

Special Article

Year: 2015 | Volume:3 | Issue-1

National Vector Borne Disease Control Programme: Current Updates

Dr. Raja Danasekaran¹ Dr. Kalaivani Annadurai² Dr. Geetha Mani³.

Department and Institution

¹ Assistant Professor, Department of Community Medicine, Shri Sathya Sai Medical College and Research Institute, Kancheepuram, Tamil Nadu, India.

² Assistant Professor, Department of Community Medicine, Shri Sathya Sai Medical College and Research Institute, Kancheepuram, Tamil Nadu, India.

³ Assistant Professor, Department of Community Medicine, Shri Sathya Sai Medical College and Research Institute, Kancheepuram, Tamil Nadu, India.

Corresponding Author:

Dr. Raja Danasekaran,
Department of Community Medicine,
Shri Sathya Sai Medical College & Research Institute,
Thiruporur – Guduvanchery Main Road, Ammapettai village,
Sembakkam post, Chenagalpattu Taluk, Kancheepuram district – 603 108.
E-mail: mailraja84@gmail.com
Contact Number: +91-9994215405

Abstract

Vector-borne diseases are a group of communicable diseases transmitted by mosquitoes and other vectors. National Vector Borne Disease Control Programme is the programme for prevention & control of these diseases. Many new initiatives have

been undertaken in the programme which includes National Programme for Prevention & Control of JE/AES, Strategic Plan for Malaria control in India (2012-2017), National Drug Policy on Malaria-2013, Environmental Codes of Practice, etc. in

Address for correspondence:

The Editor/ Managing Editor,
Journal of Comprehensive Health
Dept of Community medicine
NRS Medical College,
138, AJC Bose Road, Kolkata-700014

order to make India free from vector borne diseases with equitable access to quality health care.

Keywords: Vector borne diseases, malaria, drug policy, Japanese encephalitis, healthcare.

Introduction

National Vector Borne Disease Control Programme (NVBDCP) is an umbrella programme for prevention & control of the major vector borne diseases (VBDs) namely Malaria, Dengue, Lymphatic Filariasis, Kala-azar, Japanese Encephalitis and Chikungunya in India. The epidemiology of these vector borne diseases varies considerably on account of ecology, vector bionomics, economic, socio-cultural and

behavioral factors. Under the NVBDCP, the three pronged strategy for prevention and control of VBDs is as follows: (i) Disease management; (ii) Integrated Vector Management and (iii) Supportive interventions like Behaviour change communication, public private partnership, etc. The aim of this article is to look into the recent initiatives and developments in the NVBDCP.¹

Newer Targets under National Health Mission

Under the National Health Mission (NHM) 2012-2017, the targets for control of vector-borne diseases are revised as follows:

- a. Annual Malaria Incidence to be <math><1/1000</math>
- b. Less than 1 per cent microfilariasis prevalence in all districts
- c. Kala-Azar Elimination by 2015, <math><1</math> case per 10000 population in all blocks.

National Programme for Prevention & Control of JE/AES

Japanese encephalitis (JE) affects the Central Nervous System & can cause severe complications, seizures and even death. The Case Fatality Rate of this disease is very high and those who survive may suffer from various degrees of neurological sequelae. An estimated 25% of the affected children die, and among those who survive, about 30-40% suffers from physical & mental impairment. The ratio of overt disease to inapparent infection varies from 1:250 to 1:1000. Thus the cases of JE represent tip of the iceberg compared to the large number of inapparent infections. Acute Encephalitis Syndrome (AES) is a general description of the clinical presentation of a disease characterized by high fever altered consciousness etc mostly in children. The epidemiological analysis of the data collected for the states from 2008-2013 revealed the following: a) most vulnerable age group between 1-5 years followed by 5-10 years and 10-15years in that order; b) least JE infections seen in infants; c) all the endemic states except Assam start reporting JE cases from July onwards attaining a peak in September- October and in Assam the

cases start appearing from February and attain a peak in the month of July. Realizing the gravity of problem of AES & JE in the country the Govt. of India approved the National Programme for Prevention & Control of JE/AES. The goal of the Programme will be to reduce morbidity, mortality and disability in children due to JE/AES. The objectives of the programme are given below:

1. To strengthen and expand JE vaccination in affected districts
2. To strengthen surveillance, vector control, case management and timely referral of serious and complicated cases
3. To increase access to safe drinking water and proper sanitation facilities to the target population in affected rural and urban areas
4. To estimate disability burden due to JE/AES, and to provide for adequate facilities for physical, medical, neurological and social rehabilitation
5. To improve nutritional status of children at risk of JE/AES
6. To carry out intensified IEC/BCC

activities regarding JE/AES.³

Strategic Plan for Malaria control in India: 2012-2017

The epidemiology of malaria has been changing over the years due to rapid changes in the eco-system. According to these changes, the intervention strategies have been revised from time to time. National Malaria Strategic Plan outlines a strategy for translating commitment into concerted action for scaling up malaria control interventions with a focus on high burden areas and categorized strategic interventions for achieving pre-elimination status. The objective is to achieve Annual Parasite Incidence of <1 per 1000 by 2017. The programme plans to implement

activities to (a) Promote the implementation of evidence based strategies for malaria control through sustained technical support and partnerships; (b) Facilitate access of populations at risk to effective and complete treatment of malaria; (c) Support the application of effective preventive measures against malaria for the population at risk through Integrated Vector Management; (d) Strengthen capacity building of the field staff for malaria control in the country; and (e) Strengthen malaria surveillance system and the monitoring and evaluation of malaria control measures at all levels.⁴

National Drug Policy on Malaria-2013

The National Drug Policy on Malaria was first formulated in 1982 and has subsequently been reviewed and revised periodically. The present National Drug Policy for Malaria (2013) has been drafted keeping in view the availability of more effective antimalarial drugs and drug resistance status in the country. It has been stressed that all fever cases should be

suspected of malaria after ruling out other common causes and should be investigated for confirmation of malaria by Microscopy or Rapid Diagnostic Kit. According to drug policy (2013), *P.vivax* cases should be treated with chloroquine for three days and Primaquine for 14 days, *P. falciparum* cases should be treated with Artesunate Combination therapy (ACT) for three days

with single dose primaquine on day two. However, considering the reports of resistance to partner drug Sulphadoxine-Pyrimethamine in North Eastern states, it has been formulated to use Artemether with Lumefantrine in those areas. Also, production and sale of Artemisinin monotherapy has been banned in India. Presumptive treatment with chloroquine is

no more recommended. Resistance should be suspected if in spite of full treatment patient does not respond within 72 hours, clinically and parasitologically. Such cases not responding to ACT, should be treated with oral quinine with Tetracycline or Doxycycline and these instances should be reported to concerned health authorities.⁵

Environmental Codes of Practice

The Environmental Management Plan implementation under the programme would aim to prevent, minimize and mitigate the adverse impacts of insecticide used under the NVBDCP. The Environmental Codes of Practice developed under the programme contain a set of environmental codes of practice that can be implemented to address the environmental issues associated with the programme. The six Environmental Codes of Practice that have been developed for the

National Vector Borne Disease Control project are as follows: (i) transport of insecticides for indoor residual spray activities; (ii) storage and management of insecticides stock; (iii) community responsibility during indoor residual spray; (iv) use and maintenance of personal protective equipment; (v) indoor residual spraying and (vi) disposal of waste water, empty bags and biomedical wastes.⁶

National Road Map for Kala-azar elimination

Kala-azar also called Visceral Leishmaniasis is a parasitic disease with anthroponotic (confined to human only, no animal

reservoir) infection in Asian continent. If left untreated, the disease can have a fatality rate as high as 100% within two years. The

annual incidence of reported global Kala-azar cases is 58,200 of which 42,619 (>70%) is contributed from India. The disease is currently endemic in 54 districts among 4 states in India (Bihar, Jharkand, West Bengal and Uttar Pradesh). The National Health Policy-2002 set the goal of Kala-azar elimination in India by the year 2010 which was revised to 2015. National Road Map for Kala-azar elimination is in line with the National Strategic Plan of NVBDCP and also in synchrony with World Health Organization's Regional Strategic

Framework for Kala-azar elimination from South-East Asia Region. The roadmap provides strategic directions on reducing the delay between onset of disease, diagnosis and treatment by laying down timelines against each activity. It emphasizes specifically on early case detection and complete management. Roadmap also highlights the plan for introduction of single dose (10 mg/kg) Liposomal Amphotericin B in the treatment of Kala-azar and other conditions like post Kala-azar dermal Leishmaniasis.⁷

Conclusion

To raise the awareness regarding the disease, World Health Organization has taken vector borne diseases as the issue for World Health Day 2014 and the theme for this year is "Small bite, big threat". WHO responds to vector-borne diseases by: providing technical support and guidance to countries so that they can effectively manage cases and outbreaks, providing training on clinical management, diagnosis and vector control with some of its collaborating centres throughout the world

and supporting countries to improve their reporting systems and capture the true burden of the disease.⁸ To conclude, the strengthening of NVBDCP envisages a well informed and self-sustained, healthy India free from vector borne diseases with equitable access to quality health care and the programme activities are in tandem with the Millennium Development Goal of halting and reversing the incidence of malaria and other vector borne diseases by the year 2015 towards reduction of poverty.

References

1. Directorate of National Vector Borne Disease Control Programme, Ministry of Health & Family Welfare, Government of India. Director messages. Available from: <http://www.nvbdc.gov.in/director-message.html> (Last accessed on 19 March 2014).
2. Ministry of Health and Family Welfare, Government of India. Framework for Implementation of National Health Mission 2012-2017. Available from: http://nrhm.gov.in/images/pdf/NHM/NRH_Framework_for_Implementation__08-01-2014_.pdf (Last accessed on 19 March 2014).
3. Directorate of National Vector Borne Disease Control Programme, Ministry of Health & Family Welfare, Government of India. Operational Guidelines on National Programme for Prevention & Control of JE/AES (NPPCJA). Available from: [http://www.nvbdc.gov.in/Doc/JE-AES-Prevention-Control\(NPPCJA\).pdf](http://www.nvbdc.gov.in/Doc/JE-AES-Prevention-Control(NPPCJA).pdf) (Last accessed on 19 March 2014).
4. Directorate of National Vector Borne Disease Control Programme, Ministry of Health & Family Welfare, Government of India. Strategic Plan for Malaria control in India: 2012-2017. Available from: <http://www.nvbdc.gov.in/Doc/Strategic-Action-Plan-Malaria-2012-17%20.pdf> (Last accessed on 19 March 2014).
5. Directorate of National Vector Borne Disease Control Programme, Ministry of Health & Family Welfare, Government of India. National Drug Policy on Malaria-2013. Available from: <http://www.nvbdc.gov.in/Doc/National-Drug-Policy-2013.pdf> (Last accessed on 19 March 2014).

6. Directorate of National Vector Borne Disease Control Programme, Ministry of Health & Family Welfare, Government of India. Environmental Codes of Practice. Available from: http://www.nvbdc.gov.in/Doc/5-Environmental_Codes_of_Practice.pdf (Last accessed on 19 March 2014).
7. Directorate of National Vector Borne Disease Control Programme, Ministry of Health & Family Welfare, Government of India. National Road Map for Kala-azar elimination-August, 2014. Available from: http://nvbdc.gov.in/Doc/Road-map-KA_2014.pdf (Last accessed on 19 October 2014).
8. World Health Organization. WHO campaigns- World Health Day 2014. Available from: <http://www.who.int/campaigns/world-health-day/2014/event/en/> [Last accessed on 15 March 2014]