

Results

The *E. coli*, enterococci and mesophilic microbial count were not found in any sample. Unsafe pool water was mainly contaminated by both photogenic *P. aeruginosa* (6.3%) and total *Staphylococcus* (10.4%). Levels of *P. aeruginosa* in therapeutic pools was greater than in recreational pools (indoor and outdoor) (10.5% vs 6.8% and 4.5%, respectively), while total *Staphylococcus* was absent in therapeutic pools and represent 13.6% and 10.6% of positivity in indoor and outdoor swimming pools, respectively. The bathers number medium of therapeutic, indoor and outdoor pools was 4.8, 3.4 and 6.9, respectively.

Conclusions

Overall, the results endorse the good water quality of these swimming pools, mainly by the absent of faecally-derived bacteria. The presence of *P. aeruginosa* in therapeutic pools can be explained by the type of users, while the high number of bathers may promote the growth of some microorganisms, particularly in outdoor pools.

Keywords: Swimming pools, indoor, outdoor, recreational, therapeutic.

Microbial water quality of public swimming pool in the district of Bragança

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Background

The poor water quality of recreational and rehabilitation pools, has been correlated to insufficient disinfection or human contamination, and can be a vehicle for transmitting diseases to users. Because people with different characteristics attend public swimming pools with different purposes, the pool water quality control is essential to minimize hazards related to unsafe water.

Methods

This study was based on data collection of 144 samples between 2018 and 2020 in therapeutic and recreational pools (indoor and outdoor) in the Bragança district. The proportion of the number of bathers were estimated, as well as the microbial parameters: Total coliforms, *Escherichia coli*, enterococci, *Pseudomonas aeruginosa*, total *Staphylococcus*, *Staphylococcus coagulase-positive* and mesophilic microbial count.