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BACKGROUND

Rabies is a zoonotic viral disease which infects domestic and wild animals. It is transmitted to other animals and humans through close contact with saliva from infected animals. Rabies is usually fatal if adequate treatment is not started on time. WHO estimated that the number of deaths due to rabies was 55 000 in 2004. Deaths occur mostly in rural areas and 99% of all deaths occur in developing countries. Ten million people receive post exposure anti rabies treatment due to suspected animal bite. Accurate data are lacking in developing countries. The objective of our study is to summarize the epidemiologic trends of rabies in animals and animal bites in Jordan from 2000 to 2007.

METHODS

A retrospective epidemiological analysis was performed on data collected on animal rabies and bites from surveillance. Vaccines serological sections are held in the directorate of diseases control in the Ministry of health as it is the reference diagnostic laboratory for rabies in Jordan. Specimens of rabies viral antigen in brain material from animals with suspected rabies were tested. All specimens were tested by direct fluorescent antibody technique using standard protocol. Animal bites data from annual epidemiologic reports of the communicable diseases control directorate were used and analyzed on epidemiological features comparing 2007 data with the six years preceding period 2000-2006.

RESULTS

Between 2000 and 2007, the total number of animal bites was 15 576, with an average of 1947 cases per year (min 1332 (2002) – max 2807 (2007)). The incidence rate for animal bites in 2007 was 48.9/100 000 population. More than 50% of animal bites were related to dogs. Cases distributed by geographic areas were 53% for central, 45% for North and 2% for South of the country. Data did not show any seasonality.

Human males were more exposed than females (ratio is 3:1), and the distribution of animal bites cases by age showed that cases aged more than 20 years represented 43%.

From 2000-2007, 108 animals were confirmed positive for rabies in laboratory tests.

Rabies cases in animals increased from 1 case in 2003 to 50 cases in 2007. Dogs (56;52%) represented the largest proportion of animals, cattle (23;21%) sheep (7;6%), and goats (6;6%) also became infected. No human cases occurred since 1997. One human rabies case occurred in 2007.

CONCLUSION

Since 2003, a clear increase of animals infected with rabies was observed in Jordan. However reported cases represent only a part of the total infected animal numbers. In fact, this total number is underestimated as many infections are probably unobserved and never tested or reported. Similar patterns were observed in developing countries. In Jordan, most rabies infections occurred among dogs, and rabies in animals in spread mostly in the northern region of the country. No change in surveillance procedures for rabies has been made in Jordan during this period.

RECOMMENDATIONS

- Continue close surveillance of rabies in animals and animal bites in human.
- Continue to provide post-exposure treatment of humans following animal bites or exposures likely to transmit rabies.
- Concentrate on health education for high endemic area especially the north.