TITLE: OCCURRENCE OF MULTIDRUG-RESISTANT GRAM-NEGATIVE BACTERIAL SPECIES IN INTENSIVE CARE UNITS OF HOSPITALS IN MACEIÓ / AL

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ABSTRACT:
Gram-negative bacteria are commonly isolated from Health-care Associated Infections (HAIs), the increase of multidrug-resistant strains-MDRs allied to their virulence mechanisms make the hospital environment a source of contamination, causing these bacteria have become a serious global health problem. In patients for long periods and in need of life-sustaining appliances are more likely to be infected by these microorganisms, thus, it is observed that patients in ICUs become more susceptible to such infections. The objective of this research was to evaluate the occurrence of bacterial species MDRs related to HAIs in internal patients in ICUs of hospitals of Maceió/AL. The isolates were collected of different infection sites from May to December of 2018 in three hospitals , and all strains of gram-negative bacteria with MDR profile were included. The species were confirmed by mass spectrometry - MALDI-TOF with score ≥ 2.00. The verification of bacterial resistance was performed in the source laboratories through the disk-diffusion technique and confirmed by the same technique according to CLSI, 2018, for the drugs meropenem and amikacin. Of the 195 isolates identified by MALDI-TOF, 43.58% (n = 86) came from ICUs and 12 bacterial species were identified, being the most prevalent: *Pseudomonas aeruginos*a 50,58% (n = 43), *Acinetobacter baumannii* 16.47% (n = 14), *Klebsiella pneumoniae* 12.94% (n = 11) and the other 9 species had an incidence of 21.17% (n = 18). A high rate of resistance to the antimicrobials was found, with 83.52% (n = 71) presenting resistance to meropenem, 51.76% (n = 44) to amicacin and 49.41% (n = 42) resistance to both. According to the collected site, 47.05% (n = 40) of infections in the respiratory tract were observed, since the microorganisms came from tracheal secretion, followed by 18.82% (n = 16) from of urine, and 14.11% (n = 12) of blood and 27.05% (n = 23) other sites. In this way, it was verified that the prevalence of HAIs related to internal patients in ICUs occurred in the respiratory tract, precisely because they used mechanical ventilation and in the urinary tract because they used the probe, corroborating with the literature. The observation of the high resistance to carbapenems is viewed with great concern due to the weakness of the internal patients in ICUs, being necessary more effective measures to control HAIs, mainly in these units.

Keywords: Multidrug-resistant, Antimicrobial, Health-care Associated Infections (HAIs).