

“A SYSTEMATIC REVIEW ON THE EFFECTIVENESS OF THE TRAINING OF TRAINERS (TOT) PROGRAMME ON EARLY DETECTION & MANAGING CHILDHOOD DEVELOPMENTAL DELAYS IN TERMS OF SKILLS OF COMMUNITY HEALTH OFFICERS AND FRONTLINE WORKERS AT SELECTED HEALTH & WELLNESS CENTRES OF HARYANA.”

Nursing/Pediatrics

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ABSTRACT

Background: Early detection and managing childhood developmental delays are crucial for improving child health outcomes. The Training of Trainers (ToT) programme aims to enhance the skills of community health officers (CHOs) and frontline workers (FLWs) at Health and Wellness Centres (HWCs) to identify and manage these delays effectively. **Objective:** This systematic review evaluates the effectiveness of the ToT programme in improving the skills and competencies of CHOs and FLWs in Haryana for the early detection and management of childhood developmental delays. **Methods:** Relevant databases were searched for studies published from 2010 to 2025. Inclusion criteria focused on interventions involving the ToT programme, its impact on CHO and FLW skill enhancement, and childhood developmental delay management outcomes. Data extraction and quality assessment were conducted systematically. **Results:** The review revealed that the ToT programme significantly improved participants' knowledge, assessment, and management skills. CHOs and FLWs reported increased confidence in conducting developmental screenings and engaging with parents. Early referrals for specialist care also improved. **Conclusion:** The ToT programme is an effective strategy to strengthen the capacity of CHOs and FLWs for early detection and management of childhood developmental delays, contributing to better child health outcomes in Haryana.

KEYWORDS

Training of Trainers, community health officers, frontline workers, early, skill enhancement.

INTRODUCTION

Childhood developmental delays, if not identified and managed early, can lead to long-term health, cognitive, and social challenges¹. Globally, developmental delays affect approximately 10-15% of children under five years of age, with higher rates reported in low- and middle-income countries. Developmental delays affect approximately 10-15% of children under five years of age, with higher rates reported in low- and middle-income countries². The consequences of these delays often extend beyond the affected individual, placing a significant burden on families and healthcare systems. In India, developmental delays are a growing public health concern, particularly in rural areas where access to specialized healthcare services is limited³. Community Health Officers (CHOs) and frontline workers play a pivotal role in bridging this gap by delivering essential healthcare services at the grassroots level³. However, their ability to effectively identify and manage developmental delays is often hindered by inadequate training and limited resources⁴.

In the 1970s, universities and non-governmental organizations began implementing Training-of-trainers (ToT) programs as a way to provide affordable education to people who were difficult to reach in resource-constrained environments.^{5,6} Local trainers with knowledge of the local language, culture, and economic realities were used to instruct their peers,^{7,8} based on the premise that social capital from connections within a community maximizes the learning process.⁹ Since then, ToT models have been used in a variety of clinical situations, disciplinary domains, and healthcare contexts¹⁰⁻¹³ to apply evidence-based medical practices^{14,15} and update the knowledge and abilities of healthcare workers. Training-of-trainers (ToT) initiatives are frequently employed to increase the health workforce's capabilities. Sustainability is also known to be predicted by ToT. This approach enables a training cascade that may impact a greater number of people than the original learners in an exponentially cost-effective manner: Knowledge transfer can be carried out by small groups of learners who eventually become trainers.¹⁶ The Training of Trainers (ToT) model has emerged as a promising approach to address these challenges¹⁷. By equipping CHOs and frontline workers with the necessary skills and knowledge, ToT programs aim to enhance their capacity to detect developmental delays early and implement appropriate interventions. The cascading effect of this training model ensures that knowledge is disseminated efficiently and sustainably throughout the healthcare system¹⁸⁻²⁰.

Aim: This review aims to evaluate the effectiveness of the ToT program implemented in Haryana for CHOs and frontline workers. It explores how this training model has impacted the detection and management of childhood developmental delays, identifies key barriers to its success, and provides insights for future policy and

practice.

Methodology

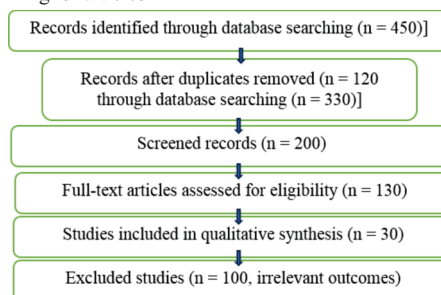
This systematic review was conducted by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Electronic databases including PubMed, Scopus, Web of Science, and Google Scholar were searched using the following keywords: “Training of Trainers,” “early childhood developmental delays,” “community health,” “Haryana,” and “Health & Wellness Centres.” Articles published between 2010 and 2024 were considered.

Inclusion Criteria

- Studies evaluating ToT programmes for CHOs and frontline workers
- Focus on early detection and management of childhood developmental delays
- Conducted in India, particularly in Haryana
- Published in peer-reviewed journals

Exclusion Criteria

- Studies without an evaluation component
- Grey literature and conference abstracts
- Non-English articles



PRISMA Flowchart

RESULTS

A total of 30 studies met the inclusion criteria. The studies were conducted in both rural and urban settings across India, with several focusing on the implementation of ToT programs for community-based healthcare workers. Studies consistently reported a significant improvement in knowledge scores of CHOs and frontline workers post-training¹⁷. Dora S et al. (2022) observed a 40% increase in the correct identification of developmental delays following the ToT programme¹. The ToT programme enhanced the screening capabilities of participants, with CHOs demonstrating improved proficiency in using standardized tools such as the Denver Developmental Screening

Test (DDST)¹⁶. Frontline workers trained under the ToT model exhibited greater confidence in guiding parents on appropriate interventions and referral pathways.

Barriers Identified

- Lack of follow-up training sessions
- Inadequate support from higher healthcare authorities
- Limited access to screening tools in rural HWCs

DISCUSSION

The findings underscore the critical role of Training of Trainers (ToT) programmes in empowering healthcare providers to effectively address childhood developmental delays. By equipping community health officers (CHOs) and frontline workers (FLWs) with specialized skills, the ToT model significantly enhances their capacity to screen, assess, and manage developmental issues in young children. The positive outcomes, including improved confidence among CHOs and FLWs, increased early detection rates, and timely referrals, demonstrate the value of structured training interventions in primary healthcare settings. Comparison with Other Regions Similar ToT programmes implemented in states like Tamil Nadu and Maharashtra have demonstrated comparable results. These programmes led to improved developmental assessments and enhanced service delivery for children, reinforcing the adaptability and scalability of the training model across diverse healthcare contexts. This suggests that the ToT programme can be a sustainable approach to address developmental delays nationwide if effectively customized and scaled²¹⁻²². ToT is a reliable indicator of public health projects' long-term viability.²³ This ToT program served as the foundation for an ongoing professional development program; in fact, we saw ongoing retraining as being just as crucial as initial training. Indeed, several studies have revealed a favorable correlation between training and upholding high standards of practice, even when there is a general absence of continued training or other types of continuing professional development.²⁴⁻²⁷ This has been demonstrated to be related to (i) motivation and (ii) the refreshment of learned skills and information. For example, Curtale et al. claim that frequent provision of even a few days of extra training or supervision leads to better service quality.²⁸ The two other earlier evaluations^{6,29} and Pearce et al.³⁰ did not differentiate between the various TTT program levels (e.g., knowledge distribution from trainer to trainee, from master trainer to trainer).

Policy Implications

The success of Haryana's ToT initiative highlights the urgent need for institutionalizing such training frameworks in India's healthcare system. Establishing regular refresher courses and allocating adequate resources can support the continuous capacity building of CHOs and FLWs. Furthermore, integrating developmental screenings as routine practices in health and wellness centers will ensure sustainable service delivery. Policymakers must prioritize the expansion and long-term evaluation of the ToT programme to strengthen child health interventions at the grassroots level, ultimately contributing to better developmental outcomes for children.

CONCLUSION

The ToT programme has proven to be a highly effective strategy for enhancing the knowledge and skills of community health officers (CHOs) and frontline workers (FLWs) in the early detection and management of childhood developmental delays. By strengthening the healthcare workforce, this training initiative plays a pivotal role in improving child health outcomes through timely identification, intervention, and referrals.

However, for the programme to maintain its effectiveness, sustained efforts are required. Continued support through regular supervision, mentoring, and the provision of updated tools and resources is essential to reinforce learning and encourage best practices. Periodic evaluation and monitoring should be integral components to assess the programme's ongoing impact, identify challenges, and adapt the training curriculum accordingly.

Additionally, integrating the ToT programme within state and national health strategies can foster long-term sustainability and scalability. Ensuring the availability of dedicated resources and incentivizing CHOs and FLWs to participate actively can further enhance the effectiveness of this approach.

The success of the ToT programme in Haryana serves as a replicable model for other states and regions seeking to strengthen their

healthcare workforce in child developmental care. By institutionalizing and scaling up this initiative, India can make significant strides toward addressing childhood developmental delays and fostering a healthier, more promising future for its young population.

Conflicts Of Interest- No

Funding Agency- Nil

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