

Generalized Linear Modeling of HCV Infection Among Medical Waste Handlers in Sidama Region, Ethiopia

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Abstract : Background: There is limited evidence on the prevalence and risk factors for hepatitis C virus (HCV) infection among waste handlers in the Sidama region, Ethiopia; however, this knowledge is necessary for the effective prevention of HCV infection in the region. Methods: A cross-sectional study was conducted among randomly selected waste collectors from October 2021 to 30 July 2022 in different public hospitals in the Sidama region of Ethiopia. Serum samples were collected from participants and screened for anti-HCV using a rapid immunochromatography assay. Socio-demographic and risk factor information of waste handlers was gathered by pretested and well-structured questionnaires. The generalized linear model (GLM) was conducted using R software, and P-value < 0.05 was declared statistically significant. Results: From a total of 282 participating waste handlers, 16 (5.7%) (95% CI, 4.2 - 8.7) were infected with the hepatitis C virus. The educational status of waste handlers was the significant demographic variable that was associated with the hepatitis C virus (AOR = 0.055; 95% CI = 0.012 - 0.248; P = 0.000). More married waste handlers, 12 (75%), were HCV positive than unmarried, 4 (25%) and married waste handlers were 2.051 times (OR = 2.051, 95%CI = 0.644 -6.527, P = 0.295) more prone to HCV infection, compared to unmarried, which was statistically insignificant. The GLM showed that exposure to blood (OR = 8.26; 95% CI = 1.878-10.925; P = 0.037), multiple sexual partners (AOR = 3.63; 95% CI = 2.751-5.808; P = 0.001), sharp injury (AOR = 2.77; 95% CI = 2.327-3.173; P = 0.036), not using PPE (AOR = 0.77; 95% CI = 0.032-0.937; P = 0.001), contact with jaundiced patient (AOR = 3.65; 95% CI = 1.093-4.368; P = 0.0048) and unprotected sex (AOR = 11.91; 95% CI = 5.847-16.854; P = 0.001) remained statistically significantly associated with HCV positivity. Conclusions: The study revealed that there was a high prevalence of hepatitis C virus infection among waste handlers in the Sidama region, Ethiopia. This demonstrated that there is an urgent need to increase preventative efforts and strategic policy orientations to control the spread of the hepatitis C virus.

Keywords : Hepatitis C virus, risk factors, waste handlers, prevalence, Sidama Ethiopia

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