

Seroprevalence of Foot and Mouth Disease in the Somali Eco-System in Kenya

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Abstract

The aim of this study was to document the prevalence of Foot and Mouth Disease (FMD) in the arid and semi-arid areas where the pastoral mode of livestock rearing is pre-dominant in Kenya especially in the Somali Eco-system. A cross-sectional sero-epidemiological study was conducted in the Somali Ecosystem (SES) in Kenya with 499 sera collected from January 2007 to December 2008 to determine the seroprevalence of Foot and Mouth Disease (FMD) in cattle in the SES. The samples were screened against the five serotypes of FMD known to be in circulation in Kenya i.e., FMD O, A, C, SAT1, SAT2 and measured by microneutralization assay. The overall sero-prevalence of FMD in the Somali-ecosystem was found to be 45.3% (95% CI = 40.96 to 49.66%). Twenty seven percent of all animals sampled tested positive for only one serotype while 17.6% tested positive for multiple serotypes. There was a high prevalence ($p < 0.05$) in the circulation of serotype O (23 and 95% CI = 20.13-27.57%) as compared with the other serotypes, while the prevalence of serotype C was significantly lower ($p < 0.05$) compared to the other four serotypes (1.6 and 95% CI = 0.82-3.12). Wajir district recorded the highest prevalence (24.8 and 95% CI = 16.71 to 27.54) while Garissa district recorded the least (6.2%). There was no significant sero-prevalence variation in relation to sex while older animals had higher sero-prevalences. The pastoral mode of livestock production, porous borders and wildlife inter-phase are significant factors that need consideration for effective control programmes