

Understanding of antibiotic resistance and use of the antibiotics by veterinary students at the Faculty of Veterinary Medicine, University of Liege

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INTRODUCTION

Bacteria resistance renders one or more antibiotics ineffective against a bacterial infection. This can make it difficult or impossible to treat certain infections. At present, antibiotic resistance is one of the most serious threats to global health, food security and development. One of the main reasons for the increase of antibiotic resistance is the excessive and inappropriate use of antibiotics by physicians and veterinarians. Proper training of veterinary students on the use of antibiotics in animal husbandry can reduce antibiotic resistance.

MATERIALS AND METHODS

A survey was conducted among the 2nd cycle veterinary students of the University of Liege. In a survey, a total of 94 structured questionnaires were completed by 4th (11), 5th (56) and 6th (27) year students. The questions focused on: (1) sociodemographic characteristics, (2) the impact of veterinary curriculum on the attitude towards antibiotic use and the phenomenon of antibiotic resistance, (3) practical knowledge of antibiotics, and (4) assessment of the influence of certain factors on the emergence of antibiotic resistance.

RESULTS

The majority of students surveyed were female (67/94). Career interests in the context of future work as a veterinarian was very diverse, with 33/94 of respondents considering mixed practice (large animals and companion animals). 85/94 of students surveyed owned pets. Regarding motivation for being veterinarian, 76/94 of the respondents answered that they love animals and/or find the veterinary profession very interesting. For the impact of the veterinary curriculum on the knowledge of antibiotic resistance, 51/94 of the students reported a real and positive impact. Students responded to the questions on practical knowledge of antibiotics demonstrated good basic knowledge. Students responded that antibiotics are not effective against viruses (84/94) and that they should be used against bacteria (87/94). The main factors favoring the emergence of antibiotic resistance cited by the students were the overuse of antibiotics by health professionals (83/94) and the misuse of antibiotics in veterinary medicine (60/94).



2022-2023 / MASTER

Médecin vétérinaire

La résistance aux antimicrobiens et aux antibiotiques du point de vue des étudiants vétérinaires de l'université de Liège.

Introduction

Vous êtes invité à participer à une enquête auprès des étudiants vétérinaires dans le cadre d'une recherche sur la résistance aux antimicrobiens et aux antibiotiques du point de vue des étudiants vétérinaires de l'université de Liège. Votre participation à cette étude est importante et nous aidera à mieux comprendre la perception de l'utilisation des antimicrobiens par les étudiants vétérinaires de l'université de Liège. Toutes les réponses sont anonymes et totalement confidentielles. Les informations que vous fournissez dans ce questionnaire ne seront pas mises à la disposition de tiers. La participation à cette étude est entièrement volontaire.

Merci de votre aide.

Pour toute question ou préoccupation, veuillez contacter : Nassim Moula

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Fig 1. Gender (n)

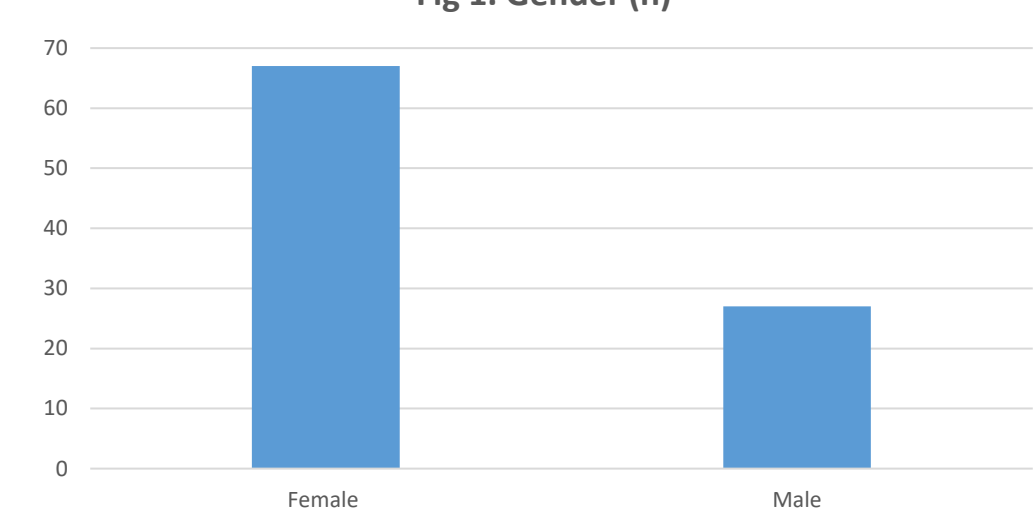
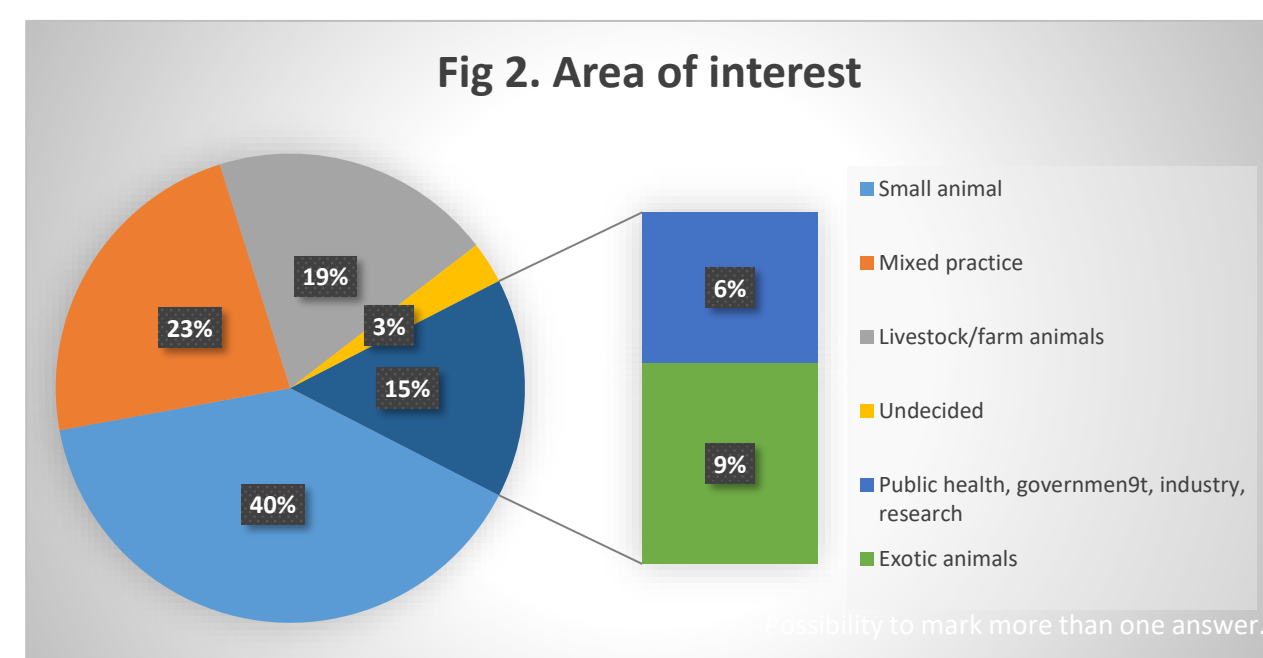


Fig 2. Area of interest



Question	Response	n	%
Do you have a pet?	Yes	85	90,43
	No	9	9,57
Family reasons (e.g., tradition)	I love animals	12	5,06
	This profession seems very interesting to me	63	26,58
	Under the influence of friends	59	24,89
	Hard to say	4	1,69
Why did you choose veterinary medicine to study? *	Hard to say	2	0,84
	Other	3	1,27
	Under the influence of friends	4	1,69

Effect of veterinary curriculum on attitudes toward antibiotic use and the phenomenon of antibiotic resistance	N	%
1- Have you ever been informed of the growing problem of antibiotic resistance during your studies?	Yes	93 98.94
	No	1 1.06
2-Did the courses you took in veterinary school inspire you to gain more knowledge about the use of antibiotics in humans?	Yes	76 80.85
	No	18 19.15
3-Did your veterinary courses encourage you to use antibiotics in animals?	Yes	51 54.26
	No	43 45.74
4-Did the knowledge you gained about antibiotics during your veterinary studies cause you to reject the treatment prescribed by your doctor for your illness?	Yes	13 13.83
	No	81 86.17
5-Did the knowledge of antibiotics you gained in veterinary school result in the cancellation of a veterinarian's prescribed treatment for your or your friends' pet's illness?	Yes	12 12.77
	No	82 87.23
6- Need more education on antibiotics?	Yes	84 89.36
	No	10 10.64

Evaluation of the influence of certain factors on the emergence of antibiotic resistance (%)	Strongly agree	Agree	Neither disagree nor agree	Disagree	Strongly disagree
Overuse of antibiotics by physicians?	32.98	51.06	5.32	5.32	2.13
Use of antibiotics without prescription (self-medication)?	39.36	28.72	3.19	15.96	2.13
Misuse of antibiotics in veterinary medicine?	21.28	42.55	21.28	12.77	3.19
Low awareness of the dangers of antibiotic resistance?	25.53	39.36	15.96	15.96	3.19
Limited access to microbiological diagnostics in veterinary medicine?	7.45	45.74	30.85	12.77	3.19
Limited access to microbiological diagnostics in human medicine?	6.38	24.47	32.98	24.47	11.70
Antibiotic therapy too long in animals?	2.13	25.53	41.49	22.34	6.38
Too short an antibiotic therapy in animals?	17.02	36.17	25.53	19.15	2.13
Use of too low doses of antibiotics in animals?	17.02	29.79	29.79	21.28	2.13
Low level of hygiene in the farms?	13.83	32.98	28.72	18.09	6.38
Will frequent use of antibiotics decrease the effectiveness of the treatment when the antibiotic is used again?	15.96	58.51	21.28	3.19	1.06

CONCLUSION

Most of the surveyed veterinary students pointed out that antibiotic resistance is a serious problem. This preliminary study suggests the need to increase the level of knowledge of antibiotics among veterinary students, especially regarding their practical use in their future work as practitioners.

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