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A STUDY ON THE LIVESTOCK CLINICAL AND INFORMATION BASED COMMUNICATION TECHNOLOGY PRESCRIPTION SERVICES IN BANGLADESH

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ABSTRACT

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A study was conducted on the Livestock Technical Services in Bangladesh covering rural areas with the objectives of increasing livestock productivity increasing diagnostic prescription system at the veterinary hospitals and clinics. It was attempted to know the veterinary treatment status in rural areas of Bangladesh, and to identify the dominant problems of the livestock treatment components, through direct technical field investigations. According to the results the essential parameter inclusions were in the range of 1-25%. The results showed a perfection level being only 17.4% as regards diagnostic components. It was observed that no standard clinical format and according IBCT training modular manual for prescription was developed and used. It is strongly suggested that immediate actions should be taken with IBCT for controlling field problems in the livestock sector. The veterinary health treatment status showed a poor status as regards technical treatment. The findings mentioned here showed that there were little legal bindings for giving a prescription mentioning approved medicine preparing clinical back-sheets containing health parameters. The training programs for veterinarians/technicians did not contained compulsory health parameters and the Veterinary Council Guidelines which should be included in a digital modular form on the basis of one standard prescription guideline.

Key words: *veterinary technical service, information based communication technology (IBCT), veterinary clinic*

INTRODUCTION

The major constraints to livestock production are the poor health status of the animal, disease incidence and lack of technical extension and clinical services in the rural Bangladesh. Livestock is an important part of the integrated farming systems in Bangladesh, but it is characterized by very low productivity. It may be mention that the veterinary technical activities covering surgery and medicine is administered by the Director (extension) DLS. Agriculture including livestock continues to be the largest of Bangladesh economy and is currently contributing 20.7% to the Gross Domestic Product (GDP), of which about one fourth of the value comes from the greater livestock sector (BAC 2008 and BBS-BEC 2011). Livestock is the most important sub-sector of agriculture with national GDP contribution of almost 6% when the by-products such as skin, cow dung and other industrial materials are included. The contribution of livestock is also a dominant focal point of the government in the export market of Bangladesh. It provides vital raw material for industry, serves a rural security for the landless poor, and also help mitigating crop failure or damage during draught or cyclone. At the national level, livestock sector employs about 22% of rural labor force which is still showing increasing specially in the southern rural areas of Bangladesh though it has become a serious concern of climate change affecting the livestock resources (Ali 2000). Seasonal outbreak of infectious diseases was reported to be the dominant limitation to cattle production in Bangladesh. There are several Field Disease Investigation Laboratories (FDIL) located in different parts of the country are not closely concerned with diagnoses and treatment of livestock diseases especially, during the naturally hazardous periods. It may be mentioned from the previous reports and integrated recommendations (Saadullah 1989 and MOA 2005) that the veterinary technical activities covering surgery and medicine is administered by the Director (Extension) Directorate of Livestock Services (DLS). In the context the present research program was conducted with the main objectives of enhancing livestock health services. It was intended particularly for dealing with increasing diagnostic and modern prescribing system at the veterinary professional level. The specific objectives of the study were to i. to know the clinical status ii. to identify the animal treatment prescription parameter requirement, and iii. to develop a Information Based Communication Technology (IBCT) extension training module guideline.

MATERIALS AND METHODS

The methods and materials used in the studies mainly included technical field investigation survey using a questionnaire guideline, direct interview based discussions on prescription and training methods, verifying laboratory facilities and skill of the service providers.

Questionnaire Guideline

Contained Characteristics of the site: District Upazila/site Nomenclature of the Office ...Head of Office...Status of the Clinic Lab Total no. of staff...

Characteristics of the patient animal: Species..... Age Complain... Problem identified...AI service

Technical elements of prescription: Patient animal health status records:

Temp-⁰F, Pulse/min Respiration/min, Skin/fur, Hair

Characteristics of: Stool--Urine- Blood---Saliva---Diagnosing the problem

Methodology used in the study broadly included symptomatic diagnostic clinical treatment studies and on-clinic studies with a questionnaire.

Methodological approach included

1. Clinical studies- Symptomatic
2. On-clinic studies with a questionnaire
3. Modulation of the prescription format

Population sampling: coverage: Livestock service department offices and agencies of 7 Districts.

Technical elements of prescription**Patient animal health status records:**

1. Temperature-----⁰F
2. Pulse rate -----per minute
3. Respiration rate.....per minute
4. Skin/fur-----Dry/sweating Loose/tight Clean/dirty Hair straight/normal
5. Characteristics of :
 - a. Stool-----
 - b. Urine-----
 - c. Blood-----
 - d. Saliva-----
 - e. Others.....
6. Diagnosis of the problem/complain

RESULTS AND DISCUSSION

The collected through the survey were tabulated and analyzed for getting the outputs as per objectives of the studies. The results are given here in different forms and described as per major topics.

Disease Diagnosis

It is the primary thing to make a patient and disease profile on the basis of which the treatment will be given. But it may be seen from the results (Table 1 and Fig. 1 and 2) that health records of the animal were very low, the grand mean being 43%. The mean performance level for complain detailing was about 50%. Only about 14% respondent told the existence of nominal clinics.

Table 1. Treatment documentation – cattle goat

	Comilla	Dhaka	Chittagong	Mean
Species patient	52	45	31	42.7
Age-- Yr	54	65	36	51.7
Complains- disease or parasite	58	62	29	49.7
Animal clinic	25	3	13	13.7
Diagnosis	51	74	49	58.0
Mean	48.0	49.8	31.6	43.1

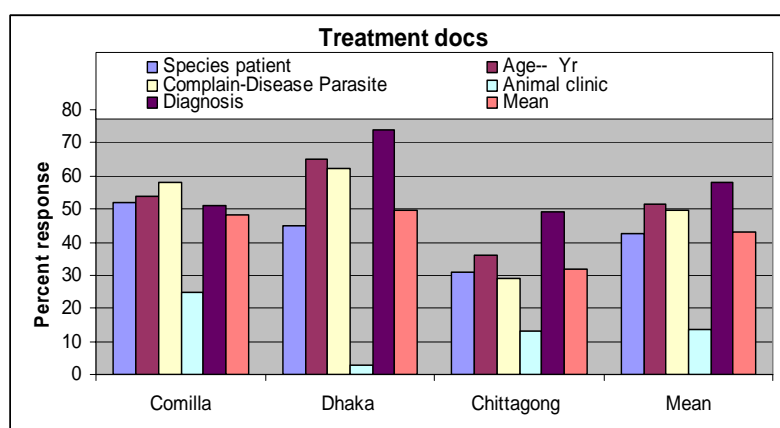


Fig. 1. Treatment documentation status as per parameters

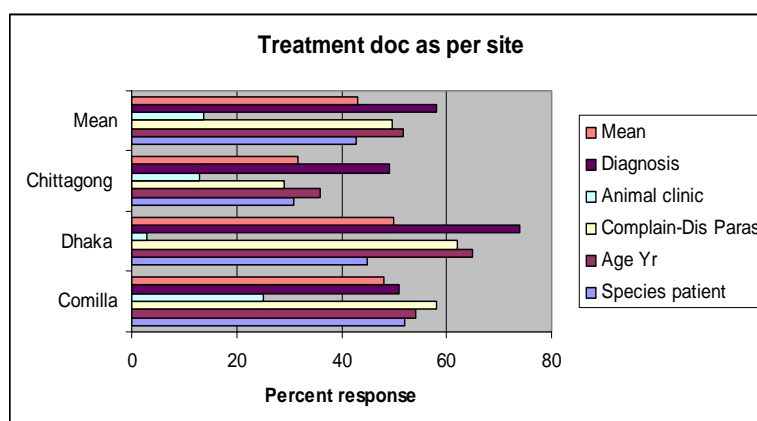


Fig. 2. Treatment documentation status as per parameters

Animal Health Records

General animal health parameter records as found in the studies are mentioned in the Table 2 and Fig. 3. The data collected and analyzed for cattle (cow and buffalo) and goat show that complains of the farmers were highest in case of disease responded by about 72% as number and 27% interviewed for 6 parameters, Followed by unidentified complain being 57% as number and 21% as percent of the 6 parameters. These types of documented though needed but not specifically and methodically still not reported by Government agencies as regards livestock administration and services (BBS 2008). The present findings will give at least a guideline for future research works which are needed for confirmation of such findings.

Table 2. Mean percent animal health records –Cattle goat

Complains	Percent response
Complain-Disease.	71.7
Complain-Injuri	32.8
Complain-Parasite	29.4
Complain-Unidentified	57.3
Wild animal bites	41.8
Others	34.6
Mean	51.4

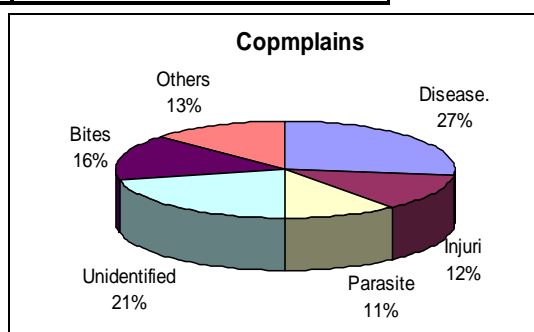


Fig. 3. Mean percent of documented health complain records

The results given in the Table 2 on the technical elements of diagnosis show that the documentation level is only 18.6% due to lack of clinical test of the internal body parameters. It was clearly indicated that treatment side was supposed to be sub-standard at the client level, which may be stated as great problem. Similar results were previously reported by many workers (Hossain 1996 and GOBUN 2005) but those works were done mainly on greater agriculture and farmer's livelihood. The current findings confirms the situation in a more technical and specific pattern.

Diagnosis of the problem/complain –Poultry hybrids and Pigeon

It was found (Table 3) positive that the rearing of hybrid poultry and various species of pigeon was increasing day by day. It is reflected in the fact that so many problems are reported to the Veterinary Hospital/Office as regards their disease and other physical problems (Rahman 2012). The present study on its health treatment showed a very poor situation as because the perfection level of the treatments were found to be only 31.74%.

Training module content: Day/week topics**Comparative etiology and symptomology**

1. Breeds Physiology and Productivity
2. Livestock, Fish and Environmental Legislations
3. Farm Clinic establishment
4. Practical laboratory skills-Instrumentation and ICT
5. Genetic modification of animal and AI
6. Animal Health Administration

Technical elements of Training -Poultry hybrids and Pigeon

Table 3. Training skill elements for poultry and suitability of training methods

Topics	Classroom	Distant/ open	Clinic based	Multimedia mm IBCT	Clinic + mm IBCT
Breed Physiology and Productivity	29	36	46	56	77
Livestock, Fish and Environ Legislations	19	23	31	40	42
Farm Clinic Establishment	10	18	68	43	62
Practical Lab Skills-Instrument and IBCT	7	8	62	69	82
Genetic Modification of Animal and AI	12	13	42	49	57
Animal Health Administration	20	27	34	29	36

The analyzed data on the technical skill elements show that breed physiology and productivity scored about 49% as highest through practical lab skills-instrument and IBCT method of training using clinic + multimedia BCT methods. Only the fur conditions were noticed and responded by highest clients. It may be stated from the findings on diagnosis of the problem and the clinical elements that no standard format for prescription are not followed in the service which makes it very flexible and popular oriented. It requires immediate improvement for controlling field problems in the livestock sector. The present study on its health treatment showed a very poor situation as because the perfection level of the treatments were found to be at the unsatisfactory level.

Training module content: Day/week Topics on Comparative etiology and symptomology

1. Breed Physiology and Productivity
2. Livestock, Fish and Environmental Legislations
3. Farm Clinic establishment
4. Practical laboratory skills-Instrumentation and ICT
5. Genetic modification of animal and AI
6. Animal Health Administration

The findings mentioned here showed that there were no legal bindings for giving a prescription mentioning approved medicine preparing clinical back-sheets containing health status and systems. The training programs for veterinarians or veterinary technicians do not essentially include the compulsory health parameter points as done by medical council guidelines though it was mentioned in the registration process. In the context of the present findings the following recommendations may be made which will improve the existing critical situation of Livestock Veterinary Service. For making a careful diagnosis and evaluation of the conditions for which the drug is to be used should be worked out and should be incorporated in the IBCT training manuals and thus in the prescription format. Every veterinary doctor should have laboratory attachment or a mobile reliable rapid test kit specially in the rural areas for problem analysis. There should be a standard prescription format to be legally followed by the veterinary graduates uniformly over the country. The training programs of Veterinarians and technical hands preferably should include the legal aspects of livestock services related Acts and by-laws. Mini laboratories should be developed for disease diagnosis providing a post of pathologists in veterinary hospitals. Any draft content of training module was prepared and mentioned here with.

Prescription Format Backsheet

No	Medicine	Specification	Dose	Total course	Frequency	Side effects and precautions
1	Medicine					
2	Antibiotic					
3	Vitamin					
4	Hormone					
5	Preventives					
6	Feed					
7	Sanitation					
8	Others					

CONCLUSION

In the context of the present findings the following conclusions may be made which will improve the existing critical situation of Department of Livestock Service. To make a careful Diagnosis and evaluation of the conditions for which the drug is to be used should be done very carefully and scientifically. Every veterinary Doctor must have laboratory attachments or a mobile treatment kit specially for the rural areas for problem analysis. There should be a standard prescription format and skill development IBCT Training Manual to be followed by the respective graduates uniformly over the country. The training programs of professionals and technical hands should include the legal aspects of Livestock related by-laws in a modular form. The multimedia materials developed on animal rearing and tested in this research with significant success should be utilized in the concept of IBCT by the service providers.

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