



Role of Veterinary Extension Advisory and Tele health Services during COVID - 19 Pandemic Period

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ABSTRACT

Advent in developments of communication technologies has benefited wide variety of sectors endlessly. These impacts have generously found towards veterinary health and extension advisory services also. Tele health service in veterinary sector has been existed even since before, but its prominence has been recognised during pandemic. A study was conducted about tele health and extension advisory services. The data were collected through semi structured interview schedule among randomly selected Senior Veterinary Surgeons and Project Coordinators from Department of Animal Husbandry, Kerala and analysed using descriptive statistics and rank order technique. The mean age and working experience of respondents were 52.23 and 26.73 years, respectively. Majority (70%) of respondents were male and possessed maximum educational qualification of B.V.Sc. & AH. Medicine cases (including emergencies), gynaecology & obstetrics and deworming & immunization were found to be most delivered among tele health services, followed by farm consultancy / advisory, Extension activities and livestock & products marketing were found to be next in its ranking. Majority of respondents had a less favourable followed by highly favourable attitude towards the extension advisory services during COVID-19 pandemic. Major constraints perceived to provide tele health services were, assessing animal health condition without physical examination and insufficient technical / network support for consultation. Most respondents opined that ensuring timely veterinary aid to animals along with tele health services, strengthening technical and network support and organising capacity building programme to overcome difficulties in providing tele health Services. The present finding depicted the importance of preparedness for future pandemic crises and also helps to develop strategies to improve the access to veterinary health and extension advisories.

Key Words: Animal, Extension, Health, Livestock, Tele health, Veterinary.

INTRODUCTION

Telehealth is an overarching term that encompasses all uses of technology to remotely gather and deliver health information, advice, education, and care. The AVMA classified the various functioning of telehealth into subcategories tele-advice, telemedicine, teleconsulting, telemonitoring, mHealth or mobile health, telecommunication, teletriage, telesupervision, e-VFD (e-Veterinary Feed Directive), and e-prescription (AVMA, 2021; Watson *et al*, 2019). Wearable biosensors are important application that benefits telehealth by providing the opportunity to improve animal healthcare services in a quality manner. Utilising these precise wearable sensor technologies along with tracking smartphone apps can monitor the health parameters efficiently; thereby it

provides faster and more accurate medical assistance in distant manner (Neethiraj, 2017; Watson *et al*, 2019).

The new risks that threaten livelihood of small farm holders has brought by COVID-19 pandemic (Alagukannan *et al*, 2020), by imposing restrictions which disrupted the supply chains and essential services (Neetha and Prema, 2020), it also created the most urgent platform for change that the veterinary profession has ever seen (Manketlow 2021). Telehealth had emerged as a crucial tool for protecting animals, their owners and veterinary professionals during the time of increased COVID 19 threat. These telehealth facilitates helped in halting the spread of COVID-19, by providing tele-consultation and also by providing physical consultation to selected animals which is essentially needed. The benefits of telehealth in human and veterinary practice are assumed to be similar. It includes; better service to their patients even in remote

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areas, improved access to specialists and their services, supporting isolated doctors, cost and time effective, overcoming shortages of veterinarians, delivering awareness, education and facilitating research (Mars and Auer 2006).

In comparison to the human health sector, veterinary and animal husbandry had the uniqueness of managing animal health, welfare and enterprise profitability goes hand in hand. Hence, telehealth and extension advisory services are functioning in an interlinked manner. The social responsibility of extension advisory services is preparing communities to deal with the shocks such as human, animal, or plant disease or pest outbreaks; and they are key partners in response as these shocks unfold; and in recovery, developing resilience in communities and food production systems after crises (Benjamin *et al*, 2020)

MATERIALS AND METHODS

The role of Veterinary Extension Advisory and Telehealth Services during the COVID-19 pandemic period was studied among 30 Senior Veterinary Surgeons and Project Coordinators from the Department of Animal Husbandry, Kerala. The semi-structured interview schedule was developed in consulting with subject matter specialists and available publications, which was pre-tested among the non-sampling study population. The data were collected by a researcher through direct interview from randomly selected 30 respondents. Constraints perceived and possible solutions to provide telehealth services were studied with a five-point continuum scale. Collected data were analysed using descriptive statistics and the rank order technique.

The attitude towards extension advisory services during COVID-19 was assessed among

respondents by adopting the unidimensional scale developed by Divya *et al* (2022) with suitable modifications. Individual attitude score was obtained by summing up the individual scores for each statement. Based on Dalenius-Hodges cumulative square root F (DH-CSR) method the respondents were classified into less favourable (36-44), favourable (45-50) and highly favourable (51-62) attitude that they possessed towards Veterinary Extension Advisory services.

RESULTS AND DISCUSSION

The socio-demographic characteristics of the participants were, among the total of 30 respondents, the majority of them were male (70.00%), average age of respondents were 52.23 years, while average working experience was 26.73 years. Majority (86.66%) of respondents have possessed education up to graduation level (B.VSc & AH) and 6.66 per cent each of respondent possessed M.VSc and PG Diploma.

Extension Advisory and Telehealth Services classification

Medicine cases (Including emergencies), gynaecology & obstetrics and deworming & immunization were found to be most delivered among telehealth services, followed by farm consultancy / advisory, extension activities (training/ demonstration/ field visits/ meetings) and livestock products marketing were the extension advisory services delivered by respondents. Similar findings were reported by Fazili *et al* (2022), mentioned that telehealth facility was significantly more availed by the animals with medical problems (67.66%) than those showing gynaecological ailments (18.25%).

Table 1. Classification of Veterinary Extension Advisory and Telehealth Services and its ranking

Sr. No	Service	Sum	Mean	SD	Ranking
1	Medicine Cases (Including emergencies)	118	3.93	1.142	1
2	Gynaecology and Obstetrics cases	117	3.90	1.184	2
3	Deworming and Immunization	105	3.50	0.973	3
4	Farm Consultancy / Advisory	92	3.07	1.201	4
5	Extension activities (Training/ Demonstration/ Field visits/Meetings)	91	3.03	1.159	5
6	Livestock Products Marketing	55	1.83	1.053	6

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An effort was made to study the attitude of field functionaries towards the specific aspects of extension advisory services. Attitude of the respondents was judged against 6 positive and 6 negative statements. The attitude scale and responses were mentioned in Table 2.

Table 2. Distribution of Respondents by their attitude towards the extension advisory services during COVID-19 (N=30).

Sr. No	Statement	SDA 6	DA 5	MDA4	MA 3	A 2	SA 1	MWS
1	Restricted movement of Veterinary Officers to meet farmers during COVID-19	0 (0.00)	5 (16.66)	7 (23.33)	2 (6.66)	11 (36.66)	5 (16.66)	2.86
2	Increased difficulty in disseminating information to farmers during COVID19	3 (10.00)	10 (33.33)	5 (16.66)	4 (13.33)	8 (26.66)	0 (0.00)	3.86
3	Conducting online training for farmers during COVID19 was difficult	6 (20.00)	7 (23.33)	4 (13.33)	4 (13.33)	6 (20.00)	3 (10.00)	3.8
4	Continuous advisory services of extension officials/ veterinary surgeons were interrupted during COVID-19	2 (6.66)	10 (33.33)	7 (23.33)	3 (10.00)	5 (16.66)	3 (10.00)	3.73
5	Increased difficulty in enrolling farmers in new animal husbandry schemes / projects / programmes during COVID-19	4 (13.33)	9 (30.00)	8 (26.66)	5 (16.66)	4 (13.33)	0 (0.00)	4.13
6	COVID-19 reduces extension officials' role in livestock farmers' decision making	3 (10.00)	10 (33.33)	6 (20.00)	6 (20.00)	3 (10.00)	2 (6.66)	3.93
Sr. No	Statements	SDA 1	DA 2	MDA3	MA 4	A 5	SA 6	MWS
7	Extension advisories act as emergency responses to adapt to the economic shocks of COVID19	0 (0.00)	1 (3.33)	1 (3.33)	5 (16.66)	21 (70.00)	2 (6.66)	4.4
8	Social media is the most preferred means of	0 (0.00)	0 (0.00)	0 (0.00)	8 (26.66)	16 (53.33)	6 (20.00)	4.93

*The figures in the parenthesis indicate percentages.

SDA: Strongly Disagree; DA: Disagree; MDA: Mildly Disagree; MA: Mildly Agree; A: Agree; and SA: Strongly Agree

Overall attitude towards extension advisory services during COVID-19

It was noted that more than one third of the respondents (40.00%) had a less favourable attitude towards the extension advisory services during the COVID-19 pandemic. It was found that 33.33 per cent of respondents had a highly favourable attitude whereas, only 26.66 per cent of them had favourable attitude towards the services.

Constraints perceived to provide Telehealth Services

Study on constraints to deliver Telehealth Services revealed that assessing animal health conditions without physical examination, insufficient

technical / network support for consultation and difficulty in treating without the physical presence of animals through Telehealth were perceived to be major constraints in its rank order. Moharana and Gupta (2022) supported the above findings and mentioned that hectic schedules of providing online services created occupational job stress.

Lack of farmer's technical knowledge to explain animal clinical signs, unavailability of emergency medicines during the critical hour of treatment, Telehealth can encourage quack practice in the animal husbandry sector and lack of time to provide Telehealth consultancy were the other constraints perceived in that order.

Table 3. Major constraints perceived and it's ranking to provide Telehealth Services.

Sr. No	Statement	Sum	SD	Ranking
1	Assessing animal health condition requires a physical examination	86	0.434	1
2	Insufficient Technical/network support for consultation	83	0.568	2
3	Difficulty in treating without the physical presence of animal through Telehealth	83	0.568	2
4	Lack of farmer's technical knowledge to explain animal clinical signs	80	0.711	4
5	Unavailability of emergency medicines during the critical hour of treatment	78	0.723	5
6	Telehealth can encourage quack practice in animal husbandry sector	70	0.884	6
7	Lack of time to provide Telehealth consultancy	69	0.952	7

Suggestions to overcome the constraints of providing Telehealth Services

Considering the suggestions for the above studied constraints, timely veterinary aid to animals along with telehealth services, strengthening technical and network support, organising capacity building programme, with helpline services establishing a separate wing for telehealth consultancy and implementing strict vigilance on quackery were the suggestions in rank order, mentioned by respondents to overcome difficulties in providing telehealth Services. Bonnie *et al* (2021) reported that to answer the challenges of network and internet services in

extension services, there is a need to develop the infrastructure base; this will help speed up the digitalization of the agricultural sector of developing countries. In supporting the present finding of timely veterinary aid to animals along with Telehealth services, Kastelic and Ogilvie (2021) reported that "Telemedicine complements the delivery of in-clinic or on-site veterinary medicine in order to expand a veterinarian's ability to provide care to animals".

Present findings of establishing telehealth and regulation of services with the vigilance of quackery were supported by Briceno (2021), who reported that in most countries telemedicine has not been regulated,

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however, laws will be created in the near future. Similarly, Smith *et al* (2022) proposed the critical need of curricula around veterinary telemedicine, financially resilient business models, understanding health disparities & vulnerable populations and future preparedness for health, economic or other crises response during the pandemic

CONCLUSION

The medicine cases were found to be most delivered among telehealth services. Hence, as suggested by respondents while establishing a separate wing for telehealth services, the prime importance can be provided for the emergency medicine services, with a provision for accessibility to attend the emergency cases present during a pandemic period. Considering the attitude towards extension advisory services during the pandemic it was found to be less favourable among the majority of respondents, this might be due to the additional duty of telehealth consultancy with other routines. Hence, it had been suggested by respondents, establishing a separate wing for helpline services along with telehealth consultancy. Assessing animal health conditions without physical examination and insufficient technical support for consultation were major constraints for providing telehealth services. These can be effectively addressed with the utilization of wearable biosensors. Hence, provision of such précised sensor technology to remote areas and during pandemic periods will enable the telehealth to render its service in a quality manner.

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