TITLE: PROFILE OF VIRULENCE AND ANTIMICROBIAL RESISTANCE OF *Staphylococcus* spp. FROM OROPHARYNX AND DRINKING WATER OF THE LAGO DO LIMÃO COMMUNITY/IRANDUBA-AM

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ABSTRACT:

Brazil is classified as a country rich in water, with the hydrographic region of Amazonas accounting for 73% of all Brazilian rivers. However, sanitation indicators are one of the worst in the country, where 55.7% of households are not supplied with water. Water supply becomes difficult in floodplain areas in Amazonas, where seasonal cycles hinder access to water, because the watercourse is significantly distant from residences. In this sense, populations living in rural areas suffer from lack of sanitation and poor water supply, making water quality a cause for concern, due to the occurrence of bioindicators of contamination and/or pathogens such as *Staphylococcus* spp. which are associated with toxinfections, generally related to the presence of virulence genes and genes conferring resistance to antibiotics. Therefore, the purpose of this work was to study environmental health aspects, with emphasis on *Staphylococcus* spp. isolated from drinking water and oropharynx samples from the Lago do Limão Community. A total of 180 drinking water samples and 29 oropharynx samples were collected. *Staphylococcus* spp strains isolated from these samples were submitted to the antimicrobial susceptibility test by the disk diffusion method. In addition also, the PCR technique was performed to detect virulence genes that code for the biofilm production (*icaA*, *icaC, icaD*), exfoliative toxins (ETa, ETb), staphylococcal enterotoxins (*sea, seb, sec, sed,),* toxic shock syndrome toxin (TSST-1) and resistence à oxacilin (mecA). From the water samples, 15 strains of *Staphylococcus* spp were isolated, being 7 *Staphylococcus aureus*, 5 *Staphylococcus warneri* and 3 *Staphylococcus saprophyticus*. From the oropharynx samples, 11 strains of this genus were isolated, of which 9 were identified as *Staphylococcus aureus* and 2 as *Staphylococcus hominis*. In the antimicrobial tests, the strains of *S. aureus* of both samples, water and oropharynx, were resistant to ampicillin, azithromycin and erythromycin, and strains of this species isolated from the oropharynx also showed resistance to clindamycin and gentamicin. The IcaD gene was found in water (33.3% of strains) and in 54.5% of strains isolated from the oropharynx. The ETa and icaA genes were only detected in the oropharynx samples. The results showed similarities of *S. aureus* strains present in water and oropharynx, both due to the similarity in resistance of antibiotics and the presence of the same type of virulence gene.

Keywords: PCR, *Staphylococcus* spp, virulence

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