

## **BACTERIOLOGICAL QUALITY ASSESSMENT OF WATER OF MOST FREQUENTED BEACHES OF VITORIA AND VILA VELHA - ES.**

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The water recreational beaches that possibly receive sewage dump can represent environments with epidemiological and health importance in direct contact transmission of disease, jeopardizing the health of the regulars. This research aims to evaluate the bacteriological water quality of most frequented beaches of Vitória and Vila Velha - ES, in order to contribute to the results for information to the local people. Following the CONAMA standards. The study was developed with the use of bacteriological indicators *Enterococcus*, *Escherichia coli* and thermotolerant coliforms. The Collection procedures, transport, storage and analysis defined by the Standard Methods for the Examination of Water and Wastewater and CETESB. The membrane filtration method was used for bacterial quantification, and the results were expressed as CFU/ 100ml. Eight sampling stations were analyzed in 18 expeditions, on a monthly basis during the period of October/ 2013 to April/ 2015. *Enterococcus*, *Escherichia coli* and thermotolerant coliforms were detected in 86.39%, 72.7% and 69.5% of the water samples, respectively. According to the results acquired, the sea water with the best health quality is the Praia da Costa beach and Itapuã beach located in Vila Velha, with *Enterococcus* average of 59 CFU/ 100ml and *Escherichia coli* average of 106 CFU/ 100ml for first beach, and *Enterococcus* average of 0 CFU/ 100ml and *Escherichia coli* average of 4 CFU/ 100ml for second beach. The Curva da Jurema beach obtained the highest average contamination with *Escherichia coli* (6238 CFU/ 100 ml), coliforms thermotolerant average of 697 CFU/ 100 ml and *Enterococcus* average of 567 CFU/ 100ml. This beach also had the highest scores for *Enterococcus* and *Escherichia coli* parameters, with maximum numbers 4500 CFU/ 100ml and 28220 CFU/ 100ml, respectively. These values are above the limit established by CONAMA resolution 274/00. The results show that the Curva da Jurema beach presents influence of sewage, presenting health risks to swimmers who frequent this beach all year.

**Keywords:** Water, Bathing, *Enterococcus*, Coliforms, *Escherichia coli*.

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