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To cite this article: Guilhermina Martins Moutinho, Inês dos Santos, Margarida Matos & Maria Deolinda Auxtero (2019) Research and identification of *Cryptosporidium* and *Giardia lamblia* in wastewater treatment plants, *Annals of Medicine*, 51:sup1, 73-73, DOI: [10.1080/07853890.2018.1561629](https://doi.org/10.1080/07853890.2018.1561629)

To link to this article: <https://doi.org/10.1080/07853890.2018.1561629>



Published online: 28 May 2019.



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and aminoglycosides only in isolates from affluent waters.

Conclusion: The residual waters, upon arriving at urban wastewater treatment plant, are subjected to a depuration process to eliminate chemical and biological contaminants. However, our study revealed the presence of multiresistant bacteria in effluents, which allows their dissemination in the environment and its impact on public health.

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DOI: 10.1080/07853890.2018.1561627

Research and identification of *Cryptosporidium* and *Giardia lamblia* in wastewater treatment plants

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Introduction: *Cryptosporidium* spp. and *Giardia lamblia* are parasitic protozoa that are responsible for diarrhea and gastroenteritis in humans and animals. The most frequently identified source of infestation is water, and exposure involves either drinking water or recreation water. In young and old people as well as in immunocompromised individuals it can cause severe diarrhea, syndrome of malabsorption, growth delay and death.

Since the cysts and oocysts are resistant to some treatments used in domestic water systems it is important to understand if the treatment done in wastewater treatment plants (WWTP) is efficient or not. The aim of this work was to evaluate if treatment done in WWTP is enough to eliminate this infections forms.

Materials and methods: Samples of 3L were collected before and after the treatment in 7 WWTP of SIMTEJO in the great Lisbon area (Alcantara, Beirolas, Chelas, Ericeira, Frielas, Malveira and São João da Talha). All the samples were concentrated by centrifugation in Centrifuge 5810R (3500 rpm/3 min), followed by 24h of sedimentation. Microscopic analysis for research and identification of *Cryptosporidium* oocysts and *Giardia* cysts after different staining methods was done.

Results: Before treatment, all water samples presented *Cryptosporidium* oocysts and *Giardia lamblia* cysts. All the WWTP that have done the tertiary treatment with chlorine continue to present oocysts and cysts. Only WWTP of Beirolas and of Frielas that have used UV rays, as final treatment, did not presented the resistant parasitic forms (cysts and oocysts).

Discussion and conclusions: These results suggest that treatment with chlorine is not efficient to eliminate oocysts or cysts, which is in agreement with other studies as reported by Omarova et al. [1]. The presence of these resistant forms in water represents a risk factor of contamination of population in general, specially children, elderly people and immunocompromised individuals. The treatment of water should not be neglected.

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Acknowledgements

The authors are grateful by the collaboration of SIMTEJO WWTP and for the support provided by Egas Moniz, CRL.

Reference

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DOI: 10.1080/07853890.2018.1561629

Determination of target biogenic amines in fish by GC-MS: investigating seafood quality

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