

## VALIDATION STUDY ON ETHNO VETERINARY MEDICINES USED FOR WOUND TREATMENT IN BACKYARD POULTRY

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**Abstract:** This study aimed to validate the prevailing EVMs along with Modern Veterinary Drug (MVD) in the treatment of commonly occurring wound among backyard poultry. Tirunelveli, Namakkal, Vellore and Thiruppur districts were selected for the study based on the highest livestock population. Data were collected personally through a well structured and pre-tested interview schedule. A sample of 10 farmers was interviewed through structured interview schedule in each district constituting the sample size of 40 in order to document the different EVM alternatives and to validate the same. With regard to quickness in healing, EVM-1(*Aloe vera* and turmeric application over the wound) with mean score of 8.15 was rated superior than EVM-2 (turmeric and neem oil applied over the wound) and MVD. In terms of availability, both the EVMs were rated better than MVD.

**Keywords:** Ethno Veterinary Medicine (EVM), Validation, Wound, Backyard poultry.

### Introduction

Poultry farming is one of the profitable businesses among animal husbandry enterprises. But backyard poultry farming is gaining its importance among rural people because it is a low input or no input business and is characterized by indigenous night shelter system scavenging system, with little supplementary feeding, natural hatching of chicks, poor productivity of birds, local marketing and no specific health care practices. Native chickens are widely recognized as an important part of national economies of developing countries and that they improve the nutritional status and incomes of many small farmers and landless communities (Syakalima *et al.*, 2017). More over treatment of ailing birds was mostly performed by the farmers themselves by adopting different Ethno Veterinary Medicines (EVM). Traditional farmers use different EVMs for controlling different diseases of poultry. Some of the progressive poultry farmers referred the veterinary dispensaries for the treatment of wounds

at various sites. Hence an attempt was made to validate the prevailing EVMs along with Modern Veterinary Drug (MVD) in the treatment of commonly occurring wound among backyard poultry.

### **Materials and Methods**

A total sample size of 40 farmers (10 farmers from each district) who were experienced in on-farm trial in a specific EVM practices from four districts (Tirunelveli, Namakkal, Vellore and Thiruppur districts) of Tamil Nadu were selected for the study based on the top four districts which has highest livestock population (19<sup>th</sup> livestock Census). The experienced respondents were asked to give their impact of the EVM practices in comparison with modern veterinary drugs on specific disease through five criterion *viz.*, effectiveness, low cost/ no cost, user friendly, quickness in healing and ever ready ingredients. The data from each farmer were treated as an independent result. Then the data were subjected to ANOVA (Snedecor and Cochran, 1989) for statistical analysis.

Validation of EVMs has been done through QuIK (Quantification of Indigenous Knowledge) method by some identified persons who were experienced in particular ITK(s), using the method (QuIK) developed by Anne K de Villiers in 1996. In this method, the farmers who are practicing EVM's will be subjected to many questions to get related data on EVMs. This would help to reveal the secrets of treating specific illness without any fuss. These methods can be disseminated to a wider group of farmers. QuIK methodology represents a rapid and relatively cheap way to elicit indigenous technical knowledge/ EVM practices.

Analysis was carried out separately for each group of data under each criterion for a particular disease. To test the difference of means among alternatives, Duncan's Multiple Range Test as modified by Kramer (1957) was followed.

The linear model chosen for ANOVA was,

$$Y_{ij} = \mu + t_i + e_{ij}$$

Where,  $Y_{ij}$  = Observation of  $j^{\text{th}}$  respondent to  $i^{\text{th}}$  alternative

$\mu$  = Overall mean

$t_i$  = Effect of  $i^{\text{th}}$  alternative

$e_{ij}$  = Residual, distributed with mean "0" and variance "1"

### **Results and discussion**

The final validation on different alternatives used for wound treatment in backyard poultry was carried out based on following alternatives:

EVM1 : *Aloe vera* and turmeric application over the wound

EVM2 : Turmeric and neem oil applied over the wound.

MVD : Modern Veterinary Drug

From table 1, MVD (8.20) was more effective in curing wound and in the speed of healing than the EVM2 (7.48) and EVM1 (7.33). As far as low cost/ no cost was concerned, EVM2 (8.10) was top rated followed by EVM1 (7.95) and MVD (4.65). EVM1 i.e. *Aloe vera* and turmeric application and EVM 2 i.e. Turmeric and neem oil application was perceived more easy to use than MVD. A single medicine may have the four key activities that allied allow eliminating the infection, control the inflammation process and accelerating the healing process, preventing complications with chronic infections. Filardi *et al.*, (2017) used turmeric as a base for treatment of Rabbits, which is accordance with the usage of turmeric in both the EVM's of this study.

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**Table 1: Duncan's Multiple Range to find difference of means among different alternatives used for the treatment of wounds among backyard poultry (EVM1: *Aloe vera* and turmeric application over the wound; EVM2: Turmeric and neem oil applied over the wound.; MVD- Modern Veterinary Drug (N=40)**

S. No.	Parameters	Practices			F-Value	P-Value
		EVM1	EVM2	MVD		
1	Effectiveness	7.33 <sup>a</sup> (0.53)	7.48 <sup>a</sup> (1.04)	8.20 <sup>b</sup> (0.85)	12.628	<0.001**
2	Low cost/ no cost	8.10 <sup>b</sup> (0.81)	7.95 <sup>b</sup> (0.93)	4.65 <sup>a</sup> (1.78)	97.457	<0.001**
3	User friendly	7.48 <sup>b</sup> (1.34)	8.30 <sup>c</sup> (0.76)	2.80 <sup>a</sup> (0.99)	314.841	<0.001**
4	Quickness in healing	8.15 <sup>b</sup> (0.89)	8.10 <sup>b</sup> (0.93)	7.40 <sup>a</sup> (1.06)	7.598	<0.001**
5	Ever ready ingredients	8.25 <sup>b</sup> (0.71)	7.98 <sup>b</sup> (1.07)	2.28 <sup>a</sup> (0.85)	575.962	<0.001**

Note: 1. The values within bracket refers to SD  
2. \*\*- It is highly significant at 1 per cent level

With regard to quickness in healing, EVM1 with mean score of 8.15 was rated superior than

EVM2 and MVD. In terms of availability, both the EVMs were rated better than MVD. There was no significant difference between the ITKs ( $p < 0.005$ ). This might be due to the fact that MVD was not easily accessible, whereas, ingredients of EVMs were locally available and easily accessible to the farmers. Contrary to these Rahman et al., (2017) used *Thevetia peruviana* for wound healing.

Thus, EVM1 and EVM2 were found positive regarding cost, user friendly, quickness in healing and availability, whereas, MVD was favorably accepted by the traditional farmers as far as effectiveness is concerned. Due to its wide usage, EVM practices need to be investigated and documented. Similar results were documented by Moreki (2013).

## CONCLUSION

This study revealed that EVM 1 (*Aloe vera* and turmeric application) and EVM2 (Turmeric powder + neem oil) seemed to be the viable alternative for the treatment of wounds among backyard poultry than MVD. Though all the EVMs have been found valid and effective as per the observations made by the farmers, they need to be validated scientifically and experimentally along with the identification and isolation of active ingredient present in the material used. Such studies will provide scientific rationality for use of EVM practices in future.

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