

REVIEW ARTICLE

A Comparison of WHO – APCRI Surveys of 2003 And 2017: Summary Report

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Abstract

At the behest of World Health Organization, Headquarters, Geneva, Switzerland, the Association for Prevention and Control of Rabies in India (APCRI), with the approval of Government of India conducted two pan – India rabies epidemiological surveys in 2003 and 2017. A comparative summary of these two surveys is presented with their context, aim, objective/s, collaborators/participants, duration, coverage, methodology, key findings/results, novelty, outcome, budget and output.

Introduction

India is a hot spot of rabies contributing to substantial burden of human rabies globally. The country has been a priority for WHO for initiating any rabies control activities. Government of India has always welcomed non-governmental organizations (NGOs) for conducting disease special/specific surveys and other support activities in health sector.

The Association for Prevention and Control of Rabies in India (APCRI) is a registered scientific society established in 1998. One of its objectives is to support the Government in preventing and controlling rabies in India. In this context, World Health Organization entrusted APCRI to conduct two pan India rabies epidemiological surveys in 2003 and 2017. These surveys were well planned with the technical support of WHO-HQs, Geneva, Switzerland. Both the surveys were approved by Government of India and facilitated by WHO, India country office, New Delhi.

Methodology.

Often, there is discussion about the nature and comparison of the two surveys conducted by APCRI with the support of WHO in 2003 & 2017. A desk review of the two survey reports^{1,2} was done by the author, who was the chief investigator of both the surveys and a summary of the two surveys in a comparative mode was prepared.

Results

A comparative summary of these two surveys is presented below for record and posterity (Table -1).

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Table 1: A comparison of the WHO-APCRI surveys of 2003 and 2017

Sl. No.	Details	WHO –APCRI 2003 SURVEY	WHO -APCRI 2017 SURVEY
1.	Context	WHO expert consultation, 2004	Zero human rabies deaths by 2030
2.	Title	Assessing burden of rabies in India	Assembling new evidence in support of elimination of dog – mediated human rabies from India
3.	Aim	To provide comprehensive data on rabies in human and animal populations	To capture programmatic experiences of rabies prevention and control in the country
4.	Objective	Human rabies burden plus identifying animal rabies reservoirs & exploratory survey of the islands for their rabies free status	To provide new evidence on rabies vaccination policies, feasibility and impact of improving access & coverage to PEP, health seeking behaviours, pre-exposure policies, costs and experience on delivery mechanisms in the country
5.	Other collaborators/ Participants	Commonwealth Veterinary Association; 18 states, 21 medical colleges, 22 isolation hospitals, 18 veterinary institutions, 5 premier institutions* & 2 islands	7 states, 7 medical colleges, 7 isolation hospitals, 4 veterinary institutions, 2 islands,
6.	Period /Duration	Jan. To Dec., 2003 (12 months)	May, 2017 to Dec, 2017 (8 months)
7.	Coverage	<p>Medical (21) – Jammu, Amritsar, Shimla, Delhi, Agra, Varanasi, Darbhanga, Kolkata, Guwahati, Berhampore, Cuttack, Jaipur, Jamnagar, Goa, Nagpur, Bhopal, Hyderabad, Bangalore, Chidambaram, Kannur, Thrissur</p> <p>Veterinary (18) – Bangalore, Bidar, Thrissur, Chennai, Nammakal, Hyderabad, Mumbai, Nagpur, Akola, Anand, Hissar, Ludhiana, Palampur, Bhubaneswar, Srinagar, Guwahati, Sirwal, Udagir.</p> <p>Islands (2) Andamans and Lakshadweep</p> <p>*Others (5) – IVRI, CRI, NICD, PIIC & NIMHANS</p>	<p>States (7) – Himachal Pradesh, Bihar, West Bengal, Manipur, Kerala, Madhya Pradesh, Gujarat</p> <p>Islands (2) - Andamans and Lakshadweep</p>
8.	Methodology	<p>i. Orientation to the survey of PIs from 18 states was done at APCRI HQs at Bangalore</p> <p>ii. Community based surveys for human rabies – verbal autopsy; laboratory based animal rabies reports from the veterinary institutions; assessing the islands for their rabies free status</p> <p>iii. National Institute of Communicable Diseases, Delhi acted as the nodal centre</p> <p>iv. A planned field monitoring visit was made to three survey sites in three states by an independent external monitor of WHO/NICD.</p>	<p>i. Orientation to the survey of PIs from 6 states was done at Goa as a preconference activity of 19th APCRICON.</p> <p>ii. Review of literature for PEP regimens; community based surveys on dog bite & PEP practice; Health facility surveys for PEP compliance, etc; logistics of rabies biologicals; assessment of ARCs; market landscape analysis of rabies biologicals; provide policy paper on rabies biologicals and vaccination in humans; cost – effectiveness of RmAb; reassess rabies free status of islands and initiate laboratory surveillance of rabies in animals</p>

Table 1: A comparison of the WHO-APCRI surveys of 2003 and 2017 (Contd.)

Sl. No.	Details	WHO –APCRI 2003 SURVEY	WHO -APCRI 2017 SURVEY
			<p>iii. A Technical Advisory Group (TAG) was constituted by WHO, India office, Delhi, comprising of members from SEARO, NCDC, ICMR, ICAR, NIMHANS, PHFI & Others to oversee the survey.</p> <p>iv. A planned field monitoring visit was made to one site by an internal APCRI team.</p>
9.	Key findings/ Results	<p><u>Human Rabies burden</u> Annual estimate – 20,000 deaths (or 2/100,000) Dog (97%) principal vector</p> <p><u>Animal bite load</u> Annual animal bite incidence – 17.4 per 1000 population Projected country load - 17.4 million per year Pet/household dog population = 28 million Pet dog : man ratio :: 1:36</p> <p>Andamans & Lakshadweep Islands Rabies free; Lakshadweep – also dog free (but , cats present)</p>	<p>1. One week IDRVS is cost and dose sparing 2. Perceived risk of rabies and PEP seeking behaviour not satisfactory 3. Compliance was better to IDRVS than IMRV 4. Logistics of rabies biologicals not satisfactory & PEP facility inadequate in ARCs; Sales of vaccine more in private(72%) than Govt (28%) : ERIG usage was more in Govt (80-90%) than Private (10-20%) ; background draft policy paper provided; RmAb may replace RIG; laboratory surveillance shows islands are rabies free; poor surveillance of human rabies by CBHI & dog bite by IDSP, etc.</p>
10	Novelty	A pioneer, exploratory, national level community survey based human rabies burden study.	Part of a WHO global plan of 5 countries study i.e. other countries include Cambodia, Bhutan & Vietnam in Asia and Kenya in Africa.
11	Outcome/Status	Report accepted by WHO & GOI. Results are official statistics of GOI and WHO.	Report accepted by WHO& GOI.
12	Budget / Expenditure	Rs.10.5 lakhs / Rs.13.5 lakhs (APCRI spent from its funds an additional Rs.3 lakhs approximately)	Rs. 65 lakhs / Rs.52 Lakhs (Rs.13 lakhs was unspent and returned to WHO)
13	Output	Report –Soft copy on APCRI website, Hard copy distributed; Scientific Papers(4)- 2 International + 2 national journals	Report (soft copy on APCRI website) Hard copy – to be printed Scientific Papers (11) – Special issue of Indian Journal of Public Health , Kolkata (under process)

Discussion

The two surveys, though had pan India coverage, their complexion was different. While the first survey of 2003, largely quantitative in nature, was a pioneer nationwide study conducted by any country to assess the burden of human rabies through a community survey approach. There was no precedence or any known methodology available before this venture. Based on this successful methodology subsequently other countries like Bangladesh, Pakistan and Bhutan conducted similar community based surveys. The survey methods and results of this study

went through sufficient technical scrutiny both at national and international level. Having stood the test of time, it is recommended to repeat this survey once more to re-estimate the burden of human rabies in India which is presumably greatly reduced following discontinuation of Semple vaccine (2005), introduction of intradermal rabies vaccination(2006), improved socio-economic status in terms of better - rabies and health awareness, availability, access to & usage of rabies biologicals, etc.

The second survey of 2017 was more qualitative in nature; more rigorous and done to capture the programmatic experiences of rabies prevention and control in the country which was not readily available and to plan the activities for achieving the goal of zero human rabies deaths by 2030. WHO Hqts, Geneva provided the initial technical inputs through a workshop organized at NIMHANS, Bangalore in December, 2016. Similar surveys were initiated by WHO in four more countries i.e. Cambodia, Bhutan and Vietnam in Asia and Kenya in Africa. Hence, this survey was part of a larger design of WHO, Hqts., Geneva, Switzerland.

In conclusion, APCRI executed these two surveys very professionally, competently and this has been lauded by the World Health Organization. The results of these two surveys have formed the basis for initiating activities for prevention and control of rabies in India. Those interested may go through the main reports of these two surveys available from the website of APCRI vide www.apcri.org.

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2017 survey: APCRI Drs. D.H.Ashwath Narayana, Professor & Head, H.S.Ravish, Associate Professor & N.R. Ramesh Masthi, Associate Professor, KIMS; Gangaboraiah, Statistical consultant; B.S. Pradeep, Additional Professor of Epidemiology & Reeta S Mani, Associate Professor of Neurovirology, NIMHANS; Shrikrishna Isloor, Associate Professor of Microbiology, Veterinary College; Bangalore. B.J.Mahendra, Director and Professor of Community Medicine, Kodagu Institute of Medical Sciences, Madikeri, Karnataka State.

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2. *Association for Prevention and Control of Rabies in India. Assembling new evidence in support of elimination of dog –mediated human rabies from India, 2018, Bangalore, India. www.apcri.org*