



भारतीय प्रौद्योगिकी संस्थान गुवाहाटी
INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

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Sustainable pedagogical approaches to improve awareness of dog-mediated rabies and free- roaming dogs among school children in Udalguri

A DBT-Wellcome Trust India Alliance
&

IIT Guwahati Workshop
18th -19th October 2024,
Office of the Inspector of School,
Sankar Nagar Road, Udalguri,
Assam, 784509



Background

Rabies causes death of approximately 20000 people in India annually even when all interventions to prevent rabies related mortality are known to us. The reference to rabies is found in Vedic scriptures and it is widely claimed that the word rabies originates from the Sanskrit 'rabhas' which means violence. Rabies as a deadly disease and that it is caused by the bite of rabid animals is known to Indians for 5000 years, likely one of the first civilisations to earn so. However, unfortunately, the country is ranked highest globally for rabies related deaths. A fatal viral disease transmitted through the bite of infected animals is a significant public health concern and while various animals can transmit rabies, dogs are the most common means of transmission to humans. With its vast population and cultural diversity, India faces unique challenges in controlling dog-mediated rabies and managing free-roaming dog populations.

Rabies can affect all warm-blooded species. Humans can also be exposed and once the rabies symptoms appear, death of the victim is inevitable. Although the human deaths due to rabies has been considerably controlled during the past decades, it continues to cause a substantial number of deaths in India. Data shows that children below 15 years of age are the most vulnerable due to multiple reasons, such as being easy targets by rabid dogs due to their height and their friendly attitudes toward dogs. Further, children are not prompt in reporting dog -bites suspecting ridicule or admonition from parents/guardians. It has also been reported that the children are also more likely to provoke the dogs resulting in bites. One of the critical aspects of rabies control is raising awareness among the general population, especially school children, who are not only vulnerable to rabies from dog-bites but also serve as agents of change within their families and communities. Educating school children about dog-mediated rabies and responsible interactions with free-roaming dogs can have a profound impact on reducing human rabies cases and creating a more harmonious coexistence between humans and dogs.

Educational institutes can play a pivotal role in enhancing children's knowledge about rabies and free-roaming dogs. Besides being the place where growing children spend most of their time, schools play an important role in influencing the thought process of the pupils through laid- out syllabi that is taught using standard pedagogical tools. Nonetheless, there are few occasions where pupils are taught about robust attitudes towards animal welfare and the relationship between animal and human health. While introducing interventions such as awareness campaigns in schools is a plausible way to make the students aware of these important topics, it is impossible to involve all schools, simply because of the enormous scale of involvement required. An effective intervention must be economically feasible, sustainable, and applied continually.

Aim of the workshop

This workshop seeks to transfer knowledge, intervention materials and pedagogical tools to teachers, who would, in turn, carry out awareness-

spreading exercises in the respective target schools. The overarching goal of the workshop is to develop an economically viable, sustainable and effective awareness-imparting mechanism for school children through the active participation of school teachers.

Context of Udalguri

The Udalguri district of Assam has a population of 831,668 (Census of 2011). The district shares international border in the north with Bhutan and Arunachal Pradesh, while is contiguous with the districts of Sonitpur, Baksa and Darrang in the east, west and south respectively. Administratively, the district has 11 development blocks and 2 municipal boards. The health services comprise of three health blocks namely, Orang, Udalguri, and Khoirabari. The district has many common diseases like malaria, Japanese encephalitis, lymphatic filariasis, dengue, and malaria.

Rabies deaths among humans are also recorded in the district, and in the year 2023 of the total of 33 rabies deaths in Assam, four deaths were from Udalguri. One of the victims was a school going child of around 10 years old. In the current year a total three rabies deaths are reported. The District National Rabies Control Program and Integrated Disease Surveillance Program looks after the investigation and monitoring of the suspected rabies cases in the district. However, different stakeholders like veterinarians, municipality, politicians, community leaders, and schoolteachers, can contribute to support the health system in control and prevention of the rabies in the district. This proposed workshop is intended for schoolteachers who are one of the important stakeholders to equip them with knowledge, materials and sustainable tools and intervention materials for enhanced awareness among the students in the schools.

Objectives

This workshop is a component of a larger activity for ***‘Comparing two approaches for teaching school children about rabies and free-roaming dogs in Assam, India’*** as part of the overarching project by DBT Wellcome Trust India Alliance to ***‘Implementing a comprehensive approach to eradicate dog-mediated rabies in India’***. The workshop will leverage the existing pedagogical skills of the participating teachers to apply suggested tools to effectively enhance knowledge on rabies and bring attitude change in school children about free-roaming dogs. The workshop will assess the current information levels of school children and the challenges and barriers to controlling dog-mediated rabies.

The specific objectives of the workshop are listed below:

1. **To explore the knowledge gaps** and equip the participating teachers with knowledge about dog-mediated rabies and free-roaming dogs for extension in the respective schools
2. **To introduce pedagogical tools** that could strengthen the existing

- interventions and be applied in the target schools for effective implementation
3. **To understand the challenges and barriers to enhancing awareness** among school children and explore their redressal through e-learning modules on rabies proposed to be developed during the project
 4. **To assess the knowledge gained on rabies and free-roaming dogs** of the teachers during the workshop to guide similar future activities

Participant list

(a) Overview of participants

The participants were assigned from schools of Udalguri by the respective Principals through a missive by the Inspector of Schools. A total 18 teachers participated in the two days' workshop. The selected schools included English, Assamese and Bodo mediums for the inclusiveness of language and to reach more students at a time. The participating teachers taught diverse subjects including English, Bodo, Hindi, Assamese, and Science. During the workshop the teachers were grouped into eight groups of three teachers each to perform various workshop activities and tasks.

(b) Participants list

Sl number	Name of the participant	Name of the School
1	Smt Rwisumwi Brahma	Udalguri Higher Secondary School
2	Shri Kaushik Jyoti Nath	Udalguri Higher Secondary School
3	Smt Binita Baishya	Udalguri Higher Secondary School
4	Shri Tarun Basumatary	Kajiamati Higher Secondary School
5	Shri Nirada Boro	Kajiamati Higher Secondary School
6	Shri Ranju Basumatary	Kajiamati Higher Secondary School
7	Shri Prasanna Daimary	Barnagaon High School
8	Shri Babul Adhikari	Barnagaon High School
9	Shri Pranab Baishya	Barnagaon High School
10	Shri Kashinath Sapkota	Golmagaon High School
11	Shri Hare Krishna Mandal	Golmagaon High School
12	Shri Hemanto Maidali	Golmagaon High School
13	Smt Nashi Brahma	Ram Swaroop Memorial English School
14	Shri Dolan Roy Ojha	Ram Swaroop Memorial English School
15	Smt Rumi Kakati	Ram Swaroop Memorial English School
16	Shri Raju Singh Chauhan	Sankardev Mission High School
17	Shri Ashim Ghosh	Sankardev Mission High School
18	Smt Himashri Ojah	Sankardev Mission High School

Workshop structure

(a) Day 1-Foundational knowledge and awareness activities

Session 1

Opening Remarks and Introduction to Rabies Awareness

Dr Harish Tiwari, Inspire Faculty, IIT Guwahati and founder of Creindia

Foundation welcomed all the participants with a thanksgiving to the respective Principals of participating schools. Dr Dhritismita Baruah, Veterinary Officer, District Animal Husbandry and Veterinary Office Udalguri, and Mr Rakesh Boro,

Chairman, Udalguri Municipal Board, Udalguri were present during the inaugural session.

Dr Dhritismita Baruah addressed the participants with the introduction of the veterinary department and their role in combating the disease in animals which in some way helps in prevention of the transmission of the disease in humans. She highlighted on the services available in case of any dog bite in domestic animals and its importance of reporting for larger benefit in prevention and control of rabies in our community.

Mr Rakesh Boro, addressed the participants and congratulated the participants for getting an opportunity to attend the workshop on a very important and neglected issue of the society. He encouraged the participants to give their best to learn from this workshop and share it with the school children as well as to the community.

Dr Parimala Mohanty, Project Manager, IIT Guwahati briefed the participants about the workshop and its objectives. She introduced the content of sessions, activities, and exercises that would be organised during the following two days.

Dr Shanti Priya Kindo, Project Associate Scientist, provided the introduction about rabies and briefed the participants on the cause, transmission of rabies virus, symptoms of rabies, and, bite wound management. In addition, the animal and human aspects of rabies control were highlighted, and the roles of various stakeholders in controlling the disease and making the country a rabies-free nation was discussed.

Session 2:

Activity:

“Is dog bite an issue?” and “Is rabies an issue?”

The topic was introduced and the various groups presented their observations, views, and perspectives to the query. This was followed by historical and socio-cultural perspectives of dog and human association was discussed where the ageless relationship of dogs and humans, and the mythological roots were highlighted. The social utility of free-roaming dogs was discussed.

A presentation on rabies and children was to explain how children tend to be vulnerable to dog-bite and rabies, although the pre-disposing causes of such vulnerability are varied. The existing tools of awareness, mediums of knowledge dissemination, and audience composition were discussed.

As a part of exercise, a case study was presented to all the groups, where a situation was given of a family who had adopted a puppy and was suspected to be infected by rabies virus. The family and the child gets exposed to the virus through contact with the infected puppy. Therefore, the groups were asked to share their observations and thoughts on the situation, and what steps of precaution could have been taken by the family to avoid the unfortunate incident.

(b) Day 2- Introducing sustainable pedagogical approaches

Session 1

A session on the introduction of existing tools was conducted to highlight the need for awareness and what mediums are appropriate for specific audiences. The importance of information, education, and communication to the right people at the right place and in a comprehensible manner for proper actions in consideration of community aspects such as age, literacy level, cultural, and beliefs were discussed.

Dr Dhrubajyoti Pathak, District Surveillance Officer, Integrated Disease Surveillance Officer cum District Nodal officer, District Rabies Control Program, and **Mr Satyajit Talukdar**, District Epidemiologist, IDSP, Udalguri were present during this session. Dr Dhrubajyoti addressed the participants about the IDSP unit of Udalguri and how it monitors the diseases in the district for early intervention and identification of the source of the disease. He also highlighted the situation of rabies in the district and focused on the strategies how to prevent the infection of rabies through proper wound washing and visiting the nearest health facility. He also added how the myths prevailing in the community blinds the people from seeking the right medical treatment in time and is a challenge in control of the disease. He talked about introduction of 'One Health Approach' in the district to develop collaborative strategies for the prevention and control of the disease. He also encouraged the participants to use the knowledge acquired throughout the workshop among the children and the community as a helping hand to the health department for the control of the disease.

Session 2

A role-play was conducted as an exercise, where respective groups were provided with a situation of likely rabies-infected bite. The groups were to strategise involving various stakeholders of a community like the village head, traditional healer, municipality, veterinary office, health centre, medical officer, and pharmacy to arrive at a solution with the economy of time and resources. The approach taken by the various groups was assessed and rewarded.

Feedback

Feedback was collected at the end of the two-day workshop. The participants expressed satisfaction with the two days workshop on rabies and free-roaming dogs. They acknowledged that after attending the workshop their views and misconceptions about the disease changed and it has helped them to understand the importance of the PEP in case of dog bite.

One of the participants said,

"Thanks to all the team members. It was very fruitful, and I learned a lot of new things. I am grateful that you made me part of the program."

Another participant said,

“Looking forward to more such meaningful workshop.”

Throughout the workshop, many prevalent myths and misinformation were clarified and the teachers agreed to share the same with the students and parents. The participants concluded that the sessions, activities and exercises were informative and knowledge generating. Thus, they look forward to more such workshops in near future to enhance their knowledge.

Closing session

The closing session was done with the participation certificate distribution to the participants. **Mr Robert Basumatary**, District Coordinator, Inspector of Schools, Udalguri, handed over the certificates to the participants and encouraged them to initiate the awareness and intervention activities in their respective schools.

A vote of thanks was delivered at the end of the workshop.

Suggested interventions and recommendations

Increasing the level of awareness among the target population (school children) is an effective intervention to reduce the incidences of dog bites, improve attitudes towards the welfare of free-roaming dogs, and promote responsible ownership of dogs. However, interventions that are resource intensive are difficult to implement. Further, the interventions should also be scalable for wider coverage. An active involvement of teachers in the schools to initiate and improve the knowledge of dog-mediated rabies resolves the scalability to a great extent compared to targeting individual schools through direct intervention. Nonetheless, the nature of the intervention steered by teachers will be comparatively more sustained than the direct intervention approach where the campaigners exercise a one-time effort. In the long run, the teacher-initiated campaign ably supported by seasoned campaigners is likely to produce a notable increase in awareness levels at a relatively less investment level.

In this workshop, we equipped the participants with comprehensive information about rabies, fill in the knowledge gaps, help them develop information, education, and communication (IEC) materials, and discuss further ways to economise and scale up the reach of teacher-initiated awareness campaigns.

Top eight high-level priorities to drive sustained rabies awareness campaign in schools

- ✓ Education through Curriculum Integration
- ✓ Organising events of importance for rabies and free-roaming dogs
- ✓ Interactive Workshops and Seminars at schools (observing World rabies day;

- Animal welfare day, World zoonoses day etc.)
- ✓ Visual Media Campaigns
- ✓ Involvement of Animal Welfare Organizations
- ✓ Role Models and Student Leaders
- ✓ Collaboration with Parents and larger community
- ✓ One Health

The participants were encouraged to employ the suggestions and methods to spread awareness among school children than those listed below.

Feedback by the participants

Feedback points	Number of participants who agree
The schedule of the workshop was practical and with well-spaced breaks to refresh prior each session	17
The presentations in the workshop were relevant, sequential, easy to understand and thought provoking	17
The workshop equipped the participants to transfer the knowledge to the school children	17
The exercises (group and individual) were carried out in organised interactive sessions and allowed equal participation for all participants	17
The logistics arrangements (venue, meals etc.) were well planned and organised	17

Conclusion

The teacher's workshop at Udalguri was a significant step towards enhancing awareness about dog-mediated rabies among school children and the community. Through engaging sessions and participatory activities, the workshop succeeded in creating a deeper understanding of rabies prevention and promoting a One Health approach.

The enthusiastic involvement of teachers demonstrated the effectiveness of the collaboration of the educational department in addressing public health concerns. Suggestions for scaling up this initiative, the potential for integrating similar workshops across other regions, for having responsible interaction with free-roaming dogs, and awareness among school children.

The schoolteachers' workshop in Udalguri in Pictures



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Actionable interventions

1	Morning assemblies and functions	Recognition in morning assemblies
2	Special wall magazine dedicated to One Health concept as applicable to dog - mediated rabies.	One Health magazine
3	Distribution and display of IEC materials such as posters, pamphlets, leaflets, and flyers	Display IEC materials
4	Encourage students to design infographics, paintings, sketches, reels on rabies and free roaming dogs.	Develop IEC materials
5	A semi-structured approach to include these topics in co-curricular activities - such as talks, debates, declamation, painting, open mike sessions, and story-telling activities.	Semi-structured approach
6	Interdisciplinary projects involving relatable subjects should be designed and assigned to the students.	Interdisciplinary projects
7	Stalls during science exhibitions, school day functions where a rabies information corner can be established.	Rabies stalls in exhibitions/fairs
8	The information about dog-mediated rabies, responsible ownership of dogs, and welfare of FRD can be promoted in parent-teachers meets.	Parent –Teachers Associations

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Rabies Myths & facts

Rabies can be transmitted only by dog-bites

FALSE
Rabies virus is carried in the saliva of infected dogs. Humans get infected when exposed to saliva through broken epithelium. While the most common route is bites, saliva can enter human body through licks and scratches wetted by saliva of infected dogs.

Animals infected by rabies are always ferocious

FALSE
Rabid animals may exhibit dumb or silent form, when they are not ferocious, but tend to seek isolated dark corners away from sunlight and stop responding to owners / human calls.

Rabies in India : Snapshot

Approximately
20000 Indians die every year

55 Indians die every day

03 Indians die every hour




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Dogs are victims too!

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Think global adopt local



Vaccinate your pet against rabies.

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Money will buy you a foreign dog

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Think global adopt local



Only I can give you Desi Love

Rabies cannot be cured, but is fully preventable.

If bitten or scratched...
See a doctor immediately!

Death is inevitable once the signs and symptoms of rabies appear. Timely action can prevent deaths. Once bitten by a rabid animal, post-exposure prophylaxis should be adhered to **always and immediately.**



Which animals can transmit rabies?

Creindia
Think global adopt local

- Bites
- Broken skin
- Licks

Wild Animals

Domestic animals

All warm blooded animals and bats can transmit rabies

If bitten by a dog :

Wash the wound with soap and running water for 15 minutes and then promptly seek medical advice.

WASH HANDS 15 Mins

Dog Bite

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Some posters distributed to schoolteachers for rabies awareness campaigns

Press coverage



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1. District Commissioner, Udalguri
2. Additional District Commissioner (Health), Udalguri
3. The Inspector of Schools, Udalguri,
4. The respective Principals of participating schools
5. The Chairman of Udalguri Municipality Board, Udalguri
6. The District Veterinary and Animal Husbandry Office, Udalguri
7. The District Surveillance Officer, Integrated Disease Surveillance Program cum Nodal Officer, District Rabies Control Program, Udalguri
8. The District Epidemiologist, Integrated Disease Surveillance Program, Udalguri.
9. The District Coordinator, Inspector of schools
10. The participants