

Evaluation of the effectiveness of "Training of Trainers (TOT)" framework for National Vector Borne Disease Control Programme



Medical Science

KEYWORDS : NVBDCP, TOT, pre and post test

Dr. Abhas Shah	3rd year Resident, Dept of Community Medicine, B.J. Medical College, Ahmedabad-16
Dr. Krunal Varia	3rd year Resident, Dept of Community Medicine, B.J. Medical College, Ahmedabad-16
Dr. Kirti Rahul	3rd year Resident, Dept of Community Medicine, B.J. Medical College, Ahmedabad-16
Dr. Shikha Jain	Assistant Professor, Dept of Community Medicine, B.J. Medical College, Ahmedabad-16

ABSTRACT

Introduction: The National Vector Borne Disease Control Programme (NVBDCP) was launched to reduce the burden of vector borne diseases. The strategies advocated make regular training of the service providers a necessary step towards their implementation.

Materials and Methods: A 5-day District level Training of Trainers (TOT) was organised by the Department of Community Medicine, B.J. Medical College, Ahmedabad. A total of 27 participants from various districts of Gujarat attended. Pre and Post-training questionnaires regarding basics of vector borne diseases were given to evaluate the effectiveness of the training.

Results: There was a remarkable improvement in the participants' knowledge as the difference of mean pre and post test scores for all the 5 vector borne diseases were found to be statistically significant. The average Gain index ranged from 6.40% (Malaria) to 32.41% (Japanese Encephalitis). The total gain index was found to be 15.80%.

Conclusion: The results of the training are highly encouraging. This type of programmes should become a regular feature so that the service providers not only can update their knowledge but also fine tune and enhance their training skills. Such participants can function as trainers for sub-district and village level functionaries.

Introduction:

The National Vector Borne Disease Control Programme (NVBDCP) is implemented in the State/UT's for prevention and control of six vector borne diseases - Malaria, Dengue, Kala Azar, Japanese encephalitis, Filariasis and Chikungunya¹. Under NVBDCP, the three pronged strategy for prevention and control of VBD's is as follows: (i) Disease management including early case detection and complete treatment. (ii) Integrated Vector Management (iii) Supportive interventions including Behavior Change Communication (BCC), Public Private Partnership, inter-sectoral convergence and Human Resource development through capacity building and operational research including monitoring and evaluation through periodic reviews and field visits².

Training is the process of acquiring the knowledge, skills, and attitude that are needed to fill the gap between what people want to do, and what they are able to do now³. For effective implementation of the above mentioned strategies, training of the service providers at the District, Block, PHC and village level is essential.

Materials & Methods:

State level Training of Trainers (TOT) was initially conducted by experts from National Institute of Health and Family Welfare (NIHFW), New Delhi. Later on, a District Level TOT was conducted at Ahmedabad from 3rd to 7th September, 2012 by the Department of Community Medicine, B.J. Medical College, Ahmedabad in collaboration with NVBDCP Cell Gujarat State and NIHFW where the persons trained in the State TOT functioned as trainers.

A total of 27 trainees participated. They consisted of faculties from the departments of Medicine, Paediatrics, Microbiology and Pathology of different Medical Colleges and Medical Officers and District Malaria Officers of various malaria endemic districts of Gujarat. A structured questionnaire containing multiple choice questions was given to them before the commencement of the training to know their baseline knowledge. This was to be filled anonymously. The questionnaire was divided into the following sub-topics: Malaria (12 questions), Dengue (8 questions), Filariasis (9 questions), Japanese encephalitis (4 questions) and Kala-Azar (5 questions). The questions were related

to the epidemiology, diagnosis, clinical features, prevention and control of the above mentioned diseases.

They were then taken through a training programme of 5 days which consisted of lectures and interactive sessions on vector borne diseases of public health importance. The 1st day of the training started with a short discussion on Training Needs Assessment by a Management consultant. The participants were then introduced to the epidemiology of various vector borne diseases and principles of Integrated Vector Management. An exhaustive talk on medical entomology was also given. The 2nd and 3rd day of the training was focussed on the various aspects of Malaria, Dengue & Lymphatic Filariasis. On the 4th day, field visit to PHC Kuha was organised and the participants were demonstrated various methods of vector control like Indoor residual spray (IRS), larvivorous fishes etc. Japanese Encephalitis and Kala-Azar were discussed on the last day and a CD-ROM containing various training modules was distributed. At the end of each day, some practical exercises were given to the participants and the answers were discussed.

The same questionnaire was again distributed to the trainees after the training sessions concluded and their responses were analysed. They were also asked to fill Feedback forms.

Data analysis:

A scoring system was developed. Majority of the questions were multiple choice having 4 options. The questions which had 1 answer correct out of the 4 options were given 1 mark, if the correct answer was marked. For questions with 2 correct answers, 2 marks were given if both the correct options were marked and 1 mark was given if 1 correct option was marked. Few questions were of 'Fill in the blanks' type. 1 mark was given for correct answer. Questions marked incorrect and not attempted were not given any marks. The data was entered into and analysed using MS Excel 2007. Student paired t-test was used to compare the responses. Gain Index was also calculated.

Results:

The pre-test questionnaire was administered to 27 participants (19 males and 8 females). Out of 27 participants, 2 did not answer the post-test questionnaire as they were not available.

There was remarkable improvement in their knowledge as the difference of mean pre & post test scores for all the 5 vector borne diseases were found to be statistically significant (Table 1).

Table 1. Pre and Post Test scores

Disease	Pre-test score Mean+/- (SD)	Post-test score Mean+/- (SD)	P value
Malaria	9.40 (1.71)	10.24 (1.23)	<0.05*
Dengue	5.37 (1.47)	6.72 (1.06)	<0.001*
Filariasis	5.15 (2.54)	6.48 (1.71)	<0.05*
Japanese Encephalitis	2.70 (1.14)	4 (0)	<0.001*
Kala-Azar	1.78 (1.58)	3.24 (1.40)	<0.001*
Total	24.40 (6.32)	30.72 (3.48)	<0.001*

*Significant at 95% confidence interval

The average Gain index for all the 5 diseases ranged between 6.40% (Malaria) to 32.41% (Japanese Encephalitis). The total gain index was found to be 15.80%. The Gain index in case of Japanese encephalitis & Kala-Azar was >25% which demonstrates that training has led to a definite improvement in the knowledge of the participants regarding these diseases. (Table 2)

Table 2. Average Pre & Post test scores (%) and Gain Index of the Participants

Disease	Average Pre-Test score (%)	Average Post-Test score (%)	Gain Index (%)
Malaria	72.36	78.76	6.40
Dengue	59.67	74.67	15.00
Filariasis	57.20	72.00	14.80
Japanese Encephalitis	67.59	100	32.41
Kala-Azar	35.55	64.80	29.25
Total	61.00	76.80	15.80

All the participants took keen interest in the interactive sessions & problem-solving exercises. On analysis of their feedback Performa's and by having discussions with the, most of them appreciated the training program and said that they would recommend this program to other colleagues. Most of the participants felt that this type of training programs should become a regular feature so that they not only can update their knowledge but also fine tune and enhance their training skills.

Discussion:

Training of Trainers (TOT) is a recent strategy in the field of training and development which is gaining widespread acceptance. The goal of the TOT process is to give new trainers the background knowledge, skills and practical experience so that they can provide training and technical assistance to their colleagues and subordinates⁴. Hence, the overriding aim of the TOT course is to develop participants as educators. They will develop a deeper understanding of how people learn, so that they can plan, deliver, evaluate and develop training effectively⁵.

The results of the District Level TOT are highly encouraging. This type of exhaustive training program allows the states to build the capacity of its human resources in the struggle against vector borne diseases. Such trained persons can function as trainers for Block and Primary healthcare functionaries like Medical Officers of PHC's, Malaria Technical Supervisors, Health Assistants, Multipurpose Health workers (Male and Female) and ASHA workers. A TOT framework can prove to be the most cost-effective method of providing high quality training to the healthcare providers at the most peripheral level i.e. subcentre and village who form the backbone of the programme.

Regular NVBDCP TOT programs help the participants keep abreast with the latest trends in vector borne diseases and the strategies advocated for their prevention and control. The development of training skills in a comprehensive and sustainable manner is also facilitated. The strategy of 'Cascade training' is followed under the programme to pass on the knowledge and skills to functionaries working at different levels of healthcare infrastructure. State level TOT's are regularly conducted which are attended by faculties of various medical colleges and other top level government health officials. These training programs are facilitated by national level experts having vast experience in the field of vector borne diseases from NIHF, NIMR etc. These experts are in limited number and cannot travel the whole length and breadth of the country to provide training. Hence, it is envisaged that the participants trained in the State Level TOT's will function as trainers in District Level TOT's of NVBDCP and in a similar way, the services of these District TOT participants will be utilised for providing training and technical assistance to sub-district and village level health functionaries. This will lead to effective percolation of knowledge and skills regarding vector borne diseases right up to the grassroots level.

REFERENCE

1. National Vector Borne Diseases Control Programme; Directorate General of Health Services; Ministry of Health and Family Welfare; [www.nvbdc.gov.in](http://nvbdc.gov.in) | 2. Training Module for Multipurpose Worker; Directorate of National Vector Borne Diseases Control Programme; Available at: <http://nvbdc.gov.in/Doc/MPW-training-module.pdf> | 3. Guidelines for Training of Trainers; International Labour Organization; September 2002; Available at: <http://www.ilo.org/public/english/region/asro/bangkok/child/trafficking/downloads/tia-f.pdf> | 4. Training of Trainers; Trainer's Guide by J. David Hawkins and Richard F. Catalano; Social Development Research Group; University of Washington; Available at: http://www.sdr.org/ctcresource/Training%20of%20Trainers/Trainer%20Guide/TOT_TG_Pre-Training%20Information.pdf | 5. Management Training and Training System Development by George Brown; Anmol Publications; ISBN: 8126105356; p 376