

Perspective

Rabies: India's Current Burden - Are We Winning the Battle?

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I N T R O D U C T I O N

A dog is a man's best friend. The relationship between man and dog has transitioned from utility-focused to one of intimate companionship in recent times. There are genuine concerns over the impact of how our modern society handles stray dogs, and the killer disease, rabies, which is not so uncommon in developing countries like India. Pet dogs are cared for better than they were in the distant past. Vaccination awareness is at an all-time high among the public. Dog bites take the lead, closely followed by scorpion stings in our country.¹ Stray dogs in our country constitute an ever-prevalent problem. The recent news coverage of the dog attack in Kerala on civilian bystanders, children and veterinarians only uncovers the tip of the iceberg, as most dog attacks do not make public headlines.² We grossly underestimate the passer-by stories of a neighbour being bitten by a stray dog.

Records from the Integrated Disease Surveillance Project state that the animal bite count increased from 42 lakhs in 2012 to 72 lakhs in 2020.³ The risk of transmission and the dreadful mortality associated with rabies is something to be aware of in a developing country like India.

Rabies and Its Impact

Rabies is caused by the *Lyssavirus*. This disease has been historically described in ancient Greek (*lyssa*-violence) and Latin (*Rabere*-to rage) to our very own country in Sanskrit (*Rabhas*-to do violence). The first rabies vaccine was founded in 1885. The universal consensus on rabies deaths worldwide has been 59,000 yearly, of which 99% have been caused by dogs.⁴ This translates into around 3.7 million disability-adjusted life years (DALY), pointing towards a heavy disease burden. India carries 36% of the global burden concerning rabies-related deaths, accounting for approximately 20,000 deaths yearly. Rabies is not a disease of humankind but a disease of the wilderness. It is transmitted mainly by unvaccinated free-roaming or stray dogs. Wild animals like cats, mongooses, foxes, jackals, horses, donkeys, monkeys, cows, goats, sheep, and pigs can also transmit the virus.

A rabid dog may take from 3-8 weeks to as long as 4-6 months to show signs of the disease. It may have behavioural changes like hiding in dark corners, unusual agitations, fever, frothing from the mouth, paralytic symptoms, sudden coma, and death. It is not easy to keep track of a

dog's behaviour unless closely monitored, and less so if the dog is stray. There is a controversy in public opinion regarding stray dogs and how to manage them. Feeding stray dogs without responsible ownership leads to plenty of stray rabid dogs, directly impacting rabies transmission.

Countermeasures

The most effective way to control the spread of rabies would be a collective effort from various organisations and effective engagement with the locals.⁵ The Animal Welfare Board of India (AWBI) has schemes for birth control and immunisation of stray dogs, which are slowly taking shape. According to CDC projections, if 70% of the dogs in a local area are vaccinated, rabies-related deaths can be prevented. Not interfering with wildlife is a principle that could help reduce the accidental non-dog-related spread of rabies.⁶ The United States of America has been free of dog-transmitted rabies since 2007 as per the CDC and WHO standards. It is possible to achieve a similar state in our country. Rabies is entirely preventable with appropriate medical care, so effective policies in conjunction with medical care and public awareness would be a powerful tool in eliminating its spread.

Since 2015, the government of India has collaborated with the World Health Organisation (WHO), International Office of Epizootics (OIE), Food and Agricultural Organization (FAO), and Global Alliance of Rabies Control (GARC) to combat rabies effectively, in addition to a multitude of control strategies formulated in our country. The National Rabies Control Programme has been implemented as multiple five-year programmes since 2007. It consists of a human arm with a budget of ₹20 Cr and an animal arm with a budget of ₹30 Cr, which is assisted by the Department of Animal Husbandries and Dairying. The National Action Plan for Rabies Elimination (NAPRE) was launched in 2021 as a part of the 'One Health' Initiative, which plans to eliminate rabies from India by 2030. WHO has divided countries into five stages of rabies elimination: Endemic stage, Control stage, Zero Human Rabies Death stage, Elimination stage, and Maintenance stage. India is currently recorded to be in the 'Zero Human Rabies Death stage' (stage 3) but looks to be slipping back into the 'Control Stage' (stage 2) if a revised evaluation is conducted.⁷

A Message to the Public

Appropriate vaccination within at least 24 hours after a dog bite with the anti-rabies vaccine and treatment of severe bites with anti-rabies immunoglobulin within 1 to 6 hours of bite would instil adequate protection against acquiring the disease. Bites on the face can cause rapid inoculation of the virus with incubation stages and symptom development as short as four days; cases such as these must be treated as medical emergencies. Public awareness of how rabies

affects the populace and thorough knowledge about its countermeasures is vital to a rabies-free India.

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