

TITLE: ENVIRONMENTAL VULNERABILITY AND HEALTH: ZONOSIS AND ITS IMPLICATIONS ON LIFE QUALITY OF RURAL SETTLERS ON THE NORTH AND NORTHWEST RIO DE JANEIRO STATE.

Authors: da Rosa, M.C.¹, Corrêa, E.S.¹, Andersen, L.A.U.¹, Azevedo Júnior, I.S.¹, Santos Silva, L.G.J.², Mariano, F.A.¹, Mathias, L.S.¹, Vieira-da-Motta, O.¹.

Institution: ¹ UENF - Universidade Estadual do Norte Fluminense (Av Alberto Lamego 2000 - Pq Califórnia – 2801360- Campos dos Goytacazes, RJ),² CEDRO - Cooperativa de Consultoria, Projetos e Serviços em Desenvolvimento Sustentável (Rua do Ouvidor 130 - Sala 712- Centro, 20.040-030 - Rio de Janeiro, RJ).

Abstract:

Populations of animals and humans living in rural settlements located at the regions north and northwest of Rio de Janeiro state are vulnerable to pathogenic microbial agents, many of them acquired from direct contact with contaminated environment or animals. In the present work pathogenic bacteria with multiple resistance to antibiotics were isolated from nasal colonization of rural settlers, and investigated the socioeconomic, educational, and health profiles of people by applying a questionnaire to enlighten on issues related to zoonosis and antimicrobial resistance. For that, lectures and educational booklets on hygiene and sanitary measures, animal handling, zoonosis, and indiscriminate use of drugs to treat infectious diseases of animals and humans were used. Following the meetings for discussion of the topic in the settlements of Campos dos Goytacazes, São Fidélis, Itaperuna and São Francisco de Itabapoana; home visits, data from questionnaires, and sample collection were realized. Bacterial isolates were tested against 13 drugs for Gram-positive and 10 used for gram-negative bacteria. The results pointed to a higher resistance of *Staphylococcus* spp. (44%), *Escherichia coli* (10%), *Pseudomonas* spp. (10%) and Enterobacteriaceae (28.37%), among others. Tetracycline, Penicillin, Cephalotin and Cefoxitin showed reduced activity. The resistance against these drugs points to a potential risk to pet owners and livestock, especially poultry and swine. However, ruminants may also present colonization and infection with multidrug-resistant bacteria, including *Staphylococcus* spp. (Coagulase-positive and negative), *Escherichia coli* (and other Enterobacteriaceae) as agents of clinical and subclinical mastitis. The profile of Gram (+) towards to drugs revealed that 10% of the samples were resistant to Oxacillin and Cephalotin. The questionnaires data showed that most of the settlers (66%) revealed a low educational level of people, with elementary school graduates and even knowing about diseases transmitted by animals, they are unaware of the ways of transmission of the main microorganisms, with zoonotic potential that can inflict them at their rural activities routine

Key-words: Zoonoses; Drug resistance; Rural settlement; Public health.

Funding Agencies: FAPERJ, UENF, CEDRO