International Journal of Community Medicine and Public Health
Bakhru D et al. Int J Community Med Public Health. 2025 Mar;12(3):1355-1359
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20250621

Original Research Article

Nikshay Poshan Yojana utilization among tuberculosis patients in a tertiary care hospital in New Delhi

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Received: 14 December 2024
Revised: 10 February 2025
Accepted: 14 February 2025

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ABSTRACT

Background: Tuberculosis is causing significant mortality Globally and in India. Treating malnutrition and alleviation of poverty are only effective ways to reduce the number of deaths due to tuberculosis. Nikshay Poshan Yojana (NPY) was launched in India in 2018 to provide nutritional support for patients with TB. This study assessed the utilisation of Nikshay Poshan Yojana among TB patients.
Methods: We conducted a descriptive cross-sectional study in a DOTS centre attached to a tertiary care hospital in New Delhi. Patients with drug-sensitive TB in the continuation phase were enrolled in the study. A self-designed pre-tested questionnaire was used to assess the coverage of the scheme, the knowledge and attitude of patients towards the scheme, and the barriers to utilisation of the incentive received. Data was analysed in proportions, mean and median wherever applicable.
Results: A total of 42 participants were enrolled in the study. Over half (59.5%) of patients had extrapulmonary TB, while 17 (40.5%) had pulmonary TB. Almost all patients (92.9%) were enrolled in the scheme (NPY). The first instalment was received by 35 (95%) patients as per the Nikshay portal and by 19 (47.5%) as per patients' interviews. The median (IQR) time to receipt of the first instalment to the patient's bank account from the date of treatment initiation as per the Nikshay portal was 4.1 (2-5.8) months. All patients were aware of the procedure of enrolment. Barriers to utilisation of NPY by TB patients were unawareness regarding the purpose of the scheme, unawareness about the receipt of instalments, lack of need to receive monetary support (35.7%) and bank account-related issues (7.1%).
Conclusions: Coverage for Nikshay Poshan was high but there was a disparity between the patient's interview and Nikshay portal data at some points. Awareness of the purpose of the scheme was low and needed intervention. Communication between DOTS provider and patient needs to increase.

Keywords: Directly observed treatment short course, Drug sensitive tuberculosis, Nikshay Poshan Yojana

INTRODUCTION

Despite being a disease that may be prevented and treated, tuberculosis (TB) ranked as the second largest cause of death globally in the year 2022. Worldwide there were 7.5 million newly diagnosed cases of TB in the year 2022. The net reduction in global deaths due to TB was 19% from the year 2015 to 2022, far from the WHO End TB strategy milestone of a 75% reduction by 2025.[1,2] In

India, the estimated burden of tuberculosis was 24.2 lakh, with an incidence rate of 196 per lakh, and a prevalence of 312 per lakh population for all forms of tuberculosis.[3] Improvements in living standards have been linked to the control of tuberculosis in developed nations. It is a social disease that mostly affects undernourished people. Malnutrition, poverty and TB are linked to each other in the web of causation.

TB makes the impoverished segments of society even poorer. Malnutrition predisposes to TB and TB causes malnutrition in the sufferers. All three (TB, malnutrition and poverty) need to be targeted synergistically and not in Isolation.[4] Direct benefit transfer into the bank account of patients is feasible, transparent and hinders leakage of funds. However, the requirement for bank accounts and multi-layered approval makes its implementation difficult. Prior research has documented delayed benefit transmission and inadequate coverage of the program across the nation.[6-11] Research using secondary data was found to have a higher coverage than research using patient interviews. A few studies have brought attention to the fact that TB patients are ignorant about the scheme's goal and the dietary modifications that are recommended for them.[10-11] This is the main reason why it is difficult for patients to use their NPY benefits for nutrition, even after they receive the money since they do not know how to spend it. There was a paucity of published data from the National Capital region regarding coverage and utilisation of benefits from Nikshay Poshan Yojana. This study aimed to estimate the coverage of NPY along with the facilitators and challenges experienced by TB patients.

METHODS

This study was a cross-sectional descriptive conducted in a Directly Observed Treatment Short Course (DOTS) centre, attached to a tertiary care hospital in the New Delhi district. The total population of Delhi is around 1.64 crore and is divided into 11 administrative districts. New Delhi is one of them.[12] The state TB programme cadre of Delhi is headed by the State TB Officer (STO), under which the district chest clinics function. New Delhi has a New Delhi Municipal Committee (NDMC) chest clinic. The DOTS centre caters to a population of around 1 Lakh and regularly updates the data in the web-based TB monitoring software Nikshay as per programme guidelines. The study population was selected from patients registered on the Nikshay portal. Inclusion criteria were patients with drug-sensitive tuberculosis (DS-TB) notified on the Nikshay portal, age more than 18 years of age, in the continuation phase of treatment, must be residents of the New Delhi district and must give informed consent to participate. Patients with drug-resistant tuberculosis (DR-TB) were excluded.

The sample size was calculated by taking the prevalence of enrolment for Nikshay Poshan Yojana as 88.8% and error (d) as 10%. Replacing the values in formula, the sample size was estimated as 39.[13] Taking the non-response rate as 20%, the final sample size was estimated as 50. Every consecutive patient or their attendant arriving at the DOTS centre was contacted when they came to collect medicines. A self-designed, pre-tested, structured, semi-open interview schedule was used which included socio-demographic details, particulars in TB treatment card, awareness, attitude and utilisation of NPY, facilitators and challenges faced.

Height and weight were recorded using a digital weighing scale and portable stadiometer. Data was collected from 1st November 2021 to 30th July 2022. Data was collected after getting IEC approval from the Institutional Ethics Committee. Data was entered into MS Excel and analysed using SPSS v 23.0. Outcome measures were the proportion of TB patients aware of NPY, the proportion of TB patients enrolled in NPY, the proportion of enrolled patients who received 1st benefit, the time to receipt of 1st benefit after the start of treatment, the proportion of patients spending benefits on nutrition and mean additional out of pocket expenditure on nutrition by the TB patients.

RESULTS

A total of 42 patients with DS-TB participated in this study. Median age (IQR) was 29 (21-32) years. Out of 42 patients, 23 (54.8%) were females and 19 (45.2%) were males. Almost half of them (42.9%) were educated up to graduate or post-graduate level. Twelve patients (28.6%) were studying currently and a few (23.8%) were working in the public sector. Over half (59.5%) of participants were married. The majority of patients (69%) belonged to upper middle-class socio-economic status as per the modified Kupuswamy scale (Table 1).

Over half (59.5%) of patients had extrapulmonary TB, while 17 (40.5%) had pulmonary TB. Almost all patients (95.4%) were diagnosed with TB for the first time. The majority of patients (83.3%) had no family history of TB. Enrolment in the scheme (NPY) as reported by TB patients and as per Nikshay portal was 92.9% and 95.3% respectively. The first instalment was received by 35 (95%) patients as per the Nikshay portal and by 19 (47.5%) as per patients' interviews, while 12 (30%) patients did not know of the receipt of the first instalment (Table 2).

The median (IQR) time to receipt of the first instalment to the patient's bank account from the date of treatment initiation as per the Nikshay portal was 4.1 (2-5.8) months. Almost all patients (94.3%) were aware of the scheme, only 57.5% of patients were aware about the purpose of NPY, while 67.5% of patients were aware of the monthly entitlement given. All patients were aware of the procedure of enrolment. Over half of the patients (64.3%) had felt the need for monetary support for nutrition, while the majority of patients (78.6%) reported using the next NPY instalment to be spent on nutrition (Table 3).

Table 1: Socio-demographic details of TB patients on treatment in dots centre (n=42).

Variable	Category	Number of patients N (%)
Age group in years	18-40	34 (80.6)
	41-60	6 (14.3)
	>60	2 (5.1)
Gender	Male	19 (45.2)
	Female	23 (54.8)
Educational status	Graduate or above	18 (42.9)
	Higher secondary level	16 (38.1)
	Up to high school level	8 (19)
Occupational status	Students	12 (28.6)
	Government service	10 (23.8)
	Home-maker	9 (21.4)
	Unemployed	6 (14.3)
	Others	5 (12)
Marital status	Married	25 (59.5)
	Unmarried	17 (40.5)
Socio-economic status (as per modified B.G Prasad scale)	Upper middle	29 (69)
	Upper	11 (26.2)
	Lower middle	2 (4.8)

Table 2: Coverage and receipt of Nikshay Poshan Yojana benefits by study participants (n=42).

Variable	Self-reported (%)	Nikshay portal (%)
Enrolment under NPY (n=42)		
Enrolled	39 (92.9)	40 (95.3)
Not enrolled	3 (7.1)	2 (4.7)
Receipt of 1st benefit (n=40)		
Received	19 (47.5)	38 (95)
Did not receive	9 (22.5)	4 (5)
Don't know	12 (30)	Not applicable

Table 3: Knowledge and attitude of participants for Nikshay Poshan Yojana (n=42).

Variable	Category	Number of patients N (%)
Knowledge for scheme		
Awareness of NPY	Aware	40 (94.3)
	Unaware	2 (5.3)
Awareness of the purpose of NPY (n=40)	Aware	23 (57.5)
	Unaware	17 (42.5)
Awareness of monthly entitlements (n=40)	Aware	27 (67.5)
	Unaware	13 (32.5)
Awareness of the procedure of enrolments (n=40)	Aware	40 (100)
	Unaware	0
Attitude for scheme		
Need for monetary support for nutrition	Yes	27 (64.3)
	No	15 (35.7)
Help received from NPY by patients who need monetary support (n=27)	No help	20 (74.0)
	Some help	7 (26)
Attitude towards usage of the next NPY instalment	On nutrition	33 (78.6)
	On household purposes	9 (21.4)
Preference for the modality of nutrition support through NPY	The money provided in a bank account	35 (83.3)
	Money provided as cash in hand	3 (7.1)
	Dry ration items	4 (9.6)
Who should be included as a beneficiary in NPY	Only poor patients	22 (53.7)
	All patients	18 (43.9)
	Patients can opt in or out	1 (2.4)

Approximately half of the patients (57.9%) of the patients already used the money received as first instalment, among these almost all the patients (90.9%) utilized the money on food. Barriers to utilisation of NPY by TB patients were unawareness regarding the purpose of the scheme (42.5%), unawareness about the receipt of instalments (30%), lack of need to receive monetary support (35.7%) and bank account-related issues (7.1%) (Figure 1). Almost all patients (92.9%) reported that they received dietary advice, their source being the doctor or DOTS provider. The majority (76.2%) of patients modified their diet after initiation of TB treatment. Median (IQR) out-of-pocket expenditure for the added dietary items per month was estimated as ₹2500 (2000-3000).

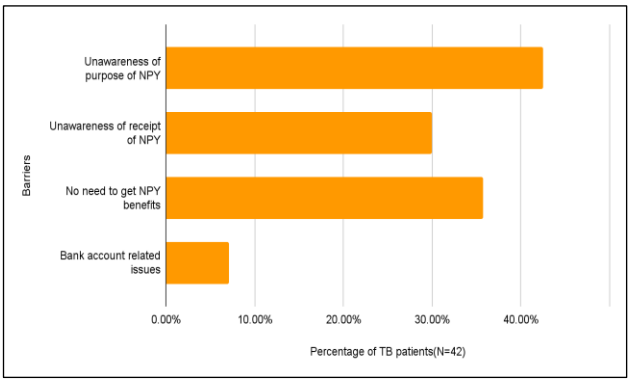

Figure 1: Barriers to utilisation of NPY by TB patients on treatment in DOTS centre (n=42).

DISCUSSION

The current study evaluates the nutritional support scheme of NTEP, Nikshay Poshan Yojana under programme settings. In this study, we estimated that 92.9% of patients were enrolled for the NPY scheme. A study by Suraj et al in 2021, reported 88.8% enrolment and only 67.2% enrolment from India TB report 2022.[6,3] This is showing that most of the patients are being enrolled in the scheme at this centre. It was also found that there is a disparity in the enrolled patient data from patient interviews and the Nikshay portal. The possible reason could be unawareness about current bank account details or erroneous bank account details. In the current study, 47.5% of patients admitted that they received the first instalment of NPY, while as per the Nikshay portal, 95% of patients received the first benefit. Previous studies based on the Nikshay portal reported 42-50% of patients received their first instalment, but only 10-24% as per patients' interview studies.[6-11] The discrepancy between the two data might be because of the reason that patients were not aware of the instalments being deposited into their bank accounts of systematic error where money after being sent by PFMS is not being deposited into their bank accounts. The median (IQR) time to disbursal of 1st instalment to the patient's bank account was estimated as 4.1 (2-5.8) months in this study. Similar findings were reported by other studies.[9-11] This delay is causing distrust towards the scheme and does not facilitate much change in dietary behaviour in patients. Among the study subjects, 94.3% of patients were aware of the NPY scheme. All patients reported the DOTS provider as their source of information for the scheme. A study by Begum et al also reported 90% of the patients were aware of the scheme.[8] A study by Singh et al reported 50% of patients were aware of the purpose of the scheme.[6] In this study also, 57.5% of the patients were aware of the purpose of the scheme. The remaining patients were unaware, this could lead to not using the cash incentive received for nutrition purposes. In the study, it was estimated that 78.6% of patients were willing to use future instalments for nutritional purposes. While study by Singh et al reported willingness to use cash received on nutrition as 88%.[6] The reason could be instalment received was too late and patients have already spent on nutrition in the initial months.

Out of 19 patients who claimed to receive 1st NPY instalment, only 11 patients (57.8%) reported that they used the money received and the majority of them spent the money to buy food items. The rest of the patients did not utilise the money received. Other studies reported that almost all the patients spend the money received on nutrition.[6,8] These findings suggest that those who are relatively well off are less likely to withdraw the money and use it for nutrition. Barriers to utilisation of the NPY scheme were identified as unawareness of patients of the purpose of the scheme in 42.5% of patients, unawareness about receipt of instalments in 30% of patients, and lack of need to receive monetary support. Some of these barriers were reported by other studies also.[10,11] However, the problem of the absence of bank accounts was not found, probably because of their higher level of socioeconomic status in the current study. The median (IQR) out-of-pocket expenditure for the added dietary items per month as reported by the patients was ₹2500 (2000-3000). This is five times the NPY instalment amount of ₹500 per month. This highlights the inadequacy of NPY benefits to support a diet rich in protein, vitamins and minerals for TB patients. A study by Chandra et al reported median (IQR) expenditure on a special diet was found to be ₹0 (0-2,485).[7] The reason for this difference could be the higher educational and socioeconomic status in the current study.

In this study, only drug-sensitive patient that too in the continuous phase or treatment were enrolled because the enrolment and approval in NPY are likely to be completed in the Intensive phase of treatment, so there is the possibility of delay during that period. Drug-resistant patients were excluded from this study because of the longer duration of treatment of drug-resistant TB (DR-TB) and a representative sample cannot be obtained for the study as very few DR-TB patients are on treatment in our DOTS centre. Paediatric TB patients were not included as they might be having different challenges

with respect to the utilisation of NPY and nutritional requirements.

The limitation of the study was the study setting, as this study was conducted in a tertiary care hospital setting the coverage and barriers to utilisation of the scheme might differ. Also, the exact reason for the disparity between patients' accounts and Nikshay's data was not found in this study.

CONCLUSION

The current study estimates 92.9% coverage of the NPY scheme. Awareness of the purpose of NPY was low. The benefits received were not being used for the intended purpose by almost half of the participants. The willingness of the DOTS providers to educate and enrol patients was a facilitator while the unawareness of patients of the purpose of the scheme, unawareness about receipt of instalments, lack of a need to receive monetary support as well as delayed and inadequate benefits were the barriers for utilisation of NPY in the majority of cases. The additional out-of-pocket expenditure on diet was much more than the monthly TB instalment.

Recommendations

Awareness of TB patients should be increased through IEC activities about the scheme, its purpose and the nutritional requirements of TB patients. Communication between the DOTS provider/doctor and patient should be increased. At the programme level, a reduction in the complexity of steps involved in the transfer of benefits should be done. The amount provided as a monthly benefit should be increased so that it becomes adequate to support the special diet of a TB patient.

ACKNOWLEDGEMENTS

We would like to thank the Indian Council of Medical Research New Delhi for the Short-Term Studentship (STS) project.

Funding: Funded by the Indian Council of Medical Research, the STS project
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee of Lady Hardinge Medical College, New Delhi

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Cite this article as: Bakhru D, Acharya AS, Talukdar T, Subham. Nikshay Poshan Yojana utilization among tuberculosis patients in a tertiary care hospital in New Delhi. Int J Community Med Public Health 2025;12:1355-9.