

RESEARCH ARTICLE

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Determining intestinal parasitic infections (IPIs) in inmates from Kajang Prison, Selangor, Malaysia for improved prison management

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Abstract

Background: The prison management in Malaysia is proactively seeking to improve the health status of the prison inmates. Intestinal parasitic infections (IPIs) are widely distributed throughout the world and are still gaining great concern due to their significant morbidity and mortality among infected humans. In Malaysia, there is a paucity of information on IPIs among prison inmates. In order to further enhance the current health strategies employed, the present study aims to establish firm data on the prevalence and diversity of IPIs among HIV-infected and non-HIV-infected individuals in a prison, an area in which informed knowledge is still very limited.

Methods: Samples were subjected to microscopy examination and serological test (only for *Strongyloides*). Speciation for parasites on microscopy-positive samples and seropositive samples for *Strongyloides* were further determined via polymerase chain reaction. SPSS was used for statistical analysis.

Results: A total of 294 stool and blood samples each were successfully collected, involving 131 HIV positive and 163 HIV negative adult male inmates whose age ranged from 21 to 69-years-old. Overall prevalence showed 26.5 % was positive for various IPIs. The IPIs detected included *Blastocystis* sp., *Strongyloides stercoralis*, *Entamoeba* spp., *Cryptosporidium* spp., *Giardia* spp., and *Trichuris trichiura*. Comparatively, the rate of IPIs was slightly higher among the HIV positive inmates (27.5 %) than HIV negative inmates (25.8 %). Interestingly, seropositivity for *S. stercoralis* was more predominant in HIV negative inmates (10.4 %) compared to HIV-infected inmates (6.9 %), however these findings were not statistically significant. Polymerase chain reaction (PCR) confirmed the presence of *Blastocystis*, *Strongyloides*, *Entamoeba histolytica* and *E. dispar*.

Conclusions: These data will enable the health care providers and prison management staff to understand the trend and epidemiological situations in HIV/parasitic co-infections in a prison. This information will further assist in providing evidence-based guidance to improve prevention, control and management strategies of IPIs co-infections among both HIV positive and HIV negative inmates in a prison environment.

Keywords: HIV, Intestinal parasites, Prison inmates, Malaysia

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