Short Communication

Engagement and Preparedness of Urban Accredited Social Health Activists (U-ASHAs) for Delivery of Tuberculosis (TB) Care: Findings From two Cities in Maharashtra, India

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Abstract

Finding missing tuberculosis (TB) cases from the "under-reached" population of urban slums and connecting them with TB services is a priority and ongoing challenge for India. It requires the effective engagement of community health workers including urban Accredited Social Health Activists (U-ASHAs). The study aimed to understand the current engagement of U-ASHAs in TB care and their commensurate preparedness in terms of TB knowledge and training. An exploratory study was conducted in Mumbai and Pune cities of Maharashtra during 2022–23. The study used a mixed-methods approach, including a semi-structured survey of U-ASHAs (n = 222) and in-depth interviews with relevant stakeholders (n = 33). The statistical analysis used was descriptive statistics using MS Excel. The average age and work experience of U-ASHAs were 35.4 (21–50) years and 2.7 (0.5–6) years, respectively. They considered maternal child health services as their main portfolio and TB as an ancillary program. They were mainly involved in a biannual active case finding (ACF) and were recently envisioned as TB treatment supporters with poor clarity about other roles in TB care. Just half-day training for TB as part of 8-day general induction training, brief updates before ACFs, and the absence of an on-the-job supervisory structure resulted in TB knowledge gaps particularly for the latest diagnostic tests, adverse drug reactions, government schemes for TB patients, and contact tracing. Conclusions: Intermittent TB activities coupled with insufficient training impede U-ASHAs' functionality in TB care. Clarity of TB-related roles, integration of TB activities in daily tasks, comprehensive training, and on-the-job supervisory structures have merit in strengthening U-ASHAs' engagement in urban TB care.

Keywords: ASHAs, community health workers, India, tuberculosis, urban tuberculosis care

Key Messages

- Urban ASHAs were found to have great potential to reach the unreached population in urban areas and connect them with TB services.
- Explicitness about TB roles, comprehensive training, continuous supervision, and integration of TB services in their daily tasks are urgent requirements for strengthening U-ASHAs' involvement in the delivery of TB care.

Introduction

India bears the largest share (28%) of the global tuberculosis (TB) burden.[1] The risk of TB increases five times in urban slums due to unhealthy living conditions, inadequate nutrition, low awareness about health services, etc.[2] Hence, reaching the 'under-reached' in urban slums and connecting them with TB

Access this article online

Quick Response Code:

Website: www.ijcm.org.in

DOI: 10.4103/ijcm.ijcm_744_23

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How to cite this article: Purohit VS, Karvande SS, Shah DY, Vallepawar OB, Yadav OJ, Mistry NF. Engagement and preparedness of urban Accredited Social Health Activists (U-ASHAs) for delivery of tuberculosis (TB) care: Findings from two cities in Maharashtra, India. Indian J Community Med 2025;50:225-9.

Received: 02-11-23, **Accepted:** 01-04-24, **Published:** 23-01-25

services is a priority and a persistent challenge for India and requires effective engagement of front-line health providers, including community health workers (CHWs).

The urban Accredited Social Health Activists (U-ASHAs), like their rural counterparts, are incentivized and trained CHWs recruited under the National Urban Health Mission since 2013. India's "National Strategic Plan for Tuberculosis" has specified the participation of rural and urban ASHAs and considered them as a key resource for facilitating and enhancing outreach activities and expects them to refer presumptive TB cases to public health facilities.[3] A non-government organization-led project in urban slums indicated the merit of involving their CHWs in overcoming the last-mile delivery gap in TB care by giving them clear targets and incentives.[4] Similarly, understanding the contribution of government-led CHWs (U-ASHAs) in TB care is important. A study by the Asian Development Bank on TB control measures in urban India specified ASHA's role in TB care[5]; however, such studies are limited.

The present study therefore aimed at understanding the current engagement of U-ASHAs in TB care and their commensurate preparedness through the following objectives: to learn U-ASHA's a) TB tasks, b) TB training, and c) TB-related knowledge.

Subjects and Methods

The study received ethics approval from the Institutional Research Ethics Committee (IREC) after a review of the relevant documents. It was an exploratory study with a mixed-methods approach, including a semi-structured survey of U-ASHAs and in-depth interviews with relevant stakeholders. It was conducted from March 2022 to January 2023 in two cities in Maharashtra: Mumbai and Pune with, respectively, 52.5%[6] and 40%[7] population residing in slums.

The slum areas with a higher number of working U-ASHAs and a higher burden of TB were selected purposively based on the suggestions from the city program officials for representative sampling. The total number of working U-ASHAs in the selected study areas from both cities was 445, of which 222 (50%) were selected randomly for the semi-structured survey. The relevant stakeholders (n = 33) were purposively selected for in-depth interviews. They included auxiliary nurse midwives (ANMs), TB health visitors (TB HVs), medical officers of urban primary health centers, TB program officials, and U-ASHA program officials at the city and state levels.

The data were collected by a team of six researchers with prior experience in behavioral research. A semi-structured survey tool was prepared in English and translated into Marathi and Hindi. It was pilot-tested in the field for relevant modifications. These interviews were conducted by a pair of researchers in the health facilities of the selected U-ASHAs. A pair of senior researchers interviewed the stakeholders using an interview guide, with key areas of inquiry being the tasks of U-ASHAs in the TB program, TB training, and challenges. These in-depth interviews were conducted in the language preferred by the respondent, viz., Marathi, Hindi, or English.

Written informed consent was obtained from all the participants before their interview. The consent for the audio recording of the in-depth interview was kept optional for the stakeholders.

The quantitative data were analyzed using descriptive statistics in MS Excel. The qualitative interviews were transcribed using MS Word and coded for further synthesis across the study themes, viz., current roles of U-ASHA in TB care, TB-related knowledge, and training.

Results

Current status of U-ASHA recruitment

The recruitment and retention of recruited U-ASHAs were reported to be difficult due to inadequate incentives and the availability of other livelihood options with higher payments [Table 1].

Profile of survey participant U-ASHAs

The mean age and work experience of U-ASHAs were 35.4 years (21–50) and 2.7 years (0.5–6), respectively. Higher education (graduation and above) was reported by 26.2%, higher secondary school by 38.3%, and secondary school by 35.6% of U-ASHAs.

Perceptions of U-ASHAs about expected roles in TB care

TB tasks were hardly mentioned spontaneously against maternal and new-born health-related lists of routinely undertaken tasks. However, 68% and 53.5% of U-ASHA knew about the identification of presumptive TB cases and the collection and transport of sputum as their expected TB tasks, respectively.

Against this knowledge, 87.4% of U-ASHAs stated about participation in active case finding (ACF), for which they would spend three–four hours per day for two weeks once every six months. However, they had apprehensions about collecting and transporting sputum of presumptive TB cases owing to fear of infection, inadequate incentives, and difficulties in spending the morning hours.

They barely mentioned undertaking other TB tasks such as counseling TB patients for regular treatment, adverse drug reactions (ADRs), helping them in availing government schemes, and conducting awareness program, which are essential components of person-centered TB care for

Table 1: Status of U-ASHA recruitment

	In position	Target	%
Maharashtra	6388	(~) 15000	43
Mumbai	679 (~)	725	70
Pune	307 (~)	1124	27

Source: Maharashtra State ASHA Program Office, Mumbai, 2022

improving adherence, reducing loss to follow-up (LTFU), and thus improving TB treatment outcomes.

The U-ASHAs mentioned recently being appealed by the TB program to work as a TB treatment supporter, supporting patients for TB treatment adherence and completion. In response to this appeal, six U-ASHAs started this task by spending approximately 10–20 minutes per patient per week.

During the survey, 96% of U-ASHAs reported about inadequacy of incentives for TB tasks. Their low knowledge about the amounts of incentives for various TB tasks except for ACF and their perceived delay in receiving these incentives led to disinterest in these tasks.

The stakeholders suggested that U-ASHA, being a member of the community, can contribute to accelerating the identification of presumptive TB cases and ensuring treatment adherence with proper training. The following quotes from them illustrate their perceptions:

"*Urban-ASHA knows her community-about who is local or migrated. She can make a lot of difference for presumptive TB case finding."*– city TB program official [also a TB HV]

"If U-ASHAs provide medicines at doorstep, it will save money and time of patients. Only they would know whether the patient is taking medicine or throwing it in the dustbin. Thus, they can better prepare patients for long-term treatment and will reduce default rates." – TB HV

"If we can sensitize and increase their involvement in TB, similar to immunization and family planning, they can do wonders."– city TB program official.

"They cannot work for DR patients because of too many medicines and the wait to receive incentive." – medical officer, city TB program.

TB training

The U-ASHAs stated that they received TB training as a half-day session in an eight-day general induction training. Subsequently, before every ACF, they received a brief update at the health facility level by medical doctors and TB program staff about "How to identify and refer presumptive TB cases."

Regarding the subjects of training, a) signs and symptoms (88.3%), b) facilities for referrals, diagnosis, and treatment (68.5%), and c) diagnostic tests (61.7%) were the three highest reported subjects. ADRs (16.2%), government schemes (19.4%), contact tracing, and TB preventive treatment (22.1%) were reportedly the less covered subjects, resulting in explicit gaps in the TB knowledge of U-ASHAs. A topic on person-centered TB care was completely missing in their training.

The following quotes further describe the insufficiency of TB training:

"For TB we are not as confident as that for antenatal or postnatal care."– U-ASHA

"The U-ASHAs are mostly unable to deal with TB and co-morbid conditions- addictions and TB HVs have to intervene."– city TB program official

"The U-ASHAs need more training about ADRs, counselling and effective referrals to health facility."– city ASHA program official

Furthermore, a supervisory mechanism for ensuring the application of training in practice was absent. U-ASHAs reported receiving informal guidance from ANMs, TB HVs, and medical officers at their health facilities. However, a need was expressed by U-ASHAs and other stakeholders for structured and supportive supervision of their work.

TB-related knowledge

Through the survey, the current level of TB knowledge of U-ASHAs was assessed for symptoms, diagnostic tests, activities for case finding, prevention and control strategies, types, ADRs, diagnosis of co-morbidities, and the TB program [Table 2].

The U-ASHAs showed better knowledge about "cough with sputum for two weeks or more" (74.3%) and "loss of weight" (63.9%) as symptoms of TB, in contrast to poor

Table 2: TB-related knowledge of U-ASHAs (*n*=222)

TB knowledge parameters		(*n*)	(%)
TB symptoms	Cough with sputum for two weeks or more	165	74.3
	Loss of weight	142	63.9
	Fever	123	55.4
	Loss of appetite	123	55.4
	Stained sputum	65	29.3
	Night sweats	54	24.3
	Pain in the chest	33	14.9
TB diagnostic tests	Sputum smear microscopy	191	86.0
	Chest X-ray	146	65.7
	Culture-DST	3	1.4
	(NAAT/GeneXpert	2	0.9
Activities for TB case finding	Through active/passive surveillance	176	79.3
	Contact tracing in family	43	19.3
TB prevention and control strategies	Use of masks	138	62.1
	Generating community awareness	20	9.0
Treatment of TB	Treatment duration for TB (≥six months to two years)	190	85.6
Types of TB	DS vs. DR TB	82	36.9
ADRs	Aware about ADRs for TB treatment	95	42.8
Tests to detect comorbidity	HIV test	58	26.1
	Hemogram or blood test	53	23.7
	Blood sugar level	40	18.0
TB program activities of U-ASHAs	Participating in ACF	140	63.0
	Informant incentive	107	48.2
	Collecting sputum	82	36.9
	Working as a TB treatment supporter	62	27.9
TB program-related aspects	Aware of DBT scheme for nutritional support	107	48.2
	Aware of public-private engagement/ PPSA	38	17.1
	Aware about Ni-Kshay portal	37	16.6

knowledge about symptoms such as "pain in the chest," "night sweats," and "stained sputum" (<30%). Their knowledge about diagnostic tests was low (nucleic acid amplification test (NAAT) test: 0.9% and culture drug susceptibility test (DST): 1.4%). "Contact tracing in the family" for TB case finding was reported only by 19.3% of U-ASHAs. Overall, 62.1% of U-ASHAs mentioned "use of masks," but they had low knowledge about "community awareness" (9%) as one of the key strategies for preventing and controlling TB. Eighty-seven percent stated about 6–24 months' duration of TB treatment. Barely 36.9% could differentiate between drug-sensitive (DS) and drug-resistant (DR) TB. Only 42.8% of U-ASHAs reported about ADRs during TB treatment. Less than one-third of U-ASHAs knew about diagnostic tests for co-morbidities: HIV (26.1%), hemogram or blood tests (23.7%), and blood sugar (18%). Their awareness about the TB program was generally low: direct benefit transfer (DBT) scheme for nutrition support for TB patients (48.2%), public-private engagement/Provider Patient Support Agency (PPSA) (17.1%), and Ni-Kshay Portal (16.6%).

Discussion

Motivated by interest in understanding CHWs' role in closing the last-mile gap for health service delivery in urban areas of India, this study assessed the preparedness of U-ASHAs for delivering TB care.

This study discovered that U-ASHAs were involved in selected TB tasks such as participating in ACFs and, to an extent, as treatment supporters of TB patients. Furthermore, their perception of TB as an ancillary program coupled with a lack of clarity about TB tasks and related incentives affected their engagement in TB care.

This study indicated the absence of a supportive supervisory structure for on-the-job support for U-ASHAs. The National Health Mission has initiated a process of understanding the contexts and needs of urban areas to develop effective support structures for the U-ASHA program.[8] However, urgent measures are required to accelerate the execution of a responsive supervisory structure for enhancing and sustaining the performance of U-ASHAs.

The positive effects of engaging CHWs across the spectrum of TB care are well documented in low- and middle-income countries (LMICs), viz., improving treatment outcomes, increasing case notification, decreasing LTFU, and adopting a "person-centered care" approach for TB services.[9–17] Despite these, utilizing the full potential of CHWs is challenging, mainly due to knowledge gaps. A number of studies conducted in LMICs reported a lack of TB knowledge among CHWs as a barrier to delivering quality health care. The knowledge deficiency was mainly in terms of contact tracing, ADRs, and government schemes.[5,18–22] This study reported similar knowledge gaps along with some additional ones, viz., TB symptoms (other than cough and stained sputum), molecular diagnostic techniques, types of TB, etc., The finding from this study urged us to conclude that a mere half-day of training on TB was not enough for U-ASHAs to cover these knowledge gaps and to convey key components of person-centered care such as facilitation for availing of government schemes, nutrition, family involvement, or interventions for people with diverse needs.

Realigning the current ad-hoc involvement of U-ASHAs in TB care will require policy-level consensus and, hence, will be time-intensive. As an immediate step, comprehensive and periodic training programs can be arranged to update their TB knowledge.

This study has described the current involvement and preparedness of U-ASHAs in TB care in urban areas. However, the generalization of study findings to other urban settings in India should account for city-specific contextual factors.

Conclusion

Engaging U-ASHAs in TB care is worthwhile considering their potential in reaching the under-reached population and connecting them with TB services if necessary. However, explicitness about their roles, comprehensive training, continuous supervision, and integration of TB services into their daily tasks are essential but missing at the moment. This study underscores an urgent need to revisit and revive the U-ASHA program to unleash its full potential in TB care. Furthermore, in light of the multiple tasks of U-ASHAs, time-motion studies are warranted to assess the viability of allocating full-scale TB care tasks to them.

Financial support and sponsorship

The study received grants and donations from the National Academy of Science, USAID PEER Program, Maharashtra State Anti-Tuberculosis Association (MSATBA), and Mr. Nadir Godrej, Chairman and Managing Director, Godrej Industries.

Conflicts of interest

There are no conflicts of interest.

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Erratum

Engagement and Preparedness of Urban Accredited Social Health Activists (U-ASHAs) for Delivery of Tuberculosis (TB) Care: Findings From Two Cities in Maharashtra, India

In the article titled "Engagement and Preparedness of Urban Accredited Social Health Activists (U-ASHAs) for Delivery of Tuberculosis (TB) Care: Findings From Two Cities in Maharashtra, India," published in the *Indian Journal of Community Medicine*, Volume 50, Issue 1, Jan-Feb 2025, DOI: 10.4103/ijcm.ijcm_744_23, the acknowledgment section was inadvertently omitted.

The correct acknowledgment is as follows:

Acknowledgement: We are grateful for the active support from the Government of Maharashtra for approval of the study. We deeply acknowledge the help and support received during the study from Dr. Mangala Gomare (Executive Health Officer, Municipal Corporation of Greater Mumbai) and Dr. Ashish Bharati (Head of Department, Health, Pune Municipal Corporation), and their teams. We thank Dr. Varsha Puri (Deputy EHO TB, City TB Office Mumbai), Dr. Usha Shelar (Assistant Health Officer, TB, City TB Office, Mumbai), and Dr. Prashant Bothe (City TB Officer, Pune) for their inputs and facilitation for the fieldwork. We are indebted to the study participants, especially all the urban ASHAs in Mumbai and Pune, for sharing their experiences and views. We also thank our research assistants—Ms. Arati Waghmare, Ms. Laxmi Govekar, Ms. Monika Phadke, and Ms. Pradnya Ghodke—for their diligence and commitment. This study was made possible through funding from the National Academy of Science, USAID PEER Programme, and co-funding by the Maharashtra State Anti-Tuberculosis Association (MSATBA) and Mr. Nadir Godrej, Chairperson and Managing Director, Godrej Industries.

How to cite this article: Purohit VS, Karvande SS, Shah DY, Vallepawar OB, Yadav OJ, Mistry NF. Engagement and preparedness of urban Accredited Social Health Activists (U-ASHAs) for delivery of tuberculosis (TB) care: Findings from two cities in Maharashtra, India. Indian J Community Med 2025;50:225-9.

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DOI: ***