



SURVEY OF POULTRY FARMERS IN WAYANAD, TO STUDY THEIR ANTI-MICROBIAL AWARENESS AND USAGE PATTERNS OF VETERINARY PRODUCTS

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ABSTRACT

This study aims to survey poultry farmers in Wayanad to assess their awareness of antimicrobial usage and the patterns of veterinary product consumption within the local poultry industry. The research focuses on understanding the knowledge and practices regarding the administration of antimicrobial agents, including antibiotics, in poultry farming. A structured questionnaire was administered to a representative sample of poultry farmers in the region, gathering data on their awareness of antimicrobial resistance (AMR), sources of veterinary advice, the frequency of antimicrobial use, and the types of veterinary products employed. The results highlight varying levels of awareness among farmers, with some demonstrating substantial knowledge about AMR and the importance of proper antimicrobial usage, while others exhibited limited understanding, potentially leading to misuse or overuse of these products. The study also examines the influence of socio-economic factors, access to veterinary support, and the availability of veterinary products on the usage patterns of antimicrobials. The findings underscore the need for improved educational initiatives and regulatory measures to promote responsible antimicrobial usage,

reduce the risks of AMR, and enhance the overall health and productivity of poultry farming in Wayanad.

KEYWORD

Introduction,Material and method,Data from farmers,Data from veterinary prscription analysis,Discussion about veterinary prscription analysis,Result and discussion

INTRODUCTION

Rapid population growth and income are increasingly influencing the demand for meat and poultry products in many developing countries. Poultry meat production has increased significantly. The poultry industry plays a vital role in meeting the global demand for protein-rich food. However, the industry's growth and sustainability are threatened by the emergence and spread of antimicrobial-resistant bacteria. The indiscriminate use of antimicrobials in poultry farming has contributed significantly to this problem. In recent years, there has been growing concern about the impact of antimicrobial resistance on human health, animal health, and the environment. As a result, there is a need to promote responsible use of antimicrobials and veterinary products in poultry farming. This study aims to investigate the antimicrobial awareness and usage patterns of veterinary products among poultry farmers. The study will provide valuable insights into the current practices, knowledge gaps, and attitudes of poultry farmers regarding antimicrobial use. The findings of this study will inform the development of targeted interventions and strategies to promote responsible antimicrobial use in the poultry industry.

The poultry industry plays a vital role in meeting the global demand for protein-rich food. According to the Food and Agriculture Organization (FAO) of the United Nations, the global poultry industry has been growing rapidly over the past few decades, with an estimated 134 million metric tons of poultry meat produced in 2020 alone. However, the industry's growth and sustainability are threatened by the emergence and spread of antimicrobial-resistant bacteria. The indiscriminate use of antimicrobials in poultry farming has contributed significantly to this problem. Antimicrobials have been widely used in poultry farming for disease prevention and growth promotion. However, the overuse and misuse of these drugs have accelerated the development of antimicrobial-resistant bacteria. The World Health Organization (WHO) has identified antimicrobial resistance as a global health priority, emphasizing the need for responsible use of antimicrobials in all sectors, including agriculture. Antimicrobial resistance

poses a significant risk to human health, animal health, and the environment. The WHO estimates that antimicrobial resistance is responsible for at least 700,000 deaths worldwide each year. If left unchecked, antimicrobial resistance could lead to a post-antibiotic era, where common infections become untreatable. Furthermore, antimicrobial resistance can also have significant economic impacts, particularly in the agricultural sector. Despite growing concerns about antimicrobial resistance, there is limited knowledge about the antimicrobial awareness and usage patterns of veterinary products among poultry farmers. This knowledge gap hinders the development of effective strategies to promote responsible antimicrobial use in the poultry industry. Therefore, this study aims to investigate the antimicrobial awareness and usage patterns of veterinary products among poultry farmers.

MATERIALS AND METHODS

This study aims to assess antimicrobial awareness and usage patterns among poultry farmers in Wayanad, Kerala. The survey targets small and medium-scale poultry farmers, including both broiler and layer farming practices. A stratified random sampling technique will be used to select 40 poultry farms and 20 veterinary prescriptions. This approach ensures a representative sample of poultry farms in Wayanad, considering factors like farm size and farming practices. Data will be collected through face-to-face interviews using a structured questionnaire. The questionnaire will cover demographic information, antimicrobial awareness, usage patterns, sources of veterinary products, and access to veterinary care and training. Quantitative data will be analyzed using statistical software, while qualitative data will be analyzed to identify common themes and patterns. This mixed-methods approach provides a comprehensive understanding of antimicrobial awareness and usage patterns among poultry farmers.

The study adheres to ethical guidelines, ensuring informed consent and confidentiality for participants. The findings will help identify knowledge gaps and inappropriate practices, informing targeted educational campaigns and policy recommendations to promote responsible antimicrobial use and reduce the risk of antimicrobial resistance in poultry farming.

1)DATA FROM FARMERS:

	age	sex	qualificatio n	Name and number of chicken breed per house	Age of chicken breed (months)	Disease on farm	Antibiotic use	Route of adminis tration	Purpose of use	storage
Farmer 1	46	M	sslc	VHK-COB 100-500	4-8	yes	yes	Water	Therapeutic	Storeroom
Farmer 2	38	M	5	VEN-COB 1000-2000	8-12	yes	yes	Water and Feed	Therapeutic and prophylaxis	Storeroom
Farmer 3	35	M	9	NON-COB 100-500	12-16	No	no	Feed	Other	Chicken House
Farmer 4	43	M	8	VAN-COB 500-1000	>16	yes	yes	Water	Therapeutic and prophylaxis	Storeroom
Farmer 5	48	F	6	VAN-COB 100-500	Multi- age	no	no	Feed	Other	Chicken House
Farmer 6	56	M	3	VEN-COB >2000	Un- known	no	no	Feed	Other	Chicken House
Farmer 7	47	M	Sslc	VAN-COB 1000-2000		yes	yes	Injectio n	Prophylaxis	Fridge
Farmer 8	49	M	Plus two	VHK-COB >2000	8-12	no	no	Feed	Other	Chicken House
Farmer 9	44	F	6	NON-COB >2000	12-16	yes	yes	Water and Feed	Therapeutic and prophylaxis	Storeroom
Farmer 10	58	M	4	VAN-COB >2000	4-8	yes	yes	Ophthal mic	Therapeutic and prophylaxis	Storeroom
Farmer 11	35	F	8	VHK-COB 100-500	12-16	yes	yes	Ophthal mic	Therapeutic and prophylaxis	Storeroom
Farmer 12	46	M	2	VEN-COB 1000-2000	8-12	no	no	Feed	Other	Chicken House
Farmer 13	57	F	8	VAN-COB 500-1000	Multi- age	no	no	Feed	Other	Chicken House
Farmer 14	32	F	7	VHK-COB 1000-2000	8-12	yes	yes	Water and feed	Therapeutic and prophylaxis	Storeroom
Farmer 15	41	M	6	NON-COB 500-1000	4-8	yes	yes	Injectio n	Prophylaxis	Fridge

1) Age Distribution

The data reveals a diverse range of chicken ages across the farms, with a significant number of birds between 4 and 12 months old.

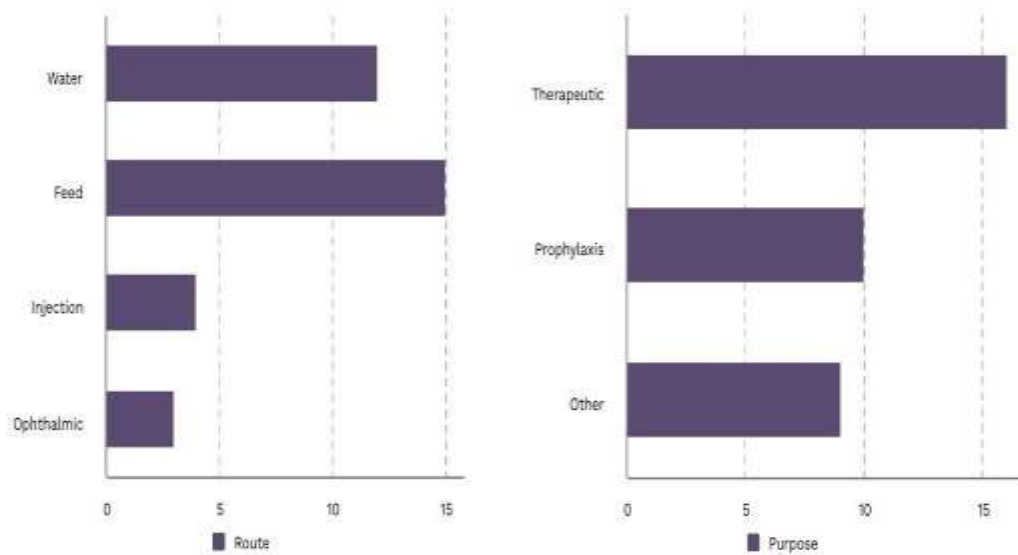
2)Breed diversity

The data shows that a variety of chicken breeds are raised by the farmers,with variations in the number of chickens per house and their age



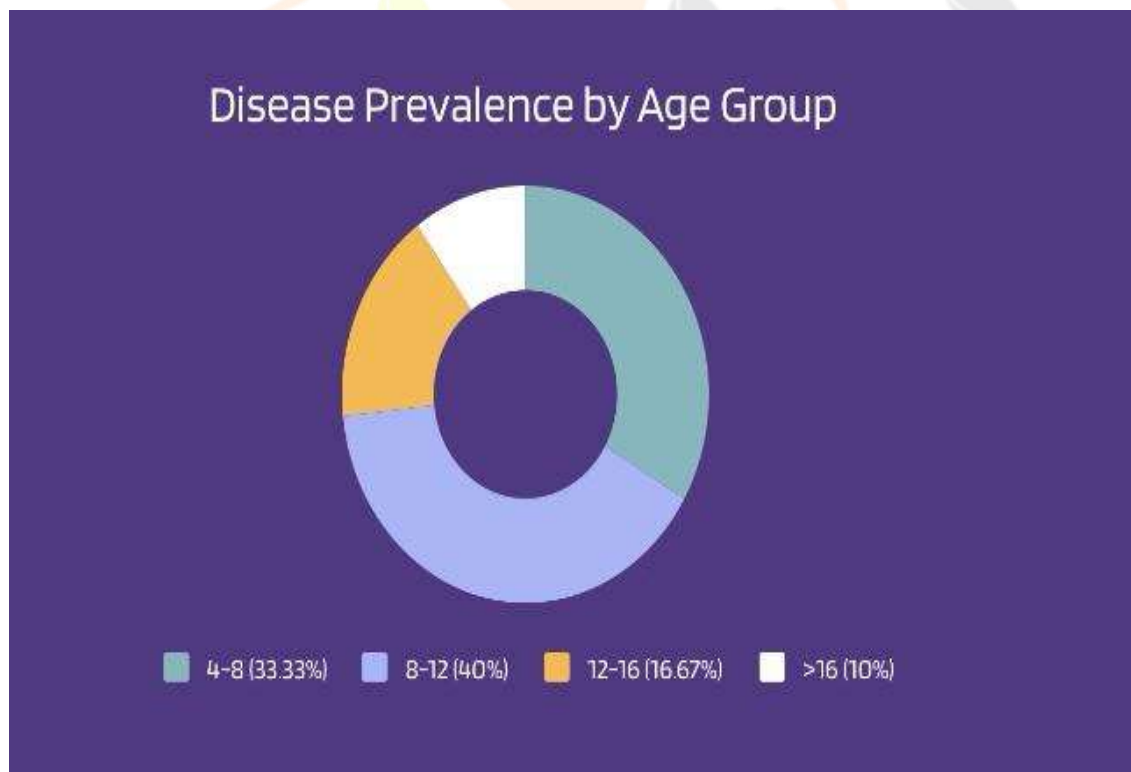
3)Antibiotic usage

Common practices	Therapeutic Use
Water and feed are the primary routes of antibiotic administration in chicken farms, highlighting the importance of these medium	The primary purpose of antibiotic use is therapeutic, indicating a focus on treating existing disease, but prophylaxis is also a prevalence



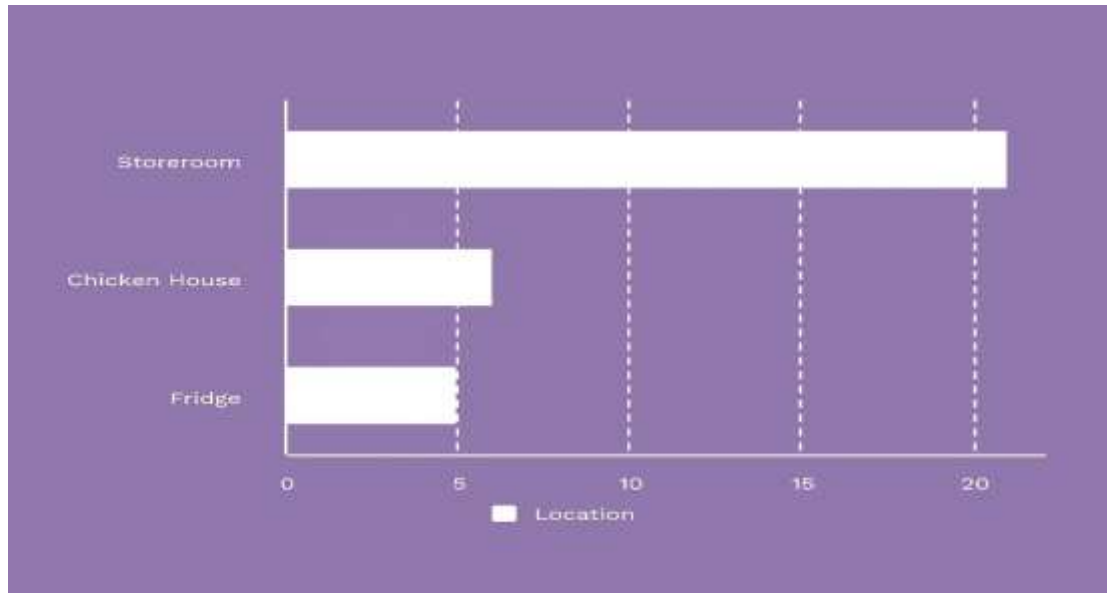
4) Disease prevalence

The data reveals that a significant number of farmers reported encountering diseases in their chicken farms



5)Storage Practices

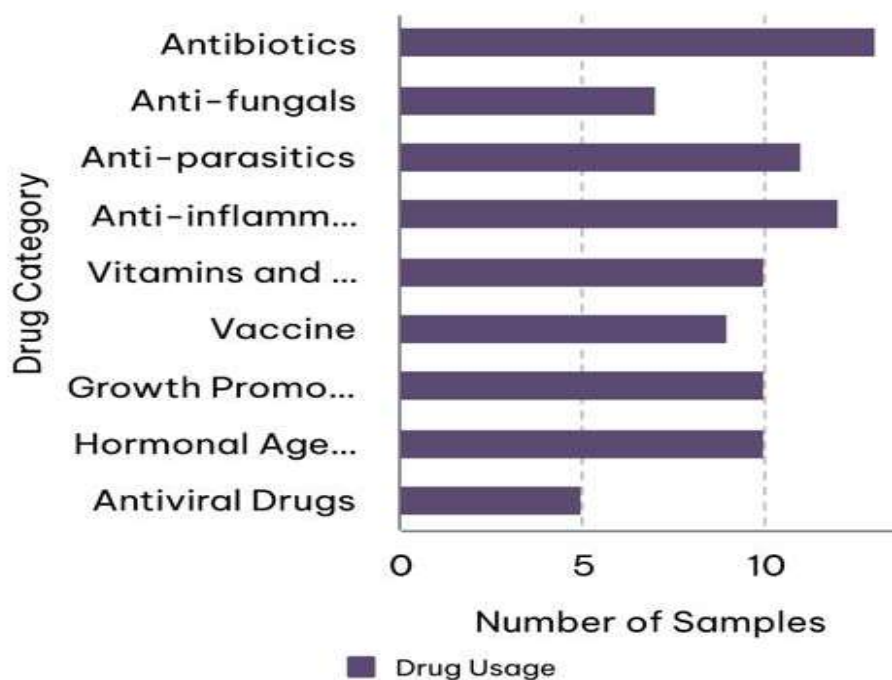
Antibiotics are primarily stored in storerooms, reflecting the importance of appropriate storage conditions for maintaining drug efficacy



2.DATA FROM VETERINARY PRESCRIPTION ANALYSIS

The drugs used in veterinary prescriptions are varied and depend on the specific needs of the animals, including whether the issue is bacterial, viral, parasitic, or related to inflammation or nutritional support. It's important to note that responsible use of antibiotics and other drugs is critical in preventing antimicrobial resistance (AMR). Strict adherence to prescribed dosages, treatment durations, and withdrawal periods is necessary to ensure the health of both animals and humans and to mitigate the development of drug-resistant pathogens.

A) GRAPHICAL REPRESENTATIONS



B) DESCRIPTION ABOUT VETERINARY PRESCRIPTION ANALYSIS

The table provides an overview of the types of medications and supplements used by farmers in the treatment and management of poultry health. The data highlights the usage of various categories of drugs, including antibiotics, anti-fungals, anti-parasitics, anti-inflammatory drugs, vitamins and electrolytes, vaccines, growth promoters, hormonal agents, and antiviral drugs across 20 different prescriptions. Each prescription is marked by whether or not a particular type of medication is used, providing insights into the practices of poultry farmers for maintaining the health and productivity of their flocks.

RESULT AND DISCUSSION

The survey assessed antimicrobial awareness and usage patterns among poultry farmers in Wayanad, Kerala. The study revealed that farmers have some knowledge about antimicrobial resistance, but significant gaps exist in understanding and application.

The survey found that 45% of farmers use antibiotics prophylactically, while 55% use them therapeutically. However, the prophylactic use of antibiotics does not always correlate with the presence of disease. Farmers rely on antibiotics as a preventive measure, potentially due to misconceptions or lack of awareness about antimicrobial resistance risks.

The study highlighted the need for better education on responsible antibiotic use and the risks of antimicrobial resistance. Farmers should adopt sustainable practices, including improved biosecurity measures, regular veterinary consultations, and alternative management strategies.

The survey revealed that farmers obtain veterinary products from various sources, including local shops, agricultural cooperatives, and veterinary practitioners. However, the lack of regulation and oversight in these channels raises concerns about product quality and safety.

The study emphasizes the need for targeted educational initiatives, improved access to veterinary services, and strengthened regulatory frameworks to promote responsible antimicrobial use and reduce the risk of antimicrobial resistance in poultry farming.

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