

Special Report

Rabies in the SAARC region: Report of an intercountry meeting

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The **South Asian Association for Regional Cooperation (SAARC)**, founded in December 1985, is an organization of eight South Asian nations (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan & Sri Lanka) and is dedicated to economic, technological, social, and cultural development emphasizing collective self-reliance. The Rabies in Asia (RIA) foundation convened an informal meeting of rabies experts from both medical and veterinary sciences from these countries from 24th to 26th February, 2011 at Mysore, Karnataka State, India to review and assess the current scenario of rabies in this region and to call for actions for addressing these issues in the future. In all twenty six rabies experts from Afghanistan (3), Bangladesh (2), Bhutan (2), India (6), Maldives (1), Nepal (2), Sri Lanka (2), RIA Foundation (5), World Health Organization, WHO (3) and others (23) which included stake holders from the pharmaceutical companies (11), regional medical and veterinary institutions (13) participated in the meeting. Only the representation from Pakistan was unable to attend due to administrative reasons.

Rabies in the SAARC region

According to WHO, globally an estimated 55,000 persons die of rabies annually. Of these 31,000 (56%) are from Asia and 24,000(44%) from Africa. In the SAARC region about 25,000(45%) are known to die of rabies every year of which 20,000(36%) are from India (Table-1). An estimated 1.5 billion people are at potential risk of rabies infection and about 4 million people receive anti-

Table 1
Human rabies cases in the SAARC region

Countries	Reported human cases	Estimated human cases	Cases per 100,000 Population	% of dog bites
Afghanistan	N/A	2000-3000	5.70	N/A
Bangladesh	200	1500-2000	1.50	95%
Bhutan	2 (2008)	<10	0.28	99%
India	?	18,000-20,000	2.00	>95%
Nepal	35 (2008)	100-150	0.21	98.5%
Pakistan	?	2000-5000	1.30	>90%
Sri Lanka	51 (2008)	<100	0.26	95%

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Table 2
Human rabies vaccine production and use in the SAARC region

SAARC countries	ARV demand (Doses)	ARV production (Doses)	Remarks
Afghanistan	100.00	Nil	Import from outside
Bangladesh	400.00	30000 (NTV)	Still produces NTV but willing to produce TCV
Bhutan	10,000	Nil	Import from outside
India	10,000.00	15,000,000 (TCV)	Only country with commercial TCV production
Nepal	200,000	Nil	Import, trial batches of TCV produced
Pakistan	300,000	350,000 (NTV)	Still produces NTV but willing to produce TCV
Sri Lanka	200,000	Nil	Import from outside

rabies vaccination, despite this the rabies deaths are mostly due to negligence, ignorance and inadequate availability of primary health care services. Among the eight countries, only Maldives is free of rabies and Sri Lanka has made substantial progress in reducing human rabies mortality to such a low level that it now plans to make the island nation rabies free by 2016. .

With regard to the availability of rabies vaccines for human use (Table-2) except for India other countries depend on import of modern rabies vaccines. Pakistan is the only country in the region which still produces and uses nerve tissue vaccine.

The situation of rabies in the animal population in the region is that the dog mediated rabies continues to be the major public health problem. Due to lack of proper surveillance there is no clear information about the problem of rabies in the animal population. The existence of a large unvaccinated and uncontrolled stray dog population, opposition from the communities to eliminate them and a lack of well planned dog population

management and organized dog vaccination programme has led to further compounding of the problem, more so in the urban areas. However, the scenario is different and far better in the island nations of Sri Lanka and Maldives. In Sri Lanka the department of health has made vast inroads in controlling the dog population and vaccinating them and cats too. In Maldives there is a strict vigil on the import of animals and their quarantine.

Efforts of SAARC and World Health Organization

Considering the magnitude of rabies problem and the need for coordinated activities for rabies elimination in SAARC Region, SAARC Secretariat and the Government of Sri Lanka hosted a SAARC level workshop on rabies elimination in 2003 which recommended formulation of regionally coordinated rabies elimination activities under the auspices of SAARC Secretariat. As per recommendations of the SAARC Rabies consultation held in 2003, it is right time to propose a regionally coordinated rabies elimination project which aims at elimination of rabies as a public health problem. WHO Regional Office for South East Asia Region is in the process of finalizing a regional strategic framework for elimination of human rabies and supporting member countries to strengthen rabies control activities including promotion of cost-effective intradermal rabies vaccination. Its details are as follows:

Period: 10 years (2011-2020) (Table 3)

Preparatory Phase (Four years)

Reduce human rabies cases by 50%. Funding requirement: USD 20 million (Five million per annum); possibly from SAARC Development Fund and contribution from donors.

Table 3
Cost estimate for implementing rabies elimination programme in the SAARC region (Preparatory phase)

Sl. No.	Activities (USD in millions)	Estimated budget	% of total
1.	Legal framework for rabies elimination	0.5	2.5
2.	Advocacy, awareness and education	3.0	15.0
3.	Surveillance and response	1.0	5.0
4.	Laboratory diagnosis and sero-surveillance	1.0	5.0
5.	Human rabies prophylaxis	4.0	20.0
6.	ABC/Anti-rabies campaign	8.0	40.0
7.	Wildlife rabies control	1.0	5.0
8.	Operational research	0.5	2.5
9.	Project management	1.0	5.0
	Total	20.0	100.0

Final Phase (Six years)

Eliminate rabies as a public health problem. Funding requirement: USD 90 million (15 million per annum) to be explored at international level through resource mobilization plan.

Conclusions and Recommendations

The rabies situation at global, regional and country level and possible modalities of regionally coordinated rabies elimination programme were discussed. Several scientific presentations were made to update knowledge on rabies prophylaxis, rabies control and dog population management. Besides availability of vaccines and immunoglobulin for prevention, existing control programmes and surveillance systems, were considered and consequently the following conclusions were made and based on these certain relevant recommendations have put forward.

Situation analysis

- The magnitude of rabies problem and epidemiological situation differs from country to country. The epidemiological pattern is similar but not necessarily identical.
- Each country is trying to execute rabies control activities in isolation and dog rabies control and dog population management are a matter of concern.
- Policy makers and funding agencies are not convinced that rabies can be eliminated.
- Pakistan is still producing and using nerve-tissue vaccine which needs to be replaced by modern rabies vaccine.
- Legal framework for rabies control is weak and its enforcement is questionable where rabies control act is in place.
- Many countries share open border and movement of dogs is common. Rabies control is not effective in cross-border areas in the absence of cross-border collaboration.
- Rabies is a common problem which requires well planned and coordinated approach for successful control and subsequent elimination.

Strengths and merits

- There are success stories and good practices in SAARC countries which can be shared.
- The SAARC region can produce quality rabies vaccines and biologicals for human and animal use.
- Expertise and resources are available which can be utilized for execution of regionally coordinated activities.

- Multiple partners and professional organizations are active in a number of countries.
- SAARC countries recognize the need for a regionally coordinated programme which will consolidate anti-rabies drive in the region.

Conclusions

- Elimination of human rabies is an international public good. The proof of the feasibility of rabies elimination has been demonstrated through implementation of regionally coordinated rabies elimination programmes. A SAARC level workshop on rabies elimination held in 2003 in Colombo recommended formulation of regionally coordinated rabies elimination activities under the auspices of SAARC Secretariat.
- Advocacy, awareness and education is important for prevention of human and animal rabies and World Rabies Day should be utilized to improve public awareness particularly in rural areas.
- Availability, accessibility, affordability of modern rabies vaccines, rabies immunoglobulin and appropriate treatment of dog bites/rabies exposure should be ensured at all levels.
- Standard rabies diagnostic tests should be available in all SAARC countries and quality control system in place.
- Rabies elimination programme focused mainly on anti-rabies vaccination with humane dog population management are largely justified by the future savings of human rabies prevention programme.
- Rabies control is a multidisciplinary and multidimensional activity; participation of medical and veterinary professionals from government and academic institutions, civic and local bodies, NGOs, INGOs, animal welfare organizations are crucial.
- Rabies elimination is an ideal mission to move forward 'One Health' concept.

Recommendations for SAARC countries

- Nerve-tissue vaccine to be replaced by modern rabies vaccine by 2012.
- Rabies in man and animals to be made a notifiable disease in all SAARC countries.
- Establishment of rabies diagnostic centers using modern technology.
- Intersectoral cooperation to be initiated in the form of rabies task force involving all stakeholders.
- Mobilization of funds through international agencies and organizations for rabies project.
- Dog population management studies to be undertaken.
- Starting education programmes involving Government and NGOs.

Recommendations for SAARC Secretariat

- Ensure political commitment for regionally coordinated programme for elimination of human rabies transmitted by dogs in SAARC Region.
- Establish a SAARC Rabies Center to guide rabies elimination programme.
- Mobilize financial resources to launch regionally coordinated rabies programme and consider the use of SAARC Development Fund at the initial stage.

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