

Special Report

Report of RIACON 2009 at Hanoi, Vietnam**Dr. Amlan Goswami, Rabies Consultant, Kolkata.**

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A group of experts from Asia, WHO, CDC and others at a meeting in Mumbai, in December 2005 recommended formation of a body which should urgently work for an expanded and "All Inclusive" regional approach to rabies prevention and control in Asia. Subsequently, "Rabies in Asia (RIA) Foundation" was formed and registered as a trust under the Indian Trust Act on 1st April 2006 in Bangalore, India.

The objective of RIA is to bring together the national rabies associations, human and animal health care professionals as well as researchers and government officials throughout Asia to work together with all stakeholders to find regional solutions and strategies for elimination of human and dog rabies in Asia. The country chapters of RIA have been formed in India, Pakistan, Sri Lanka, Bangladesh, Thailand, Philippines, China and Vietnam.

The first meeting of the RIA foundation was held as "RIACON 2007" on 3rd and 4th March, 2007, at the National Institute of Mental Health and Neurosciences, Bangalore, India. About 100 rabies experts and officials from the many countries in Asia, Europe, and North America participated in the meeting. WHO was represented by Dr. F. X. Meslin and others. There were many delegates from all over the world and including many from India. Many of the delegates were very eminent internationally for their work in this field.

The theme of the conference was "Reducing rabies burden in Asia – Future perspectives". It was sincerely hoped by the organizers of "RIACON 2007" that the recommendations of the conference be used as an advocacy document to prevail upon national governments to make suitable changes and work for achieving a rabies free Asia.

In continuation with the series, RIACON2009 was scheduled to be held at Karachi in Pakistan in February 2009. Due to unforeseen circumstances it could not be held there.

RIACON 2009 was subsequently held at Hanoi in Vietnam, from 9th September 2009 to 11th Septem-

ber 2009. The venue of the conference was the Horizon Hotel, Hanoi. The organizers of the conference were the National Institute of Hygiene and Epidemiology [NIHE], Vietnam and Rabies in Asia Foundation [RIA foundation], India.

The conference was attended by more than 100 delegates from almost all parts of Asia and many parts of the World. The presentations were very enlightening and were always followed by very challenging question answer sessions. The audience participation was very much active all through the conference. This conference had a large Indian presence.

The APCRI members present at the conference were Dr. M. K. Sudarshan, Dr. S. N. Madhusudana, Dr. B. J. Mahendra, Dr. D. H. Ashwathnarayana, Dr. S. Abdul Rahman, Dr. Amlan Goswami, Dr. H. S. Ravish, Dr. Hoshang Vakil, Dr. Ramesh Masti, Dr. Ranjit Mankeshwar, Dr. Thomas Mathew and Dr. D. M. Satapathy. A stall was put up by APCRI, from which APCRI Journals and APCRI News Letters were distributed. The feed back about the APCRI Journals, APCRI News Letters and APCRI activities was very good.

The RIACON 2009 took note of the history of improved situation of rabies in countries of Asia through a number of efforts in control of rabies in these countries. The successful campaign of mass national vaccination of dogs for elimination of rabies in Brazil was considered as a successful model which may be considered for replication by other countries in Asia. The effect of climate change on movement of animal reservoirs of rabies in Asia must be considered for any actions in the future for control of rabies in animals.

The RIACON 2009 discussed the following matters:

1. Current Rabies Situation in Asia

The estimated number of human rabies deaths in Asia is approximately 30,000-40,000 annually (20,000 in India, 2,000 in Bangladesh, remainder in

the rest of Asia) . Over 95% of human cases are transmitted by dogs.

Rabies free countries (Malaysia, Japan, Australia), spend much efforts to avoid rabies introduction from Asian rabies endemic countries, such as strict control of the dog population and of animal introduction from other countries.

Thailand, Sri Lanka and the Philippines have implemented rabies control programs for more than a decade. These countries have been using cell culture vaccines and have developed ID vaccination regimens. This has resulted in a sharp decrease in human rabies deaths (from 57 in 1998 to 9 in 2008 in Thailand); but rabies is still present (250 human rabies deaths in the Philippines; 50 in Sri Lanka in 2008), since canine rabies is still endemic in some areas of these countries.

The number of human rabies deaths has been increasing heavily in China, peaking at 3,300 cases in 2007, with southern provinces having more cases.

Rabies has emerged in new territories that were previously rabies-free (Flores 1997, Bali, 2008) while some others are becoming provisionally rabies free such as Siquijor in the Philippines, and Phuket in Thailand. A WHO-sponsored study is underway in Pakistan to estimate the annual number of rabies deaths.

2. Vaccines

India, Nepal and Vietnam recently discontinued production of nerve tissue vaccine (NTV) and adopted cell-culture vaccines for PEP. India is implementing ID rabies vaccination in some states such as Kerala and Orissa, and launched a pilot projects for prevention and control of rabies in 5 cities.

Sheep brain vaccine is still produced and used (free of charge) in Pakistan, Bangladesh and Myanmar. However cell culture vaccines are available in these countries, and free of charge in a large privately funded hospital in Pakistan.

The recognition of new rabies vaccines which were manufactured in China, India and some other countries should be encouraged to follow the standard international, and WHO approved procedures by evaluating their effectiveness, quality testing and safety. The quality control of new vaccine should be made by outsiders based on that procedure rather than by its

own company or manufacturers. Many cut off points (alcohol level, dilution...) are different from countries to countries which would be needed to conduct studies e.g. the standard procedure for new vaccine evaluation differed from Thailand and Sri Lanka (Dr. Henry Wilde, Thailand).

With about 30,000 human rabies deaths each year in Asia, there is still a big gap between developed and developing countries. Shifting from nerve tissue vaccine (NTV) to cell culture vaccines for PEP, may result in a lower affordability of PEP for the poor.

3. National Rabies Surveillance, Control and Prevention Program

A National Conference on Rabies will take place in early October in Pakistan, with the participation of the Health Secretary. There is no national rabies surveillance or control program in Cambodia. The Pasteur Institute is the only rabies prevention centre in the country, while rabies prevalence in dogs can be as high as 46%. About 20 000 PEP are annually provided free of charge by the Pasteur Institute. Even in countries that implemented rabies control programs, human rabies deaths still occur, because of unreported exposures, (especially in children), lack of treatment after exposure or delayed PEP, because of a lack of awareness, or low affordability of PEP. Elimination of human rabies requires control of canine rabies.

4. Progress

a. Global initiatives

The establishment of the Alliance for Rabies Control (ARC), and of a World Rabies Day (WRD), were major achievements for rabies control. Over 100 countries participated in the last WRD, with many initiatives taking place in Asia. The ARC has been active in coordinating partners, to help funding and implementing programs and pilot projects, through the Partners for Rabies Prevention (PRP) Group. PRP is an informal network of stakeholders working in the field of rabies prevention and control (rabies experts form endemic countries, International Organizations, NGOs, and industry).

b. Inter-country cooperation in Asia

Involvement of the Association of Southeast Asian Nations: the ASEAN + 3 Countries (13 countries:- Indonesia, Malaysia, Philippines, Singapore, Thai-

land, Brunei Darussalam, Viet Nam, Lao PDR, Myanmar, Cambodia, + China, Japan, South Korea) developed the resolution of eliminating rabies by 2020.

India recently adopted in 2009 the resolution of eliminating the rabies by 2020.

Sri Lanka had already taken the resolution to eliminate rabies by 2016.

c. Establishment of rabies expert networks

The Asian Rabies Expert Bureau (AREB), an active network established in 2004 that meets on an annual basis.

The Rabies in Asia (RIA) Foundation (with chapters in various Asian countries), established in 2007, organizes biennial meetings.

d. Pilot projects and public-private cooperation

PrEP vaccination of schoolchildren: pilot project in Cabusao and Camarines Sur in the Philippines;

WHO coordinated project aiming at the elimination of canine rabies in Visayas Islands (Philippines). This project is funded by the Bill & Melinda Gates Foundation (10 million US\$);

Bohol Rabies Prevention and Eradication Program, a cooperative effort of the ARC, WHO, the Philippines Government and a Private Foundation, with community involvement for canine rabies control.

5. Challenges and Components of Strategy for Rabies Control and Elimination

a. Comprehensive programs have been implemented, including Affordable PEP (including RIG for category III exposures); PrEP of most at risk (children) in endemic countries. Several studies carried out in Thailand, India and Viet Nam confirmed the effectiveness of rabies PrEP in infants or schoolchildren.

Canine rabies was also controlled at the same time by :

Vaccination – high coverage to be obtained;

Responsible dog ownership;

Humane dog population control.

b. Challenges and Components of Strategy for Rabies Control and Elimination

South America, Europe, Korea, Singapore, Malaysia and Japan succeeded in controlling rabies thanks to strong government actions, including legislation and law enforcement. Governments should be strongly encouraged to bring down the number of human rabies cases firstly through dog control, but also through post-exposure vaccination and pre-exposure vaccination (PrEP); the effectiveness of (PrEP) is, however still to be demonstrated (Dr. Henry Wilde, Thailand). For animal control, more support should be obtained from governments, NGOs and other organizations, especially for dog population control and dog vaccination by indirect or direct methods. Involvement of local authorities and local governments in rabies control and prevention should be increased. (Dr. Ong Bee Lee WHO/WPRO).

Remarkable achievements and progress in rabies control, availability of high quality vaccines, and implementation of effective vaccination programs should be acknowledged. But in many parts of the world, there is a lack of cooperation between veterinary and public health/medical services. For example, dog culling is prohibited by law in India. Closer intersectoral cooperation is necessary to build-up control programs, one of the most important component of which is education about rabies (Dr. Abdul Rahman, RIA foundation).

The ASEAN+ 3 countries adopted the resolution to prevent and control rabies, with the goal of rabies elimination by year 2020. In order to reach this goal, a roadmap must be established, and yearly achievements must be defined, with the specific resources, actions and contributions requested from every regional organization. Possible donors must also be identified. ASEAN+ 3 set a strategic framework and calls for action in a series of meetings. However, the ASEAN+3 countries have different needs because of different levels of development. Thus, all organizations, WHO, OIE, and ASEAN should put more effort to help countries in terms of rabies control and prevention. It was felt that there was a need for clearly defining of who is in charge of the resources. Clear actions should be designed at national and regional levels; resources necessary for their implementation should be defined, and those in charge should be clearly designated (Dr. Luninning Villa, ASEAN).

The Progress in rabies control and prevention activities has been much slower in Bangladesh, where the nerve tissue vaccine is still used. However, switching to cell-culture vaccines has been planned, and the country is seeking international support and assistance, e.g. for guidelines (Dr. Abdul Hannan, Bangladesh).

While the emergence of Avian Influenza (H5N1) and other new zoonoses in Asia diverts the attention of governments and the international community from other less visible endemic zoonotic diseases which like rabies have a significant health and economical burden, it is necessary to make profit of any opportunity to advocate for rabies control activities. (Dr. F-X. Meslin, WHO, Geneva).

c. Success in rabies control requires Political will and involvement

Population/communities information and participation
Financial support: private-public partnerships.

6. What do we need in the future for rabies control and elimination?

Although it is important to have ambitious goals, more focus should be placed on a roadmap with more realistic targets, that can be met in the near future (Dr. Hervé Bourhy, France).

Recent studies revealed that rabies is a heavy burden for both the public health and the economy of the countries. This is a very significant evidence, and may be helpful in attracting the attention of the governments and may be used to convince them to take actions for rabies control and eradication.

Rabies control and elimination represents a tremendous challenge; and many obstacles need to be overcome. In ASEAN context, we should proceed step by step, with defined milestones, starting with smaller projects and progressing to larger initiatives: setting up a surveillance system, evaluating the disease burden, advocating for rabies control, and implementing rabies control projects, beginning in defined areas, for instance in touristic areas, as part of a healthy tourism initiative (Dr. Luninning Villa, ASEAN).

Resolution:

The Participants from the medical and the veterinary services from rabies infected and rabies free Asian countries plus Australia in the 2nd RIA International

Conference on Rabies in Asia compiled the following resolutions:-

1. RIACON 2009 recognized the burden of rabies present in their countries, where altogether about 30,000 people die of rabies annually with at least 40% of these deaths are among children less than 15 years of age.
2. RIACON 2009 noted that the presence of the disease in most Asia countries leads to an estimated 10 million post-exposure prophylaxis (PEP) regimens in humans as well as millions of preventive immunization in animals thus making rabies a significant and continuously increasing economic burden particularly for the national health and agriculture sectors.
3. The RIACON 2009 noted that human and dog rabies during the past years has been spreading in Asia to historically rabies-free areas particularly islands and re-emerging in countries where it had been previously brought under control.
4. The Conference acknowledged the limited resources and low inter-sectoral collaboration for rabies control in human and animal in many Asian countries in spite of some progress made in dealing with other diseases of animal origin.
5. The Conference welcomed the progress reported by many Asian countries in their efforts to control human rabies through discontinuation of local production of animal brain derived vaccines for human PEP and procurement of larger quantities of modern cell culture vaccines to improve their country-wide availability.
6. RIACON 2009 was Convinced of the efficacy of mass vaccination of dogs for rabies control and elimination and the need for concomitant strengthening of community based activities for long term dog population management.
7. The Participants supported the efforts made by an increasing number of Asian countries to tackle the problem in their dog population and noting promising results obtained in some of them.
8. RIACON 2009 recognized the usefulness of intra-dermal PEP regimens, when properly administered using vaccines that have demonstrated their immunogenicity by this route in clinical trials, to reduce costs and increase vaccine availability as well as the added protection that pre-

ventive immunization provides to certain human age group particularly children most at risk of rabies.

9. All Participants were aware of the fact that political commitment and action at the highest level of all Asian rabies-infected, as well as rabies-free, countries is necessary to mobilize required resources for human and animal health services.
10. RIACON 2009 very gratefully acknowledged the support of the Gates Foundation and WHO for field demonstration projects for prevention of human rabies through dog rabies elimination in Africa and Asia whose results will be used to stimulate similar programme.
11. The RIACON 2009, took note of the "Call for Action towards the elimination of Rabies in ASEAN Member States and the plus three countries" developed by the ASEAN Plus Three Emerging Infectious Diseases Programme / AusAID/NIHE meeting on Strengthening cooperation & information sharing on rabies held in Ha Long Vietnam in April 2008 and thereafter endorsed by Health and Agriculture Ministers meetings.
12. The RIACON 2009 acknowledged the facilitating and supporting role that WHO, OIE, Food and Agriculture Organization (FAO), the ASEAN, SAARC and other relevant institutions such as the Gates Foundation, Alliance for rabies control, Asian Rabies Expert Bureau and ICAM (International Companion Animal Management) play in zoonoses control and human and animal rabies control and elimination in particular, and are committed to working together to meeting the goal towards eliminating human and dog rabies in Asia by 2020.

The Participants of RIACON 2009 Resolved to take 7 steps to reach the goal of human and dog rabies elimination by 2020. They are as Follows:

- (1) Advocating for rabies prevention and control at all levels of the society and make the best use of the World Rabies Day to mobilize people, government, decision makers, funding organizations and other resources on the subject;

- (2) Strengthening activities for the surveillance of rabies in humans and animals to better assess the burden of rabies and identify rabies hot spots;
- (3) Developing, reviewing if already ongoing and, if necessary, redirecting national plan for rabies control towards intensified control of the disease in its animal reservoir and by first targeting high risk areas and expanding to other areas in a progressive manner to finally reach the goal of human rabies elimination;
- (4) Discontinuing in the few Asian countries where they are still in use the administration of nervous tissue vaccines and taking measures to ensure availability and affordability of safe and efficacious modern rabies biologicals (vaccines and immunoglobulines);
- (5) Ensuring the compliance to human rabies prophylaxis National or WHO guidelines, by enhancing communication on the need to complete the vaccination schedules and on the compulsory use of rabies immunoglobulins in severe exposure cases (grade III);
- (6) Considering in countries where there is no shortage of vaccine Pre-exposure prophylaxis vaccination of infants and children, by studying the feasibility of incorporating rabies vaccine into pre-exposure (PrEP) universal immunization programme for infants and/or schoolchildren;
- (7) Requesting through appropriate channels the WHO Regional Committees of the South-East Asia Region (SEAR) and the Western Pacific Region (WPR) to reinforce respective Regional Office's capabilities to meet the demands from Member States for technical assistance, technology transfer and the launching of regional initiatives for dog rabies control and elimination in Asia in close collaboration with the ASEAN and SAARC. Submit this Resolution for consideration by their respective Ministers of Health and Agriculture as well as national, regional and global as well as donor agencies.