

Prevalence of Enterobius vermicularis infection in preschoolers in North West Bank, Palestine

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Abstract

Introduction:

Enterobius vermicularis is a prevalent intestinal helminthic infection among children under five years of age. In this study we assessed the prevalence and the risk factors of Enterobius vermicularis infection in preschool children in North West Bank, Palestine.

Methodology:

A cross sectional study that included the six main governorates in North West Bank was carried from May to November, 2015. 384 children aged 3 to 5 years old from 86 day care centers were included. Adhesive perianal cellophane tape method was used to detect Enterobius vermicularis infection and questionnaires were sent to guardians of participating children to collect information about demographic characteristics, hygiene behaviors, socioeconomic status (mother vocation and household income), and history of previous infection with Enterobius vermicularis and presence of symptoms related to infection with E. vermicularis.

Results:

Out of 1300 distributed questionnaires, 384 were completed. Eighty five children were found to be infected with Enterobius vermicularis with a total prevalence of 22.1%. The mean age of children was 4.4, (SD: 0.775). Males represented 54% of children. The highest prevalence of infection was reported from Tubas (30%) and Jenin (29%). The highest prevalence was seen in villages (34%). A statistically significant association was found between the number of household members and the prevalence of Enterobius vermicularis infection ($\chi^2 = 14.407, p = 0.001$). Personal hygiene behaviors, history of previous infection or presence of symptoms were statistically not significant. Using multivariate analysis, age (OR: 1.3, 95% CI: 0.936- 1.938), governorate; Tubas (OR: 3.9, 95% CI: 1.295- 12.079), Qalqilia (OR: 3.7, 95% CI: 1.376- 10.360), Tulkarm (OR: 3.3, 95% CI: 1.451- 7.544), Jenin (OR: 3.4, 95% CI: 1.596- 7.502), living in a village (OR: 2.2, 95% CI: 1.018- 5.003) and the number of household members of more than 9 members (OR: 3.6, 95% CI: 1.427- 9.267) were found significant.

Conclusion:

Enterobius vermicularis represents a major helminthic infection among preschool children in Palestine and that the major risk factors were crowdedness, environmental conditions and certain geographic distribution.

Key words:Enterobius vermicularis, prevalence, risk factors, preschool children, day care centers, North West Bank, Palestine.