ABSTRACT

Newcastle disease (ND) is the single most important infection of village chicken in smallholder farming systems in developing countries. Vaccines for ND control are available but the delivery of safe and potent vaccines in resource-poor settings remains a big challenge due to difficulties in the maintenance of cold chain. This paper reports the results of a study that was carried out in Kenya to assess the storage and handling practices of Newcastle disease vaccines by agro-veterinary shops (agro-shops) during acquisition, storage, and sale to smallholders' farmers. Data were collected from one hundred and thirty-two agro-shops using semi-structured questionnaires, observation sheets and actual purchase of vaccines over the counter. The results showed that the majority (82 percent) of the agro-shops had a domestic refrigerator that was connected to the electricity grid but many (61 percent) did not have power backup. Sixty percent of them only stocked thermolabile vaccines. Recurrent power outages (62 percent), high cost of electricity (62 percent), and long-distance to vaccine sources (33 percent) were the most common challenges in vaccine storage and sale. Some agro-shops switched refrigerators on and off while others removed vaccines from refrigerators for overnight stay in cool boxes to minimize electricity costs. In some cases, the sale of vaccines was restricted to market days and late afternoon when ambient temperatures were lower to minimize vaccines storage time and vaccine spoilage respectively. Thermostable vaccines were not stored as recommended by the manufacturer and few agro-shops (23 percent) sold reconstituted vaccines. Most shops adequately packaged thermolabile vaccines in improvised materials during sale. Overall, most of the ND vaccine handling and storage practices in the last mile appeared to aim at safeguarding the safety and potency of vaccines, but further research could elucidate the effects of these practices on the quality and potency of ND vaccines.