Rabies Control Strategy in SAARC member countries

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Outlines of Presentation

- Background: Rabies in the SAARC countries
- Rabies and its control in Nepal
- SAARC initiative for Rabies control and strategy
- Challenges and constraints
- Future control strategy
- Plans of action
- Conclusion
Rabies in SAARC Countries

- No rabies in Maldives.
- 45% of global burden of human rabies in SAARC. (21000-24000 out of 55000 death worldwide)
- Children 5-15 yrs age group represent 40% human rabies death.
- Canine rabies is the major epidemiological pattern.(>92% in each country)
- 1.5 billion people are at potential risk of rabies infection
- Each year above 4 million people receive anti rabies vaccination (WHO, 2012)
## Disease Burden in SAARC Region

<table>
<thead>
<tr>
<th>Countries</th>
<th>Estimated number of human cases per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>2000-3000</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>1500-2000</td>
</tr>
<tr>
<td>Bhutan</td>
<td>&lt;5</td>
</tr>
<tr>
<td>India</td>
<td>18000-20000</td>
</tr>
<tr>
<td>Nepal</td>
<td>100-150</td>
</tr>
<tr>
<td>Pakistan</td>
<td>2000-5000</td>
</tr>
<tr>
<td>Srilanka</td>
<td>&lt;50</td>
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</tbody>
</table>

- India has the highest number of human death in Asia as well (WHO, 2012)
Rabies virus circulating in SAARC

(Pant et al., 2013)
Epidemiology 44 districts/75
Lab test positive 13 districts
Host wise prevalence of Rabies in Nepal (2008-2012)
Number of vaccinated animal and animal death in Nepal

- Dead
- Vaccinated

Number of vaccinated animal and animal death in Nepal
Human rabies in Nepal

- Estimated human case 100-200/year
- Reported cases up to 50/year
- 38,000-45,000 people receive PEP/year
- ARV is available at 54 hospitals regularly for PPE at free of cost
- DAH expends US$ 1.5 million per year to buy rabies vaccine for post exposure treatment (EDCD, 2010).
- DOHS purchased 334,737 doses of CCV in 2012 (EDCD, 2012)
Human Rabies and Vaccinated cases at Central Tropical Hospital, in Nepal (2008-2012)

<table>
<thead>
<tr>
<th>Year</th>
<th>Human cases</th>
<th>Vaccinated people</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>8</td>
<td>10,988</td>
</tr>
<tr>
<td>2009</td>
<td>15</td>
<td>11,121</td>
</tr>
<tr>
<td>2010</td>
<td>13</td>
<td>12,971</td>
</tr>
<tr>
<td>2011</td>
<td>11</td>
<td>14,156</td>
</tr>
<tr>
<td>2012</td>
<td>11</td>
<td>15,847</td>
</tr>
</tbody>
</table>
Post-exposure rabies vaccination

Teku hospital, Kathmandu, Nepal, 2013
Rabies control activities in Nepal

• Department of Livestock services has developed 10 year Rabies Control Strategy 2010.
• Rabies Vaccine Production Laboratory (RVPL) produces 50,000 cell culture rabies vaccine from BHKBSR cell for animal use annually.
• Production of rabies vaccine for human use is in progress (3.8IU/dose)
• Rabies vaccine bank is established at 5 Regional Veterinary Laboratories
Rabies control........

- Production of hyper immune serum (10IU/ml) at RVPL
- Rabies Vaccination Camps and Rabies Awareness Workshop are organized on World Rabies Day
- Action plan is being prepared to use 200,000 dose of vaccine provided by OIE.
- Collaborative research work with OIE reference laboratories have been performed
NeJaRab, cell culture rabies vaccine produced in Nepal in cooperation with JICA
SAARC Initiatives for Rabies Control

- SAARC level workshop on rabies control in 2003 in Colombo.
- Rabies in Asia Foundation in collaboration with WHO and SAARC Secretariat hosted SAARC Rabies Meeting in 2011 in Mysore.
- SAARC Technical Meeting held in Colombo in March 2012 recommended Sri Lanka to be a coordinator for SAARC Rabies Elimination Project.
- SAARC Health Minister’s Meeting held in April 2012 considered rabies elimination as a regional public good.
- SAARC Rabies meeting in Dhaka in Aug 2013 supported by FAO/OIE/WHO.
Control Strategies (priority based......)

- Srilanka has created Veterinary public health unit responsible for rabies activities, performance of which is appreciated by WHO.

- National Centre for Animal health in Bhutan is focusing on dog vaccination and dog population management.

- India has launched pilot project for rabies in 5 metropolitan cities and has national wide control program (2012-2017)

- However control efforts in India, Nepal and Bangladesh are fragmented and needs better coordination.

- Afghanistan has currently developed National strategy for Rabies control in 2012.
Impact of mass dog vaccination in human rabies incidence in Sri Lanka 1970-2010
Challenges/Constraints

• Lack of information on disease and dog population
• Motivation for animal rabies control is lacking.
• Limited vaccine as per need. India is the only region producing modern rabies vaccine (>15 million doses per year) and rest of the nation are importing vaccine.
• Limited quantity of vaccine is produced in Nepal, there is need of training
• Lack of rabies surveillance program
• Lack of appropriate legislation
Challenges

• Lack of public awareness regarding early wound washing and vaccination, identification of rabid features in animal and prompt seeking to the nearest hospital.

• Human cases are not diagnosed in national laboratory. Nepal and Bangladesh have only one laboratory at national level.

• Political instability and lack of commitment.

• Limited budgeting to control rabies in animal.

• Lack of motivation to people working at laboratory in the field of diagnosis and vaccine production.
Future control strategy

• National priority to Rabies and its control program with physical, financial and human resource.

• Declare Rabies as a Notifiable disease in all SAARC countries.

• National Surveillance Program to know disease information in different animals

• Capacity building for diagnosis and vaccine production

• Dog vaccination and implementation of efficient dog population control program

• Establish a SAARC Rabies Centre to guide rabies elimination program.

• Establishment of modern rabies diagnostic centre
Public awareness

- Broadcasting disease information from TV, Radio, newspaper and other media
- Organizing workshop, seminar and training
- Organizing vaccination camp
- School education program
- Provision of penalty for keeping unvaccinated dogs
- Making rabies free village or town
- Awarding to rabies free village or town
- Award to disease outbreak reporter
- National level programs on World Rabies Day.
Vaccination

• Provision of physical, financial and human resource

• Provision of vaccine bank in SAARC region to meet crisis

• Provision of fund for vaccine purchase, storing and transportation and vaccination camp

• Survey of dog population

• Mandatory pet dog registration and recording

• Mass vaccination and identification of vaccinated dogs

• Catching, sterilization and vaccination of stray dogs

• Vaccination to animals inside zoo (elephants)
Plan of action

• 2014: Dog survey, strengthening diagnostic as well as vaccine production capacity, designing surveillance program, organizing regional meeting to prepare plan of action

• 2015-2019: Rabies surveillance, mass dog vaccination, epidemiological study and mid term evaluation

• 2020: Declaring rabies free town or village, monitoring and evaluation
Conclusion

• Dog-mediated rabies is a major epidemiological pattern in rabies endemic SAARC countries

• Rabies elimination program focused mainly on mass vaccination of dogs are largely justified and logical

• Dog rabies control and dog population management are social responsibility

• Inter-country collaboration is essential to sustain the progress made in rabies control

• Rabies elimination is an ideal mission to move forward ‘One Health’ concept at country level
Acknowledgement

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THANK YOU FOR YOUR ATTENTION

NEPAL THE COUNTRY OF MOUNT EVEREST AND LORD BUDDHA