



**CREATION OF PUBLIC AWARENESS ON HAEMORRHAGIC SEPTICAEMIA IN BOVINE, IN AND AROUND JIMMA AREAS, SOUTH WESTERN PART OF ETHIOPIA**

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**Abstract:** A cross sectional study was conducted from September 21, 2014 to August 6, 2015 in Oromia region of Jimma Zone to assess the knowledge gap and Community sensitization on Bovine Haemorrhagic Septicemia with the aim to create public awareness. This disease is a common cause for death of livestock, and loss of livestock a product throughout the world and it is an endemic disease in countries like Ethiopia, in and around Jima areas in particular. Early treatment improves outcome; however, treatment may be delayed if the owner of the patient animal does not present his animal for medical care until late in the disease process. Lack of knowledge about the syndrome may contribute to delay in presenting for medical care. About 72% of interviewees had never heard of the term "gororsaaloonii (local name of Haemorrhagic Septicemia)". However, we need to minimize the risk and complexity of the disease. General awareness of the disease by the public may increase the perception and attitudes of the community to act against the disease. Increased public awareness of acute Haemorrhagic septicaemia can contribute to reduced mortality rate of the livestock. This example provides a rationale for future efforts to increase the public awareness of Haemorrhagic septicaemia. As there is no previous Extension efforts have focused on imparting knowledge to change environmental behaviors practiced, awareness and intrinsic motivation to protect the environment and keep animals in good hygienic conditions play a stronger role in adopting behaviors to prevent the spread of the disease.

**Key Words:** Hemorrhagic Septicemia, Public Awareness, Bovine, In and Around Jimma Areas

**Introduction:** Haemorrhagic septicaemia is a fatal widely distributed livestock disease and

endemic in most countries of Asia and Sub-Saharan Africa. This is also a serious problem in our country Ethiopia in general, in and around Jimma areas in particular. Domesticated species play an important role in supporting human populations and in generating income and economic activity<sup>[5]</sup>. Large areas of natural grassland could be exploited better to support the increasing demand for live stock products

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Received on: February 2016

Accepted after revision: March 2016

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too and opportunities for their increased contribution to market economies were understood and overcome. Animal diseases, particularly those caused by infectious agents, are major constraints to production in these areas and Haemorrhagic septicaemia (HS) is arguably the most important of these [6,8]. Hemorrhagic septicemia is a particular form of pasteurellosis caused by *Pasteurella (P) multocida* and manifested by an acute and highly fatal septicemia mainly in susceptible cattle and water buffaloes. The two common serotypes of *Pasteurella multocida* associated with disease in these species are types B: 2 and E: 2. Besides type B: 2, several other B serotypes have been incriminated in sporadic outbreaks of disease particularly in feral ruminants [6,4,7].

Infection occurs by inhalation or ingestion of *P. multocida* bacteria. Higher incidence of HS is associated with moist, humid conditions, high buffalo population density, and extensive free grazing system of management, where large herds graze freely in common pastures and are padlocked together at night. There is as yet no authenticated report of human infections due to serotypes B: 2 and E: 2. However, because other serotypes of *P. multocida* can cause a variety of human infections, precautions should be taken to minimize exposure to the hemorrhagic septicemia varieties of *P. multocida*. The losses in endemic areas may be of an insidious nature which may escape the notice of the animal health authorities but may be of considerable economic significance [2]. Once clinical signs appear, case fatality is nearly 100%. Variable numbers of immune carriers are present in animal populations, particularly in endemic areas. They may be latent carriers, where the organisms are lodged in the tonsils, or active carriers, where organisms are detectable in the nasopharynx [3].

Although Haemorrhagic septicemia of bovine is a well-known constraint to live stock production in Ethiopia, a little attention has been paid to the Haemorrhagic septicemia situation. Never the less, live stock are backbone of the rural economy in this region where diverse species of animals including of cattle, sheep and goat

population is found. In organized farms, however, early detection and effective treatment are achieved through regular checking of rectal temperatures of in-contact animals. Usually chemotherapy resorts to either streptomycin or oxytetracycline administered by intramuscular route at fairly high dosage. Penicillin and Ampicillin are also widely used. Antibiotic resistance of *P. Multocida* may occur and it has been reported at least vis-à-vis streptomycin and sulfonamides [3].

Vaccination is a major control measure in the face of a new epidemic. Various vaccine types have been developed among which the broth bacterin, the oil adjuvant vaccine, the double emulsion vaccine and a live vaccine [11]. Sanitary measures include early detection and isolation of new cases and their immediate treatment with antibiotics, deep burial of carcasses or incineration, and the prevention of movements of animals to disease free areas. Vaccination on a routine prophylactic basis preferably two to three months before the high-risk season. Awareness of the disease among farmers backed up by a good disease reporting/disease information system. Segregation of animals from endemic and non endemic areas to avoid contact with carriers. It has been said above that HS was an endemic disease unlikely to spread in a way such as it easily crosses borders. However, import of animals from an area of unknown status pasteurellosis to a free area should comply with some practical procedures which should take into account the high percentage of carriers that occur in endemic areas than was earlier believed, and the persistence of the carrier status for long periods [3]. Therefore, the findings of this survey would be helpful to chalk out the strategy for precise control and surveillance of the disease.

#### **Objective:**

1. Assessment of knowledge gap on Hemorrhagic septicemia in and around Jimma area.
2. Community sensitization on Hemorrhagic septicemia in and around Jimma area.

#### **Methodology**

**Study Areas:** The study was conducted in Oromia region of Jimma Zone, situated 346

kilometers south west of Addis Ababa, which is the capital city of Ethiopia and center for the country. These areas include Omonada, Seka Cokorsa, Tiro Afeta and Gomma. The elevation of these areas ranges from 1740 to 2660 meters above sea levels. The climate in the study areas can be divided in to three distinct seasons. A short rainy season (between late February and early May); a longer more reliable rainy season (from June to September) and dry season (from October to May).

**Study Design and Sampling method:** A Questionare based cross sectional study was conducted to assess the knowledge gap and Community sensitization on Bovine Haemorrhagic Septicemia in and around Jimma from September-21-2014 to August-6-2015. About 48 cattle owners was selected rondamly from each clinics and market places and 384 Cattle Owners from clinics and market places was interviewed.

**Study Methodology**

**Assesmentof Knowledge Gap (kap) on HaemorrhagicSepticaemia In and Around Jimma Area.:** A designed questinarewith 20 questions was prepared and adminestered by investigaters. About 48 cattle owners was selected rondamly from each clinics and market places and totally 384 Cattle Owners vising clinics and market places was interviewed to assess the knowledge gap.

The animal owners wasadvised to avoid Overcroding during housing, grazing and watering of the animals.Once the clinical signs/syndrom/is observed on his animals,ownerswasadvised in order to take his

**T-Test**

**One-Sample Test**

	Test Value = 0					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
<b>ASO</b>	105.163	3	.000	96.00000	93.0948	98.9052
<b>KG</b>	34.822	3	.000	83.50000	75.8688	91.1312
<b>AWO</b>	105.163	3	.000	96.00000	93.0948	98.9052

**ASO:** Assessed owners,**KG-** Knowledge gap,**AWO-** Awared Owners

animal to the veterinary clinic and get treatment on time to safe life of his animal.An advice was given to animal owners in order to Isolate and treat of the infected animals and giving a sufficient amount feed, preventing from contaminated feed and water.

**Community sensitization on Hemorrhagic septicaemia in and around Jimma area.**

One clinic were selected from each study areas and 48 cattlle owners was selected from each study areas.About 192 cattle owners weretrainedusing leaflets,picturesshowin the clinical signs,the pre disposing factors, and the importance of vaccinations. Moreover, as this disease is potential to infect people, owners were sensitized and awared appropriate precaions like prevent themselves from direct contact of the suspected cases of hemorrhagic septicemia.

**Data Management and Analysis:** The data Collected during the research period was entered and stored in Ms Excel and analyzed using SPSS version 16.0software program to assess a knowledge gapand Creation of a Public Awareness on Haemorrhagic Septicemia of Bovine.

**Results:** In Homo Nada, Tiroafeta, Sekacokorsa and Gomma Districts, a mean of 72% of interviewees had never heard of the term "gororsaaloonii(local name of Haemorrhagic Septicemia)". In Omo Nada 13% of people knew the word gororsa. In TiroAfeta, Sekacokorsa, and Gomma15%, of people recognized the term gororsa, out of those 28% herd about gororsaloonii, 61% did not recognize that gororsa is a leading cause of death.

Haemorrhagic Septicemia awareness was measured using a single question asking respondents how much they had heard about the subject of this disease on a five-point scale (1="none at all", to 5="an extremely large amount"). Specifically respondents were asked the question, "how much have you heard, read, or seen about the disease." The measure had a mean of 1.82 and a standard deviation of 1.06, indicating that residents in and around jimma areas had a relatively low awareness of the issue of the disease at the time of the survey reported on in this article.

**Discussion:** The overall result suggests that the higher percentage of the community are not aware of the haemorrhagic septicemia situation in and around Jimma areas. Communication literature regarding the effects of framing suggests that information frames activate certain thoughts, which can direct absolutely the attention towards related ideas and away from alternative trains of thought<sup>[1]</sup>. Similar to this the community have no idea about basic problems of this disease in their locality and about mortality and their role in affecting the livestock situation. It is now high time that community based education and training should be introduced in the curriculum so that these young doctors can be utilized in order to achieve the targets set under millennium development goal. As the identity of Extension continues to develop and evolve, it is important to consider alternative approaches to the dissemination of scientific information. Our results indicate that various target audiences are likely to react differently to information from Extension professionals based on characteristics such as demographic variables, previous understanding or awareness of a topic, and the overall frame used to discuss the issue.

**Conclusion and Recommendations:** There is a poor public awareness about the existence of the disease known as Haemorrhagic Septicemia. Results of this questionnaire underscore the challenges in early management and treatment of infected patients at risk for developing pastuerollosis syndrome. Formal Communication regarding the effects of this disease suggests that information frames

activate certain thoughts, which can direct attention towards sensitization of the community and creating of awareness against haemorrhagic septicemia as this understanding can the benefit of the community, to keep animals against or minimize the risk of this disease<sup>[1]</sup>. Considering this body of research, the finding that community sensitizations and motivations may outweigh basic knowledge levels in regards to positive behavior change provides useful insight for Extension professionals focused on live stock. Generally public awareness should be given continuously to minimize the existence of the disease known as Haemorrhagic Septicemia.

- ❖ Based on the above conclusion the following recommendations are forwarded:
  - ✓ The animal owners should clearly understand the season in which haemorrhagic septicemia occurs, to minimize the exposure of their animals to this disease.
  - ✓ Should know the clinical symptoms and take to the nearest veterinary clinic as soon as they seen this sign.
  - ✓ Vaccinate their animals twice a years with range of 6 months from the previous vaccination time.
  - ✓ Keep their animals in hygienic conditions, avoid feeding of dirty materials, and watering turbid water.
  - ✓ The community should aware the advantage of vaccinating the young animals, for protections of their animals.
  - ✓ The community should know how to handle the animals suspected of haemorrhagic septicemia to avoid transimmission with in the herd.
  - ✓ Segregation of animals from endemic and no endemic areas to avoid contact with carriers.

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## Annexes

Questionnaire format for the assessment of knowledge, attitude and practice of the community.

Region -----

Zone-----

Woreda-----

Kebele-----

Sex-----

Age-----

1. Religion  
A. Muslim B. orthodox C. protestant D. other
2. Marital status  
A. Single B. married C. divorced D. widowed
3. Educational status  
A.1-4 B.5-8 C.9-10 d.11-12 E. Certificate F. Diploma
- G. Degree H. Other
4. Occupation  
A. farmer B. merchant C. government employed D. fishing E. Other
5. Which and how many of the following species of animals do you have?  
A. Cattle Number-----  
B. Sheep Number-----  
C. Goat Number-----  
D. Equine Nuber-----  
E. Other ----- Nuber-----
6. How do you keep your animals?  
A. Only in door (intensive)  
B. Only outdoor (extensive)  
C. Mixed (semi-intensive)
7. What is the source of water for your animals?  
A. without washing raw B. partially washing C. Thoroughly washing  
E. if other specifyit \_\_\_\_\_.
8. Do, your animals feed silage and haye with other animals?  
A. yes B. no
9. If yes how many times it feed?  
A. Daily B. Once A Week C. Twice A Week D. Once A Month E. Twice A Month F. If other specify it
10. Is there any disease which can be transmitted by ingestion or inhalation, either during direct contact or via fomites, feed and water?  
A. Yes B. No
11. Does the community aware the responsible factor for the spread of the season in these areas?
12. In which season does the disease commonly occur in these areas?
13. Does the community know the common ways of transmission of hemorrhagic septicemia in cattle in these areas?
14. What is the common feeding and watering system practiced in these areas?
15. What is the common livestock live stock production system in these areas?
16. Does the community aware how many times do cattle need to be vaccinated against hemorrhagic septicemia per year?
17. Does the community know the age groups that are mostly susceptible to this disease?
18. What are morbidity and mortality rates of the disease in these areas?
19. Does the community know the importance of giving vaccination to young animals?
20. Does the community aware the precautions during handling the animal suspected hemorrhagic septicemia?