

**TITLE: PREVALENCE AND SUSCEPTIBILITY PROFILE OF CLINICALLY IMPORTANT BACTERIA ISOLATED FROM BELO HORIZONTE COLLECTIVE TRANSPORTATION BUS.**

**AUTHORS:** QUARESMA, T.P.<sup>1</sup>; TELES, N.J.T.<sup>1</sup>; FONSECA, P. F.<sup>2</sup>; COSTA, P. S.<sup>1</sup>; PAIVA, L. F. R.<sup>1</sup>.

**INSTITUTION:**

<sup>1</sup> INSTITUTO DE CIÊNCIAS BIOLÓGICAS DO CENTRO UNIVERSITÁRIO UNA - CAMPUS GUAJAJARAS (RUA DOS GUAJAJARAS, 175 - CENTRO, BELO HORIZONTE- MG, 30180-100)

<sup>2</sup> SETOR DE MICROBIOLOGIA - UNIDADE FUNCIONAL DE PATOLOGIA E MEDICINA LABORATORIAL – HOSPITAL DAS CLÍNICAS / UFMG (AVENIDA ALFREDO BALENA, 190 – 2º ANDAR, SANTA EFIGÊNIA – 30.130-100)

**ABSTRACT**

Currently, collective transportation is used by a large population ratio to carry out day-to-day tasks, where users are exposed to various parasites and opportunistic bacteria, which are usually found in these environments. One of the main public health problems in the world is the indiscriminate use of antimicrobials which increases the risk of resistant bacterial strains selection. This study evaluated the incidence of clinically important bacteria isolated from a public transportation bus in two distinct routes, downtown (DR) and hospital region route (HR), of Belo Horizonte. Samples was collected in September 2016. Twenty-seven samples from the two buses were collected using sterile swabs which was subsequently conditioned in Stuart medium. The samples were seeded in culture medium and analyzed in the Microbiology Laboratory of the Institute of Biological Sciences of University Center UNA/Campus Guajajaras. Bacteria classified as Gram-positive were identified by biochemical tests and as Gram-negative were identified through VITEK® 2 Compact bioMérieux automated system. Both, Gram-positive and Gram-negative strains, were submitted to antimicrobial susceptibility test. Results of bacterial growth

showed the highest occurrence of clinically important bacteria in the HR when compared with the DR, being found predominantly in the top handrail bar, which can be explain by the fact that daily cleaning in these bar is more difficult. The bacterial genera and species found were *Bacillus* spp. (HR/DR), *Enterococcus* spp. (HR/DR), *Staphylococcus* spp. (probable coagulase negative) (HR/DR), *Enterococcus faecium* (HR), *Escherichia coli* (HR), *Escherichia hermannii* (HR), *Leclercia adenocarboxylata* (HR), *Pseudomonas stutzeri* (HR), *Cronobacter sakazakii* (HR) and *Pantoea agglomerans* (DR). The predominant bacterial species on the two routes were *Bacillus* spp. e *Staphylococcus* spp (probable coagulase negative). Bacterial species submitted to the susceptibility test presented sensitive results to all antimicrobials used, with the exception of *E. faecium* which showed a Ciprofloxacin resistance profile. Surfaces such as bus handrail bars may harbor potentially pathogenic bacteria, an unsafe environment for immunosuppressed individuals. The data shows a requirement for efficient sanitation of public transport and the implementation of basic measures, such as handwashing, as an important public health promotion measure.

**Key-words:** Collective transportation bus, pathogenic bacteria, fomites, *Enterobacteriaceae*, antimicrobial resistance.