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Popular Article

Rabies in India: A call for action

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Every year, on September 28th, the global community observes World Rabies Day. This date holds significance as it marks the anniversary of Louis Pasteur's passing, the pioneer behind the creation of the first effective rabies vaccine. World Rabies Day serves as a platform to raise awareness and advocate for the global eradication of rabies. It aims to unite individuals, organizations, and stakeholders worldwide in pursuit of a shared objective: achieving zero rabies cases by 2030. World Rabies Day offers a moment for contemplation on our ongoing efforts to combat this deadly disease. It reminds us that the battle against rabies is far from over. Collaboratively, the World Health Organization (WHO), the World Organization for Animal Health (OIE), and the Food and Agriculture Organization of the United Nations (FAO) are working to eliminate human fatalities resulting from dog bites. The theme for World Rabies Day 2023 is "All for 1, One Health for all," emphasizing the need for a global, collective approach to disrupt the cycle of rabies. By standing together in solidarity, we can work towards eradicating rabies, ensuring that no one is left behind. This theme underscores the importance of equality and the extension of comprehensive healthcare systems to all, rather than reserving them as a privilege for a select few. Through cooperation, forming partnerships across various sectors, engaging communities, and committing to sustained dog vaccination efforts, we can collectively strive for the singular goal of rabies elimination. This endeavor sets an example for the broader concept of One Health, making it accessible to all, with the elimination of rabies as a testament to our unified endeavors.

Rabies is a neglected zoonotic disease, primarily transmitted to humans through bites from



infected animals, most commonly domestic or stray dogs. The disease is preventable through mass vaccination campaigns targeting infected or potentially infected animals. Globally, dog-mediated rabies leads to approximately 59,000 human deaths each year, with South Asia bearing a substantial burden, accounting for 45 percent of these cases. Except for the Maldives, which remains rabies-free due to its isolated location in the Indian Ocean, all South Asian countries grapple with rabies as an endemic problem. Many of these countries have significant populations of unvaccinated dogs, both domestic and free-roaming, exacerbated by inadequate sanitation in both rural and urban areas, which fosters the proliferation of stray dogs. Consequently, the risk of contracting rabies is considerably high in these regions.

While some South Asian countries have shown political and public support for rabies eradication, the extent of such support varies across the region. Effective control and management of animal rabies, widespread access to human rabies vaccination, and heightened public awareness are pivotal to success. Employing a "prevention at the source" approach through dog vaccination is a cost-effective strategy, although achieving the recommended 70 percent or higher vaccination coverage in South Asian conditions is challenging. Realistic, region-specific vaccination targets are essential. To combat rabies, various animal welfare organizations and non-governmental entities conduct mass awareness campaigns, canine vaccination initiatives, and neutering programs, primarily in urban areas. However, with the exception of Bhutan and Bangladesh, most South Asian nations struggle to achieve adequate dog vaccination coverage, leading to ongoing rabies incidents.

India, in particular, accounts for a significant portion of global rabies deaths, with 36 percent of total rabies-related fatalities, translating to approximately 18,000-20,000 deaths annually. India also represents 65 percent of rabies deaths in the South-East Asia region. Recent data from the National Rabies Control Program revealed 6,644 clinically suspected cases and deaths due to human rabies between 2012 and 2022. Kerala, one of the states in India, has witnessed a doubling of rabies-infected dog cases in the past five years, reporting 21 deaths, nearly double the previous year's count. Tragically, the neighboring state of Tamil Nadu has also reported a concerning surge in rabies-related fatalities, with 18 deaths in recent months. The death of a 14-year-old boy from rabies in Noida-Ghaziabad on September 10, 2023, following a dog bite a month earlier, highlights the gravity of the situation. More than 400 dog bite cases are reported daily in these two districts, alongside a staggering population of over 1.25 lakh free-roaming dogs. The current rabies crisis in India and other countries persists due to the uncontrolled presence of stray and rabid animals that freely attack humans. Strengthening local municipalities in terms of



resources and funding for effective control measures is imperative. Concerns have also arisen regarding the mismanagement of street dogs during the COVID-19 lockdown, disrupting vaccination and population control efforts. Additionally, a surge in dog aggression has been observed in India post-pandemic, potentially stemming from food shortages, pet abandonment, and reduced human-dog interaction.

Dogs play a central role in human rabies cases, accounting for 95 percent of infections in India. The country hosts an estimated 60 million stray and free-roaming dogs, resulting in over one million people receiving post-exposure prophylaxis (PEP) annually. Effective management of rabies in bitten individuals includes proper wound care (washing the bite site with soap and running water for 10-15 minutes), prompt administration of post-exposure prophylaxis, and, if necessary, the administration of rabies immunoglobulins. India currently follows the updated Thai Red Cross Schedule for intramuscular (IM) and intradermal (ID) vaccination. The recommended regimen for PEP involves eight ID doses (two sites per visit on days 0, 3, 7, 28) or five IM doses on days (0, 3, 7, 14, and 28). Failure to administer rabies immunoglobulins or inadequate wound management prolongs the virus's potential spread.

Despite these alarming statistics, India lacks a coordinated and structured surveillance system for rabies, resulting in an underestimation of the actual number of rabies cases and deaths. While pilot projects mentioned rabies control in the Eleventh Five-Year Plan (2007–2012), with 8.65 crore rupees allocated, there is no evidence to suggest that the target of halving human deaths by 2017, as part of the National Rabies Control Programme of the Twelfth Five-Year Plan (2012–2017), was met. Human rabies control is integrated into the National Rural Health Mission, receiving approximately 6.13 million US dollars in 2018, but reduced to approximately 3.51 million US dollars in 2019 and 2020. Various programs and initiatives, such as the Assistance to States for Control of Animal Diseases (ASCAD), the Animal Welfare Board's Scheme for Birth Control and Immunization of Stray Dogs, the Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009, and the Laboratory Diagnosis Facilities, contribute to rabies control and prevention.

In Goa State, over 10,000 dogs receive vaccinations annually through door-to-door (DD) and catch-vaccinate-release (CVR) programs, achieving a coverage rate of 70 percent. These efforts, coupled with awareness campaigns, led to a substantial reduction in dog rabies cases from 78 in 2017 to 4 in 2019, and human cases decreased from 17 in 2014 to none in 2018–2019. The Centers for Disease Control and Prevention, Atlanta, awarded Goa a score of 3.5 out of 5.0, signifying progress towards rabies elimination. Recent endeavors in India have led to the

formulation of the 'National Action Plan for Dog Mediated Rabies Elimination (NAPRE) from India by 2030,' emphasizing the elimination of human rabies transmitted by dogs through enhanced public health and veterinary services. The plan encourages community involvement in both urban and rural areas of India.

In conclusion, effective rabies control and elimination in India require improved coordination and data sharing among the realms of human, animal, plant, and environmental health. This entails comprehensive risk analysis and an efficient surveillance system that captures both clinical and non-clinical rabies cases in domestic and wild animals. Achieving the goal of a rabies-free India by 2030 demands increased vaccination coverage, enhanced vaccination efficiency, a practical legal framework for swift outbreak response and containment, and a concerted One Health approach that fosters collaboration and data exchange among all stakeholders. Additionally, educational programs targeting youth should emphasize the importance of wound care and the necessity of post-exposure prophylaxis. The ultimate goal of rabies prevention, control, and eradication is best attainable through a well-coordinated One Health strategy

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