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Veterinarians: Guardians of Food Safety and Public Health

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Abstract:

Veterinarians play a vital role not only in animal healthcare but also in safeguarding food safety and public health. Their contributions extend beyond clinical treatment of animals to disease surveillance, food inspection, zoonotic disease prevention, epidemiology, and public health management under the One Health approach. Veterinarians act as frontline defenders against outbreaks such as avian influenza, swine fever, rabies, and Nipah virus by implementing preventive measures, vaccination programs, biosecurity practices, and early disease diagnosis. They also ensure the safety and quality of food products through ante-mortem and post-mortem inspections in slaughterhouses and food processing units. By monitoring hygiene, sanitation, and disease transmission pathways, veterinarians help prevent foodborne illnesses and protect both animal and human populations. Despite their crucial role in maintaining global health security and food safety, their efforts often remain underrecognized. This article highlights the multifaceted responsibilities of veterinarians and emphasizes their indispensable contribution as guardians of food safety and protectors of public health.

Keywords: One health approach, zoonotic diseases, epidemiology, biosecurity practices etc

The picture of veterinarians in the mind of common man is the person wearing white coat, stethoscope treating the ailments of our furry friends or feathered ones. Beyond this they play a number of roles that bridges the gap between animal health, human health as well as environmental health – one health approach. They stand shoulder with medical doctors in safeguarding the health of humans. They make sure the food in our table is fit for consumption to break chains of the spread of various pathogenic organisms.

They are not just doctors for cows or pigs, they are extension workers, pathologists, scientists, epidemiologist, food inspectors and many more roles to act upon. They educate a young farmer in measures of animal management, proper milking hygiene to steps to be considered in preventing mastitis.

They inspect blood smears, microscopic slides, perform post mortems, which can detect diseases early and take necessary steps to prevent from serious threats to both animal and human health. They investigate on evidences and trace back the sources and points of contamination and prevent potential health hazard. The role they play during epidemics like Nipah viral outbreaks, swine fever, avian influenza makes them frontline warriors in their prevention. The ante mortem and post mortem inspections and decisions they take are also crucial steps in the prevention of many deadly diseases. They not only ensure the animal health, safety and welfares but also ensures that of humans too.

Proper sanitation, clean drinking water, biosecurity measures, vaccination early disease diagnosis techniques all contributes to the prevention of disease outbreaks and protect health of mankind. They are the unsung heroes who works hard with full dedication to safeguard the world from potential life threats. Even a simple clinical mastitis can cause waste of gallons of milk, lead to anti-microbial resistance and economical loss for farmer. The intervention of a veterinarians is much needed from farm barns to our dining table. They are the guardians our life and draw the line between pathogens and food chains.

Slaughter house and processing plants play a crucial role in healthy food systems. The main duties they play here as food inspector. They monitor and protect public health through ante mortem and post mortem examinations. They also act as food scientist, collect samples and ensures the quality and safety of food we eat. They spot slight discolouration in visceral organs, muscles to abscess in lungs etc. and take decisions accordingly. Their decisions either to condemn the carcass or fit for consumption are the real game changer in the food safety concerns as it is bullet dodged for thousands of potential diners.

The meticulous work they do make them guardians of food chain and protectants of public health. Infections caused by salmonella, E. coli, or viral diseases like Nipah, influenza have traced back to findings related to food habits as disease origin. As prevention is said to be always better than cure. The dedication and efforts taken by veterinarians to detect the sources and measures to take it under control are priceless. The surveillance and efforts to safeguard the health of mankind often goes unnoticed.

Role of veterinarians as first line of defence in fighting zoonotic diseases are another area which cannot be replaced with any other professionals. Over 60 per cent of the diseases in humans are zoonotic which means transmitted to humans from animals. Rabies the disease which is having 100 per cent mortality, deadly disease in the globe, can be easily prevented with timely and proper vaccination. The act of vaccinating a young pup by veterinarian to public feels like just a routine procedure but in fact it is the primary step to prevent the deadly disease.

The battles, struggles and their journey towards safeguarding the wellbeing of mankind often goes unrecognised. Statistics usually show veterinarians have higher rate of suicides, depressions, and mental exhaustion due to the burdens of profession. As they are part of major stakeholders and decision makers community. They spent sleepless nights for controlling outbreaks during pandemics or epidemical

outbreaks. The work pressure and quick decisions sometimes take toll on their mental health as well. As massive culling or slaughters during outbreaks burden them emotions of farmers as well public. Even though their hard work and dedication remain unaverred by all the hurdles and work towards the welfare of animal as well as human health. Only they can bridge the gap between animal and human health, hence they are guardian angels in food safety and public health.

Conclusion:

Veterinarians are indispensable pillars of food safety and public health whose responsibilities extend far beyond animal treatment. Through disease surveillance, vaccination, food inspection, outbreak control, and implementation of biosecurity measures, they protect both animal and human populations from potential health threats. Their role in preventing zoonotic diseases and ensuring safe food production highlights the importance of the One Health approach in modern society. Despite working tirelessly behind the scenes, their contributions often remain unnoticed. Recognizing and supporting the efforts of veterinarians is essential for strengthening public health systems, maintaining food security, and safeguarding the wellbeing of future generations.

References:

- Bartram, D. J., & Baldwin, D. S. (2010). Veterinary surgeons and suicide: Influences, opportunities and research directions. *Veterinary Record*, 166(13), 388–390. <https://doi.org/10.1136/vr.b4794>
- Food and Agriculture Organization. (2010). *Good practices for biosecurity in the pig sector*. FAO Animal Production and Health Paper No. 169. Rome, Italy.
- Grace, D. (2015). Food safety in low and middle income countries. *International Journal of Environmental Research and Public Health*, 12(9), 10490–10507. <https://doi.org/10.3390/ijerph120910490>
- Otte, J., Nugent, R., & McLeod, A. (2004). *Transboundary animal diseases: Assessment of socio-economic impacts and institutional responses*. Food and Agriculture Organization.