TITLE: CHLORHEXIDINE SUSCEPTIBILITY OF SAMPLES ISOLATED FROM THE PARNAÍBA RIVER IN TERESINA-PI.

AUTHORS: SANTOS, A. C. S; LIMA, F. L; SOUZA, A. P. M; LIMA, E. M. R.; SOUZA, M. A. B.; LEAL, G. C.; MESQUITA, N. A.

INSTITUTION: Universidade Estadual do Piauí (UESPI) Teresina-PI (R. João Cabral, 2231 - Pirajá, Teresina - PI, CEP 64002-150 Teresina, PI, Brasil)

ABSTRACT:

Chlorhexidine is a bisbiguanide that has a high level of activity, typical of high-grade antimicrobials. Generally, small amounts are sufficient to inhibit the growth of Gram positive, Gram negative bacteria, yeasts and fungi, being used largely in hospital infection control. Inadequate treatment of wastewater contaminated with this substance in sewage may select resistant microorganisms in the environment. The aim of this work is to investigate the presence of resistance to chlorhexidine in microorganisms isolated from the Parnaíba River, on the stretch between the city of Teresina-PI and the city of Timon-MA, in 2017. Therefore, a water collection was carried out and transported to LABMICRO/GERATEC/UESPI. 200 µl of the water collected and seeded in Mueller-Hinton agar medium, already incorporated with different final concentrations of Chlorhexidine (0.25 0.5, 1.0, 1.5, 2.0, 3.0%). The Petri dishes were incubated at 35 ° C for 48 hours. It was possible to verify the growth of microorganisms in different concentration C1 (0.25%): Yeasts and Gram positive cocci; C2.1 (0.5%): yeasts, cocci and bacilli Gram positive and a strain of Gram negative bacilli; C2.2 (0.5%): Gram positive cocci and micrococci; C6 (3.0%): Cocci and Gram-positive bacilli. Teresina owns less than 15% of the homes served by sewage collection and treatment. The results show the lack of the sewage treatment that flows into the Parnaíba River has provided an environment for the appearance of chlorhexidine resistant microorganisms. This allied with other factors makes water improper to be used for leisure or consumption. These data reinforce the need for a sewage network with adequate treatment for wastewater.

Keywords: chlorhexidine; resistant; affluents.

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