

**AMR AND AMU PERSPECTIVE AMONG PHYSICIANS
AND VETERINARIANS: OPPORTUNITIES OF
IMPLEMENTING ONE HEALTH APPROACH**



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Session: 2019-2020

**A thesis submitted in the partial fulfillment of the requirements for the degree of
Masters in Public Health**

**One Health Institute
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December 2020

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This is to certify that we have examined the above Master's thesis and have found that is complete and satisfactory in all respects, and that all revisions required by the thesis examination committee have been made

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**DEDICATED TO
MY
BELOVED MOTHER AND FATHER**

Acknowledgement

The author would like to acknowledge the Almighty Allah for giving him life, hope, courage, strength and perseverance to carry on despite all the challenges. The author feels highly privileged to express his profound sense of gratitude and veneration to his supervisor Professor Dr. Omar Faruk Miazzi, Professor of Genetics and Animal Breeding, CVASU, for His valuable and critical suggestions, scientific acumen, perspicacious remarks, scholarly guidance, blessings, and inspiration throughout the course of this study, research works and preparation of this manuscript. The author expresses his sincere and unfathomable sense of gratitude to his co-supervisor Dr. Sharmin Chowdhury, Director, One Health institute for her constructive advice and encouragement in this study.

With special pleasure, author acknowledges the Coordinator of Advanced Studies and Research and Committee of Advanced Studies and Research, CVASU for providing him a research grant to accomplish his research work.

Author also extends his cordial and sincere thanks to all the members of the One health center for research and action for giving continuous support at various stages of this study and thesis writing.

Author gives sincere thanks to his family, who constantly whispered “don’t give up. Very sincere thanks are due to the examiners for helping him to refine his work further.

The author once again records his deep felt gratitude to all those who not mentioned here but directly or indirectly cooperated in this endeavor.

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LIST OF ABBREVIATIONS

AMR	Anti Microbial Resistance
AMU	Ant Microbial Use
AMS	Anti Microbials
AB	Anit Biotic
GCC	Gulf Corporation Council
NARMS	National Anti Microbial Resistance Monitoring System
MBBS	Bachelor of Medicine and Bachelor of Surgery
MPH	Master of Public Health
MSc	Master of Science
Phd	Doctor of Philosophy
MD	Doctor of Medicine
N/A	Not Applicable
DVM	Doctor of Veterinary Medicine

Abstract

Antimicrobial Resistance (AMR) is one of the most alarming and emerging threat to human and animal health of this age led majorly by the misuse of antimicrobials (AMs), which creates the necessity of understanding the practitioner's depth of knowledge, meeting essential standards, adherence of guidelines and prescribing fundament of it. A quantitative research was conducted with a self- administrated constructive questionnaire filled out by both human and vet practitioners working under government and private sectors during the period of July to December 2019 at Chattogram, Bangladesh. The aim of the work is to assess and compare the practitioners' antimicrobial prescribing behaviors, their attitude towards antimicrobial resistance and indiscriminate use as well as their concept regarding possible effective solutions. In this study, we assessed the AMR and AMU perspective among physicians and veterinarians with the potential for the implementation of the ONE Health Approach. Around 200 human practitioners and 100 vet practitioners (as the numbers of vet practitioners are limited) were selected for this study on a basis of common consent. Proportions were calculated for categorical variables and visualized. Among the participants, 79% of the doctors were male and 21% of the female participants were female. The state of medical education was MBBS; the vets had a degree in DVM and the percentage was 64%. Human doctors 8.81% had the MPH/MSc degree, while veterinarians had the percentage of 33. Physicians have given a higher response in the availability of appropriate guidance and protocols to improve AMR situations. The response rate for the presence of the antimicrobial resistance team, advice from the Infection Control Team and prescription restriction for certain antibiotics are 9%, 4% and 3%. Cefixime is a commonly used antibiotic for humans and has a rate of around 60 percent. Amoxicillin is a commonly used antibiotic for large animals (almost 70%). Ciprofloxacin and Ceftriaxon are the most commonly used antibiotics for poultry and pets. Physicians and vets responded on the basis of the guidelines they followed while prescribing decisions. As a result, both the Physicians and the Veterinarians strongly agreed that AMR is a global, domestic and day-to-day problem. Approximately 50% of physicians and vets agreed that it was difficult to find appropriate antibiotics. The highest percentage of prescribing decisions was from previous experience and the lowest percentage was of taking advice from pharmaceuticals. Too many types of

antibiotic prescriptions, not completing the full course of AB, are the "very important" causes of antibiotic resistance. In addition, too many doses of antibiotics are another "important" cause. This research includes an effective understanding of the overall aspect of AMR from the point of view of physicians and veterinarians. The findings may be used as baseline evidence to support successful strategies and action plans to address the AMR problems.

Keywords: Antimicrobial resistance, Antimicrobial use, practitioner's survey, One Health approach.