

**Evaluation of Nikshay Poshan Yojana for people with TB treated under NTEP in a District of Western Maharashtra**

<sup>1</sup>Dr. Vrishali Sidram Mali, Junior Resident, Department of Community Medicine, Dr. Vaishampayan Memorial Govt. Medical College, Solapur.

<sup>2</sup>Dr. Lagdir L. Gaikwad, Assistant Professor, Department of Community Medicine, Dr. Vaishampayan Memorial Govt. Medical College, Solapur.

<sup>3</sup>Dr. Minakshi Bansode, District TB Officer, Solapur.

<sup>4</sup>Dr. Gajanan Jatti, Assistant Professor, Department of Community Medicine, Dr. Vaishampayan Memorial Govt. Medical College, Solapur.

**Corresponding Author:** Dr. Vrishali Sidram Mali, Junior Resident, Department of Community Medicine, Dr. Vaishampayan Memorial Govt. Medical College, Solapur.

**How to citation this article:** Dr. Vrishali Sidram Mali, Dr. Lagdir L. Gaikwad, Dr. Minakshi Bansode, Dr. Gajanan Jatti, “Evaluation of Nikshay Poshan Yojana for people with TB treated under NTEP in a District of Western Maharashtra”, IJMACR- November - 2023, Volume – 6, Issue - 6, P. No. 22 – 30.

**Open Access Article:** © 2023, Dr. Vrishali Sidram Mali, et al. This is an open access journal and article distributed under the terms of the creative common’s attribution license (<http://creativecommons.org/licenses/by/4.0>). Which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**Type of Publication:** Original Research Article

**Conflicts of Interest:** Nil

**Abstract**

**Background:** India has higher burden of TB. Govt. of India has launched Nikshay Poshan Yojana – Adhar linked Direct Benefit Transfer Scheme under National Health Mission. Every TB patient gets monthly incentives of Rs. 500. We are evaluating the Nikshay Poshan Yojana by assessing the timely receipt of Direct Benefit Transfer and its effectiveness to the patients. So, we are evaluating Nikshay Poshan Yojana in Solapur district of Western Maharashtra.

**Materials and methods:** Data regarding TB patients was collected from District TB Centre (DTC), Solapur. Data about details of incentives received by the patient was collected from Nikshay portal. Those beneficiaries were

interviewed telephonically using questionnaire. Health care providers were interviewed in DTC. Data on hurdles in implementation of Nikshay Poshan Yojana was collected.

**Results:** Total patients interviewed: 200

Out of 200 patients 165 were registered for DBT and 35 were not registered. Difference between them is significant. All registered patients received incentives. (3000 INR).

Most common reason for not receiving benefit is ‘not interested in availing benefit’.

Most common problem faced by health care providers is incomplete information of the patients e. g. missing Adhar id.

**Keywords:** DBT, Nikshay Poshan Yojana, TB.

## **Introduction**

Tuberculosis (TB) is the leading infectious disease killer in the world and one of the top 10 causes of death worldwide(1). India is a high TB burden country with an estimated incidence of 211/100000 population and around 1400 deaths per day(2). The Government of India (GOI) plans to eliminate TB by 2025 under 'National Strategic Plan for Tuberculosis Elimination 2017-25 (3). In order to achieve such a huge task new schemes supported, monitored and managed at all levels are imperative. India has made great progress with the adoption of the National Strategic Plan 2017-2025 (NSP) with significantly greater allocated resources and high level political commitment(4)

The role of a nutritious diet is imperative in the fight against TB. In fact, in most TB cases the patient is either very weak or extremely poor to afford a diet rich in nutrients(5). Nutritional interventions have witnessed to be effective in increasing weight among TB patients. In a randomized control trail in Singapore, significantly greater increase in body weight, total lean mass and grip strength was observed among the nutrition supplement group compared to the control group(6).

Ministry of Health and Family Welfare, Government of India has announced the scheme for incentives for nutritional support to TB patients. This scheme will be called "Nikshay Poshan Yojana". All TB patients notified on or after 1st April 2018 including all existing TB patients under treatment are eligible to receive incentives. The patient must be registered/notified on the NIKSHAY portal(7). These incentives are provided to all TB patients irrespective of type of TB and the place from where the patient is availing the treatment(8). India's direct benefit transfer (DBT) program is the largest cash transfer

program in the world dedicated to supporting individuals affected by TB(9)

TB specific cash transfer interventions can contribute to offset costs caused by the disease, especially those related to travel to the clinic and buying food, but mainly by compensating indirect costs caused by loss of wages for those patients with precarious jobs, as it is the case for many. If they are conditional on the compliance with the treatment, it may also serve as an additional incentive to achieve the end of TB(10). Dave and Rupani add quantitative evidence of the positive impact interventions such as DBT can have on improving TB treatment outcomes(11).

Responsibility of District TB Officer are to train NTEP and General Health Staff on processes of Direct Benefit Transfer, updation of Aadhaar and Bank Account, to Plan, review and ensure budget/funds for financial support to TB patients, Treatment supporters. Verify transactions using supervision, evaluations, comparing trends, identifying outliers etc(12). The successful implementation of this system requires that the beneficiaries have a bank account, an Aadhar number(13). Measuring the coverage of this scheme and understanding the implementation challenges will help in optimising the programme and maximize the desired effects.

## **Objectives**

1. To estimate the proportion of TB patients who received the benefits
2. To explore the challenges encountered by the health care providers in delivering the Direct Benefit Transfer through Nikshay Poshan Yojana
3. To assess the ways the incentives were utilised by the patients

**Materials And Methods**

Approval from Institutional Ethical Committee was sought. Data regarding TB patients was collected from District TB Centre (DTC) after permission from District TB Officer. Data about details of incentives received by the patient who have been started with anti-tubercular treatment (ATT) in January 2023 and February 2023 (2 months) and completed by 31<sup>st</sup> July 2023 was collected from NIKSHAY portal. Those beneficiaries who have completed AKT were interviewed telephonically using questionnaire. Health care providers were interviewed in DTC. Data on problems in implementation of Nikshay Poshan Yojana was collected by their interviews. This is an observational cross-sectional study.

**Inclusion criteria:** Patient diagnosed as a case of TB and has taken AKT for 6 months.

**Exclusion criteria:**

- a) Death of the patient during receiving AKT

**Results**

291 patients were registered on Nikshay portal from 1<sup>st</sup> January 2023 to 28<sup>th</sup> February 2023 in district from Western Maharashtra. Out of them 200 could be connected telephonically. 91 were not contacted as they belonged to exclusion criteria.

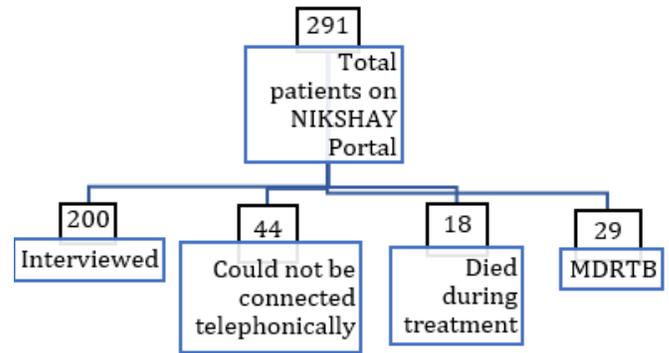
Table 1: Distribution of TB patients according to sociodemographic characteristics, N = 200:

Sn.	Socio-demographic characteristic	Number of patients (percentage)
1.	Age	43.7 ± 1.52
2.	Sex	
	Males	107 (53.5%)
	Females	93 (46.5%)
3.	Educational status:	
	Illiterate	51 (25.5%)
	Primary education	60 (30%)
	Secondary education	56 (28%)
	Graduation	28 (14%)
	Post-graduation	5 (2.5%)

- b) Those patients whose phone is out of reach
- c) Those patients who denied to give consent
- d) Patients with multi-drug resistant (MDR) TB

Collected data was tabulated and analysed using Chi-square test Goodness of fit.

Figure 1: Selection of study subjects



4.	Marital status:	
	Married	155 (77.5%)
	Unmarried	45 (22.5%)
5.	Locality:	
	Urban	45 (22.5%)
	Rural	155 (77.5%)
6.	Socio-economic status:	
	Above poverty line	11 (5.5%)
	Below poverty line	189 (94.55%)

Table 2: 1-Distribution of TB patients according to clinical characteristics, N=200:

Sn.	Clinical characteristic	Number of patients (percentage)	Chi-square value	'p' value	df
1.	TB site:		112.5	<0.01	1
	Pulmonary	175 (87.5%)			
	Extra-pulmonary	25 (12.5%)			
2.	Current addiction:		193.99	<0.01	2
	Alcohol consumption	28 (14%)			
	Tobacco chewing	49 (24.5%)			
	No addiction	159 (79.5%)			
3.	HIV status:		192	<0.01	1
	Negative	198 (99%)			
	Positive	2 (1%)			
4.	TB outcome:		235.3	<0.01	1
	Cured	170 (85%)			
	Treatment completed	30 (15%)			

There is significant difference observed between people with addiction and people without addiction. HIV negative patients are more than HIV positive patients and the difference between them is statistically significant.

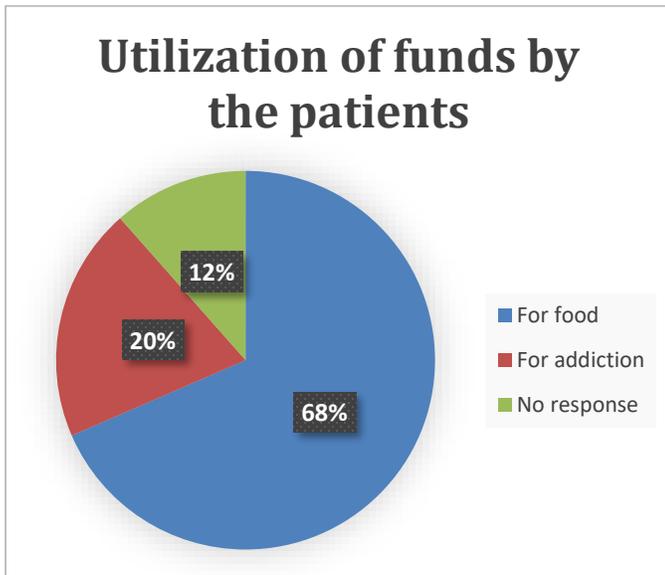
Table 3: Parameters of DBT

All patients registered for DBT received the benefit of Rs. 3000 during the course of AKT.

Sn.	Parameters of DBT	Number of patients (percentage)	Chi-square value	'p' value	df
1.	Registered for DBT (N = 200):		84.5	<0.01	1
	Yes	165 (82.5%)			
	No	35 (17.5%)			
2.	Received DBT (N = 200):		84.5	<0.01	1

	Yes	165 (82.5%)			
	No	35 (17.5%)			
3.	Timely received (N = 165):		67.3	<0.01	1
	Yes	42 (25.45%)			
	No	158 (74.55%)			
4.	No. of instalments received (N = 165):		122.3	<0.01	2
	3	11 (6.66%)			
	4	104 (63.03%)			
	5	5 (4.84%)			
	6	42 (25.45%)			
5.	Duration between initiation of treatment and receipt of 1 <sup>st</sup> instalments (N = 165):		236.6	<0.01	2
	1 month	148 (89.69%)			
	2 months	13 (7.87%)			
	3 months	4 (2.42%)			
6.	Reasons for not receiving DBT (N = 35)		21.57	<0.01	3
	Lack of awareness	14 (40%)			
	Not interested in availing benefit	17 (48.57%)			
	Migrants	1 (2.8%)			
	No bank account	3 (8.57%)			

Figure 2: Utilization of funds by the patients (N=165):



12 health care workers were interviewed during the study period. 1 District TB coordinator, 2 treatment supervisors, 2 TB lab technicians, 3 Medical Officers at District TB Centres, 2 Health Assistant, 2 Data Entry Operators were interviewed. Challenges faced by them were compiled and tabulated in the table given below:

Table 5: Difficulties faced by Health Care Providers to deliver DBT N = 12:

Sr. No	Difficulties faces by Health Care Providers to deliver DBT	Number (percentage)
1.	Complex reporting format	4 (33.33%)
2.	Incomplete information of the patient sent from periphery	5 (41.66%)
3.	Slow performance of software and frequent updates	6 (50%)
4.	Internet accessibility issues	3 (25%)
5.	Difficult to contact migrants	2 (16.66%)
6.	Issues related to Bank Account	4 (33.33%)
7.	Issues related to PFMS	7 (58.33%)

### Discussion

**DBT scheme coverage:** Out of 321 patients 200 were interviewed which account for around (62.3%). Those who were not interviewed were from exclusion criteria. A report of the Global Fund oversight committee mentioned that only 6.8% of eligible TB patients in Kamrup district (North-eastern India) received DBT(14). In the present study those who were registered for DBT, 100% of them have received it. Lack of awareness about the scheme is the major reason for no registration and subsequent non-receipt of the benefit.

In a study by Sen Janhavi, efforts to open an account were often unsuccessful, especially among migrant labourers working in urban areas and very sick patients admitted in TB sanatorium (15). The condition has improved over the time as now Government is encouraging the TB patients to open ‘zero balance account’ in nationalized banks and Postal Banks under ‘Pradhan Mantri Jan Dhan Yojana’(16). Some patients refused to take financial benefit under the scheme. Almost all of them were having to affluent family background and they are dwelling in the urban areas.

All the drug-sensitive TB patients registered under Nikshay Poshan Yojana received Rs. 3000 in our study. According to Dave JD and Rupani MP, 50% of the beneficiaries received late receipt of 1<sup>st</sup> instalment of DBT ,i.e. only half of the patients had received 1<sup>st</sup> instalment within 1 month after initiation of AKT(11). In our study 89.69% of the TB patients received 1<sup>st</sup> instalment of DBT. Reason for late receipt of 1<sup>st</sup> instalment is because of late submission of bank details or Adhar number was not linked to the bank account or both. Study done by Sharma P and et al shows that 13.7% of the registered patients got the incentives on time(17). Patel BH and et al found that 4.5% have received Rs. 3000

in 6 instalments of AKT(18) while in our study it is 25.42%. This figure indicates proportion of the TB patients who had timely receipt of DBT which is of utmost importance considering the objectives behind initiation of Nikshay Poshan Yojana by Government of India. Reasons for irregular receipt of instalments is due to issues faced by healthcare providers in delivering DBT (table no. 5). 100% of the interviewed patients who were enrolled for the scheme received the last instalment by the time they complete the course of AKT which is much higher as compared to a study on the same done by Dave JD and Rupani MP(11).

**Challenges encountered by health care providers in implementation of DBT scheme:** Most common challenge faced by health care providers in implementation of DBT scheme is delay in the approval of stipulated funds by PFMS (Public Fund Management System). Second most common challenge faced is slow performance of software and frequent updates. Another challenge is incomplete information of the patient sent from health care centres situated at periphery. It becomes difficult to enrol those patients to Nikshay portal as Adhar ID is mandatory for the registration. As per the study done by Patel BH and et al, similar challenges were faced by the health care providers in Vadodara, Gujrat(18). Modifiable problems are a) Incomplete information of the patient sent from periphery; b) Poor internet accessibility. Coverage of the scheme can be improved if these problems are rectified.

**Utilization of funds by the patients:** 68% patients from the present study used the incentives entirely for nutrition. Similar results were found by Sharma P and et al where 64% patients utilized the incentives for purchasing food products(17). Another study by Begum J and et al gave the results as 76% patients used the funds for the

same(19). 20% patients utilized the funds for continuing their previous addiction i.e. either alcohol or tobacco or both.

### Conclusion

1. Most of the patients received Direct Benefit Transfer through Nikshay Poshan Yojana. Those who were registered for Direct Benefit Transfer, all of them received incentives.
2. There is significant difference observed between people with addiction and people without addiction. HIV negative patients are more than HIV positive patients and the difference between them is statistically significant.
3. Majority of the patients were socioeconomically poor, 90% of them were not interested for cash benefits.
4. Majority of the patients utilized the received funds for purchasing food items.

### Limitations

1. Patients were interviewed telephonically. So, there are more chances of subjective variation for the question.
2. The data is hospital based and collected from the portal. So, it cannot be generalized.

**Acknowledgement:** Special gratitude to Dr. Minakshi Bansode, District TB Officer, Solapur District who provided data on the clinical characteristics of TB patients and details about incentives received by TB patients. I would like to thank Mr. Sanjay Mulje, Statistician at Dr. Vaishampayan Memorial Govt. Medical College, Solapur for his contribution in data analysis.

### References

1. WHO Global Health Observatory Data. [https://www.who.int/gho/tb/tb\\_text/en/](https://www.who.int/gho/tb/tb_text/en/).

2. Mishra A. DBT is needed to implement plans for TB elimination. Available from URL:- <https://www.governancenow.com/views/interview/dbt-is-needed-to-implement-plans-for-tb-elimination>. Last accessed 2018 on May 19.
3. Nutritional Support to TB patients (Nikshay Poshan Yojana). Available from URL:- <https://tbcindia.gov.in/showfile.php?lid=3318>. Last accessed 2018 on May 19.
4. Sachdeva KS, Mase SR. The end TB strategy for India. *Indian J Tuberc*. 2019 Jan;66(1):165-166. doi: 10.1016/j.ijtb.2019.02.005. Epub 2019 Feb 27. PMID: 30878062.
5. Yadav S, Rawal G, Atif M. Importance of nutritious diet in the treatment of Tuberculosis. *Indian Journal of Immunology and Respiratory Medicine*. 2017;2(3):65.
6. Paton NI, Chua YK, Earnest A, Chee CB. Randomized controlled trial of nutritional supplementation in patients with newly diagnosed tuberculosis and wasting. *Am J Clin Nutr*. 2004 Aug;80(2):460-5. doi: 10.1093/ajcn/80.2.460. PMID: 15277171.
7. <https://www.myscheme.gov.in/schemes/npv>.
8. Singh SP, Khokhar A, Gupta NK. Enrolment under of Nikshay Poshan Yojana among tuberculosis patients in a tertiary care hospital of Delhi. *Indian J Tuberc*. 2022 Oct;69(4):546-551. doi: 10.1016/j.ijtb.2021.08.032. Epub 2021 Aug 31. PMID: 36460387.
9. Schraufnagel AM, Shete PB. Evaluating Social Protection Policies With an Implementation Science Framework: India's Direct Benefit Transfer for Tuberculosis Comment on "Does Direct Benefit Transfer Improve Outcomes Among People With Tuberculosis? - A Mixed-Methods Study on the Need for a Review of the Cash Transfer Policy in India". *Int J Health Policy Manag*. 2023;12:7698. doi: 10.34172/ijhpm.2023.7698. Epub 2023 Mar 5. PMID: 37579424; PMCID: PMC10461881.
10. Rubinstein F, Blumenfeld A. Conditional Cash Transfer to Improve TB Outcomes: Necessary but Not Sufficient Comment on "Does Direct Benefit Transfer Improve Outcomes Among People With Tuberculosis? - A Mixed-Methods Study on the Need for a Review of the Cash Transfer Policy in India". *Int J Health Policy Manag*. 2023;12:7643. doi: 10.34172/ijhpm.2022.7643. Epub 2023 Jan 18. PMID: 37579479; PMCID: PMC10125050.
11. Dave JD, Rupani MP. Does direct benefit transfer improve outcomes among people with tuberculosis? - A mixed-methods study on the need for a review of the cash transfer policy in India. *Int J Health Policy Manag*. 2022;11(11):2552-2562.
12. 4692166101Roles and Responsibilities of Stakeholders.pdf [Internet]. [cited 2023 Sep 29]. Available from: <https://tbcindia.gov.in/WriteReadData/1892s/4692166101Roles%20and%20Responsibilities%20of%20Stakeholders.pdf>
13. Unique Identification Authority of India, Government of India. AADHAAR [Internet]. 2018 [cited 2018 Mar 8]. Available from: <https://uidai.gov.in/>.
14. India Country Coordinating Mechanism. Oversight com\_mittee visit to Guwahati (Kamrup District), Assam, report. [Internet]. 2018 [cited 2018 Dec 2]. p. 1-25. Available from: <http://india-ccm.in/wp-content/uploads/2018/09/Report-of-Oversight-visit-to-Assam.pdf>.

15. SEN JAHNAVI. Rural Jharkhand, Aadhaar link to welfare schemes is excluding the most needy [Internet]. WIRE. Jharkhand; 2018 Available from: <https://thewire.in/155598/jharkhand-aadhaar-pds-pensions/>.
16. <https://pib.gov.in/PressReleasePage.aspx?PRID=1558638#:~:text=State%20have%20also%20been%20advised,identified%20by%20the%20State%20FUTs>.
17. Sharma P, Raina A, Sharma K. Utilization of Nikshay Poshan Yojna in tuberculosis patients in two tuberculosis units of North India. *Int J Contemp Pediatr* 2023;10:234-7.
18. Patel BH, Jeyashree K, Chinnakali P, et al. Cash transfer scheme for people with tuberculosis treated by the National TB Programme in Western India: a mixed methods study. *BMJ Open* 2019;9:e033158.
19. Begum J, Neelima Y, Ali SI, Pattnaik S, Sharma D. Utilisation of nutritional support scheme among the patients of tuberculosis: A myth or a truth. *J Family Med Prim Care*. 2020;9(12):6109-14.