

## Guest Editorial

# Achieving human rabies free India: Call for concerted action



Dr. M. K. Sudarshan, MD (BHL), FAMS, Hon.FFPH (UK), Founder president, Rabies in Asia (RIA) Foundation ; Founder President and Mentor, Association for Prevention & Control of Rabies in India (APCRI); Member, WHO expert advisory panel on rabies (2012-16), Geneva, Switzerland; Professor of Community Medicine and Ex. Deans/Principal, Kempegowda Institute of Medical Sciences, Bangalore - 560 070 (mkasudarshan@gmail.com)

## The menace

Rabies though almost always fatal yet is preventable. Till now all efforts to find cure have failed but the available tools for prevention are practically 100% effective. A decade ago, during 2003-2004 under the aegis of World Health Organization (WHO) for the first time a scientific survey was done in the country by Association for Prevention and Control of Rabies in India (APCRI) and the estimated burden of human rabies mortality was about 20,000 annually and about 96% of these were due to dog bites. The main land of India is endemic for rabies and only the islands of Andaman & Nicobar and Lakshadweep are "historically rabies free". The survey also provided an estimate of 17.4 million cases of animal bites annually and about 5 million persons receive post-exposure prophylaxis (PEP) each year @ par the sum of utilization of rabies vaccines.

## The current scenario

Rabies is not a notifiable disease and its reporting in the routine surveillance system is poor. The Semple (sheep brain) vaccine which was the main stay of rabies PEP from 1911 was discontinued in 2004 and replaced by modern cell culture rabies vaccines (CCVs). However, as the CCVs were expensive and beyond the reach of common man, in 2006 cost-effective intradermal rabies vaccination (IDRV) was introduced. Simultaneously over the years improvement in socio-economic conditions in the country has led to more affordability, better availability and accessibility of modern rabies vaccines and increased awareness and use of rabies immunoglobulins (RIGs). Consequently, there was a gradual decline in the incidence of human rabies cases in the infectious diseases/influenza hospitals in the country. Hence, there is now a need to reassess the burden of human rabies in the country.

A conservative estimate of dog population in the country is about 25 million and majority of these are strays. As dog is neither a food animal nor an animal of

economic importance, efforts to reduce its population and control dog rabies remain largely neglected in the veterinary sector. Due to socio-cultural factors dogs enjoy the patronage and protection of the community and consequently previous efforts of killing stray dogs to reduce their population failed. Hence, in 2001, a central legislation of "animal birth control (ABC) act, 1960, thus eliminating the earlier cruel practice and replacing it with humane approach of sterilization, anti-rabies vaccination and release of these sterilized stray dogs back into their communities in urban areas.

The animal welfare organizations are entrusted with the task of successfully conducting the ABC programme with funding from the municipal corporation. But due to lack of monitoring and evaluation its success /failure is now largely debated and hence needs an "independent" and "external" audit before its further expansion in the country. About 70% of people who live in rural areas and even many living in urban areas remain constantly exposed to dog population which serve as a potential source of rabies infection. Thus, a large section of people, mostly belonging to low socio-economic strata continue to remain vulnerable to rabies and are in need of protection against this dreadful disease.

## The recent efforts

Under the 11th five year plan (2007-2012) Government of India launched a pilot project on human rabies prevention in five cities of India, i.e. Delhi, Ahmedabad, Patna, Bangalore and Madurai. The main thrust was on promoting IDRV along with equine RIG. It provided for a linkage with the veterinary sector through strengthening of laboratories for rabies diagnosis in dogs and other animals. The experience from this project led Government of India to launch national rabies control programme (NRCP) under 12th five year plan (2012-2017) earmarking Rs. 50 crores for it. The programme aims to reduce human rabies deaths and cut down the transmission of rabies in dogs. The

National Centre for Disease Control (NCDC), Delhi as nodal agency aims to accelerate and expand rabies PEP with IDRV and equine RIG for humans. The animal welfare board of India (AWBI) as nodal agency has to undertake mass parental rabies vaccination plus ABC programme for stray dogs.

#### The Recommendation

As rabies is a zoonotic disease, it is very essential to forge an effective partnership between medical and veterinary sectors at all levels for tackling this problem through a "one health approach". The strategies recommended for successful reduction and eventual elimination of human rabies include –

1. To reduce the burden of human rabies: The NCDC, as WHO collaborating centre for rabies epidemiology shall take upon the mantle of this responsibility & leadership and forge suitable partnership with Indian Council of Medical Research, APCRI, Public Health Foundation of India and others.
2. To establish an effective system of laboratory surveillance in the islands of Andaman & Nicobar and Lakshadweep to evaluate and validate their "rabies free status".
3. To identify areas/regions amenable to become "human rabies free" like the states of Tamil Nadu, Kerala, Sikkim & others and launch a well planned and time bound human rabies elimination campaign.
4. To utilize the world rabies day, on September 28, of each year for public awareness campaigns through print and electronic media. In the cases the veterinary and medical colleges must come together for annual mass vaccination of dogs, professional education campaigns, etc. The officer bearers and members of APCHI shall take a lead

role in this endeavour to cover all the states and Union Territories of the country.

5. To establish, strengthen and expand rabies diagnostic laboratories in veterinary sector particularly to use direct rapid immune histochemical test (dRIT).
6. To conduct an independent and external audit of the ADC programme for stray dogs soon before giving it further thrust under NRCP.
7. To identify areas of high rabies endemicity and ensure 24x7 availability of RIG and IDRV. It is important to train medical and paramedical personnel in the correct use of IDRV and administration of equine RIG.
8. To improve the clinical facilities and availability of drugs in the infectious diseases/isolation hospitals so as to encourage admission of human rabies patients and provide at least palliative care to these victims.
9. To make human rabies a "reportable disease" from both government & private sectors and the information so obtained through monthly reports shall be made available to both the state Governments and central Government.
10. To allocate more funds to 'National Rabies Control Programme', to assure its success in the present five year plan period.

The new stable political dispensation at the centre must provide support for a sustained and concerted effort to ensure human rabies elimination as a feasible proposition and later a realistic target date may be set for making India "human rabies free". This shall not only alleviate the suffering of the poor locally but also improve the credibility of the country, which is known for its scientific advancement in space science and nuclear technology in the international family of nations.

#### Bio-Data of Guest Editor

Dr. M.K. Subramani, MBBS (from Karnataka Medical College, Hubli), MD (from Bahadur Hindu University), is presently Professor of Community Medicine and Ex. Dean/Principal (2005-2014), of Kempegowda Institute of Medical Sciences, Bangalore. He is a member of WHO expert panel and consultations on rabies, Geneva, Switzerland and Government of India expert committee member on rabies.

He is an honorary fellow of faculty of public health (FFPH), Royal Colleges of Physicians, United Kingdom and an elected fellow of National Academy of Medical Sciences (NAMS), Delhi. He is a recipient of Dr. B. C. Roy award of Government of Karnataka and Indian Medical Association, Bangalore. He has 77 scientific publications on rabies and public health in various national and international journals and an author of popular hand books on rabies for medical and veterinary professionals. He has delivered lectures on rabies as invited guest speaker in Switzerland, France, China, USA, Egypt, Pakistan, Nepal, Bangladesh, Sri Lanka, Thailand, Indonesia, Philippines and Vietnam.

He is the founder secretary of Karnataka Association of Community Health (KACOH, 1983), founder president and mentor of Association for Prevention and Control of Rabies in India (APCRI, 1998) and founder president of Rabies in Asia Foundation (RIAF, 2006).