

Parasitic Infection among Farmers Dealing with Treated Wastewater in Al-Zaitoun Area, Gaza City

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Abstract : Treated wastewater irrigation is associated with several benefits but can also lead to significant health risks. The main objective of this study is to investigate the parasitic infection (PI) among farmers dealing with treated wastewater (TWW) in Al-Zaitoun area- Gaza City. This study included two farmer groups: farmers who dealing with TWW (Mixed water users (MWUs)), and farmers who irrigate by using groundwater (GW) (Ground water users (GWUs)). Each participant was asked to provide stool samples on two phases. The two farmer groups were use GW in the 1st phase while the MWUs were use TWW in the 2nd phase which was after using TWW in irrigation for three months. Prevalence of PI was 30.9% and increased to be 47.3% in the 2nd phase. Negative association not statistically significant (OR= 0.659, CI 0.202-2.153) was found in the 1st phase, while a positive association not statically significant was found between PI and TWWR in the 2nd phase (OR=1.37, CI 0.448-4.21). In this study six parasites species were identified among participants: Entamoeba "histolytica/dispar and coil", Cryptosporidium, Microsporidia, Giardia lamblia, Strongyloides stercoralis, and Ascaris lumbricoides.

Keywords : wastewater, groundwater, treated wastewater, parasitic infection, parasites

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