

**TITLE:** IDENTIFICATION AND DETERMINATION OF THE RESISTANCE PROFILE OF GRAM-NEGATIVE BACTERIA ISOLATED FROM VETERINARY HOSPITAL

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**ABSTRACT:**

Bacteria are the oldest organisms, and are present in every environment on the planet. Although very beneficial to humanity, a small portion of them are pathogenic, and can cause serious infections. Despite the existence of several antibiotics, a substance that inhibits the development or elimination of bacteria, the resistance of these microorganisms to antimicrobials is a serious problem for public health. Easy access to medications and the high occurrence of bacterial infections in both humans and animals has made the indiscriminate use of antibiotics very common, which may be the main reason for bacterial resistance. This study aimed to identify gram-negative bacteria in samples of animals consulted at the University Veterinary Hospital (HVU) in Petrolina-PE, and also to verify the resistance profile of these bacteria to antimicrobials. Clinical isolates were obtained from samples of ears, vaginal swabs, urocultures, back regions and oral secretions of dogs and cats consulted with clinical status. Identification was made by Gram stain, followed by biochemical tests to arrive at the species level or at least at the genus level. To determine the resistance profile of the bacteria, the disc diffusion method was used with commercial antimicrobial discs of Macrolides, Penicillins, Cephalosporins, Aminoglycosides, Quinolones, Glypeptides, Licosamides and Afenicols. Six isolates of *E. coli*, 10 samples of *Pseudomonas* sp., 2 isolates of *Acinetobacter* sp. and another 2 samples of *Enterobacter* sp., totaling 20 samples. These isolates were submitted to 20 antibiotics during the antibiogram. Among the antimicrobials tested, what was less effective against the bacteria was Amoxycycline + Clavulanic Acid, followed by Cephalexin and Clindamycin. Chloramphenicol, Amicacin, Norfloxacin and Ciprofloxacin have proven to be the most efficient antibiotics. From this, it is inferred that even isolates exhibiting resistance to at least 8 of the 20 antibiotics, 4 of these 20 antimicrobials have been shown to be very effective against these pathogenic strains. However, it is necessary to invest in the pharmaceutical industry to produce new antibiotics that are fully effective against bacteria and have no side effects to the hosts.

**Keywords:** animals, antibiotics, gram-negatives, infections, resistance.

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