

Introduction

In recent years, the issue of **antibiotic resistance** has received considerable attention, leading to notable **changes in antibiotic counseling and dispensing practices** in human and veterinary medicine. However, the approach taken for other over-the-counter medicines, such as **antiparasitic drugs**, did not follow a similar transformation. In the recent context of public health issues, the question of interdisciplinarity in healthcare has emerged as a central area of attention. Strengthening community pharmacists' skills in veterinary pharmacotherapy is crucial, particularly in scenarios involving off-label drug use, antiparasitic resistance and environmental impact. The VET&PHARM pilot project aimed to implement and evaluate the perceived value of an **interdisciplinary healthcare simulation activity in an educational context**. This program involved 2-d year Master Pharmacy students (M2P), 3-rd year Bachelor Veterinary students (B3V) and 3-rd year Master Veterinary students (M3V) in May 2022.

Methods

This **study** assessed the perceived value of an interdisciplinary healthcare simulation program focused on rational pharmacy-based veterinary drug dispensing.

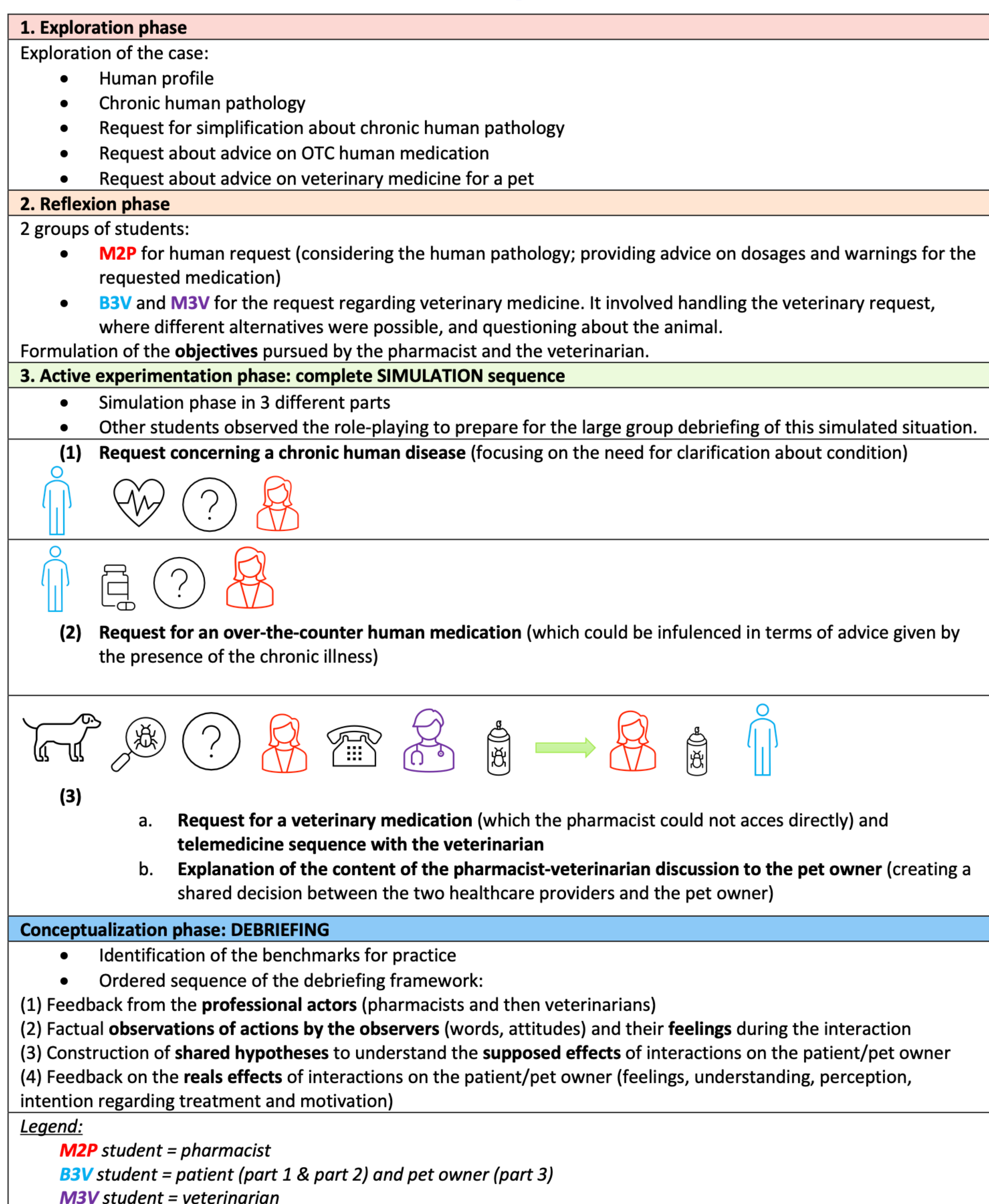
The activity was set up for 40 student volunteers (20 M2P, 4 M3V, 16 B3V), divided into 2 groups with two VET&PHARM activities in May 2022.

At the end of the activity, an **on-line questionnaire** addressing the perceived value of the activity was proposed to both veterinary and pharmacy students.

Figure 2: Post-activity questionnaire results

Questions / statements	Respondents' students			agreement %	
	M2P	B3V	M3V		
Q1	✓	✓	✓	100	Students were able to learn through role plays played by their peers .
Q2	✓	✓	✓	100	Students believe they have learned to exchange/collaborate with other healthcare providers (66.7% of students strongly agree with this statement).
Q3	✓	✓	✓	100	Students have learned to explain a chronic illness to a patient in simple terms (simplification or otherwise). They have also learned to provide appropriate advice about a non-prescription medication (50% of students strongly agree with this statement).
Q4	✓	✓	✓	100	Students have learned to provide appropriate advice about veterinary medication .
Q5	✓	✓	✓	97	Students agree to strongly agree with the fact they have explored communication and the patient-provider relationship .
Q6	✓	✓	✓	100	Students have explored interprofessional collaboration from different perspectives (as actors and observers).
Q7	✓	✓	✓	94	Students have gained self-confidence in performing a similar task.
Q8	✓	✓	✓	70	Students found the patient/animal case preparation task easy.
Q9	✓	✓	✓	70	Students found the task of critically analyzing the simulation was easy.
Q10	✓	✓	✓	50	Students found the task of explaining a chronic pathology and providing appropriate advice on a non-prescription medication easy .
Q11	✓	✓	✓	54	Students found it easy to collaborate with a colleague from another profession on a veterinary issue .
Q12	✓	✓	✓	75	Students found easy to deliver appropriate advice on veterinary medications .
Q13	✓	✓	✓	91	Students found the debriefing in a large group easy.
Q14	✓	✓	✓	100	Students gained insights into patient care at the pharmacy and/or the interaction between a pharmacist and a veterinarian through role-plays .
Q15	✓	✓	✓	100	Students gained insights into patient care at the pharmacy and/or the interaction between a pharmacist and a veterinarian through debriefing (discussion of elements that (dis)serve the pursuit of objectives).
Q16	✓	✓	✓	88	The task of preparing the patient/animal case led respondents to make connections with theoretical concepts taught in the Pharmacy or Veterinary Medicine curriculum.
Q17	✓	✓	✓	88	Students believe that collaborating with a colleague from another professional curriculum led them to make connections with theoretical concepts taught in the Pharmacy or Veterinary Medicine curriculum.
Q18	✓	✓	✓	75	The task of delivering appropriate advice on veterinary medication led respondents to make connections with theoretical concepts taught in the Veterinary Medicine course program.
Q19	✓	✓	✓	94	The debriefing in a large group led students to make connections with theoretical concepts taught in the Pharmacy or Veterinary Medicine course program.
Q20	✓	✓	✓	97	Collaborating with colleagues motivated students to engage in the preparation of the case .
Q21	✓	✓	✓	100	Collaborating with colleagues motivated students to engage in the critical analysis of role-plays .
Q22	✓	✓	✓	97	Collaborating with colleagues motivated students to engage in the debriefing in large group .
Q23	✓	✓	✓	100	Case preparation task, collaboration with a colleague, participation in role-plays, critical analysis of the simulation, and debriefing in a large group were adequately explained.
Q24	✓	✓	✓	100	The time given was sufficient.
Q25	✓	✓	✓	97	The level of difficulty of the cases was deemed appropriate.
Q26	✓	✓	✓	100	The preparation of role-plays was a source of motivation.
Q27	✓	✓	✓	61	Students would have been additionally motivated by the possibility of direct play .

Figure 1: Phases of the VET&PHARM device (inspired by Kolb cycle)



Pharmacy and veterinary students participated in **role playing games involving the rational delivery of veterinary medications** to a simulated patient/pet owner at the counter of an educational pharmacy. During these scenarios, a pharmacist and a pet owner engaged in an interaction leading to a sequence of **interprofessional collaboration**.

Results

The response rate for the survey was **82,5%**, with 33 participants out of 40. The analysis of the post-intervention questionnaires highlighted the **educational interest** of this pilot seminar in terms of exchanges and **collaboration**, as well as the increase in **self-confidence in the exercise of service and counseling in veterinary medicines**.

Conclusion

Beyond the **development of communication and collaboration skills**, the learning reported by students has exceeded expectations in the **One Health vision** by expanding awareness of the consequences on planetary health of their choices in dispensing veterinary medications in pharmacies. This initiative addresses the urgent need to improve rational dispensing practices for veterinary medicines, thereby contributing to the overall goal of **improving health care delivery in veterinary pharmacy**.