

Original Research Article

Utilization of Nikshay Poshan Yojana scheme among tuberculosis patients registered in a designated microscopy center, Bangalore

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ABSTRACT

Background: Nutritional support plays an important role in the management of tuberculosis. To reduce malnutrition among those suffering from TB, the government of India started the Nikshay Poshan Yojana in 2018, offering a monthly incentive of INR 500 to each patient enrolled under the programme. Objective was to assess the utilization of financial benefits among tuberculosis patients registered under the scheme Nikshay Poshan Yojana.

Methods: Descriptive study was conducted among 137 tuberculosis patients registered under Nikshay portal of designated microscopy center (DMC). Interview was conducted and obtained necessary information.

Results: Among 116 responded tuberculosis patients, 83 (71.5%) received full and partly incentives throughout the course of treatment, among the beneficiary 61 (71.5%) were using their incentives for nutritional purpose.

Conclusions: Beneficiaries under Nikshay Poshan Yojana received incentives but not on timely basis.

Keywords: Incentives, Nikshay Poshan Yojana, Tuberculosis

INTRODUCTION

Tuberculosis is one of the most ancient diseases of mankind and has co-evolved with human for many thousands of years or perhaps for several million years.¹ Tuberculosis is a contagious disease caused by *M. tuberculosis*. It can affect any part of the body, though lungs are most affected organ.² In case of pulmonary tuberculosis, it may cause many symptoms, such as chronic cough, pain in the chest, hemoptysis, weakness, fatigue, weight loss, fever and night sweating.³ A total of 1.6 million people died from tuberculosis in 2021 worldwide, tuberculosis is the 13th leading cause of death and the 2nd leading infection killer after COVID-19.⁴ In 2021 an estimated 10.6 million people fell ill with tuberculosis worldwide. India's tuberculosis incident for the year 2021 is 210 per 1,00,000 population compared to the baseline year of 2015 there has been 18% decline.

These figures also place India at the 36th position in terms of incidence rates.⁵

Undernutrition is most prevalent comorbidity in patients with tuberculosis in India. Severe undernutrition increase the risk of death, drug toxicity, poor functional status and the likelihood of relapsing after a successful course of treatment.⁶ Tuberculosis can lead to weight loss and micronutrient deficiency by changing the metabolic process resulting in reduction of food intake.⁷ A two-way relationship exists between tuberculosis and undernutrition; malnutrition raises the risk of getting tuberculosis and tuberculosis itself can result in undernutrition. Additionally, higher risk of TB relapse and TB related death is predicted by undernutrition at the time of active TB diagnosis.⁸ When diagnosed with tuberculosis, patients are in the catabolic stage, losing weight, and exhibiting indications of macro and micronutrient insufficiency. If the body receives the

nutrients it needs, it can swiftly and effectively restore a compromised immune system brought on by starvation.⁹ Individual who are undernourished are more likely to develop active tuberculosis compared to those with a healthy bodyweight.¹⁰

Important in the treatment of tuberculosis is supportive diet. The Nikshay Poshan Yojana, a centrally funded nutritional program under the National Health Mission (NHM), has been made available by the Ministry of Health and Family Welfare of the Government of India. It offers nutritional support to TB patients who have registered on or after April 1, 2018, through the NIKSHAY portal. Each patient with TB will receive Rs. 500/- every month for the duration till the course of anti-TB therapy. The first incentive is paid out immediately after notification, the second is paid out after the results of the intense phase follow-up, and the third is paid out after the results of the six-month treatment follow-up.^{11,12}

METHODS

After obtaining institutional ethical clearance, this hospital based descriptive study was conducted from May to November 2022 among 137 tuberculosis patients registered in Nikshay portal of Rajarajeswari Medical College and Hospital which is a designated microscopy center (DMC). Informed consent from all the registered patients were taken. Using a semi structured questionnaire, information regarding socio-demographic detail, type of tuberculosis and details regarding the Nikshay Poshan Yojana was collected.¹³ The sample size of the participants was determined using the formula:

$$n = \frac{Z_{\alpha}^2 PQ}{L^2}$$

In which

Z_{α} = Confidence interval at 95% = 1.96,

P = Previous prevalence = 22.4.⁷

Q = 100-P = 77.6%,

L = Allowable error of 7%,

n=137.

Data was collected for 7 months by complete enumeration sampling technique.

All the TB patients who are under treatment and have registered/notified in Nikshay portal from May-November 2022 were included in this study.

Patients with severe illness, death, hospitalized patients and those who were reluctant to participate were excluded from the study.

RESULTS

Of the 137 registered cases, 116 patients consented for the study yielding to 85% response rate. The socio-demographic data showed that majority belonged to 30-50 years with mean age of 40 years $\pm$ SD of 15 years, among the study subject majority were males 75 (65%), the total married patients in the study were 99 (85%). Majority 100 (86%) were literate, the socio-economic status calculated using modified BG Prasad scale showed that majority belonged to the middle class 43 (37%) followed by upper middle class 39 (34%). Only pulmonary TB were registered in the study among which New case of pulmonary TB contributed 98(84%) and old case of pulmonary TB contributed 18 (16%) (Table 1).

Table 1: Socio demographic details of tuberculosis patients (n=116).

Gender distribution	N (%)
Male	75 (65%)
Female	41 (35%)
Marital status	
Married	99 (85%)
Unmarried	17 (15%)
Age group discussion	
10-30	39 (34%)
31-50	55 (47%)
51- 70	16 (14%)
71 -90	6 (5%)
Socio-economic Status	
Upper class	10 (9%)
Upper middle class	39 (34%)
Middle class	43 (37%)
Lower middle class	24 (20%)
Lower class	0
Education status	
Literate	100 (86%)
Not literate	16 (14%)
Type of tuberculosis	
New cases (pulmonary TB)	98 (84%)
Old cases (pulmonary TB)	18 (16%)

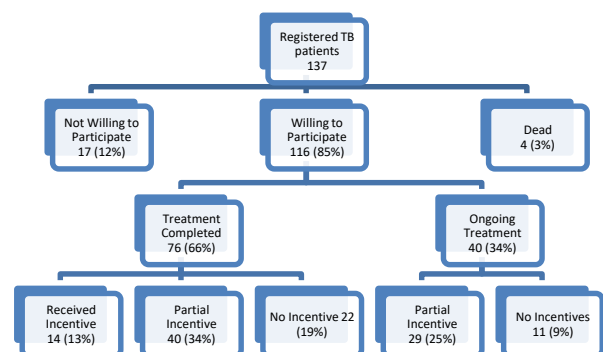


Figure 1: Distribution of registered TB patients.

Two categories of TB patients were identified: treatment completed 76 (66%) and on-going treatment 40 (34%). Among the patients in treatment completed group 14 (13%) received all incentives, 40 (34%) received partial incentives and 22 (19%) received no incentives. Among patients in on-going treatment group 29 (25%) received partial incentives and 11 (9%) received no incentives (Figure 1).

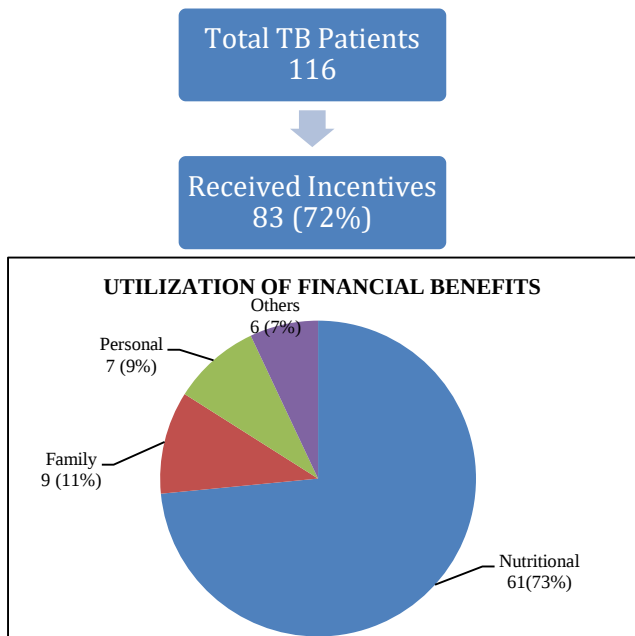


Figure 2: Utilization of financial benefits.

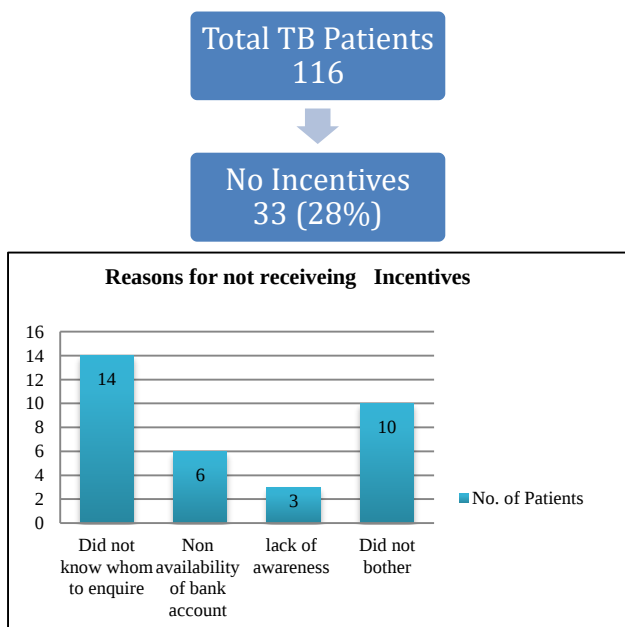


Figure 3: Reasons for not receiving incentives.

Among the total TB patients who received incentives 61 (73%) of TB patients utilized their incentives for nutritional purposes, while 22 (27%) used them for non-nutritional needs such as family, personal, and other

purposes (Figure 2). Awareness about Nikshay Poshan Yojana was 109 (94%). The reasons for not receiving incentives among the TB patients were (a) did not know whom to enquire 14 (42%), (b) lack of bank account 6 (18%), (c) lack of knowledge 3 (10%) and (d) did not bother 10 (30%) (Figure 3).

DISCUSSION

Tuberculosis is a significant public health issue in India. RNTCP followed by NTEP, which has been in existence since 1997, is in charge of TB control in India. The NTEP is now working on a plan to end tuberculosis by 2025.¹⁵ This study showed males 75 (65%) were affected more which was similar in studies conducted by Horton et al and Begum et al which showed 63.8% males being affected by tuberculosis.^{7,16} The majority of patients belonged to middle class 43 (37%) and upper middle class 39 (34%) according to the modified BG Prasad classification. In an accompanying research study conducted by Muniyandi et al showed TB prevalence was significantly higher among people living in lower socioeconomic group, TB was disproportionately high among the poor, another study conducted by Begum et al found 83.1% patients belonged to upper lower according to modified Kuppaswamy scale.^{7,17} So tuberculosis still prevails to be a problem of the underserved.

According to this study findings, 83 participants (71.5%) got incentives in full or in part. This finding resembles to that of Begum et al found that 22.4% of participants had money deposited while the remainder 77.6% had not received any money.⁷ Another study conducted by Kumar et al stated 52.6% had received the Nikshay Poshan Yojana (NPY) for two months.¹² In this study 14 (42%) did not know whom to contact regarding the process of the Nikshay scheme and 6 (18%) beneficiaries lacked bank account which is similar to the reasons stated in the study conducted by Kumar et al and by Prakash et al where 21 individuals did not enlist owing to a lack of information, a lack of time, or a lack of a bank account.^{12,18} It is important to make the TB patient aware of the financial benefits before enrolling to the programme. It was 33 (28%) beneficiaries did not receive incentives as compared to other similar study conducted by Prakash et al showed 90% did not receive incentives, and found that the system had an 81.4% participation rate, with just 10% of participants obtaining the benefits, follow-up is very important to reap the benefits of Nikshay Poshan Yojana.¹⁸

Since this study focuses only on the financial benefits a follow-up is needed to assess the nutritional status of all the patients post therapy session

CONCLUSION

The Nikshay Poshan Yojana has been offering incentives to TB patients, but timely distribution of the incentives is

required. Most people used the benefits for nutrition-related objectives as the program was designed to do and majority were aware of the scheme.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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