

## Age and Sex Differences in the Prevalence of *Dirofilaria immitis*: Results of a Field Study in 84 Rural Dogs in Bon County, Iran

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### INTRODUCTION & AIM

*Dirofilaria immitis* (heartworm) is a vector-borne pathogen with significant implications for canine health. This study investigated the prevalence of *D. immitis* in 84 herd and domestic dogs in Bon County, Chaharmahal and Bakhtiari Province, Iran. The objective was to evaluate prevalence rates across different age groups and sexes, providing data to inform regional preventive strategies.

### RESULTS & DISCUSSION

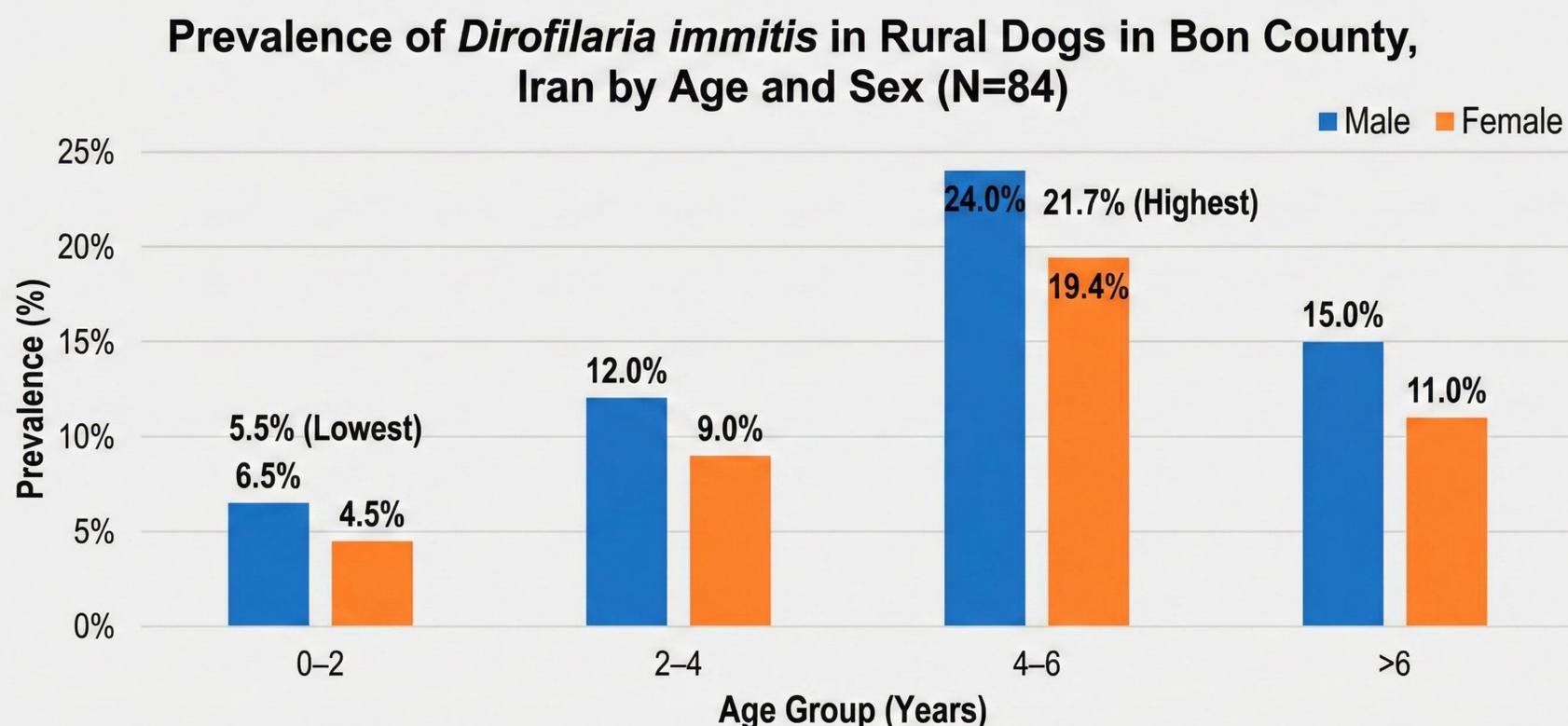
The overall prevalence of *D. immitis* infection was 13.1% (11/84; 95% CI: 6.5–19.7%). A statistically significant association was observed regarding sex, with male dogs showing a higher infection rate (14.3%) compared to females (10.2%) ( $p < 0.05$ ), which may reflect differences in exposure patterns. Age was also a significant factor, with the highest prevalence recorded in the 4–6 year age group (21.7%), while the 0–2 year group showed the lowest rate (5.5%).

### METHOD

A cross-sectional field study was conducted between December 2024 and March 2025 following ethical guidelines. Blood samples were collected from 84 dogs and analyzed using serological assays (ELISA) for antigen detection. Necropsy findings, where available, were utilized to confirm adult worm presence in positive cases. Statistical associations between infection status, age, and sex were analyzed using Chi-square tests ( $p < 0.05$ ).

### CONCLUSION

This study documents the endemicity of *D. immitis* in Bon County, a region with specific climatic conditions distinct from previously studied hyper-endemic areas. The results highlight *D. immitis* as a clinically relevant pathogen in this rural dog population. Given the identified infection rates, particularly among adult males, the implementation of integrated control measures, including vector management and chemoprophylaxis, is recommended to mitigate clinical risks.



Overall Prevalence: 13.1% (11/84). Statistically significant association with sex ( $p < 0.05$ ): Male (14.3%) vs. Female (10.2%). Significant association with age: Highest in 4–6 years (21.7%), Lowest in 0–2 years (5.5%).