The Haryana Veterinarian (June, 2023) **62(1),** 64-67 ISSN 0033-4359 (P) **Research Article**

INFORMATION SOURCE UTILIZATION BY VETERINARIANS WITH SPECIAL REFERENCE TO ICT TOOLS

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ABSTRACT

The acceptance of mobile application as an extension services delivery tool, by livestock service providers, is an important element for its wider application as it speaks of the willingness of the person to adopt it for accessing the information. Keeping these facts into consideration the current investigation was conducted to assess the information source utilization by the veterinary professionals. For the purpose, four states *viz*., Rajasthan, Gujarat, Odisha and Telangana were chosen purposively from four directions according to the accessibility and ease in communication. Three districts from each state were selected purposively according to the ease of access and linkages of the researcher. The respondents for the study were veterinarians (working in field condition) of the selected areas. A total of 30 veterinarians were selected from each state thus making a total sample size of 120. Data was collected through pre-tested questionnaires. The results revealed that Information and Communication Technologies (ICT) was found to be major source of information and phone calls were always preferred by the respondents (57.50%) followed by interpersonal contacts (53.33%). Only 25.83% of the respondents were occasionally accessing print media for information. Among ICT tools, after phone calls, WhatsApp was also preferred by the respondents to deliver information to animal owners. The major constraint faced by the veterinarians while using ICT was unavailability of veterinary related information through ICT with mean score (MS) of 64.32 followed by lack of update (MS= 62.63) and poor internet connectivity (MS=55.82).

Keywords: Mass media, ICT, Phone calls, Veterinarians and WhatsApp

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INTRODUCTION

Over the past 10 years, there has been a remarkable progress in the use of Information and Communication Technology (ICT) in Indian agriculture, especially in the areas of farmers' access to production, processing and market information. ICT based agricultural extension brings credible opportunities and has the potential of enabling the empowerment of farming communities (Saravanan, 2010). Mobile phones are the success story of bridging the rural digital divide, bringing the tangible economic benefits and acting as agents of social mobilization through improved communication. Smartphone have long run prospective to engage rural population more intensely in a mutual exchange of information (Bell *et al.*, 2016). Govt. of India has also started Digital India program as a result of which the overall tele-density increased to 84.88% and the rural tele-density increased to 58.16%. The total number of telephone connection has reached to 1167.82 Million from which 1142.66 million is wireless (TRAI, 2022). So, mobile phone is today's most likely access device for information dissemination and providing lot of hope to improve extension services. By using this technology extension have succeeded in reaching greater audience especially the remotely located and disadvantaged group of farmers (Rohila *et al.*, 2017). With immense development of the technology in the mobiles, the recent advancement was found to be the mobile applications. Livestock sector is sharing 4.11% to National GDP and 25.6% of total Agriculture GDP. Despite deceleration, growth in livestock sector remained about 1.5 times higher than in the crop sector which implies its critical role in cushioning agricultural growth (Kumawat, 2018). Efforts are being made in India for adoption and absorption of ICTs mainly for agriculture development leaving behind the livestock sector. ICT can help an average Indian farmer to get relevant information regarding livestock production management technologies, health care and treatment, market support, livestock finance etc. A veterinarian should be a multidimensional personality to furnish the dynamic needs of the society. Normally veterinary workers remain isolated from public information sources like library. Keeping these facts into consideration the current investigation was conducted to assessthe information source utilization by the veterinarians.

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MATERIALS AND METHODS

Keeping in view the objectives of the study, type of variables and the nature of the problem, an ex-post facto research design was used for investigation. For the purpose of the research four states of the country were chosen purposively from 4 directions according to the accessibility and ease in communication. These were Rajasthan, Gujarat, Odisha and Telangana. Three districts from each state were selected purposively on the basis of accessibility and linkages. From Gujarat, the selected districts were

Anand, Kutch and Banaskantha. From Rajasthan, Sikkar, Jaipur and Jhunjhunu were selected. The districts selected from Odisha were Balasore, Dhenkanal and Nabarangpur whereas from Telangana selected districts were Mahbubnagar, Warangal and Khammam. The respondents for the study were veterinarians (working in field condition) of the selected areas. A total of 30 veterinarians were selected from each state thus making a total sample of 120. Data was collected through pre-tested questionnaires. Information source utilization by the respondents was assessed under three sub viz., personal face to face contact, mass media and ICT tools. The responses were taken under 3-point continuum viz., always accessed (3), occasionally accessed (2) and never accessed (1). Statistical software SPSS v.26 was used to analyse the data.

Mean Rank Score for overall information source utilization was calculated by using the following formula:

$$MRS = \frac{\sum_{i=1}^{n} \text{Total Score}_i}{k}$$

Where k = total number of respondents

MRS: Mean Rank Score

For assessing the constraints faced by veterinarians, a schedule was developed consisting of 10 statements and the respondents were asked to rank them according to their perceived gravity from 1 to 10. Garrets ranking was used to analyse the data. The order of merit, assigned by the respondents was converted into ranks by using the following formula,

Percent position of each rank = $100 (R_{ij} - 0.05)/N_j$,

Where R_{ij} = Rank given for the i^{th} factors for the j^{th} respondent.

N_j = Number of factors ranked by the j^{th} respondent

The percentage position of each rank obtained was then converted into scores by referring to the table given by Garret. For each items, the scores of individual respondents were added together and divided by the total number of the respondents to calculate the mean score. These mean scores (MS) for all the factors were arranged in order of rank and inference was drawn. The percentage position and their corresponding Garret's table value are shown in table 1.

Table 1. Percentage position and their corresponding Garret Value

Rank	Percentage Position		Garret's Table Value
1	100 (1-0.5)/10	=5	82
2	100 (2-0.5)/10	=15	71
3	100 (3-0.5)/10	=25	64
4	100 (4-0.5)/10	=35	58
5	100 (5-0.5)/10	=45	53
6	100 (6-0.5)/10	=55	48
7	100 (7-0.5)/10	=65	43
8	100 (8-0.5)/10	=75	37
9	100 (9-0.5)/10	=85	30
10	100 (10-0.5)/10	=95	19

RESULTS AND DISCUSSION

Information source utilization by the respondents was analysed which includes personal contact, mass media and ICT and their sub heads. Mass media includes printed media, TV and radio whereas ICT include phone call, text messages, voice SMS, WhatsApp and email. Results given in table 2 revealed that phone calls were found to be the major source of information always accessed by the respondents (57.50%) followed by interpersonal contacts (53.33%). Only 25.83% of the respondents were occasionally accessing print media for information. Among ICT tools, after phone calls, WhatsApp was also preferred by the respondents to deliver information to animal owners but it was not very often used like phone calls with MRS of 1.53 (Table 4). Text and voice SMS were not used by any of the respondents. In case of mass media, print media was also being used to deliver information but the frequency of use was not up to the mark with MRS of 1.5 out of 3. Other mass media *viz*., TV and radio talk were never used by the respondents. This goes in line with Karimuribo *et al.* (2016) who surveyed that mobile phone is currently used to support livestock production by communicating on animal health and Tamizhkumaran and Radhakrishnan (2016) who studied in Puducherry and found that mobile phones are mostly used by livestock owners to contact with service providers. Similar results were reported by Singh *et al.* (2022) and Panda *et al.* (2021) who stated that among all the information sources ICT utilization by the farmers was found to be the highest for obtaining information.

Constraints perceived by Veterinarians in using ICT

The respondents were asked to rank the problems/constraints faced by them while using ICT. Results provided in table 5 revealed that the major constraint faced by the veterinarians while using ICT was unavailability of veterinary related information through ICT which accounted for mean score (MS) of 64.32 and ranked 1st followed by lack of update (MS 62.63), Poor internet connectivity (MS55.82), slow functioning of tools (MS 54.83) and ignorance (MS 47.38). Other minor constraints like lack of time, technical incompetency, high cost, lack of training and power failure had low rank which shows that respondents didn't feel problem in those

Table 2. State-wise distribution of respondents according to the pattern of information source utilization

	Frequency of contact	Interpersonal contact	Mass media			ICT tools				
			Print	TV talk	Radio talk	Phone Call	Text SMS	Voice SMS	WhatsApp	Email
Gujarat (n=30)	Always	16 (53.30)	0 (0.00)	0 (0.00)	0 (0.00)	19 (63.30)	0 (0.00)	0 (0.00)	6 (20.00)	0 (0.00)
	Sometimes	14 (46.70)	6 (20.00)	0 (0.00)	0 (0.00)	11 (36.70)	0 (0.00)	0 (0.00)	14 (46.7)	0 (0.00)
	Never	0 (0.00)	24 (80.00)	30 (100.00)	30 (100.00)	0 (0.00)	30 (100.00)	30 (100.00)	10 (33.30)	30 (100.00)
Rajasthan (n=30)	Always	14 (46.7)	0 (1.7)	0 (0.00)	0 (0.00)	15 (50.0)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
	Sometimes	16 (53.3)	12 (40.0)	0 (0.00)	0 (0.00)	12 (40.0)	0 (0.00)	0 (0.00)	12 (40.0)	0 (0.00)
	Never	0 (0.0)	18 (60.0)	30 (100.0)	30 (100.0)	3 (10.0)	30 (100.0)	30 (100.0)	18 (60.0)	30 (100.0)
Odisha (n=30)	Always	14 (46.70)	0 (0.00)	0 (0.00)	0 (0.00)	9 (30.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
	Sometimes	16 (53.30)	7 (23.30)	0 (0.00)	0 (0.00)	21 (70.00)	0 (0.00)	0 (0.00)	7 (23.30)	0 (0.00)
	Never	0 (0.00)	23 (76.70)	30 (100.0)	30 (100.0)	0 (0.00)	30 (100.0)	30 (100.0)	23 (76.70)	30 (100.0)
Telangana (n=30)	Always	20 (66.7)	6 (20.0)	0 (0.00)	0 (0.00)	26 (86.7)	0 (0.00)	0 (0.00)	6 (20.0)	0 (0.00)
	Sometimes	9 (30.0)	6 (20.0)	0 (0.00)	0 (0.00)	4 (13.3)	0 (0.00)	0 (0.00)	8 (26.7)	0 (0.00)
	Never	1 (3.3)	18 (60.0)	30 (100.00)	30 (100.00)	0 (0.00)	30 (100.00)	30 (100.00)	16 (53.3)	30 (100.00)
Pooled (N = 120)	Always	64 (53.33)	6 (5.00)	0 (0.00)	0 (0.00)	69 (57.50)	0 (0.00)	0 (0.00)	12 (10.00)	0 (0.00)
	Sometimes	55 (45.83)	31 (25.83)	0 (0.00)	0 (0.00)	48 (40.00)	0 (0.00)	0 (0.00)	41 (34.17)	0 (0.00)
	Never	1 (0.83)	83 (69.17)	120 (100.00)	120 (100.00)	3 (2.50)	120 (100.00)	120 (100.00)	67 (55.83)	120 (100.00)

(Figures in parentheses indicate percentage)

Table 3. Distribution of total number of respondents according to information source utilization

	Veterinarians (N = 120)								
Frequency of contact	Interpersonal contact	Mass media			ICT Tools				
		Print	TV talk	Radio talk	Phone Call	Text SMS	Voice SMS	WhatsApp	Email
Always	64 (53.33)	6 (5.00)	0 (0.00)	0 (0.00)	69 (57.50)	0 (0.00)	0 (0.00)	12 (10.00)	0 (0.00)
Sometimes	55 (45.83)	31 (25.83)	0 (0.00)	0 (0.00)	48 (40.00)	0 (0.00)	0 (0.00)	41 (34.17)	0 (0.00)
Never	1 (0.83)	83 (69.17)	120 (100.00)	120 (100.00)	3 (2.50)	120 (100.00)	120 (100.00)	67 (55.83)	120 (100.00)

(Figures in parentheses indicate percentage)

aspects (Table 4). The results were partially in line with Baig (2015) who reported that insufficient number of ICTs in veterinary dispensaries interrupted power supply, internet connectivity problems, lack of maintenance of computers were the major hindrances in use of ICTs. Teza (2016) also reported that constraints as perceived by the respondents in accepting the mobile apps as extension services delivery tool were cost, difficulty in access, internet facility, connectivity and difficulty in handling the new technology. Hence, imparting training, upgradation of ICTs, sufficient funding for ICTs, provision of proper infrastructure, better internet connectivity and availing sufficient number of ICTs would improve utilization of ICT (Sireesha *et al.*, 2014).

CONCLUSION

Majority of the vets were preferring phone calls and WhatsApp to access information. But non availability of veterinary related information through ICT was the major constraint followed by lack of update in ICT and erratic internet connectivity. Hence, new digital information sources need to be created with regular update of information so that information can be disseminated and

Table 4. Mean Rank Scores of information source utilization by the respondents

Score table	Interpersonal contact	Mass media			ICT tools				
		Print	TV talk	Radio talk	Phone Call	Text SMS	Voice SMS	WhatsApp	Email
Gujarat (n=30)	2.53	1.2	1	1	2.63	1	1	1.866	1
Rajasthan (n=30)	2.46	1.4	1	1	2.4	1	1	1.4	1
Odisha (n=30)	2.46	1	1	1	2.3	1	1	1.23	1
Telangana (n=30)	2.63	2.4	1	1	2.86	1	1	1.66	1
Pooled (N=120)	2.52	1.5	1	1	2.54	1	1	1.53	1

Table 5. Mean scores and Ranking of the Constraints perceived by Veterinarians in use of ICT tools

S. No.	Constraints	Odisha (n=30)		Gujarat (n=30)		Rajasthan (n=30)		Telangana (n=30)		Total (N=120)	
		Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
1.	Technical incompetency	40.57	VIII	47.77	VI	43.87	VIII	52.17	V	46.3	VII
2.	Lack of training	40.40	IX	45.30	VII	43.53	IX	45.67	VII	43.19	IX
3.	Ignorance	53.50	III	44.20	VIII	54.37	III	48.60	VI	47.38	V
4.	Poor internet connectivity	52.87	IV	68.00	I	70.23	I	52.53	IV	55.82	III
5.	Unavailability of veterinary related information through ICT	72.57	I	60.43	II	54.50	II	64.30	I	64.32	I
6.	Slow functioning of tools	51.60	V	49.63	V	51.70	V	58.13	II	54.83	IV
7.	Lack of update	60.80	II	51.63	IV	53.907	IV	57.73	III	62.63	II
8.	High cost	39.23	X	41.37	IX	45.70	VII	45.07	VIII	46.27	VIII
9.	Power failure	45.67	VII	40.40	X	41.130	X	40.57	X	37.85	X
10.	Time constraint	47.80	VI	56.27	III	46.00	VI	40.23	IX	46.42	VI

accessed in a faster and efficient way. Additionaly sufficient funding for ICTs and provision proper infrastructure is prerequisite.

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