“VIII rural veterinary, global health”: the extension as a dialogical apparatus between community and university

“VIII veterinária da rural, saúde global”: a extensão como aparato dialógico entre a comunidade e a universidade

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ABASTRACT

"Veterinary Rural, Global Health" is an extracurricular extension project that aims to provide health education through disease prevention and health promotion actions. It is a collective, transdisciplinary, and multiprofessional approach that involves professors, students, and veterinarians, among other professionals and members of the Tutorial Education Programs (PET) of the Federal Rural University of Rio de Janeiro (UFRRJ). Our goal is to disseminate scientific knowledge to the residents of Seropédica, Rio de Janeiro, Brazil. In addition, the project aims to strengthen partnerships between the academic community and the Municipal Health Department to support rabies vaccination for dogs and cats in the municipality. For eight editions, the project seeks to address issues related to animal, human, and environmental health through extensionism to encourage the debate of ideas about One Health with the population. In 2022, two stages of activities were conducted. The first stage focused on supporting the vaccination of dogs and cats against rabies in various parts of the city. The second stage took place in the main square of the municipality, where health education activities were organized for children, adults, and seniors. These activities included lectures, playful interactions, drawing and painting workshops, distribution of gifts, and exhibition of anatomical and vertebrate pieces of importance in public health, among others. All practices addressed issues related to One Health and provided integration between the academic community and its surroundings, highlighting the importance of the inseparability of animal, human, and environmental health to reduce diseases with zoonotic potential.

Keywords: one health, zoonosis, multiprofessional, interdisciplinarity, integration.

RESUMO

"Veterinária da Rural, Saúde Global" é um projeto de extensão extracurricular que visa proporcionar educação em saúde por meio de ações de promoção da saúde e prevenção de doenças. Trata-se de uma abordagem coletiva, transdisciplinar e multiprofissional que envolve professores, estudantes e médicos veterinários, entre outros profissionais e integrantes dos Programas de Educação Tutorial (PET) da Universidade Federal Rural do Rio de Janeiro (UFRRJ). Nosso objetivo é disseminar o conhecimento científico aos moradores de Seropédica, Rio de Janeiro, Brasil. Além disso, o projeto visa fortalecer parcerias entre a comunidade acadêmica e a Secretaria Municipal de Saúde para apoiar a vacinação antirrábica de cães e gatos no município. Ao longo de oito edições, o projeto busca abordar questões relacionadas à saúde animal, humana e ambiental por meio da extensão para incentivar o debate de ideias sobre Saúde Única com a população. Em 2022, foram realizadas duas etapas de atividades. A primeira etapa teve como foco o apoio à vacinação de cães e gatos contra a raiva em diversos pontos da cidade. A segunda etapa aconteceu na praça principal do município, onde foram organizadas atividades de educação em saúde para crianças, adultos e idosos. Essas atividades incluíram palestras, interações lúdicas, oficinas de desenho e pintura, distribuição de brindes e exposição de peças anatômicas e de vertebrados de importância na saúde pública, entre outras. Todas as práticas abordaram questões relacionadas à Saúde Única e proporcionaram integração entre a comunidade.
acadêmica e seu entorno, destacando a importância da indissociabilidade da saúde animal, humana e ambiental para a redução de doenças com potencial zoonótico.

**Palavras-chave:** saúde única, zoonose, multiprofissional, interdisciplinaridade, integração.

1 INTRODUCTION

One Health is an integrated and unified approach to balancing and optimizing the health of people, animals, and ecosystems, recognizing that the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent (One Health High-Level Expert et al., 2022). It has been found that domestic animals can carry harmful pathogens that cause emerging diseases (Tomori; Oluwayelu, 2023). Over 70% of human pathogens are zoonotic in origin, making them more likely to cause emerging diseases than non-zoonotic ones (Taylor et al., 2001; Jones et al., 2008). This fact can lead to significant financial losses and strain on healthcare systems globally. Emerging zoonosis Covid-19, for example, caused social, economic, and multidimensional impacts on population health (Nassif-Pires et al., 2021; Werneck, 2022).

The National Surveillance and Control Programs of the Brazilian Ministry of Health monitors several zoonotic diseases and accidents with venomous and poisonous animals, including rabies, leishmaniasis, plague, leptospirosis, Brazilian spotted fever, hantavirus, Chagas disease, schistosomiasis, yellow fever, Chikungunya fever, West Nile fever, dengue and malaria (Brasil, 2016). In an interview with Agence France-Presse in 2022, Professor Erick Fèvre, an expert in Veterinary Infectious Diseases at both the University of Liverpool (U.K.) and the International Livestock Research Institute (Kenya), signaled the risk of new and potentially serious diseases emerging. These highlights corroborate the importance of actions focusing on the interconnected health of humans, animals, and the environment.

It is noticeable that the relationship between humans and animals is getting closer. The recognition of biologically diverse families, known as "multispecies families", is already being discussed as a new organizational format to be accepted due to the variety of contemporary family formations (Ximenes, 2017). While there are numerous benefits to human-animal interaction, it is crucial to take precautions to avoid the spread of zoonotic diseases (Lampert, 2014). In response to this issue, the Veterinary Medicine Tutorial Education Program (PET) at the Federal Rural University of Rio de Janeiro (UFRRJ) has developed the eighth edition of
"Rural Veterinary, Global Health". It stands out for its methodological performance, using the principles of University Extension and Integrality to promote anti-rabies vaccination actions for companion animals. Additionally, the project provides opportunities for a multidisciplinary extensionist event in a public square where educational programs and health materials are exhibited. The goal is to promote the importance of One Health.

Primary health care has been debated and reviewed at national and international levels for over a century to establish health policies (Opas, 1964; OMS, 1978; Starfield, 1994). Despite differing interpretations over time, it has preserved essential traits, with the principle of comprehensiveness being especially noteworthy. The principle states that medical treatment should not solely rely on assistance but also incorporate preventive practices that are developed in a coordinated manner to promote overall health. This requires a broader approach to the practice of medicine, which goes beyond simply treating the disease. Instead, interventions should address complex global issues that impact health (Mattos, 2004). In this way, more than individual professional action in health promotion is needed, making necessary the training and active action of society as a whole. To this end, health professionals must guide the population and create a collective agreement to achieve biopsychosocial well-being (OMS, 1986). This process is worth considering the target population's economic, historical, social, and cultural context, aiming to efficiently carry out health education through accessible language mobilization (Brasil, 2016).

From this perspective, the potential of University Extension initiatives in improving the teaching-learning process is worth mentioning. These activities can encourage dialogue and promote socio-educational actions that help overcome challenges and enhance the quality of life within a community. Through advanced scientific knowledge and research conducted in higher education institutions, professors and student researchers can actively engage with the local community. They encourage individuals to become more involved and critical in their thinking, and to organize themselves in different ways to exercise their citizenship (Rodrigues, 2013). Activities such as fairs and other academic events disseminate knowledge on quality of life, emphasizing the most common diseases in the regions and ways to prevent them (Ferreira et al., 2009).
The present work aims to describe the actions carried out with the residents of Seropédica, located in Rio de Janeiro, as part of the "Veterinary Rural, Global Health" extension project, organized by the Veterinary Medicine Tutorial Education Program group of the UFRRJ.

2 MATERIALS AND METHODS

The project was divided into two separate events taking place on different dates. Firstly, on November 5, 2022, the "D-Day Campaign" was organized for the anti-rabies vaccination of dogs and cats. This campaign was held in collaboration with the Sanitary Surveillance of the municipality of Seropédica, Rio de Janeiro, Brazil. The aim was to cover strategic areas of the municipality and achieve a high vaccination coverage rate. The vaccination campaign took place in 15 locations across the city of Seropédica, previously divided into five areas. Each location had a team of at least one veterinarian, five undergraduate student volunteers, and a PET Responsible Veterinary Medicine group member. A Google Form was created for the Veterinary Medicine course community to indicate interest in volunteering. The form was open for five days. After this period, the PET team assigned the volunteers to various vaccination stations.

The second event was on November 19, 2022. The "VIII Rural Veterinary, Global Health" was held at Praça Nildo Romano, located at km 49 of the BR 465 highway in the center of Seropédica. Volunteers representing study groups/leagues or Pet groups from UFRRJ expressed their interest in participating in the event by filling out a Google Form. This reduced the health-related activities to only those who wanted to be a part of it. The form also indicated the number of participants in the group, whether they were interested in giving lectures, and the topic they would address. Afterward, all participants were enrolled in the event through the UFRRJ Integrated Academic Activities Management System, which provided certification for each member of the extension action.

Tables, chairs, and tents were set up at Praça Nildo Romano for the activities, including an exclusive tent for mini-lectures. Stickers with the event logo were produced and distributed by organizers to count participant numbers on campus during the educational activities. The target audience was reached through both digital (Instagram and WhatsApp) and physical (track and sound car) means.
3 RESULTS

The anti-rabies vaccination campaign for dogs and cats, crucial in preventing human rabies, vaccinated 6,782 animals. A total of 114 volunteers participated in the activities, including 91 undergraduate students of Veterinary Medicine from the Federal Rural University of Rio de Janeiro (UFRRJ), 13 veterinarians from the Residency Programs in Veterinary Medicine at UFRRJ, and 10 veterinarians who work at UFRRJ. The 15 points were divided into 5 different areas. Area 1 includes São Miguel Square, Gilson Silva Municipal School, and Luiz Leite de Brito Municipal School. Area 2 consists of Nildo Romano Square at km 49, Municipal School Pastor Gerson Ferreira Costa, and Municipal School Racy Ribeiro Morandi. Area 3 includes Creuza de Paula Bastos Municipal School (INCRA) and SAMU Square (Ecology). Area 4 consists of Panaro Figueira Municipal School, Ronald Calegari Municipal School, and Rita Batista Square. Finally, area 5 includes Olavo Bilac Municipal School, Professor Roberto Lyra State School, and Abeilard Goulart de Souza Municipal School (Central Garden). Figure 1 shows the distribution of vaccinated animals in each area.

Figure 1 – Distribution of dogs and cats vaccinated for anti-rabies in Seropédica, Rio de Janeiro, during the D-Day 2022 campaign, organized by area.

On the second day of the "VIII Veterinary Rural, Global Health" event, held at Praça Nildo Romano, located at Km 49 of the BR 465 highway, 500 citizens participated in the activities proposed by the academic community of UFRRJ. This extensionist approach involves the participation of 323 members from the UFRRJ academic community, including students and professors from various undergraduate courses, members of Tutorial Education Program groups.
at UFRRJ, students of the Graduate Program in Veterinary Medicine, the Veterinary Sciences and Residency Programs in Veterinary Medicine at UFRRJ, and technical education staff. The participants were divided into 31 groups to carry out various activities with the community, including the exposition of materials and anatomical parts, games, children's activities, distribution of medicinal plant seedlings and gifts, mini-lectures and workshops, among others.

The multidisciplinary themes developed by each group are described below: “Awareness of handling products of animal origin in everyday life” (League of Products of Animal Origin - LPOA); “The importance of public universities and the role of the veterinarian in society” (Academic Directory Guilherme Hermsdorff - DAGH); “Falsification of medicines” (Academic League of Forensic Veterinary Medicine - LIFOR); “Rational use and disposal of medicines: a single health approach” (Group of Studies and Actions in One Health - GEASU); “Health actions and bacterial resistance” (Veterinary Bacteriology Laboratory - LabacVet); “Preventing sporotrichosis” (Residency Program in Veterinary Microbiological Diagnosis); The Museum in the square (Carlos Tokarnia Pathological Anatomy Museum of the Federal Rural University of Rio de Janeiro - MAPCT); “Misinformation and the impacts on Wild Animals” (Liga de Animais Silvestres - LIAS); “Knowing the SUS” (PET Saúde); “Environmental education and distribution of vegetable seedlings and some spices” (PET Floresta); “Feeding of small ruminants - making cards” (Liga de Bovinos - LiBovis); “Transmissible venereal tumor” (League of Veterinary Dermatology and Oncology - LIDOV); “Primvaccination in dogs and cats: National or Imported Vaccination?” (League of Neonatology, Theriogenology and Veterinary Pediatrics - LINEO); “Responsible custody/abandonment of animals” (Residency Program in Surveillance and Primary Health Care); “Population control of dogs and cats” (Academic League of Veterinary Surgery and Anesthesiology - LICAV); “Abandonment, adoption and welfare of dogs and cats” (Animal Welcoming and Monitoring Project - AMA); “Mathematics games” (PET Matemática); “Journalistic coverage with journalism students who are members of the PET group” (PET Dimensões da Linguagem); “Parasitic Diseases” (Equipe de Doenças Parasitárias); “Parasitos/Parasitologia” (Projeto de Extensão: O Mundo Secreto dos Parasitos); “Main hemoparasitoses of domestic animals and their impacts on public health” (Laboratory of Hemoparasitoses and Vectors - LHV); “Ludic activity on Parasitology” (League of Studies in Parasitology - ParasitoSomos); “Medicinal Cannabis” (Academic League of Medicinal Cannabis - LACAM); “Chromotherapy” (Group of Studies in Complementary Therapies -
Some of the groups involved in the event were willing to give 10-minute lectures to the audience in the square. The chosen themes were: "Rational use and disposal of medicines" (GEASU); “Care without the use of antimicrobials” (Labacvet); “Counterfeit medicines: what to do?” (LIFOR); “Introduction to Medicinal Cannabis” (LACAM); “Wild animals in urban areas: what to do?” (LIAS); “Proposal from the Museum of Pathological Anatomy Carlos Tokarnia” (MAPCT); “Animal Products at Christmas Supper” (LPOA); “Feeding of small ruminants” (LiBovis); “Biological control using nematophagous fungi of bovine verminosis” (Equipe de Doenças Parasitárias); “The more bats, the better health” (Projeto de Extensão Morcegos na Praça); “Art therapy - benefits in the art of modeling” (PET Inclusão); "I wonder what's on your foot: is it foot odor, a geographic animal, or a foot animal?” (ParasitoSomos); “Importance of Rabies Vaccination in Domestic Animals” (LINEURO); “Prevention of Leishmaniasis” (GEAC); “The mosquito, the worm and the heart” (Licardio-JP); “Approaches to Chromotherapy” (GETEC); “Responsible guardianship, zoonoses and Public Health” (Surveillance and Primary Health Care); “SUS Bingo” (PET Saúde); In addition, two companies sponsored by Global Health presented on the following topics: "Careful with the food of dogs and cats" (SEROPEC) and “Obesity in dogs, Live Clear” (Nestle Purina).

4 DISCUSSION

The full involvement of relevant stakeholders, particularly health professionals and policy makers, is crucial for the success and cost-effective implementation of the One Health approach to zoonotic disease threats. By creating networks that involve community members and various stakeholders, collecting real-time data and observations, and integrating with public health networks, we can establish early warning systems and prompt responses to control threats to the health of animals, humans, and the environment. This approach can also improve our
understanding of endemic and emerging zoonotic risks that affect communities (Keeats et al., 2021).

All actions developed in the “VIII Veterinary Rural, Global Health” aimed at promoting scientific dissemination through interactive health education, making the population aware of health promotion and disease prevention practices through an interactive and interdisciplinary method that involves education, culture and science. Mendonça (1982) proposed educational action strategies to achieve the goal of working with population groups. These included understanding different social perceptions and strengthening health services through popular participation. In this way, the need for a humanized approach to popular health education is emphasized, considering all aspects of an individual, such as their body, language, conscience, habits, and work, as highlighted by Arroyo (2001). The audience, in the action held in Nildo Romano Square, was considered overwhelming, despite having fewer participants than the 2019 edition, which had 2,500 residents. The discontinuity of holding the event in the square due to the COVID-19 pandemic justifies this fact. It was impossible to hold the event in this format for the 2020 and 2021 editions.

In 2022, the State Health Department (SES) of Rio de Janeiro conducted a survey in Seropédica, revealing that a total of 13,998 animals were vaccinated. This corresponds to a vaccination coverage of 78.5% for dogs and cats that year. Around 48.4% of the animals received the vaccine during the D-day vaccination that took place at "VIII Veterinary Rural, Global Health." According to data from the SES of São Paulo, vaccinating 60 to 80% of dogs can prevent the transmission of rabies among them. Additionally, studies carried out by Coleman and Dye in 1996 revealed that vaccination coverage of 70% prevented a rabies epidemic in 96.5% of the analyzed cases. Thus, the numbers obtained in the “D-Day Campaign” for anti-rabies vaccination of dogs and cats indicated a significant impact on the immunization of animals, which was made possible by the favorable response of citizens. This result can be attributed to the effective dissemination of the campaign, which enabled it to reach a large number of tutors.

Rabies is a zoonotic disease caused by a virus belonging to the *Lyssavirus* genus (Sykes, 2011), which affects the central nervous system and can lead to death in a short period of time. Transmission mainly occurs through contact with the saliva of infected animals, such as that of dogs and cats present in the urban cycle (Ministério da Saúde, 2010). Therefore, immunizing
dogs and cats through vaccination campaigns is the primary method for preventing diseases in urban areas (Wandeler, 2000).

Acknowledging the significance of vaccination initiatives and the population's commitment to combating zoonotic diseases is crucial. Human-animal interactions have become more prevalent, and the risk of contact between domestic and wild animals cannot be ignored, as animals can serve as reservoirs for these diseases (Bocchi, 2017).

In a study published by Bastianello et al. (2021), a significant number of participants were unaware of the methods to prevent and transmit rabies. Of the 196 interviewees, 23% were not familiar with the disease transmission, while 40.8% did not know how to prevent it. This perspective can be avoided using tools that disseminate information about vaccine protection and health education activities. This will help tutors develop habits related to health promotion, including periodic vaccination of their animals (Kotait et al., 2009).

Understanding zoonoses, their transmission, and their prevention and control measures is crucial for taking practical actions to improve public health. In this regard, the project activities facilitated communication between the academic community and its surroundings, providing humanized education on relevant topics concerning One Health. Indeed, extensionist actions have great potential in enhancing the teaching-learning process. They help students gain professional qualifications within their communities and encourage dialogue among those involved. Moreover, such actions also aim to address and promote socio-educational initiatives that can improve the collective quality of life. Through scientific research and education from higher learning institutions, professors and students actively engage with the local community by encouraging active participation and critical thinking. This empowers the population to organize themselves in various ways to exercise their rights as citizens (Rodrigues, 2013).

5 CONCLUSION

The impact of extensionist actions is undeniable, as they integrate different perspectives and share knowledge with the community. The partnership between the Sanitary Surveillance of the municipality of Seropédica, students, teachers, graduate students, technicians, staff, PET Groups, and Veterinary Doctors from UFRRJ allowed for a holistic approach to themes concerning human, animal, and environmental health. As a result, the execution of the D-Day
vaccination against rabies and the multidisciplinary event in the square enabled actions related to health education for the residents of Seropédica, RJ.

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