

BRIEF COMMUNICATION

COMMON BEACH SAND CONTAMINATION DUE TO ENTEROPARASITES ON THE SOUTHERN COAST OF PERNAMBUCO STATE, BRAZIL

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SUMMARY

Sand contamination due to parasites was evaluated on the beaches of Porto de Galinhas, Muro Alto and Maracaípe in southern Pernambuco State. Samples were analyzed using the spontaneous sedimentation and modified Rugai methods. The highest contamination occurred on Porto de Galinhas beach, from which 42% of the samples were contaminated with *Ancylostoma* larvae and 13% with *Trichuris* sp. eggs. From Muro Alto beach, 30% of the samples were contaminated with *Ancylostoma* larvae and 13% with *Ascaris lumbricoides*. No pathogenic parasites were detected on Maracaípe beach. We suggest that further studies on beach sand contamination due to parasites should be conducted.

KEYWORDS: Sand. Beach; Enteroparasite.

Intestinal parasites are among the pathogens most frequently found in humans, and they cause significant health problems. Endemic soil contamination in public places such as beaches, squares and gardens is an important public health issue because of the risk of zoonosis transmission³.

Only a few studies have mentioned beach sand contamination caused by parasites such as *Ancylostoma* sp., *Toxocara* sp., *Ascaris* sp. and *Trichuris* sp.^{1,5}. It is important to control sand contamination due to parasites because people (particularly children) may become infected and develop bowel obstruction (*A. lumbricoides*), malnutrition (*A. lumbricoides* and *T. trichiura*) and iron deficiency anemia (hookworms).

Large number of tourists visit the beaches of northeastern Brazil, particularly in southern Pernambuco State. The beaches of Porto de Galinhas, Muro Alto and Maracaípe are the ones most frequently visited by tourists because they have corals, warm clear waters and cliffs. The purpose of this study was primarily to evaluate the possibility that these beaches might present sand contamination due to parasites.

Samples of fine dry beach sand were collected under low tide conditions when it was not raining, between September 2006 and March 2007. Twenty-four specimens were collected from Porto de Galinhas, Maracaípe and Muro Alto beaches, mostly from crowded areas. The samples came from three different depths: surface, 10 cm and 20 cm. The

spontaneous sedimentation and modified Rugai methods were applied due to be easy and cheap methods for isolation and identification of eggs and larvae of parasites, respectively².

Higher larval contamination was identified in Porto de Galinhas (38% of total samples) and Muro Alto (38%) beaches when compared to Maracaípe beach (13%) by Rugai method. This was probably because of the difficulty in accessing Maracaípe beach, which is more frequented by surfers, and the lack of dogs in the area.

The parasites detected, by Hoffman method, on Porto de Galinhas beach were *Ancylostoma* sp. larvae (42%) and *Trichuris* sp. eggs (13%), whereas in Muro Alto beach, the parasites were *Ancylostoma* sp. larvae (30%) and *Ascaris lumbricoides* (13%). On the other hand, Maracaípe presented sand contamination due to *Entamoeba coli* (13%). All the other samples were negative. The latter is a parasite unlikely to cause disease in humans. Its presence may indicate conditions appropriate for the proliferation of other pathogenic microorganisms⁴, although no parasites at all could be detected in the samples from Maracaípe beach.

Taken together, our data are compatible with data from other authors^{1,3}. The findings point towards problems that exist in relation to these beaches, such as poor health infrastructure, free transit of animals and lack of sanitary education. Our intention is expand our study in this field and work together with local populations and municipal councils.

RESUMO

Contaminação de areia de praia por enteroparasitas na costa sudeste do Estado de Pernambuco, Brasil

Contaminação da areia por parasitas foi avaliada nas praias de Porto de Galinhas, Muro Alto e Maracaípe no sudeste do Estado de Pernambuco. As amostras foram analisadas usando a sedimentação espontânea e do método de Rugai modificado. A contaminação mais alta ocorreu na praia de Porto de Galinhas, na qual 42% das amostras estavam contaminadas com larvas de *Ancylostoma* e 13% com ovos de *Trichuris* sp. Na praia de Muro Alto, 30% das amostras estavam contaminadas com larvas de *Ancylostoma* e 13% com *Ascaris lumbricoides*. Não foram encontrados parasitas patogênicos na praia de Maracaípe. Sugerimos que outros estudos sobre contaminação por parasitas em areias de praias sejam realizados.

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