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Rabies Day Special: Bridging the Gap between Science and Safety

Editorial Article

Breaking Rabies Boundaries to Achieve Zero By 2030

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World Rabies Day is observed every year, on 28th September to commemorate the Death Anniversary of the great microbiologist, Louis Pasteur, who developed the first efficacious rabies vaccine. The Day aims to raise awareness and serves as a reminder of a critical need to tackle one of the most dreadful but preventable diseases – rabies. World Rabies Day 2024 theme, “Breaking Rabies Boundaries”, emphasizes the importance of addressing challenges in eliminating rabies globally. Some countries are considered rabies-free, including American Samoa, Aruba, Antigua, Barbados, Australia, Bermuda, Belgium, Fiji, England, Tahiti, Guam, Ireland, Hawaii, Jamaica, Ireland, Malta, Japan, New Zealand, New Caledonia, Northern Ireland, Scotland, Saint Lucia, Sweden, Singapore, St. Kitts and Nevis, Turks and Caicos Islands, St. Vincent and the Grenadines, the UK, and Vatican City. However, up to 95% of human rabies deaths occur in Africa and Asia, regions where dog rabies is inadequately managed. This disproportionately impacts impoverished rural communities, where rabies control programs and access to life-saving post-exposure prophylaxis (PEP) are either severely limited or unavailable.

India bears a significant portion of the global rabies burden, accounting for roughly 36% of worldwide rabies deaths, making it one of the most affected countries. The majority of cases are linked to dog-mediated rabies, with the high stray dog population, playing a major role in the disease's transmission. However, rabies in wild animals is equally important for the transmission and maintenance of rabies in animals. Children under the age of 15 years, are particularly vulnerable, accounting for approximately 40% of rabies cases in the country. To control and eliminate this deadly zoonotic disease, it is essential to target and address it at its animal source.

The National Action Plan for Rabies Elimination (NAPRE) and the State Action Plan for Rabies Elimination (SAPRE) are vital components of India's strategy to eliminate rabies by 2030. The NAPRE is a guidance document prepared by the National Centre for Disease Control (NCDC), Ministry of Health & Family Welfare, Government of India and launched on World Rabies Day 2021, for the states/stakeholders to develop their action plan, specific to their needs and aims at systematic

reduction of rabies risk through sustained mass dog vaccinations, pre and post-exposure prophylaxis and public education until the country is completely free of dog-mediated Rabies. The World Health Organization (WHO) promotes dog vaccination as the primary strategy for eliminating rabies in a country. Vaccinating 70% of the dog population in a specific area is key to achieving effective rabies control.

Yet another strategy of the veterinary component of NAPRE is the strengthening of laboratory diagnosis. Rapid and accurate laboratory diagnosis of rabies is essential for effectively controlling its spread in both humans and animals. The KVAFSU-CVA Rabies Diagnostic Laboratory, Dept. of Veterinary Microbiology, Veterinary College, KVAFSU, Hebbal, Bengaluru caters to the needs of the laboratory confirmation of rabies in animals. In 2020, the laboratory was elevated and designated as a World Organization for Animal Health (WOAH) (Founded as OIE) Reference Laboratory for Rabies in India, becoming the 12th WOAH Reference Laboratory for Rabies in the world. To offer the recommended ante-mortem and post-mortem diagnostic facilities, it is essential to establish referral laboratories for rabies at all levels, including regional, state and national, in accordance with program requirements. The laboratory is also strengthening the capacity building of laboratory diagnosis in other laboratories in India through networking.

In addition to this, the *Network* called *RABL*AB comprises all WOAH Reference Laboratories for *Rabies* and emphasizes the importance of using approved, high-quality rabies vaccines that meet international standards in terms of efficacy, safety, and sterility.

Goa is the “first rabies-controlled state” in *India*, a milestone achieved through the efforts of the UK-based charity Mission Rabies, initially founded as an initiative by the Worldwide Veterinary Service (WVS). So many challenges arise in the effort to maintain rabies-free status in Goa. One among these is Border Control Issues. Goa borders states where rabies is common, and the movement of unvaccinated animals across these borders threatens the region's rabies-free status. To address these issues, the theme of the World Rabies Day 2024 is very apt, which stresses the importance of collaboration between human health, animal health and environmental sectors. The veterinary public health components of NAPRE include enumerating the population of dogs, mapping risk zones for rabies, a program for mass dog vaccination, effective management and disposal of solid waste, operational research and promotion of responsible dog ownership. The organization has worked in other states like Kerala, Tamil Nadu, Andhra Pradesh, Maharashtra, Orissa, West Bengal, Jharkhand, Rajasthan and Assam. Now, it has joined hands to control rabies in Himachal Pradesh also.

Though we are striving hard and inching towards zero by 2030, the theme of World Rabies Day 2024, “Breaking Rabies Boundaries,” is especially relevant for India, where rabies continues to be a major public health concern. India bears a substantial share of global rabies cases, with the majority transmitted by dogs. This year's theme highlights the urgent need to address challenges like inadequate

vaccine access, low public awareness, and gaps in rabies control initiatives. The theme demands a united effort among the government, health sectors, animal welfare organizations and local communities. Enhancing the One Health approach, which connects human, animal, and environmental health, is essential for eliminating rabies. Key steps toward this goal include early and rapid laboratory diagnosis of rabies, large-scale dog vaccination campaigns, increased access to post-exposure prophylaxis (PEP) and improved surveillance systems.

Additionally, educational programs targeting high-risk areas can raise awareness and reduce the stigma surrounding rabies prevention and treatment. By addressing these issues and reinforcing cross-sector collaboration, India can make significant strides toward the global target of zero rabies deaths by 2030. The theme reminds us that breaking these boundaries is not just a goal but a necessity for saving lives and promoting public health.
