Prevalence, Risk Factors, and Socio-Economic Effect of Onchocerciasis Among Farmers in Kagarko Local Government Area of Kaduna State

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ABSTRACT

Introduction: Onchocerciasis remains a significant public health concern in rural farming communities across sub-Saharan Africa, exerting substantial health and socio-economic impacts. This study aimed to assess the prevalence, risk factors, and socio-economic effects of onchocerciasis among farmers in Kagarko Local Government Area, Kaduna State, Nigeria.

Methodology: A community-based cross-sectional study was conducted among 400 farmers selected from three communities: Kubacha, Kenyi, and Kagarko using structured questionnaires and serological testing with the SD Bioline Onchocerciasis IgG4 rapid test kit. Data were analyzed to determine prevalence, associated risk factors, and socio-economic implications.

Results: The overall prevalence of onchocerciasis was 3.8%, with the highest prevalence observed in Kubacha (5.4%), followed by Kenyi (2.8%) and Kagarko (2.7%). Male farmers had a higher seropositivity rate (5.6%) than females (2.0%) (OR = 0.279; 95% CI: 0.083–0.943; p = 0.060). Educational status showed a significant association with infection (p = 0.034); farmers with only FSLC education had a prevalence of 7.7%, compared to 1.8% among those with WASSCE/GCE/NECO. Regarding risk factors, 86.0% of respondents reported blackfly bites, and 75% lived near breeding sites, though these were not statistically significant predictors of infection. Long-term ivermectin use (>15 years) significantly reduced seropositivity (1.2% vs 5.4%; $\chi^2 = 4.695$; p = 0.033). Routine annual ivermectin intake, however, showed no significant difference (2.1% vs 4.6%; p = 0.208). Socio-economic analysis revealed that 45% of farmers experienced onchocerciasis-related symptoms such as eye itching or nodules, with 42.3% reporting reduced farm productivity. Additionally, 45% reported stigmatization, and 43.8% indicated limited access to ivermectin despite free distribution, while nearly 40% used personal funds for treatment.

Conclusion: The study revealed a moderate prevalence of onchocerciasis among farmers in Kagarko LGA, with educational level and long-term ivermectin use significantly influencing infection rates. Onchocerciasis continues to pose socio-economic challenges, highlighting the need for strengthened control efforts, enhanced drug accessibility, and targeted health education to mitigate transmission and improve community well-being.

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