

Editorial

Role of Industries to Address Public Health Challenges to Make India Rabies Free by 2030

Jugal Kishore¹, Manasi Panda²

¹Director Professor & Head of Department, ²Senior Resident, Department of Community Medicine, Vardhman Mahavir Medical College, New Delhi, India.

DOI: <https://doi.org/10.24321/0973.5038.202301>

I N F O



Corresponding Author:

Jugal Kishore, Department of Community Medicine, Vardhman Mahavir Medical College, New Delhi, India.

E-mail Id:

drjugalkishore@gmail.com

Orcid Id:

<https://orcid.org/0000-0001-6246-5880>

How to cite this article:

Kishore J, Panda M. Role of Industries to Address Public Health Challenges to Make India Rabies Free by 2030. APCRI J. 2023;25(1):1-3.

Rabies is a viral, zoonotic disease, which although is 100% fatal, yet can be prevented by vaccines. Though wild as well as domestic animals may be affected by the rabies virus, its transmission to humans is almost always (99%) caused by dogs. The transmission occurs to animals and humans generally via saliva, either through scratches or bites.¹ The current estimate of the burden of human rabies in India is approximately 15,000-20,000 per year which is based on a WHO-APCRI national multi-centric survey that was conducted way back in 2003 and is now quite old. It is now required to reassess the burden of rabies in India. This responsibility is currently with the National Centre for Disease Control (NCDC), Delhi, WHO collaborating centre for rabies epidemiology and the national focal point for rabies in India. The assessment of the burden is highly essential for proper planning and strengthening the government's efforts.²

As a part of the "one health approach," strong advocacy coupled with inter-sectoral coordination among different stakeholders is required for achieving commitment at all levels so that there is an appropriate mobilization of resources for the prevention and control of rabies. It has been recommended to target the source of infection, among canines and other animals, responsible for causing rabies. In this regard, there is a need to introduce annual mass dog vaccination campaigns in line with the successful pulse polio vaccination campaigns.³ It is also required to improve the functionality and establish strong inter-linkage between rabies diagnostic laboratories.¹ Rabies diagnosis, at present, is broadly clinical and based on history, signs, and symptoms. Facilities for post-mortem Negri bodies in rabid brain identification are not readily available. Tools need to be developed for easier ways to diagnose rabies. Rabies causes painful death, therefore all efforts should be made to prevent all deaths with every available strategy.

PEP (Post-exposure prophylaxis) in humans is an important strategy in India to curtail the disease burden in our country. It is essential to ensure that all animal bite victims are provided treatment and health professionals are provided adequate training enabling them to appropriately manage animal bite cases and post-exposure prophylaxis with vaccines and antisera at all levels. Failures of PEP need to be investigated thoroughly to help avoid them in future.

Inter-sectoral coordination and sharing of information between various sectors are required in order to facilitate better program implementation. Moreover, there is an urgent need to increase awareness among the general public regarding the various prevention modalities in order to reduce the burden of this disease.

Industries have a great role to play when drugs, vaccines, and dissemination of information to the general public are concerned. However, their involvement should support the strategies planned at the national level by the government and professional bodies so that wastage of their efforts can be avoided.

Role of Various Industries in making India Rabies-free

Role of Pharmaceutical Industry

In order to support innovation and research for effective dosing regimens, the pharmaceutical industries have a vital role to play. They may ensure that at every level of health facility, Anti Rabies Serum (ARS) and Anti Rabies Vaccine (ARV) are available to every animal bite victim at a lower cost so that the state and central governments can afford them for the larger population. They may also ensure an uninterrupted supply of logistics so that mass vaccination activities can be performed in places where rabies elimination has been targeted and stock-out positions can be avoided. Scaling-up of dog vaccination is a priority activity in controlling animal rabies which also has to be catered to by vaccine-producing industries. Research on developing vaccines with safer but lesser doses and requiring fewer visits to the health centers for vaccination is required. Intradermal microneedle patches for vaccine delivery are also a need of the hour.

Role of Diagnostic Industry (Pathology and Laboratory Medicine)

The strengthening of diagnostic laboratories for rabies includes the introduction of a standardised protocol to be followed for diagnosis so that a nationwide uniform process can be adopted in all diagnostic laboratories in India. In order to provide recommended antemortem as well as postmortem diagnostic facilities, it is further required to establish referral laboratories for rabies as per the programme requirements at all levels (regional, state, and national).

Role of IT Industry

There is a lack of a proper method of sharing data between the veterinary and human sectors. The development of a portal has been suggested by the National Action Plan for Dog Mediated Rabies Elimination (NAPRE) along with an electronic surveillance system with GPS.

This portal would serve as the provider of the requisite data and information, on a real-time basis, related to dog bites, human and animal rabies, and availability of immunoglobulins and vaccines associated with rabies. This system would also help in sharing data among wildlife, veterinary, and health sectors as per pre-defined guidelines (defined by NARPE), which would aid in the analysis of the situation and facilitation of appropriate public health actions by concerned stakeholders.

A well-functioning disease surveillance system including systematic data collection, collation, and analysis with prompt dissemination may provide information for planning, monitoring, implementation, as well as evaluation of intervention programs related to public health.⁴ Reporting of rabies deaths also needs to be a part of the portal.

The information and technology industry may play a pivotal role by maintaining an updated database on rabies control programmes and helping in analysing as well as sharing information with the various stakeholders.

Role of Media and Public Relations Industry

Media houses and public relations industries may contribute to the introduction of standardised Information Education and Communication (IEC) materials for wider circulation to make people more aware of rabies. They can also help in making people understand that appropriate treatment for rabies, if provided on time, can prove to be life-saving.

In order to undertake IEC activities, it is essential to develop adequate IEC material. It is also important to frame the required IEC strategy for the target audience including but not limited to veterinary and health professionals, adolescents and youth, school and college-going students, and community workers. Displaying contact information so that people may notify any rabies-related events they may have come across, is vital. Establishing a helpline for animal bite cases can further amplify awareness regarding this fatal disease. Children need to be trained to avoid dog bites by observing approaching dogs and dog behaviour.

We have evidence of success through an integrated approach to making a state like Goa rabies-free. Many countries have achieved the goal of being rabies-free through mass pet and human pre and post-vaccination programs. As India contributes one-third of total deaths in the world due to rabies, therefore such preventive and control strategies will affect the total global burden of rabies. Pharmaceuticals and other industries should contribute through their Corporate Social Responsibility (CSR) funds to innovation, research, and IEC initiative. To create a rabies-free India and to maintain this status, more vaccination would be required, therefore continued innovation and reform in management should be advocated. Rabid dog-based surveillance to track

and trace and vaccinate other dogs bitten by rabid dogs needs to be in place as well.

References

1. World Health Organization [Internet]. Rabies; [cited 2022 Oct 25]. Available from: <https://www.who.int/news-room/fact-sheets/detail/rabies#:~:text=Key%20facts,and%20prevention%20of%20dog%20bites>
2. Sudarshan MK. Vision 2030: dog-mediated human rabies-free India: action must begin now. *Indian J Public Health*. 2017;61:1-2. [PubMed] [Google Scholar]
3. Gibson AD, Wallace RM, Rahman A, Bharti OK, Isloor S, Lohr F, Gamble L, Mellanby RJ, King A, Day MJ. Reviewing solutions of scale for canine rabies elimination in India. *Trop Med Infect Dis*. 2020 Mar 23;5(1):47. [PubMed] [Google Scholar]
4. National Centre for Disease Control [Internet]. National action plan for dog mediated rabies elimination from India by 2030; 2021 [cited 2022 Nov 10]. Available from: <https://www.ncdc.gov.in/WriteReadData/linkimages/NationalActioplan.pdf>