

TITLE: MICROBIOLOGICAL ANALYSIS IN COLLECTIVE TRANSPORT OF BELÉM-PA

AUTHORS: PAIXÃO, J.; ANJOS, M.; LIMA, E.; MADEIRA, L. D.; RIBEIRO, K.; VIEIRA, A. B.; RIBEIRO, S. M. A.

INSTITUTION: Laboratório de Microbiologia e Imunologia; Instituto de Ciências Biológicas, Belém, PA (Av. AUGUSTO CORREA, nº 1 (Núcleo Universitário) - CEP: 66.075-900, Belém-PA, Brasil).

ABSTRACT:

Bacteria live in the most varied habitats, bringing great contributions to man and nature, but also causing serious damage, such as infectious diseases. Environments with a large flow of people, such as public transport, can endanger the health of the population, since they are usually contaminated by pathogens that are constantly transmitted by man. This study aimed to know the diversity and the antimicrobial susceptibility of isolated bacteria in a university collective transportation of Belém-PA. Collecting was carried out in 5 different points of the circular bus Federal University of Pará: entrance handrail, steering wheel, chair handle, support handle and exit handrail. Samples were collected with sterile swabs, which were deposited in tubes containing BHI broth (Brain Heart Infusion) and incubated at 37°C for 24h. After incubation, aliquots were seeded from the broth into Petri dishes containing different culture media for bacterial isolation. The isolated colonies were identified through morphological and biochemical characteristics, and were subsequently submitted to the antimicrobial susceptibility test. The 5 points of the analyzed bus proved to be important reservoirs of microorganisms, being the entrance and exit handrails, the points with the highest concentration of bacteria. Among the bacterial isolates, were found Gram positive bacilli of the genera *Bacillus* and *Corynebacterium*. The genus *Staphylococcus* was also identified, especially *S. aureus*, *S. epidermidis* and *S. saprophyticus*. Gram negative bacilli *Escherichia coli*, *Klebsiella pneumoniae* and *Serratia marcescens* were also found. The antimicrobial tests revealed that most of the species showed susceptibility, except for one strain of *S. saprophyticus*, which was resistant to 4 different classes of antibiotics (Oxacillin, Linezolid, Levofloxacin and Vancomycin), being considered multidrug resistant, an important fact because it is a species that inhabits the human urogenital tract and can cause diseases in immunodeficiency conditions. These results show that collective transports can be considered important reservoirs of microorganisms, including multidrug resistant strains. The adoption of vehicle hygiene measures and the awareness of the users about hand hygiene are important in the prevention of infections caused by these microorganisms and in controlling their propagation to other environments.

Keywords: Bacteria, Bacterial contamination, Multiresistant bacteria, Prevention of infections

Development Agency: PROEX-UFPA