

# RESEARCH REGARDING THE PRESENCE OF VIRAL INFECTIONS IN DOGS FROM SHELTERS IN EASTERN ROMANIA (BACĂU, VRANCEA AND GALAȚI COUNTIES)

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## Abstract

The occurrence of viral diseases in a shelter may certainly be devastating to the health and welfare of animals and can create serious problems even for the best equipped additions. The purpose of this study was to investigate the incidence of infectious diseases in stray dogs in paddocks located in Bacău, Vrancea and Galați counties. The researches aimed to identify the causative agents of viruses in dogs in shelters located in the three counties in eastern Romania, Bacau, Vrancea and Galati, analysis of diagnostic methods used in the units, analysis of predisposing factors and analysis of surveillance and control measures. Parvovirus was the main viral disease observed among young dogs, aged between 1-7 months, its incidence varying between 28.18% and 68.18%. The diagnosis was established on the basis of the clinical picture, as well as by rapid tests, based on immunochromatography. Mortality in dogs diagnosed with parvovirus, in the 3 shelters included in the study, ranged from 32.72% to 66.66%. Other viral diseases, such as Carre's disease and kennel cough, were also diagnosed in the shelters included in the study. Promoting the vaccination of dogs and the control of the canine population by sterilization in the three counties included in the study can contribute to the prevention of viral diseases among stray dogs. The study provides support for preventive management actions aimed at protecting the health of stray dogs in public and private shelters.

**Key words:** viral disease; canine parvovirus; dog shelters; immunoprophylaxy

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## INTRODUCTION

Stray dogs are a topical issue in Romanian cities, and in recent years, this situation has become increasingly common in rural areas, especially in the metropolitan areas. Shelters for stray dogs have become a must and a necessity for local communities. Although many centers for strays dogs function across the country, there are multiple economic, managerial and pathophysiological factors that prevent, hinder or delay the completion of their main objectives. In recent years there has been a stagnation in the decrease in the number of stray dogs and the surplus of dogs present in the shelter centers is maximum, many of them being overcrowded. Overpopulation and inadequate housing conditions can amplify the underlying health concerns and expose the animals to a wide range of potentially dangerous infections. All of these variables can also play a role in the development and emergence of novel diseases, as well as changes in the virulence of existing viruses. This study aimed to identify the causative agents of viruses in dogs in shelters located in the three counties in eastern Romania, Bacau, Vrancea and Galati, analyze the diagnostic methods used in the

units, analyze the predisposing factors and the surveillance, control measures.

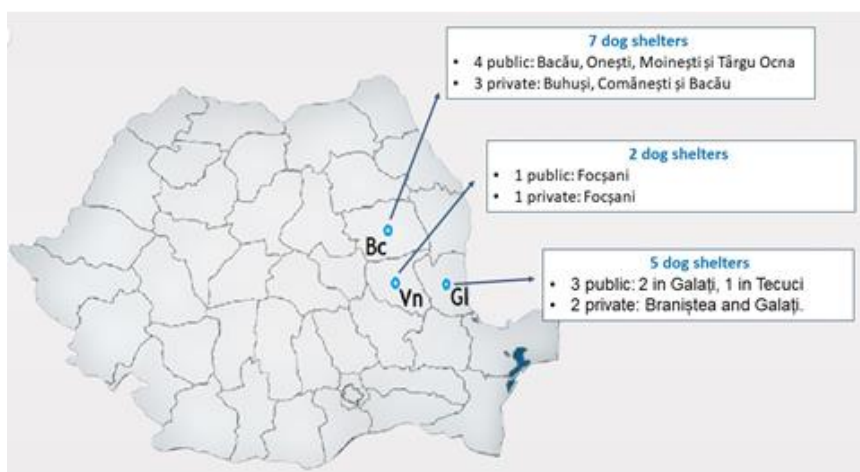
## MATERIAL AND METHOD

The research in this study was carried out in Bacău, Vrancea and Galati counties. The ANSVSA database and the website [www.registru-câini.ro](http://www.registru-câini.ro) were accessed to obtain information regarding the location of shelters and the contact details of the responsible persons. According to the information present on the site, in Bacău County, there are 7 shelters, in Vrancea county there are 2 shelters and in the Galati county there are 5 functional dog shelters (Figure 1).

A formal request for information regarding the number of animals in the shelter in 2019 and 2020, the demographic characteristics of the canine population in the shelter, the presence of viral infectious diseases during the analyzed period, the therapy and treatment schemes implemented, as well as the implemented prophylaxis measures. One shelter from each county included in the study responded to the request formulated. Statistical analysis was performed using SPSS 25.0 statistical software.

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**Figure 1 Location of dog shelters in the Eastern Romania (Bacau, Vrancea and Galati Counties)**

**RESULTS AND DISCUSSIONS**

The number of dogs from the shelters included in the study varied between 1090 and respectively 2800 animals (figure 2, figure 3 and figure 4). In all three shelters included in the study, the number of dogs up to 5 years old was significantly higher, representing over 60% of the total population. Regarding the distribution by sex, the proportion of female animals varied between 55.21% and 67.55%, being significantly higher compared to males, in both adult dogs category, respectively youth. Parvovirus was the main viral disease observed among young dogs, aged between 1-7

months, its incidence varying between 28.18% and 68.18% (figure 5 and figure 6). The diagnosis was established on the basis of the clinical picture, as well as by rapid tests, based on immunochromatography. Mortality in dogs diagnosed with parvovirus, in the 3 shelters included in the study, ranged from 32.72% to 66.66%.

Other viral diseases, such as carre's disease and kennel cough, were also diagnosed in the shelters included in the study, the incidence varying between 7.54 and 7.55% for carre's disease and 0.42%, respectively 13.64% for kennel cough. The mortality rate for carre's disease was 20%.



**Figure 2. Demographic aspects from the shelter located in Bacau County**



**Figure 3. Demographic aspects from the shelter located in Vrancea County**



Figure 4. Demographic aspects from the shelter located in Galati county

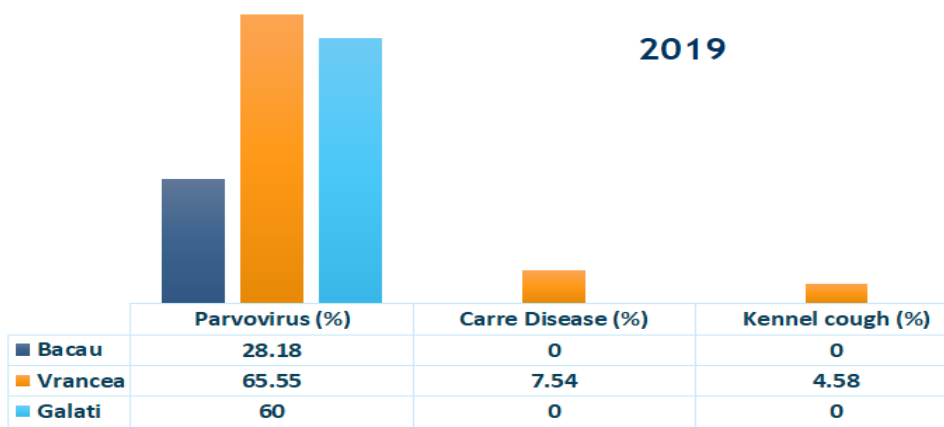


Figure 5. Incidence of viral disease, in 2019, in dog population from shelters located in Bacau, Vrancea and Galati

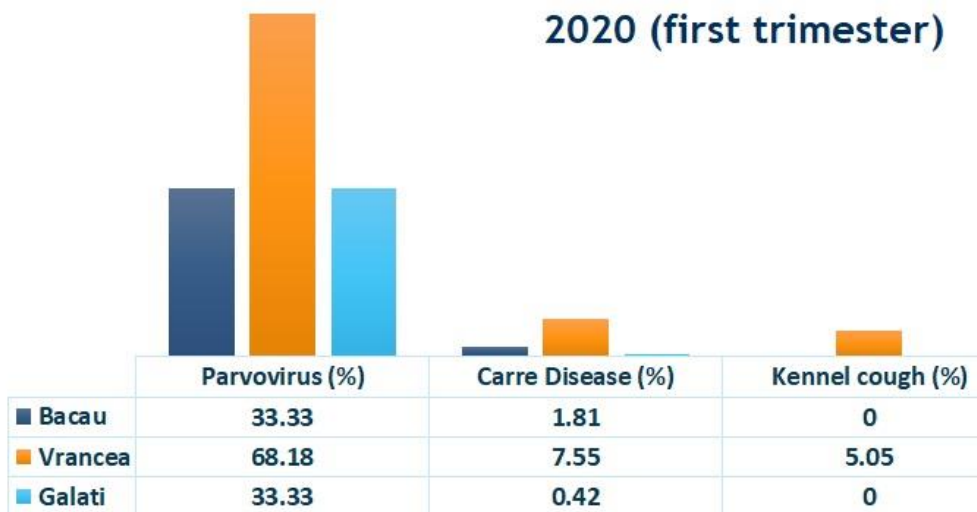


Figure 6. Incidence of viral disease, in 2020 (first trimester) in dog population from shelters located in Bacau, Vrancea and Galati

## CONCLUSIONS

- 1) Due to overpopulation, complete prevention of viral diseases in dog shelters is an impossible goal to be achieved.
- 2) A well-implemented vaccination and cleaning program before the onset of diseases can go a long way in minimizing their spread.
- 3) Promoting the vaccination of dogs and the control of the canine population by sterilization in the three counties included in the study may contribute to the prevention of viral diseases among stray dogs.
- 4) The study provides support for preventive management actions aimed at protecting the health of stray dogs in public and private shelters.

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