Knowledge, attitude and practice towards zoonoses among public health workers in Nyanza province, Kenya

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Abstract

We sought to determine the knowledge and attitude of public health workers (PHWs) with respect to emerging and re-emerging zoonotic diseases and the practice of one health approach in the surveillance of zoonoses in the community. A cross-sectional study was conducted in 12 randomly selected districts of Nyanza province, Kenya. One hundred and ten randomly-selected PHWs were assessed using a structured questionnaire. Data were collected on their knowledge, attitudes and practices about common zoonotic diseases. Eighty-nine (81%) questionnaires were received back. Eighty-seven (98%) said they discuss zoonotic diseases with the local villagers during their community health work. The most commonly discussed disease was rabies (n=39). Seventy-six (85%) respondents reported ever discussing zoonoses with their veterinary colleagues. Over 85% of the PHWs asked for refresher training on H1N1, and 51% require training on highly pathogenic avian influenza (H5N1). Despite fair knowledge of rabies among the PHWs in Nyanza province, there is need for improving their attitude of the emerging and re-emerging zoonoses. There is also need to improve their practice in terms of collaboration with the veterinarians in zoonoses surveillance in the community.

Introduction

A succinct definition of public health, which is broad in scope and of wide appeal, is collaborative action for population-wide health improvement. This definition emphasizes the hallmark of the public health community.1 The competencies required by the public health workforce include an ability to identify, monitor, and manage population health problems, and to inform, evaluate and advocate for appropriate health and inter-sectoral interventions.2 In Africa, zoonotic diseases including rabies, brucellosis, anthrax and sleeping sickness are still widespread.3 Both domestic and wild animals have been known to be important reservoirs of zoonoses.4 In the developing countries both animal and public health surveillance systems have been slow to act on emerging and re-emerging zoonoses in sub-Saharan Africa.5 This could be due to lack of knowledge or insufficient systematic continuing education and opportunities to acquire new knowledge on zoonoses for the front line health workers.6 This results in poor quality of epidemiological data on zoonoses and their control measures in both animal and human populations particularly in sub-Saharan Africa.7

In Kenya, Rift Valley fever, rabies, brucellosis, etc. have been documented as being among the most common zoonoses but a public health worker on routine surveillance of community health will probably talk about a wide array of diseases other than zoonotic diseases.8 This underscores the fact that public health workers have not been giving due consideration to animals as carriers of diseases that can be transmitted to humans.9 When a public health worker is not well informed of how a particular zoonotic disease manifests or does not know how to investigate for its presence, there is a higher chance of developing a wrong attitude as one would not bother to collaborate with the veterinarians.10 Knowledge of reservoirs of zoonoses and the way they are transmitted to humans has enabled not only early detection and reporting but also their control.11,12

Survey materials and methods

A cross-sectional survey was carried out in Nyanza province, Kenya, between November 2010 and January 2011. Twelve districts were randomly chosen using the table of random numbers. The districts sampled were: Homa Bay, Kisumu East, Rongo, Kuria West, Rachuonyo, Gucha, Kisii South, Ugenya, Kisii Central, Ndihiwa, Suba, and Nyatike located around Lake Victoria in western Kenya.

The inhabitants of Nyanza province generally keep some type of livestock including dogs and cats.

There are two cadres of public health workers in Kenya namely, public health officers (PHOs) and public health technicians (PHTs). PHOs undergo diploma or degree level training. PHTs undergo certificate level training. For the purpose of this study, both cadres of personnel have been referred to as public health workers (PHWs).

The distribution of the two categories of personnel in the districts is random and both execute the same tasks although the PHOs supervise PHTs in the field. In total, 61 PHOs and 28 PHTs participated in the questionnaire survey.

Data collection

A semi-structured open-ended questionnaire was developed and pre-tested before being distributed to the selected districts. The distribution to the staff at the district level was random. The diseases assessed were: Rift Valley fever, anthrax, rabies, brucellosis, highly pathogenic avian influenza, echinococcosis, taeniasis and swine influenza. Data were also collected on training needs of the respondents with regard to zoonotic diseases. On knowledge about zoonotic transmission, the emphasis was on emerging and re-emerging zoonoses. Questions were asked about etiology, transmission and control of avian influenza (H5N1) and H1N1 viruses.

Data analysis

All the responses on whether the public health worker could remember the etiology, transmission and control of certain emerging zoonoses were assessed in relation to the
Discussion

Many factors have been mentioned as contributing to under-reporting of zoonotic diseases particularly in sub-Saharan Africa. Surveillance and control of zoonoses depend largely on the level of understanding of the diseases by the frontline PHWs.

In order to prevent and control zoonotic diseases in humans and animals, there is need for both veterinarians and PHWs to understand the interconnections that exist among human, animal and environmental health. Efforts should be made to equip PHWs with adequate knowledge on the emerging and re-emerging zoonoses. A large number of respondents in this study indicated their desire for refresher training in emerging influenza viruses (H1N1 and H5N1). There is also need to strengthen links between human and animal health workers by organizing joint forums on zoonotic disease surveillance under the one health approach.

Conclusions

The results showed that PHWs had good knowledge of rabies, anthrax and taeasias but deficient in brucellosis, echinococcosis, Rift Valley fever and H1N1, while only 7.9% felt competent to talk about H5N1. Lack of joint forums between public health workers and veterinarians was found to impede the enhancement of the one health approach. Public health workers need more knowledge, correct attitude and skills to enable them conduct surveillance and teach the public precautionary measures against zoonotic diseases.

References