the ITK practices were considered as inconvenient and time consuming, followed by the second major constraint that many ITK's become extinct due to non practice by younger generation, whereas incompatibility of ITK with modern techniques was reported as least serious constraint. Similar results were reported from Rajasthan by Kumar [10] and Bizimana [11] who observed that various reasons for low adoption among the ITK practitioners were non-availability of medicinal plants, non-awareness, slow curing effect, inconvenience of preparation and use of herbs. In the present study it was found that ITK practices were not significant against acute viral diseases, this was in agreement with the findings of Balaji et al. [12] and Moabiemang et al. [13].

4. CONCLUSION

Inability to identify the right plant, no scientific validation, modification and optimization of indigenous technical knowledge, perception about indigenous technical knowledge that it is out dated, inconvenient and time consuming nature of indigenous technical knowledge were most serious constraints perceived by the indigenous technical knowledge users. Whereas extinction of herbs used in ITK, non availability of platform where ITK users can share their knowledge with others, development of resistance by various diseases and changing behaviour of ITK from area to area were perceived as less serious constraints. The above research study reveals that besides having very rich traditions of ITK in hilly regions of J&K state no identification and validation of these practices has been done so far. Therefore it is a prime need that these practices should be documented and their validations should be done on scientific

lines. The ITK workers should be given their deserved acknowledgment and they should be made partners in the progress and prosperity of livestock sector.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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