



Original Article

Worker safety in Designated Microscopy Centers (DMC) and Tuberculosis unit (TU) under Revised National Tuberculosis Control programme (RNTCP) in state of Bihar – Contribution & Role of DTST

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Abstract:

Damien Foundation India Trust (DFIT), one of the members of International Federation of Anti-Leprosy associations (ILEP) are involved in providing technical and financial support in leprosy and TB control through its projects spread across the country.

While support to leprosy control started way back in 1982 through its own project, support to TB control started only in 2003. This study was part of evaluation taken to assess the role of DTST in achieving the planned objectives and to assess the impact of DFIT's involvement in TB control.

To assess the current status of worker safety in DMC/TUs of RNTCP centers in state of Bihar and the role and contribution of DTST in ensuring the same.

This cross sectional evaluation study was undertaken in randomly selected 8 DMCs/ TUs in rural areas of two districts of Bihar state in 2007. Evaluation was done using pre-tested observational checklist and personal discussions with key personnel. Evaluation included assessment of role & contribution of DTST with respect to infrastructure & resource availability; Training and capacity building; Practice regarding safe disposal of infected materials & worker safety.

Most of the civil works was complete in functional DMC/ TUs visited. Sharp pits for sharp disposal were available in only 50% of DMCs/TUs. Staffing position complete to nearly 80%. DTST role in capacity building training, infrastructure availability and monitoring of the programme has been remarkable. However there is a need to emphasis on importance of the worker safety and universal precautions during training. Effective implementation of clearly laid down National guidelines & policy keeping in lieu of the worker safety is the need of the hour when the programme gets streamlined in the general health system.

Key Words: Worker safety; RNTCP; Designated microscopy center; Tuberculosis unit .

Introduction

Damien Foundation India Trust (DFIT), one of the members of International Federation of Anti-Leprosy associations (ILEP) are involved in providing technical and financial support in leprosy and TB control through its projects spread across the country. DFIT's involvement in Bihar is mainly in the area of Leprosy and Tuberculosis (TB) through District Technical Support Teams (DTST) supporting Leprosy and TB control in 22 districts of Bihar.

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While support to leprosy control started way back in 1982 through its own project, support to TB control started only in 2003. DTST consisted of a Medical Officer and two supervisors, one each for leprosy and TB control supervised by a Senior Medical Advisor (SMA). [1-3]

Revised National Tuberculosis Control Programme (RNTCP) since 1993 has been implemented and expanded to cover the entire country by 2006. Around 12000 designated microscopy centers (DMC) have been established [4]. An effective quality assurance (QA) system of the RNTCP is of crucial importance for the future of the programme of which worker safety is one of the key components.

This study was part of evaluation taken to assess the role of DTST in achieving the planned objectives and to assess the impact of DFIT's involvement in TB control. This study particularly focuses on evaluation of contribution & role of DTST in worker safety at DMC & TUs under RNTCP.

To assess the current status of worker safety in DMC/TUs of RNTCP centers in state of Bihar and the role and contribution of DTST in ensuring the same.

Methods

This cross sectional evaluation study was undertaken during the period Jan-Feb 2007 which included onsite evaluation and review of documents like action plan, registers, monthly, annual and quarterly reports, progress reports of the DTST and other relevant documents. On-site evaluation was conducted in two randomly selected RNTCP implementing districts (Gopalganj & East Champaran) in the state of Bihar. Eight DMCs/ TUs were randomly selected from each of the district and hence a total of Sixteen DMC/TU was evaluated. Evaluation was done using pre-tested observational checklist and personal discussion with medical officers (MO), lab technicians (LT) and Senior Lab technician supervisor (STLS). Evaluation included assessment of role & contribution of DTST with respect to infrastructure & resource availability; Training and capacity building; Practice regarding safe disposal of infected materials & worker safety.

Results

Overall contribution and challenges faced by DTST in extending RNTCP in the state:

RNTCP was launched in 5 districts (DFIT assisted) in 2004 and later expanded to other districts. Several problems in the preparation of districts which had prevented the State in extending the programme to all the districts have been taken care of to a large extent.

- Staff were recruited or identified from among the former TB control staff for important vacant positions (like Laboratory technicians and field supervisors -Senior TB Supervisor and Senior Laboratory TB Supervisor).
- Lack of training facilities and manpower for training key personnel also hampered the preparation process. DFIT stepped in and assisted in training majority of doctors, field supervisors and laboratory technicians in 10 districts which had taken up RNTCP recently.

- Establishment of laboratory facilities has also become a problem. Laboratory could be started only in PHCs but not in majority of Additional primary health centres (APHCs) because of lack of facilities, doctors and other staff in the APHCs.
- Each DMC sometimes covers 200,000 populations instead of 100,000. This problem could not be solved unless the state upgraded the buildings of APHCs and ensures that the trained doctors are posted and are available.
- The most serious problem that the state faced in 2005 was the assembly elections in February and March which brought all activities including public health to a standstill.

Onsite evaluation will be discussed as current status and the role of DTST.

Infrastructure & Resource availability:

Current status: Most of the civil works was complete in functional DMC/ TUs visited. Sharp pits for sharp disposal were available in only 50% of DMCs/TUs. However, there were some structural deficiencies observed such as no safe place for microscopy storage. Running water supply grossly deficient in six of the DMC/TUs, which would hamper the working process and affects hand washing practices which in turn questions the worker safety. In six of the DMC/TUs, foot operated bins for sputum cup disposal was not functioning. Consumable supply was sufficient for waste management and at least one month stock was available in all the DMCs/TUs.

Contribution of DTST: DTST has been involved in infrastructure development starting from identification of DMC/ TUs, initiating the process of civil works from the government side. DFIT also supplied immersion oil to 50% of the districts and Sputum cups to 4 districts. It also helped the state in replacing damaged parts in microscopes in three districts. DFIT has also arranged to construct PHC buildings in 10 locations so far. The buildings are constructed with provision for laboratory so that they can be used immediately for RNTCP activities.

Training & Capacity Building:

Current status: Overall 80% of the medical officers, 98% of STS/ STLS/LTs have been trained in all the 22 DFIT assisted districts in Bihar. 74% and 90% of medical officers were trained in Gopalganj and E. Champaran respectively. Out of 14 DMC/TUs .

visited, only 2 MOs were not trained and all the lab technicians have been trained in the last 6 months. ASHA training was in progress in the state. The major lacunae was the lack of emphasis on training on importance of worker safety and hence their complacent attitude and practice. The lab supervisors (STLS) are trained on "STLS module" and "Lab technician's manual". The portions pertaining to BMWM and universal Bio-safety precautions are not vehemently emphasized during the training.

Contribution of DTST: DFIT had posted an additional supervisor in each district where RNTCP has been started to facilitate the Government staff in the implementation of TB control. The team members of DTST were sent to the Southern projects for on-the-job training before them being involved in training of key personnel of the RNTCP programme. DTST have been involved in identification, recruitment training and capacity building of the key personnel in the programme. Facilitated training of all the personnel involved in the programme – MOs for diagnostic skills, LTs for sputum microscopy, senior treatment supervisor (STS) for overall treatment, supervision and record keeping, STLS for supervision and quality control of sputum microscopy, peripheral health staff and volunteers for treatment delivery and follow-up services.

Practice regarding safe disposal of infected materials & worker safety:

Current status: Hand washing practices was glaringly lacking. When it comes to monitoring, there was no waste register or injury register maintained and no designated person allocated for monitoring. Standard precautions while handling the samples were not followed diligently in all the centres. Incineration of plastic waste practiced in 3 DMC/TUs. It was observed that phenol though available was not prepared on regular basis in early morning. While the foot-operated bins were not available in six of the DMCs; in other places the quality of the bins provided was not easily washable.

Contribution of DTST: Training of staff done in general on overall aspects of sputum microscopy. However, there is no specific emphasis on safe disposal of infected materials and worker safety.

Discussions

Most of the infected wastes generated under RNTCP are at DMCs and Tuberculosis Unit (TU). The main type of waste

generated are Human/biological waste (sputum); Sharp waste (needles, glass slides etc.); Used blister packs, drug packaging material; Plastic waste (waste generated from disposable syringes, cups and glasses); Laboratory and general waste such as liquid waste, broomsticks, and paper waste. [6,7]

Proper waste disposal as per the established norms can reduce the risk of exposure to infection of patients, health care providers and the community at large[2]. Since RNTCP has been integrated into the general health system of the state, waste generated by RNTCP should not be viewed in isolation, but is to be integrated in the broad framework of the peripheral institutions' waste management practices [6]. The waste generated under RNTCP was disposed off with other hospital waste as per the recommended procedures.

An Infection control plan which include strict and correct implementation of RNTCP diagnostic and treatment guidelines in the facility; identification of risk areas in the respective facility and area-specific infection control recommendations; improvement of the ventilation of the health care facility; education of the patients regarding cough hygiene; and adequate training of the BMW will help improve worker safety.[2]

Environment Assessment study conducted for the RNTCP estimates that the average quantum of waste generated in RNTCP centre is approximately 2.5 to 3.8 kg per day, which is relatively small[6]. However this infectious waste can be a potential occupational risk for technicians working at these units. If the infected materials are not handled carefully and disposed off according to the laid down guidelines, eventually it may pose a risk to the community at large. Disposable syringes were used for giving streptomycin injections at TUs and syringes are disposed as per guidelines. In our evaluation, quantum of waste not assessed as it was one point of contact.

Prevention of burning of plastics, especially those chlorine treated, safe disposal of sharps, ensuring deep burial of used cups and slides; encouraging all health care workers involved in RNTCP to adopt Standard Precautions in handling the samples i.e. during collection and transportation, avoiding spillage remains a challenge.[6]

Training and retraining of LTs is crucial to ensure worker safety. Periodic onsite supervision and guidance from STLS will facilitate safe working condition in DMC/TUs.

Conclusion

The major finding was that there was lack of emphasis on training on importance of the worker safety and universal precautions. All health care workers involved in RNTCP activities should be encouraged to adopt universal Bio-safety Precautions when handling samples i.e. during collection and transportation, avoiding spillage and these aspects needs to be addressed conscientiously during the training session.

Despite provision of resources, the attitudinal change would be a favourable answer to overcome the existing constraints and difficulties. Effective implementation of clearly laid down National guidelines & policy keeping in lieu of the worker safety is the need of the hour when the programme gets streamlined in the general health system.

Training and retraining of LTs/SLTS in area of worker safety and BMWM; adequate infrastructure provision like hand washing facilities, material supply etc; Safe disposal of sharps in a separate pit; Practice of standard precautions in handling the samples would in long run contribute to the worker safety.

References

1. Action Plan 2007, Leprosy and Tuberculosis in Bihar in cooperation with the Health authorities of Bihar, North India, DGDC Partner Financing: Action DA/PROG/ PF/ 2007/India
2. Armand Van Deun (2005), Evaluation of DFIT support to RNTCP in combination with NLEP in Bihar, 2005, External Report, Damien Foundation International Trust, India, unpublished.
3. Shekar et al (2006), Evaluation of District Technical Support Teams (DTSTs) in the state of Bihar, Report, Damien Foundation International Trust, India, unpublished.
4. Central TB Division. Revised National Tuberculosis Control Programme- Laboratory Network Guidelines for Quality Assurance of smear microscopy for diagnosing tuberculosis, 2005 Ministry of Health & Family Welfare, Nirman Bhavan, New Delhi URL-<http://www.tbcindia.org/pdfs/RNTCP%20Lab%20Network%20Guidelines.pdf> (date accessed on 25th July 2011)
5. Ministry of Environment & Forests, July 1998 Biomedical Waste (Management and Handling) Rules, New Delhi. Notification. URL<http://envfor.nic.in/legis/hsm/biomed.html> (date accessed on 25th July 2011)

6. Revised National Tuberculosis Control Programme, Environmental and Bio-medical Waste Management plan for RNTCP- II, 2005, Ministry of Health & Family Welfare, Nirman Bhavan, New Delhi. URL-http://www.tbcindia.org/pdfs/RNTCP_II_Env_plan_28Apr05.pdf (date accessed on 25th July 2011)
7. Central TB Division (CTD), Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India. Revised National Tuberculosis Control Programme. Operational Guidelines for Tuberculosis Control. Delhi: CTD, 1997.