

LETTER TO THE EDITOR

Rabies in Tanzania: The need for a national control programme

HUMPHREY D. MAZIGO

Weill-Bugando University College of Health Sciences, P.O. Box 1464, Mwanza, Tanzania

E-mail: humphreymazigo@gmail.com / humphreymazigo@bugando.ac.tz

Rabies is a highly zoonotic infection which is caused by the lyssavirus and affects the central nervous system of all warm blooded animals. The disease exists in domestic and wild canine populations, including domestic dogs in Africa and Asia. Rabies in dogs is the source of 99% of human infections and poses a potential threat to >3.3 billion people (Knobe *et al.*, 2005). In India alone, 20, 000 deaths are estimated to occur annually as a result of rabies, and in Africa this is estimated at about 24, 000 deaths (WHO, 2005). In the absence of post-exposure prophylaxis, about 327, 000 people are estimated to die from rabies in Africa and Asia each year (Knobe *et al.*, 2005).

In Tanzania, it has been reported that an estimate of 23,709 individuals sustained dog bite injuries between 1990 and 1996, and with 42,669 sustaining bites in the year 2000 (Cleaveland *et al.*, 2002). There is no information on the number of individuals, who sustained dog bites and were able to get proper wound management and post exposure prophylaxis (PEP) to prevent the development of symptomatic rabies. In addition, there is no report to show how many individuals who sustained rabies suspected dog bites, and who did not access PEP, went on to develop clinical rabies. This underreporting of the rabies problem in Tanzania, together with the lack of relevant information on the burden of rabies, makes it difficult to plan for a national control programme. Mazigo *et al.*, (2010) shows that of the 767 individuals who reported at Bugando Medical Centre in north-western Tanzania for post-exposure prophylaxis (PEP) after sustaining rabies suspected dog bites, more than two thirds of them did not complete the required PEP inoculation. This non-compliance suggests that victims of rabies suspected dog bites lack an understanding of the impact of human rabies and the outcomes of not completing the course.

Epidemiological information on the prevalence of the disease in human or animal population can be obtained from various institutions such as hospitals or veterinary laboratories/investigation centre especially for countries where surveillances are normally not conducted. Evidence of this is demonstrated in the work of Swai *et al.* (2010) who used autopsy results to show that domestic dogs and other wild canines were the major reservoirs of rabies infections to human. Brain samples of other domestic animals such as cattle (bovine), cats (feline), horses (equine) and goats/sheep (caprine/ovine) were also positive for rabies; thus confirming that rabies affects a wide range of warm blooded animals. An important observation of under reporting of the rabies problem in this area is that over a period of 11 years, only 98 brain specimens of rabies suspected animals were submitted to the Veterinary Investigation Centre for diagnosis. The centre serves four regions of the northern zone of the country where the majorities of the population are pastoralists and therefore interact more with wild animals, and have a higher proportion of domestic dogs. In the north-western part of Tanzania where

the population structure and characteristics are similar to some population in northern part, the incidence of rabies was up to 5 times higher in children aged <15 years than in adults (WHO, 2005). The higher proportion of rabies positive cases in the study of Swai *et al.*, (2010), clearly indicates that rabies is endemic in northern part of the country; however there are poor levels of reporting from villages or district veterinary/animal health centres and private veterinary clinics to the zone veterinary investigation centres. In addition, there is no communication between the veterinary centres and the health departments in all levels of the government structures. Furthermore, many of the rabies suspected dog bites and human rabies cases occurs in rural areas where the majority of people are living under extreme poverty and are unaware of the risk of the disease.

There are many constraints facing rabies control in Tanzania and other endemic countries (Lembo *et al.*, 2010). However, the establishment of a national rabies control program, public health campaign, active and passive surveillance can be effective for controlling dog rabies. Studies such as the one described by Swai *et al.*, (2010) strengthen the need for active surveillance and public health education, not only to the general community but also to the more at risk groups such as children. Finally, the study highlights the importance and benefits of strengthening rabies diagnostic facilities in endemic areas.

References

- Cleaveland, S., Fevre, E.M., Kaare, M. & Coleman, P.G. (2002) Estimating human rabies mortality in the United Republic of Tanzania from bite injuries. *Bulletin of the World Health Organization* 80, 304-310.
- Knobe, D.L., Cleaveland, S., Coleman, P.G., Fevre, E.M., Meltzer, M.I., Miranda, M.E.G., Shaw, A., Zinsstag, J. & Meslin, F.X. (2005) Re-evaluated the burden of rabies in Africa and Asia. *Bulletin of the World Health Organization* 83,360-368
- Lembo, T., Hampson, K., Kaare, M.T., Ernest, E., Knobel, D., Kazwala, R.R., Haydon, D.T. & Cleaveland, S. (2010) The feasibility of canine rabies elimination in Africa: dispelling doubts with data. *PLoS Neglected Tropical Diseases*. 4(2): e626.
- Mazigo, H.D., Okumu, F., Kweka, E.J. & Mnyone, L.L. (2010) Retrospective analysis of rabies cases reported at Bugando Referral Hospital, Mwanza, Tanzania. *Journal of Global Infectious Diseases* 2, 3: 216-220.
- Swai, E.S., Moshy, W.E., Kaaya, J.E. & Mtui, P.F. (2010) Spatial and temporal distribution of rabies in the northern zone of Tanzania in the period of 1993-2002. *Tanzania Journal of Health Research* 12, 80-85.
- WHO (2005) *Expert Consultation on Rabies: First Report*. World Health Organization, 2005 (WHO Technical Report Series), No. 931, Geneva.