

РИСК ОТ ПАРАЗИТНИ ИНВАЗИИ ПРИ РАБОТЕЩИ В ПРЕЧИСТВАТЕЛНИ СТАНЦИИ ЗА ОТПАДЪЧНИ ВОДИ

Е. Тосева¹, Д. Вучев², Т. Търновска¹

¹Катедра по хигиена и екомедицина, Факултет “Обществено здраве”
Медицински университет – Пловдив,

²Катедра по инфекциозни болести, паразитология и тропическа медицина,
Факултет “Обществено здраве” Медицински университет – Пловдив,

RISK OF PARASITIC INFECTIONS AMONG WORKERS IN WASTEWATER TREATMENT PLANTS

E. Toseva¹, D. Vuchev², T. Turnovska¹

¹Department of Hygiene and Ecomedicine, Faculty of Public Health,
Medical University – Plovdiv, Bulgaria

²Department of Infectious Diseases, Parasitology and Tropical Medicine,
Faculty of Medicine, Medical University – Plovdiv, Bulgaria

Abstract

Introduction: Wastewater treatment has an important meaning for the protection of public health. The workers in the treatment plants are at risk of contamination with various biological agents, including parasitic invasions.

Aim: The aim of the study was to analyze the working conditions of wastewater treatment plants (WWTPs) in order to evaluate the risk to parasitic infections among workers.

Materials and Methods: Working conditions in three WWTPs were surveyed in the period 2014-2015; a morphological study for intestinal helminths and protozoa among 111 (68.94%) workers in the WWTP-target group and 50 (31.06%) workers in the drinking water treatment and supply stations (DW) control group was carried out. Laboratory data from analyses of the WWTP sludge were used.

Results: The protection activities of the technological processes in WWTPs complied with the requirements of work with biological agents. In treated sludge, no cysts of intestinal protozoa, helminths eggs and larvae were detected. No carriers of pathogenic intestinal helminths and protozoa were found among the workers. *Giardia lamblia* was found in two workers from WWTPs and in one from DW, and *Blastocystis hominis* – in one of the workers from WWTPs. The Odds ratio for the parasitic infections among WWTPs' workers was 1.361 (95% CI: 0.138-13.417) and Fisher's P=1.00.

Conclusion: Despite the high environmental resistance of parasites, no intestinal protozoa and viable helminths eggs were found in the treated sludge. The Odds ratio for contamination of WWTPs workers was not different from that of DW workers when work conditions were safe.

Keywords: WWTPs workers, risk of parasitological invasions, sanitation parasitology, sewage sludge

Address for correspondence: elka_toseva@abv.bg