On World Rabies Day, veterinary experts warn against a lack of awareness about the only infectious disease with a 100% mortality rate

Worldwide, more than 55,000 people die of rabies every year (with around 30,000 occurring in India alone). According to Prof Andrew Leisewitz, Veterinary Specialist Physician at the Onderstepoort Faculty of Veterinary Science (University of Pretoria) and an expert on the disease, more than 27,000 cases of animal rabies are reported each year but the estimated number of actual cases is much higher. A disturbing factor, Prof Leisewitz says, is that young people are the most commonly affected age group and exposure to infected dogs is the most common reason for human infections. In fact, 40% of people who are bitten by suspect rabid animals are children under 15 years of age.

But what exactly is rabies? Rabies is caused by a virus that humans and animals can get from exposure to the saliva of a rabid animal, says Dr Jannie Crafford, also an expert on the disease and senior lecturer in immunology in the Faculty's Department of Veterinary Tropical Diseases. He explains that the disease is almost always fatal if the exposed person does not get the required treatment in time. However, the relatively expensive treatment available to humans that have been exposed needs to be applied properly and quite soon after exposure to be effective. In light of this, Prof Leisewitz adds that it is a frightening viral infection and the only infectious disease that carries 100% mortality in any species (including humans) once it is contracted.

The rabies virus particle does not survive for very long outside of an infected host and is quickly inactivated by sunlight and drying. All warm blooded animals are vulnerable to infection but only mammals are known vectors and reservoirs. Birds have a very low susceptibility. It is almost always transmitted by saliva from the bite of an infected animal. The ingestion of infected material may also transmit the disease.

Dogs are the source of 99% of human rabies deaths. The most affected countries are India and South East Asia, Africa comes in second, South America third and Russia fourth. In the northern hemisphere rabies is mostly a sylvatic disease in wildlife. In the southern hemisphere however, the feral urban dog is the primary species involved in transmission. The current host species in SA are the domestic dog, black-backed jackal, bat-eared fox and yellow mongoose.

In South Africa, Prof Leisewitz says, it is clear that the domestic dog is the prime animal host. Cats account for 3.8% of animal cases and are thus not an important host. If the disease could be controlled in dogs, the battle would largely be won. Although canine rabies has been called ‘urban rabies’, in South Africa canine rabies is essentially a rural phenomenon. It is estimated that families in rural settings may own up to 10 dogs per family (with an average of 7).

Referring to the fact that half of the people that die from rabies are children under the age of 15, Dr Crafford says that children, innocent of the risks, often approach and play with animals they don’t know. They are also at higher risk of bite wounds to the head that can lead to more rapid onset of clinical signs. Most people don’t realise that once clinical signs set in the outcome is always fatal. It is therefore of utmost importance that any person that is exposed to the saliva from any unknown suspicious dog or wild animal seek medical advice without delay.
The situation in South Africa is that between 1983 and 2007 there were 353 confirmed cases of human rabies with the majority coming from KwaZulu-Natal. More than 70% of these cases were in children and young adults. The domestic dog was the source of infection in 84% of these cases. Wildlife was a very rare source of infection. According to Prof Leisewitz there is an astounding lack of awareness (amongst the public and within the medical fraternity) of how to manage post exposure patients. This is typical of most countries in which rabies is prevalent. “The suspicion index amongst clinicians dealing with patients who show the range of neurological signs typical of rabies is low”, he says.

The good news however is that rabies is a disease that can be prevented by vaccination and simply entails adequate animal vaccination, avoiding contact with wild animals and proper education of those at risk. It is obvious that veterinarians have to play a central role in this. According to Dr Crafford, the prevention of rabies starts with the animal owner. They should ensure that all their dogs and cats are regularly vaccinated against rabies. They should also try to reduce the exposure of their pets to possible infected animals by not letting them roam free. “Spaying or neutering your pets will also reduce their tendency to roam or fight, thereby reducing the risk of being exposed to other rabid animals. Under no circumstances should any unknown or stray dog be handled or approach especially if they display any behavioural disorders like aggression”, Dr Crafford says.

Vaccination remains the most practical measure that can be taken against rabies and it is an accepted fact that in order to significantly affect transmission rate, there would need to be vaccine coverage of around 70%, Prof Leisewitz says. “Exactly what the coverage in rural populations of dogs is is unknown. However it should not pass unnoticed that in the two provinces with the highest number of dog cases, vaccine coverage was below 10%”. Rabies can occur anywhere in South Africa but rural areas are particularly at risk; these include KwaZulu-Natal, Rustenburg and surrounds in North West, northern Limpopo, eastern and south-eastern Mpumalanga and eastern, south-eastern and north-eastern Cape Province.

Today, 28 September is World Rabies Day. What is its purpose? According to Dr Crafford, this is a global initiative that was started by the Global Alliance for Rabies control in 2007 to raise awareness about this dreaded disease. At the global conference on rabies elimination in 2015, a common goal of zero human deaths from canine rabies by 2030 was agreed by the World Health Organization, World Organisation for Animal Health, UN Food and Agriculture Organization and the Global Alliance for Rabies control. In support of this goal, the 2017 World Rabies Day theme is Rabies: Zero by 30. You can sign a pledge to end Rabies by 2030 by visiting the website of the Global Alliance for Rabies control at https://rabiesalliance.org/world-rabies-day

** Rabies is a controlled disease in South Africa and all suspected rabid animals should be reported to the nearest state veterinarian, animal health technician or to the police.**