Importance of Biostatic in Veterinary Medicine and Animal Science

Rahul Nisanka*

Department of Bachelor's in Veterinary Science and Animal Husbandry, Madras Veterinary College, Chennai, India

*Corresponding Author: Rahul Nisanka, Department of Bachelor's in Veterinary Science and Animal Husbandry, Madras Veterinary College, Chennai, India.

Abstract

Biostatic is one of the underrated areas in this field, it has greatly increased the efficiency and credibility of various research and experiment processes that are carried out. Much more importance should be given in this area so as to come to a conclusion of any research quickly with high efficiency. It will greatly help to improve the animal sector of a country. Government is also helping greatly to this biostatic.

Abbreviations

EBVM: Evidence Based Veterinary Medicine; SEM: Standard Error Mean

Introduction

The static has played a vital and significant role in the field of Veterinary Medicine and Animal Science. Ithad a great impact in this profession. So before going deep into the topic, first let us know what statisticsis. It is the study of knowledge processing, examination, presentation and interpretation of data.

Initially during the introduction of statistics it was used by the government to analyze the census data as well as for some economics activities. But at present it is applied in various fields of theoretical as well as practical areas, and Veterinary Medicine is also one of such areas.

Statistics plays a central role for its application in the Veterinary Profession. The 2 main purposes for which statistics is used are

- To classify the individual data into a particular group.

- Calculate the compiled data from the collected sample and to get some potential expected value. Apart from this statistical data has played a significant role in research and analysis in Veterinary Medicine and Animal Science. So we will discuss each and every aspect detaily.

What is Veterinary Medicine and Animal Science?

Veterinary medicine deals with animal treatment associated with its illness,deficiency, injury prevention, control, diagnosis and its care. This was all about the clinical aspect. Apart from clinical aspects it also includes rearing of domesticated animals, breeding, nutrient analysis as well as various products developed from it. So in short we can say it is a wide field having immense scope. It includes domestic animals as well as wild animals of different species and breed [1].

Not only for animals but Veterinary Science is also responsible for promoting human health by detecting zoonotics diseases and its control. Also they are responsible for food protection as well as medical research. The main job of veterinarians is to diagnose, treat, and keep the animals healthy and safe.

Apart from this they also deal with farm animals management and manufacturing of their product. This is known as Animal Husbandry. The animals which generally come under this are livestock animals like Cattle, Buffalo, Sheep, Goat, Poultry, Pigs and Horses. Thus veterinarians also get farm experience.

We had already discussed veterinary medicine which also provides a scientific approach to safeguarding human health. The approach of veterinary medicine towards human medicine is done through Evidence

Based Veterinary Medicine (EBVM). In this not only clinical knowledge is applied but as well as scientific evidence based on research is also applied.

Thus from above in all purposes we require certain datas to analyze for the research purpose so that we can come to a conclusion, and for analysis of this data, biostatistics comes to the frame. To analyze the data veterinarian must know how to collect data, from which sources, its authenticity as well as its compilation. For this he should have a basic understanding of statistical analysis concepts and techniques. There has been great demand from growing consulting services in the animal industry so that they can maximize livestock productivity for monitoring the health of animals and as well as its maintenance.

Apart from above all they also help to sustain the supply of food by monitoring and caring for animal health and mental health by keeping their pets safe. Apart from this veterinarians are just like a connecting link between health officials, epidemiologists, natural scientists, etc.

Important aspects of biostatistics in veterinary medicine and animal science

- Helps in statistical analysis of evidence-based data of various diseases and disorders in animals, thus helping in tracking and interferencing populations.
- Also facilitates the testing of samples as well diagnosis of diseases thus helping greatly in healthmonitoring. It also has accuracy of sample testing and diagnosis, thus increasing the accuracy of treatment.
- Also statistical data help us to educate and provide information to various groups andorganizations concerned with animal health as well as to the common public.

- Also they help us to remove bias and help us to improve the analysis thus leading to a firmconclusion.

How we can use statistics in veterinary medicine and animal science development

To apply the statistics in this field we should have knowledge related to various techniques and tools that are used. They should be aware about t-test or a p-value. They should know how to group the data and arrange in a specific order so that the results can be analyzed. If all that care is not taken then bias will arise.

In many journals and thesis,various data are present in statoistal form and veterinarians should be able to analyze it. He should have knowledge about basic terms. Like if you open any journal then you will be seeing some reference like ± Have u ever wondered what it is, what that even means. Here SEM means Standard Error of the Mean). Apart from this we should also know other statistical significance tools like P-values, t-tests, Chi-squared analysis, variance analysis, multiple regression analysis [2].

If we know this then we can see the data, summarize it and come to a conclusion through our own finding and analysis.

Veterinarians should be able to see the chart/graph/diagram and come to a conclusion regarding thediseases by framing some ratios, percentage and their conversion.

What are the problems that actually a veterinarian face?

Most veterinarians are unaware of necessary statistical tools and procedures. Since most of them didn'tbelong to a mathematical background, they find it difficult to interpret data. Also they get very little or no chance of practical exposure and training. Also some are hesitant to learn it because they feel they don'tneed it. But already we have seen the importance of statistical analysis in this field [3].

How can this problem be solved?

Biostatistic should be included in the syllabus of course. Apart from this more importance should be givenon training. Practical classes should be conducted to learn the skill of statistics. At last veterinarians should also develop their keen interest in biostatistics.

Conclusion

Now the world is vastly changing, and in every sector technology plays a huge role. So, with time we should also adapt to the changes and get acquainted with new technology. Otherwise, it will be difficult to sustain. Already above it is mentioned how important the statistics is as well as what are the problems weare facing. Thus we should work upon the problem so that a better animal health care facility is developed.

Bibliography

1. Animal Science. The Univeisity of Reading.

2. MA Soito., *et al*. "Looking back, looking foiwaid". Pioceedings of the Tenth Inteinational Confeience on Teaching Statistics, Kyoto, Japan. Vooibuig, The Netheilands: Inteinational Statistical Institute (2018).

3. Sweeney DJ., *et al*. "Statistics-Expeiimental design (2019).