ASSESSING THE IMPLEMENTATION OF DIRECT BENEFIT TRANSFER SCHEME (DBT) FOR PATIENTS WITH TUBERCULOSIS NOTIFIED UNDER NATIONAL TB PROGRAM IN KOLLAM

Dr. Rajalakshmi S

Dissertation submitted in partial fulfilment of the requirement for the award of

Master of Public Health

ACHUTHA MENON CENTRE FOR HEALTH SCIENCE STUDIES SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY

Thiruvananthapuram, Kerala, India 695011

June, 2020

ACKNOWLEDGMENT

First of all, I would like to thank my study participants who participated in the study, without whom, I would never have reached the depth of understanding and who shaped my way of looking towards lives.

I express my cavernous sense of obligation and gratitude with profound respect to my benevolent guide Dr. Ravi Prasad Varma P for being such a good mentor. I have no words to express my heartfelt gratitude to him for sharing his priceless knowledge and lighting my way ahead and guiding me through the right path to achieve this accomplishment.

It gives me immense sense of satisfaction in phrasing my deep sense of gratitude to my course coordinator, Dr. Jeemon P for his guidance and support.

I thank Dr. T. K. Sundari Ravindran, Dr. V. Raman Kutty, Dr. P. Sankara Sarma, Dr Mala Ramanathan, Dr Biju Soman, Dr Manju Nair, Dr Srinivasan Kannan, Mrs. V T Jissa, Dr. Rakhal Gaitonda, Dr. Sreekanth A for their wonderful teaching and for giving insightful comments during presentations, which helped me to improve my dissertation.

I am grateful to State TB office and Dr. P S Rakesh, WHO consultant, for facilitating and granting permission to conduct the study

I extend my heartfelt thanks to Dr. Anu, District TB Officer, Kollam, Kerala for permitting me to conduct this study and for her warm support throughout the process. I am also thankful to the NTEP Staff of Kollam district that is all STS, STLS, TBHV, lab technicians for providing me necessary information and who helped me in every possible way without any incentive to materialize this thesis.

I thank Dr. Harisankar, Dr. Sreenidhi S, Dr. Mathew, Dr. Shaheer, Dr. Reshma, their insightful comments and constructive criticisms at different stages of my thesis were thought provoking which immensely helped me to streamline my edifying thoughts.

I am thankful to MPH 2018 batchmates particularly Susanna Chacko, Dr. Rohini, Dr. Roselent, Dr. Hrishikesh, Dr. Ganesh. I wish to express my reverence and appreciation to my seniors, my juniors and PhD Scholars for their genial guidance and support.

Above all, I would like to unequivocally express my gratitude and profound love to two men in my life Dr Vineeth, my husband who always stood by me in good and bad and Master Ritwik, my son whose smiling face always made me happy. I am grateful to my parents, in laws and also my siblings for being with me always.

To recapitulate, I thank each and every one who helped me directly or indirectly in completing this dissertation work.

CERTIFICATE

I hereby certify that the work embodied in this dissertation titled — **Assessing the Implementation of Direct Benefit Transfer Scheme (DBT) for Patients with Tuberculosis Notified under the National TB Program in Kollam** is a bona fide record of original research work undertaken by Dr. Rajalakshmi S, in partial fulfilment of the requirements for the award of the degree of Master of Public Health, under my guidance and supervision.

Guide:

DR. RAVI PRASAD VARMA P

Associate Professor

Achutha Menon Centre for Health Science Studies

Sree Chitra Tirunal Institute for Medical Sciences and Technology

Thiruvananthapuram, Kerala. India-695011

May, 2020

DECLARATION

I hereby declare that this dissertation titled **"Assessing the Implementation of Direct Benefit Transfer Scheme (DBT) for Patients with Tuberculosis Notified under the National TB Program in Kollam"** is the bona fide record of my original field research. It has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Dr. RAJALAKSHMI S

Achutha Menon Centre for Health Science Studies

Sree Chitra Tirunal Institute for Medical Sciences and Technology

Thiruvananthapuram, Kerala, India-695011

May,2020

Table of Contents

List of Tables and Figures

List of Tables

List of figures and graphs

List of Abbreviations

AOR	Adjusted Odds Ratio
APL	Above Poverty Line
ASHA	Accredited Social Health Activist
BMI	Body Mass Index
BPL	Below Poverty Line
CI	Confidence Interval
DA	District Accountant
DBT	Direct Benefit Transfer
DEO	Data Entry Operator
DM	Diabetes Mellites
DMO	District Medical Officer
DOTS	Directly Observed Treatment Short-course
DPM	District Program Manager
DTC	District Tuberculosis Centre
DTO	District Tuberculosis Officer
EPOC	Effective Practice and Organisation of Care
EPTB	Extra Pulmonary Tuberculosis
Govt	Government
GOI	Government of India
HIV	Human Immunodeficiency Virus
ICDS	Integrated Childe development Scheme
IEC	Information education Communication
ITAX	Intervention Taxonomy
KG	Kerala Government
NFSA	National Food Security Act
NGO	Non-Governmental Organizations
NHM	National Health mission
NPY	Nikshay Poshan Yojana
NTEP	National Tuberculosis Elimination Program
OBC	Other Backward Classes
PDS	Public Distribution System
PHC	Primary Health Centres
PFMS	Public Finance Management System
RNTCP	Revised National Tuberculosis Control Program
SC	Scheduled Caste
SD	Standard Deviation
SES	Socio Economic Status
SEIPS	Systems Engineering Initiative for Patient Safety
ST	Scheduled Tribe
STS	Senior Treatment Supervisor
STLS	Senior Treatment lab Supervisor
TB	Tuberculosis
TBHV	Tuberculosis Health Visitor
TU	Tuberculosis Unit
UN	United Nations

Abstract

Background: Tuberculosis (TB) and poverty have a symbiotic relation, impoverishment worsens the disease and tuberculosis lead to further impoverishment. Evidence suggest pharmacological treatment of TB should be accompanied by nutritional support. To address this, the Government of India launched a direct benefit transfer (DBT) scheme, the 'Nikshay Poshan Yojana'(NPY), to provide nutritional assistance to patients enrolled in National Tuberculosis Elimination Programme. This study tried to understand the coverage and effectiveness of this scheme.

Methodology: A cross sectional study design was used for the study with a sample size of 250 patients who had started the first line anti –TB drugs regime between 1 April 2018 to 30 September 2019 in Kollam, Kerala. In-depth interviews were done with healthcare providers to explore the implementation challenges related to Direct benefit Transfer.

Result: Out of 250 participants, 67 (26.8 percent) received full payment,107 (42.8 percent) received part of payment and 76 (30.4percent) did not received any payment till the date of the survey. Most participants (86 percent) knew the purpose of the beneficiary amount, but only 37 percent participants used it for nutrition. Monetary benefits are more likely to be used for purchasing food households facing any form of food insufficiency (Odds ratio 3.69 as compared to 1.51 in households without food insufficiency). The main implementation challenge behind payment delays was rectification of documentation related to bank accounts.

Conclusion:

Over half of the study population received at least one instalment of the NPY monetary benefit. The programme is functioning well in Kollam district, staff are generally motivated and adhering to programme guidelines. The amount may be insufficient to meet the needs

of the poorest people. The programme needs to take cohesive steps at all levels to prevent payment delays and to inform beneficiaries to make appropriate dietary modification

Chapter 1

Introduction

1.1 Background

Tuberculosis, though a disease that has been prevailing for a very long time, is still a dreadful disease and continues to cause thousands of deaths every year. Tuberculosis mostly affects the poor, vulnerable, poorly nourished and marginalised populations (*WHO*, 2018). India is a country with high TB burden, having an estimated incidence of 211/100000 (around 1 in every 473) population and around 1400 deaths per day. TB patients experience increased expenses from their pocket due to tuberculosis care even though free TB care is obtainable in almost all regions. World Health Organization (WHO) has introduced "End TB Strategy" which targets to reduce TB incidence, death due to TB and to eliminate the catastrophic costs faced by TB affected families. In line with this, India has drafted the 'National Strategic Plan for Tuberculosis Elimination 2017-25'. Various social protection initiatives including cash transfer are initiated to prevent catastrophic costs. The WHO (2013) in its guidelines 'Nutritional care and support for patients with tuberculosis' recommends assessment of food insecurity among TB cases and addressing the same with suitable packages including food assistance. The Ministry of Health and Family Welfare (MOHFW), Government of India (GOI) has launched the Direct Benefit Transfer (DBT) scheme, provides nutritional support under the Nikshay Poshan Yojana for patients with TB. Financial assistance is provided to the patients during the entire course of their TB treatment. This is also to keep a check on treatment adherence and to alleviate expenditure on the patient's side afflicted by this disease. The DBT method was utilised in this scheme so that funds reach the recipients at proper time without any delay. The programme is new and there are challenges in implementing this scheme which demands

an assessment and understanding of the coverage of this scheme (Patel et al., 2019). As India has one of the biggest burden of TB and one of the largest TB control programs in the world, it is crucial to evaluate the coverage of DBT, status of implementation of the scheme in programmatic settings and understand the enablers and challenges perceived by the providers and the perceived benefits of the scheme by the beneficiaries.

1.2 Rationale

- India is a country with high TB burden having an estimated incidence of 211/100000 population.
- 'National Strategic Plan for Tuberculosis Elimination 2017-25' under GOI intent to eradicate TB by 2025. With the view to achieve such a huge task, new schemes are being introduced (Yadav & Rawal, 2019).
- A Direct Benefit Transfer scheme called "Nikshay Poshan Yojana" was launched from 1st April 2018 by the Government to support the nutritional challenges faced by a TB patient.
- Financial incentive is provided to each patient notified with TB, for the entire period of their anti-TB treatment (Patel et al., 2019).
- The perception of beneficiaries and the challenges of providers and actual patient experiences and practice of this new scheme need to be explored.

The NPY is one of a kind scheme and the first of its kind in India that provides financial assistance to cover wage loss (Yadav et.al, 2018). A DBT approach which is specific to TB is being enforced in India for the first time. Understanding the hurdles and various difficulties involved in the programme will help us implement it more effectively and efficiently (Nirgude et al., 2019). Since the implementation is recent, literature review

suggests this area is understudied. In Kerala, there was no study done on Nikshay Poshan Yojana. Understanding the implementation challenges of the scheme will strengthen the delivery of the program.

1.3 Gaps in research

A literature search on PubMed

Keywords used: “Tuberculosis” “Nikshay poshan yojana”, “Food security” “Cash transfer program” “Nutrition”

Using keywords in different combinations yielded only two studies (full texts) which addressed the objectives of my study. One abstract article was also found.

1.4 Purpose of Nikshay Poshan Yojana

One of the most important idea behind the evolution of this plan was to make the patients able to take care of themselves and not burdened by the disease. The provision of cash as a support strategy has benefitted the patient and also in the overall treatment plan of the disease as this strategy has increased awareness, follow up visits and patients seem to remain bonded to the programme with the intention of completion (Patel et al., 2019). Additionally, there exists a social angle to this. TB patients are ostracised by society even now. They are seen as a burden and incompetent to work. Providing them with money shall help them during these harsh times.

1.5 Study Objectives

1.5.1 Research question

1.What is the coverage of direct benefit transfer (DBT) cash incentive scheme (Nikshay Poshan Yojana) among patients with tuberculosis notified under national TB program and initiated on first-line anti-tuberculosis drugs in Kollam district?

2.What are the enablers and challenges for the implementation of the scheme perceived by the providers and beneficiaries?

3.What is the impact of DBT in assuring food security to the TB affected population?

1.5.2 Objectives

Among patients with tuberculosis notified under national TB program and initiated on first-line anti-tuberculosis drugs between April 2018 to September 2019 in Kollam district

Primary Objectives

- To estimate the **coverage** of Direct Benefit Transfer under Nikshay Poshan Yojana.
- To understand the **patient perspectives** about the enablers and challenges in receiving the cash incentives under DBT and pattern of utilization
- To understand the **effectiveness** of Nikshay Poshan Yojana in ensuring food security to TB patients.

Secondary Objective

To explore the **implementation challenges** related to DBT and possible solutions from provider's perspective

Chapter 2

Literature review

2.1 Tuberculosis

Tuberculosis is a disease which nonidentically affects the poor, unprotected, malnourished, and marginalized communities (Bhargava et al., 2014) and is among the foremost cause, among the infectious diseases of mortality and morbidity rate worldwide. Every year nearly 1.5 million deaths are reported as a result of TB infection. Tuberculosis (TB) is a preventable and curable chronic communicable disease which spreads through droplet transmission and thus affects the lungs most commonly. Pulmonary tuberculosis (PTB) presents with the symptoms of cough, loss of appetite, fever, night sweats, weight loss, weakness and blood in sputum. Extrapulmonary TB (EPTB) can affect almost any site with peripheral lymph nodes being the most commonly affected (Sharma & Mohan, 2004)

Tuberculosis is among the leading causes of death from a curable infectious disease, caused by *Mycobacterium tuberculosis* (Dye, 2006). Once infected, the individual is at the highest risk of developing TB disease within the first two years but can stay at risk for their lifetime (Houben & Dodd, 2016). Tuberculosis was historically known by various names such as pthisis, consumption, the king's- evil and white plague (Barberis et al., 2017). The disease has been common in India from ancient times, and Ayurveda named it as yakshma or rajayakshma (Debnath et al., 2012). Hippocrates mentioned TB as a disease of the lung, and Aristotle and Galen had discussed it as contagious. Laennec was one of the first contributors to the extensive knowledge of the pathology of the disease. J. L. Schönlein first used the term ―Tuberculosis in 1834 and Hermann Brehmer in 1853 used the term tuberculosis of the lungs in his doctoral thesis. Robert Koch discovered Mycobacterium

tuberculosis, the infectious agent causing tuberculosis in 1882 and presented his discovery society on March 24 (world tuberculosis day) (Barberis et al., 2017). TB was defined as "Captain of All These Men of Death" because of its epidemic proportions in Europe and North America, determining one in four deaths (Jones, 2001). Following this discovery, tuberculin skin tests developed by Pirquet and Mantoux, Albert Calmette and Camille Guerin discovered (BCG) vaccine, streptomycin and other anti-tuberculous drugs were developed by Selman Waksman (Barberis et al., 2017).

Drug resistance tuberculosis is an unnatural issue created by man and its main cause being mismanagement of tuberculosis. Though 100 percent cure can be achieved for tuberculosis, it is quite difficult to manage the condition of multidrug resistance TB (MDR TB). In addition to this, further mismanagement of the condition such as providing improper, insufficient and substandard aid or treatment has paved pay for a recently developed form of drug resistance TB. Extensively drug resistance tuberculosis (XDR-TB) (Jain & Dixit, 2008)

Socioeconomic inequalities, increased population mobility, fast urbanization, the surge in population growth are the main structural determinants of the epidemiological picture of TB. This is said so because these conditions lead to an imbalance in the distribution of certain important social factors which are considered to be the key determinants of TB. These social factors include unavailability of food leading to malnutrition, improper housing, obstacles to access healthcare facilities due to financial, regional, and cultural barriers. All these increase the risk of TB.

Lack of adequate ventilation and overcrowding at residences, workplaces and society, may result in a healthy individual getting exposed to TB infection. Also, poverty and hunger are also precipitating factors which again increase the risk of TB infection and cause an

increased clinical outcome. Many people who have chest infection symptoms find it difficult to seek health care due to various socio-economic barriers such as lack of transportation, fear of stigmatization, and due to the absence of social support when they fall ill (Hargreaves et al., 2011).

The burden of expense that the disease lays on a family is high. The NPY scheme tries to help patients with this aspect too. Procedural formalities may make the scheme cumbersome. A critical assessment will help better implementation (Patel et al., 2019)

2.2 Global status

Globally, Tuberculosis has found its place in the top ten causes of death. It is also a major cause of death from a single infectious agent (*WHO*, 2018.). The count of people affected with TB continues to be millions as each year passes. It is disproportionately higher in HIV positive persons. On gender analysis it was understood that among the 10.0 million people (range, 9.0–11.1 million) affected with TB disease in the 2017, 5.8 million were men while 3.2 million of the people were women and the rest consist of children. Although all countries and age groups had reported cases of TB, two thirds of the cases were confined in eight countries namely, India (27 percent), China (9 percent), Indonesia (8 percent), the Philippines (6 percent), Pakistan (5 percent), Nigeria (4 percent), Bangladesh (4 percent) and South Africa (3 percent). These along with 22 other countries has been enlisted as the WHO's 30 high TB burden countries and account for 87 percent of all cases worldwide. It was noted that among cases of MDR-TB studied in the year 2017, 8.5 percent of the cases were determined to have considerable drug-resistant TB (XDR-TB). Nearly 1.7 billion people which amount to 23 percent of the population of the world, are believed to possess a dormant TB infection. In fact these people are at a risk of commencing an active TB disease during anytime of their life (Bhargava et al., 2014).

2.3 TB status in India

Tuberculosis (TB) continues to be among India's severest health crisis. The nation has been committed in activities related to control of Tuberculosis (TB) from the past 50 years (Glaziou et al., 2013). Significant activities of the program included mandatory notification of all the cases of TB, integrating the program with the general health services (National Health Mission), diagnostics services expansion, programmatic management of service expansion related to drug-resistant TB (PMDT), TB-HIV cases single-window service, national drug resistance surveillance and revision of partnership guidelines (Purty, 2018). The National Strategic Plan (NSP) 2017-2025 is built on the success and learnings of the previous NSP. It summarizes strategies needed to eliminate TB in India by 2030. It was developed in line with approaches of other health sector and global efforts for example, the World Health Organization's (WHO) End TB Strategy, the Sustainable Development Goals of the UN and the draft National Health Policy 2015.

2.3.1 The National Strategic Plan for TB elimination 2017 -2025

The second phase, during 2006–11 showed an improvement in the quality and magnitude of services of RNTCP which functioned to obtain global case detection and cure targets. By 2007-08, they were able to accomplish these targets. Undiscovered and illtreated cases continued to propel the TB epidemic, despite these achievements. National Strategic Plan for Tuberculosis was implemented in this period for the attainment of the long-term vision of a "TB free India" (RNTCP-NHP, 2015).

2.4 TB Control in India

The National TB Programme (NTP) was launched by the Government of India in 1962 with BCG vaccination and TB treatment. The NTP was launched by the GOI in 1962 with BCG vaccination and TB treatment. The programme was revised as Revised National TB

Control Programme (RNTCP) in 1993 after evaluation by GOI (Govt Of India) , WHO (World Health Organisation) and SIDA (Swedish International Development Agency) (RNTCP-NHP, 2015).

The large-scale implementation of RNTCP-I begun in 1997 and it could cover the entire nation by March 2006. During this period, RNTCP evolved as RNTCP II for consolidating the gains achieved in RNTCP I, and also for initiating services to address TB/HIV, MDR-TB and to extend RNTCP to the private sector. The Directly Observed Treatment Short Course (DOTS) strategy proposed by WHO was made used by RNTCP which reaches over a billion people in 632 districts/reporting units. DOTS was officially launched in 1997 as the RNTCP strategy (Kanabus,2020).

The estimated incidence of TB in India was approximately 28,00,000 which accounted for about a quarter of the world's TB cases as per the Global TB report 2017 (WHO, 2018). In 2017, India's national figures of the burden of Tuberculosis were re-estimated by including information from a broad range of sources which is thus more precise than previous estimates. The private sector notifications seen throughout the country were the major additional information source along with interventions targeted at private sector notification in certain project locations of TB (Kanabus,2020)

2.5 TB status in Kerala

As per, National Family Health survey -NFHS4 (2015-2016 Kerala) the statistics in Kerala, 369 per one lakh persons were estimated to have undergone medical treatment for tuberculosis. This is based on reports received from household respondents in the state. A higher prevalence of medically treated tuberculosis is seen among men (552 per 100,000) than among women (192 per 100,000). Also, the prevalence of the same is higher in rural areas (401 per 100,000) when compared to the urban areas (332 per 100,000), in older

persons of 60 years of age or more (999 per 100,000) and in households where solid fuel (561 per 100,000) is used for cooking. Among the respondents, almost all have heard of tuberculosis which consists of 97 percent of women and 88 percent of men. Among these, 86 percent of women and 78 percent of men have been experiencing either coughing or sneezing (Mazumdar et al., 2019). The misinterpretations regarding how tuberculosis spreads prevail more among women (21 percent) when compared with men (11%). Majority of the people (83% women & 84% men) are aware of the fact that tuberculosis is curable, and only a small percentage (16 percent of women and 13 percent of men) still claim that if a family member is affected with tuberculosis, they prefer to maintain it confidential. TB incidence of Kerala is estimated to be 67 cases per 100,000, which is less than half the incidence pan India (138 per 100,000 -2017 RNTCP figures)

The annual risk of tuberculosis infection (ARTI) in Kerala is found to be one percent. The ratio of the number of new smear-negative to the number of new smear-positive cases in India ranges from 0.7 to 0.9 while that of Kerala varies within 0.5 to 0 .7. Based on ARTI, in Kerala, 50 new smear-positive cases are reported per one lakh population. This is the lowest when compared to any other states of India. On an average, nearly 24 tuberculosis suspect cases are needed to be examined for a smear-positive case to be brought to a definite diagnosis in Kerala (Government of India, 2013), which is the highest in the country. On comparing the three-month sputum conversion rate, it is found to be 88 percent in Kerala which is lesser than the national average of 90 percent. But on analysing the composite indicators which were composed to analyse the performance of the program in each state, it is seen that a case-finding effort in Kerala is only 48 percent (Government of India,2013) (Kanabus, 2020)

2.6 DOTS

In 1993, the WHO's Global Tuberculosis Programme (GTB) announced TB as a global emergency and GTB started to assist the Styblo's strategy under the name of DOTS (Mazumdar et al., 2019).

DOTS strategy had 5 integral parts:

1. Political will which included the administrative commitment (C)

2. Diagnosis by quality microscopic examination of the sputum sample (M)

3. Adequate drug supply (S)

4. Treatment under direct observation (O)

5. Accountability – systematic monitoring of the cases (A) (WHO, 2018)

Through this programme, the duty for the cure was transferred from the patient to the health system – a feature emulated by RNTCP (Kanabus, 2018).

Another significant public health problem which is emerging recently is the connection between multidrug-resistant tuberculosis (MDR TB) and diabetes mellitus (DM). This trend is noticed predominantly in the developing countries where TB is endemic and DM cases have an epidemic growth. According to WHO, the prevalence of diabetes in the next 19–20 years it is likely to double. The rising incidence of presentation of DM and TB together needs to be studied as India is one among the developing country with a high incidence of TB and large number of diabetes cases (Sandhu, 2011).

2.7 Food insecurity and TB

The clinical course of TB is modified by many risk factors including food insecurity. The condition in which the dietary needs of all people for a healthy life is met by physical, social

and economic access to sufficient safe and nutritious food at all times is termed as food security. The converse condition of food security, i.e., unavailability or lack of access to food of sufficient quantity and quality can be called as food insecurity.

Even if, the term 'food insecurity' may indirectly invoke several other terms such as "hunger" or "malnutrition, they cannot be used synonymous to 'food insecurity' (Hadley and Crooks, 2012) . A lack of food causing an uncomfortable sensation termed hunger, may result as the by-product of food insecurity and may also end up in malnutrition over a period of time. A diet with nutrient inadequacies can result in malnutrition. The most obvious sequelae of food insecurity, which includes malnutrition and hunger form just one part of a larger paradigm of the association of food insecurity and ill health. A remarkable proportion of TB patients in poor resource settings experience food insecurity. Only ten percent of the TB patients resided in food-secure households, according to the African Food Security Network (AFSUN) 2008-2009 survey of HIV/TB patients in 11 southern African cities.

The association of TB with access to food and nutrition has been recognized for a long period of time. Even though, the relationship between the nutritional pathway of food insecurity, specifically undernutrition and TB has been studied well, other potential pathways through which food insecurity may affect the risk of TB and TB outcomes still remain under-researched. As there is a connection between food security, nutrition and TB, specific nutritional guidelines have been prepared to combat this (Balinda et al., 2019).

2.8 Nutritional support programmes for TB

A study conducted in Mozambique reported that among tuberculosis patients absence of nutritional changes (dietary modification) was one of the barriers to tuberculosis services (De Schacht et al., 2019). Another Ethiopian study described patient receiving nutritional

support were more satisfied with Tuberculosis services (Getahun & Zethu, 2017). A paper from Afghanistan stated that the patients, their families and providers observed the food assistance nutritional status is very important and vital element in Nation Tuberculosis control strategy. Supported by the World Food programme, the TB control programme gives take home rations of food for six persons, irrespective of family size, sex, socioeconomic status and type of TB. But they had issues with regular supply, storage in the clinic and repacking for distribution (Pedrazzoli et al., 2016). An economic modelling study from patient perspective to compare two types of cash transfer strategies reported there were two types of nutritional support programmes – TB sensitive programmes and TB specific programmes. In TB sensitive programme benefit is given to all households at risk of developing TB – e.g. poverty reduction scheme in Brazil; in a TB specific programme, the benefit transfer is made once a household has got a TB diagnosis e.g. CRESIPT project in Peru (Rudgard et al., 2017).

2.9 Food security schemes in India

In India, food security is a matter of prime importance. A considerable population of hungry and malnourished people still exist in the country. Effective execution of public distribution system (PDS) can lessen the hunger levels in India, though it may not be possible to phase out malnutrition and childhood morbidity or mortality immediately in India. National Food Security Act has prioritized food security by advocating a life cycle approach. The Antyodaya Annapoorna scheme which was introduced by PDS supply highly subsidised foods to the poor in India. This scheme has covered 75 percent of the rural population, and around 50 percent of the urban population (George & McKay, 2019). It also assigns financial support and proper nourishment to pregnant and lactating women. The Integrated Child Development Services and Mid-Day Meal Schemes shelters children aged between 6 months and 14 years. The endowment of a legal standing in accordance with the

fundamental right to good health and nutritious food to India's food safety network was a major landmark for National Food Security Act (George & McKay, 2019).

Kerala has several nutritional support schemes. Cooked food supplementation through community kitchen is launched by State government in Kerala with the help of Kudumbasree units and Local government bodies in the crisis of Covid-19 (Raghunath A, 2020). First 1000 days programme for Tribal infants is another which provides the parents of tribal infants with essential food for 1000 days by the World Food Programme (WFP) and the Government of Kerala (Sumra, 2017). All other Central government's nutritional programs are performing well in Kerala.

2.10 India's Nikshay Poshan Yojana

TB and malnutrition hold a two-sided relationship with each other. In an undernourished person the risk of developing TB increases. So is the chance of progressing a TB infection to an active TB disease (Bhargava et al., 2014). TB can, in turn, cause malnutrition and this, in turn, can, at the time of diagnosis of active TB increase the risk of TB relapse and finally result in death due to TB (*WHO*, 2013.).

World Health Organization proposed the 'End TB strategy' aiming to end the TB epidemic by the year 2035. India has also enforced its support by reducing the timeline to 2025 (WHO, 2013). In 2013, guidelines for nutritional care and support of patients with TB has been established by WHO. This provides an assessment of the nutritional status, counselling, and support as vital measures in the management of TB. It also provided country-specific guidelines.

It was in 2017, that India declared its guidance document incorporating the guidelines issued by the WHO. These guidelines suggested that an individual's nutritional status should be classified based on their body mass index (BMI). This was applicable for adults

and children aged between 6-18 years. Since anaemia plays a major role in the morbidity and poor functional status of TB patients, haemoglobin count was checked as a baseline (WHO, 2013)

In April 2018, the Ministry of Health & Family Welfare (MOHFW) under the Government of India launched a direct benefit transfer (DBT) scheme under the name 'Nikshay Poshan Yojana'. The primary aim of this program was to overcome the malnutrition and expenditure among TB patients. Each TB patient will be provided with 500 INR every month until the course of the treatment ends. The Nutritional status was assessed by taking a nutrition-oriented history, followed by a nutrition-oriented examination which included anthropometric measurements of the body such as weight and height (GOI-PIB, 2019). As per the statistics available, out of 20.94 lakhs eligible beneficiaries, 8.78 lakh (42 percent) have received the benefit under the scheme, as on 1st January 2019 (MoHFW, 2019)

A few reports of slow progress of NPY implementation exist (Yasmeen A, 2018). Out of the total registered patients, only nine lakh patients submitted the bank account details to the Central TB division, a major reason being that the majority of the people are from a rural area and do not possess a bank account or are migrant patients, whose bank accounts are difficult to be obtained. There are no separate funds set aside for the DBT scheme under NPY. But available funds can be used for all activities which have approval under the State plans. The States are asked to collect the bank account details of all registered patients under their respective jurisdiction (Yasmeen A, 2018).

2.10.1 Transfer to blood relative:

The State TB officials are asked to transfer the benefits of NPY to the patient's blood relative (spouse, parents, siblings) in case he/she do not have a bank account in his/her own name. An undertaking is needed from the beneficiary the benefits can be transfer to a family

member (spouse, parents, brother/sister /blood relatives) who has a bank account. (Yasmeen, A, 2018)

2.10.2 "Nikshay Poshan Yojana" -Details of the scheme

All TB patients who have notified on or after 1st April 2018 along with all existing TB patients under treatment are eligible to receive the benefits of the scheme. The patient must be registered\notified on the NIKSHAY portal. Financial support will be given for each patient notified with TB as long as they take the treatment. The payment will be distributed DBT preferably through Aadhaar enabled bank accounts. States that are already distributing in-kind may do so such that the value of the food basket being distributed must not be less than Rs. 500 per month. This is the first time a DBT approach specific to TB is being executed in India.

NPY is a centrally sponsored scheme under National Health Mission (NHM). The scheme has been implemented across all States and UTs in India.

2.11 Direct Benefit Transfer (DBT) Mission

Direct Benefit Transfer (DBT) was implemented on 1st January 2013.The aim was to develop a simpler and faster flow of information and funds and to ensure that the eligible beneficiaries are identified and to prevent any duplication and fraud information. DBT was transferred to the Department of Expenditure in July 2013 and continue to function till September 2015, after which it was placed in Cabinet Secretariat under Secretary. 43 districts were first provided with the DBT during the first phase. 78 more districts were added later on. There were 27 schemes based on scholarships, women, child and labour welfare. DBT further expanded across the country by 12th of December 2014. In addition to the above 7 new scholarship schemes and Mahatma Gandhi National Rural Employment

Guarantee Act (MGNREGA) was also brought under DBT. This was done in 300 districts along with Aadhaar enrolment (Sabherwal et al., 2019).

Electronic Payment Framework was also implemented. While Aadhaar is not mandatory in DBT schemes, the beneficiaries were encouraged to have Aadhaar as it provided a unique identity and was useful in identifying the targeted population. As JAM i.e. Jan Dhan, Aadhaar and Mobile help in enabling DBT, the presence of more than 22 crore Jan Dhan Account, 100 crores of Aadhaar and about 100 crores of Mobile connections ensure the adequate chance to implement DBT in all welfare schemes all over the country (Vikaspedia-DBT, 2013). DBT is believed to bring more efficiency & effectiveness along with the necessary transparency and accountability in the Government system and thus build the confidence of the citizen in the governance.

2.12 Implementation Challenge

There shall always be criticisms to any programme from the public. Some may regard them beneficial while others feel that they have not been given proper care while creating such programmes. Sometimes the patients may not follow the stipulated norms and requirements which make the policy implementation difficult. Many studies provide information regarding this. A study in South India showed that pregnant women who had TB would not follow their health workers instructions (Vijayageetha et al., 2019). Another study in Peru reported patient's unwillingness to provide their bank account details and their unhappiness over the health workers visiting them at their homes (Wingfield et al., 2017).

Another comparable study led in south India portrayed the DBT inclusion was low and there were generous postponements. Study results shows of 417 patients, 208 (49.9%) got endorsements for installment and 119 (28.7%) got paid by 1 December 2018. Explanations behind not getting DBT included and (i) not having a bank account particularly among

transient workers in urban zones, (ii) refusal to benefit DBT by rich patients and those with privacy concerns, (iii) absence of information and (iv) that cash was too less to even consider meeting the requirements. The median (IQR) delay from analysis to installment was 101 (67-173) days. Barriers were identified with the unpredictability of procedures requiring different layers of endorsement and paper-based documentation which overburdened the staff, mass handling once-a-month, poor internet facilities and issues identified with NIKSHAY and Public Finance Management System gateways (Nirgude et al, 2019)

2.13 National Level Conditional Cash Transfer Scheme

Dhanlakshmi 2008, Janani Suraksha Yojana (JSY) 2005 supported completely by the Government of India (Ng et al., 2014), Balika Samridhi Yojana 1997, National Programme for Education of Girls at elementary –level under the Sarva Shakti Abhiyaan (SSA)2003, Kasturba Gandhi Balika Vidyalaya Scheme, 2004 (Ng et al., 2014)

In 1980s, Kerala started old age pension schemes in different occupational categories. It includes pension for elderly, widows, the destitute, agricultural workers, workers of informal sectors, etc (Sato, 2004). The Government of Kerala implemented DBT from 1 April 2018.

Chapter 3

Methodology

3.1 Study design

The study design was a cross-sectional survey (Quantitative) for the primary objectives. In-depth interviews were done for the secondary objective (Descriptive Qualitative study). The qualitative component documented the challenges on executing Direct Benefit Transfer from the health providers' perspective and reasons or factors related to the lag (delay) in the payment (first installment) to an extent.

3.2 Study setting

General setting: Kollam District, Kerala

• Outline of the study setting: Kollam is a district located in the southern part of Kerala. This town is reasonably significant for the state's trade and commerce. It is the focal point of nation's cashew exchanging and handling industry and marine items industry. As per the 2011 census, the total population of this district was 2,635,375. Here the Revised National Tuberculosis program was initiated in the year 2000 and has broadened since then to cover all hospitals in the government sector and also some major private hospitals in the urban area of the district.

Specific setting: Five tuberculosis units in Kollam district.

Tuberculosis Units

1. District tuberculosis unit
2. Nedungolam
3. Punalur
4. Kottarakkara

5. Karunagappally

• All Five tuberculosis units were covered in the present study.

• The units and personnel under study are as follows: Each Tuberculosis unit has a medical officer (MO-TC), senior treatment supervisor (STS) and a senior TB laboratory supervisor (STLS) who support the remote health centres under each TU.

3.3 Time frame

• Data were collected from the period of 1st December 2019 to 28th February 2020.

3.4 Study population

For Quantitative study

Target population: TB patients registered under RNTCP in Kollam district

Source population: Patients who have started the first line anti –TB drugs regime between 1 April 2018 to 30 September 2019 in Kollam district, Kerala

Study population: Tuberculosis patients notified under the national TB program and initiated on first-line anti-tuberculosis drugs between April 2018 to September 2019 in Kollam district, Kerala

For Qualitative study

• Key informants- Program staff who are working in the TB control program - TB health visitor, Senior treatment supervisor, Laboratory technician, (STLS), Data entry operator, District Tuberculosis Officer, and the District accounts manager (PFMS).

3.5 Sample size estimation

Sampling Frame: All the newly diagnosed patients notified between 1 April 2018 to 31 September 2019

• Sampling Technique: Single-stage cluster sampling

• Sample Size: 250

The sample size was assessed using OpenEpi 3.01

The sample size was then calculated using the proportion of 28.7% (AS Nirgude et al) with 99 percent confidence interval and an assumed design effect of 1.5.

The estimated sample size was 222. The calculated sample size was rounded off to 250. All those who declined to participate were replaced by the next eligible patient in the list, as per the TB register at the district level.

• District divided into five tuberculosis units. From the list of TB patients registered under each TU, 50 patents were randomly selected from TUs.

• For Qualitative study

Selected six program staff working in the DBT implementation process.

3.6 Sample selection procedure

3.6.1 Quantitative sampling: The study used a single-stage cluster sampling arrangement From each tuberculosis unit, fifty participants were selected randomly. If the participants were not available or died, the next immediate one was selected.

3.6.2 Qualitative sampling: The sampling method used was Purposive sampling. Healthcare providers (program staff) employed in the execution of DBT scheme were the key informants to find the obstacles for DBT implementation and possible resolutions for it. Interviews were conducted on six staffs to cover all levels of TB control programme. Key informants, one (Officer) and four (lab supervisor) working in the program with an experience of three years, key informant two, working in the account session for last 15 years. Key informant three, who is working as a treatment supervisor in the past six years. Key informant five, who is a health visitor has been working in this field with an experience of ten years. Key informant six, working in the data management system in the last two years.

3.7 Inclusion and Exclusion Criteria.

3.7.1 Inclusion criteria

 All TB patients notified as having started treatment between 1 April 2018 to 30 September 2019

 The patient must be registered/notified on the Nikshay Portal.

 The patient must be a resident of the Kollam district.

 Patients those who can give the response to the questionnaire

3.7.2 Exclusion criteria

 Patients who are not willing to participate in the study.

 The patient who died in between or after the treatment.

 Lost to follow-up

 Transferred out

For the in-depth interviews, all the informants were consented for the audio recording. The people who were included in the qualitative component of the study has been referred as informants.

Replacements and plan for non-respondent analysis

 Patients who did not gave their consent were not recorded. In such a case, the respondent was replaced by the next immediate one (TB patient satisfying the inclusion criteria). Basic information and reason(s) for non-participation were sought from all those who were contacted to be a part of the study. A record of every single such substitution was kept.

3.8 Operational Definitions

Lag in diagnosis: The time interval from the first contact with a health provider until the diagnosis of tuberculosis of more than 17 days (based on median).

Food insufficiency: Presence of any one of criteria based on Bickel et al., 2002 and Agarwal S, 2019; the details are given under the study tool section

3.9 Data collection techniques

After necessary clearances from the health system/program, the participants were identified from the Nikshay portal. Initial verbal consent to be contacted by the investigator was obtained by the program staff/ health field staff monitoring the patient's treatment. Written informed consent was obtained from respondent before the interview. Privacy and confidentiality of all the knowledge was ensured. The technique selected for the data collection was interview schedule with pen-and-paper documentation of responses. The interview was conducted in Malayalam. Information like socio-demographic details, TB diagnosis, treatment status, household food security, knowledge about Nikshay Poshan Yojana was captured in the interview. The interview was carried out by the principal investigator herself for all the participants. The interview happened at the participant's home itself or at a place as suggested by the participant with minimal distractions and discomfort for the participants. The data collection period was from 1 December 2019 to 28 February 2020.

The principal investigator (PI) conducted in-depth interviews for key informants with the assistance of a structured field-tested interview guide. The interviews were conducted in Malayalam once getting the informed consent from the participant and at a date, time and place convenient to participants. The interviews were audio-recorded (with written consent). Besides the participant and investigator, no other person was present at the time of the interview. The normal duration of the interview was 15 minutes for key informants.

3.10 Study tool

The cross-sectional survey was conducted using an interview schedule which was developed for this study based on the reviewed literature and the previous studies conducted. The interview schedule was developed in English, then translated into Malayalam. Malayalam interview schedules were used during the study.

Interview schedule for Participants includes 5 sections.

Section 1: Socio-demographic details

 Place of residence, occupation, marital status, APL/BPL status

Section 2 & Section 3: Information on Tb confirmation and treatment.

 Details from the Tb treatment card (age, diagnosis, comorbidities, treatment status outcome)

 Details from the participants (initial symptoms, Dots center, treatment adherence, addictions)

Section 4: Assessing household food insufficiency

 Main components are Quality, Quantity, Hunger

• (The study adapted the questionnaire from full food security module (Bickel et al., 2000) and has been validated in prior research (Briefel & Woteki, 1992). It was validated in Hindi in urban slums of Delhi by Agarwal S et al. (2009)) It was not used as a scale to quantify food security, but the questions can be used to categorize households as having any food insufficiency or not.

Section 5: Information on Nikshay Poshan Yojana and the impact of Direct Benefit Transfers.

Key informants interview guidelines were used for in-depth interview.

3.11 Data entry

Quantitative data were entered into Microsoft Excel. Qualitative data were transcribed verbatim and translated to English.

3.12 Data analysis and statistical methods

3.12.1 Quantitative analysis was undertaken with SPSS software for analysis (version 25). Mean and standard deviation (SD) or median as applicable were used to summarize the continuous data. Categorical data were summarized as proportions. Univariate analysis was run with cross-tabulation (chi-square/ Fisher 's exact test). DBT coverage and patient perspective about DBT scheme were analysed. (proportions reported). Bivariate and multivariate analysis were done to find the associated factors. Data were analysed quantitatively to identify important factors related to patient perspective about the DBT scheme (simple frequencies) and self-reported dietary modification (pattern of utilization). Further analysis was done to determine the factors associated with the dietary changes.

Factors influencing the food insufficiency (any form of food insufficiency) and lag in diagnosis were also explored to look for possibility of interaction/ mediation.

3.12.2 In-depth interviews were coded looking for reasons for the lag in notification, lag in payment and health system-related (provider-related) challenges against effective implementation of DBT scheme was explored qualitatively. Simple open coding was followed by coding categories (Parent code/Categories) that emerged. This was followed by reorganizing and binning of these parent codes deductively into themes were based on SEIPS model. SEIPS model - extension of the Donabedian framework (**Structure, Process, Outcome**). Systems Engineering Initiative for Patient Safety - SEIPS was originally meant for patient safety - but can be adapted for other aspects of work systems.(Carayon et al., 2006). Person, Tasks, Tools and Technologies, Physical

environment and Organizational conditions are the five components of the work system. According to this model, a *person* (could be a healthcare provider or employee of a healthcare institution) carry out a variety of *tasks* using various *tools and technologies*. The implementation of these tasks happens within a certain *physical environment* and under specific *organizational conditions*. All these five components interact with each other and influence each other generating various outcomes. Subthemes were derived using taxonomies. Here we have used EPOC and ITAX taxonomy (Schulz et al., 2010), and Theory-based taxonomy recommended by Leeman J et al (2007).

3.13 Data storage, transfer, and management

Data were collected and stored safely in an external storage device. The data was collected ensuring the privacy of the participants and was stored by exercising extreme care to maintain its confidentiality. The research scholar was the sole custodian of the data, and all identifiers linking the data to its source were protected by the scholar, and destroyed immediately after use.

3.14 Ethical considerations

The study was undertaken after getting the approval and clearance from the Institutional Ethics Committee (IEC) of Sree Chitra Tirunal Institute for Medical Sciences and Technology (IEC/1442 dated on November 14/2019)

Informed consent

Written informed consent was acquired from the respondents after clarifying the objectives and purpose of the study and potential advantages and risks of participating in the study before data assortment. The participants were also consented for audio recording of in-depth interviews.

Confidentiality

The identity of the participant was kept anonymous. Each participant had a unique identification number. Their demographic details or any other information were not used to identify the individual. The information given by the participants were not disclosed with health workers, family members or any others.

After all the procedural requirements of this academic work are complete, a summary of the report will be sent to the District TB Centre and the State TB cell

Chapter 4

Results

This section consists of findings of the study. It includes the summary of data collection process, DBT coverage and turnaround time, programmatic aspects, perspectives on enablers and challenges and impact on nutritional aspect. The chapter includes a description of the appropriate bivariate and multivariate analysis carried out against the identified independent variables

4.1 Summary of data collection process

There were total of 2712 (Public-2276, Private-446) eligible Tuberculosis cases notified under National Tuberculosis programme from April 2018 to September 2019 in Kollam district. Out of these, 272 were approached through National Tuberculosis Elimination Programme health care provider for participating in the study. Twenty-two were excluded because of different reasons (paediatric Tuberculosis=5, died= 8, Seriously ill= 3, not willing to participate= 6). The final sample had 250 Tuberculosis patients. In-depth interviews were done on six programme staff. Direct Benefit Transfer process was divided in to three stages:

1. time from first visit to diagnosis of Tuberculosis – reflection on socio-demographic and treatment seeking characteristics – analysed quantitatively
2. time from diagnosis to notification in Nikshay portal – reflection on overall programme performance – described
3. time from notification to first receipt of the monetary benefit – reflection on programmatic aspects specific to NPY– analysed qualitatively

Of the interviewed persons, 34.4 percent were from households facing some form of food insufficiency, and 228 (91.2 percent) had their own bank account. The remaining 8.8 percent participants used the account of a first degree relative.

4.1.1. Sociodemographic and clinical characteristics of sample population

Of the 250 interviewed participants, 201(80.1 percent) were from rural areas. Mean (SD) age of the participants was 49.7 (16.3) years and 176 (70.4 percent) were male. Only 2 percent were under ST category. Mean number of persons living in a family (family size) is 4.16 ($\pm$1.28). Majority 199 (79.6 percent) were Below Poverty Line (BPL) patients, with 38.8 percent being manual workers. All patients knew their Diabetic status and 59 (23.6 percent) were diabetic. Most patients had pulmonary TB (184, 73.6 percent). Only males reported use of alcohol or tobacco. A detailed profile of the patients is presented in annexure I supplementary table 4.1

4.2 Nikshay Poshan Yojana Coverage and turnaround time

The coverage of the payment as percentage of people who received full payment, part of the payment and who do not receive any payment during each quarter is depicted in the table 4.1

Table 4.1 Coverage of direct benefit transfer among tuberculosis patients in Kollam District, Kerala from April 2018 to September 2019

Quarter	N	Full payment received	Part of payment received	Not received
April 2018 – June 2018	27	21 (77.8%)	5 (18.5%)	1 (3.7%)
July 2018 – September 2018	38	27 (71.1%)	8 (21.1%)	3 (7.8%)

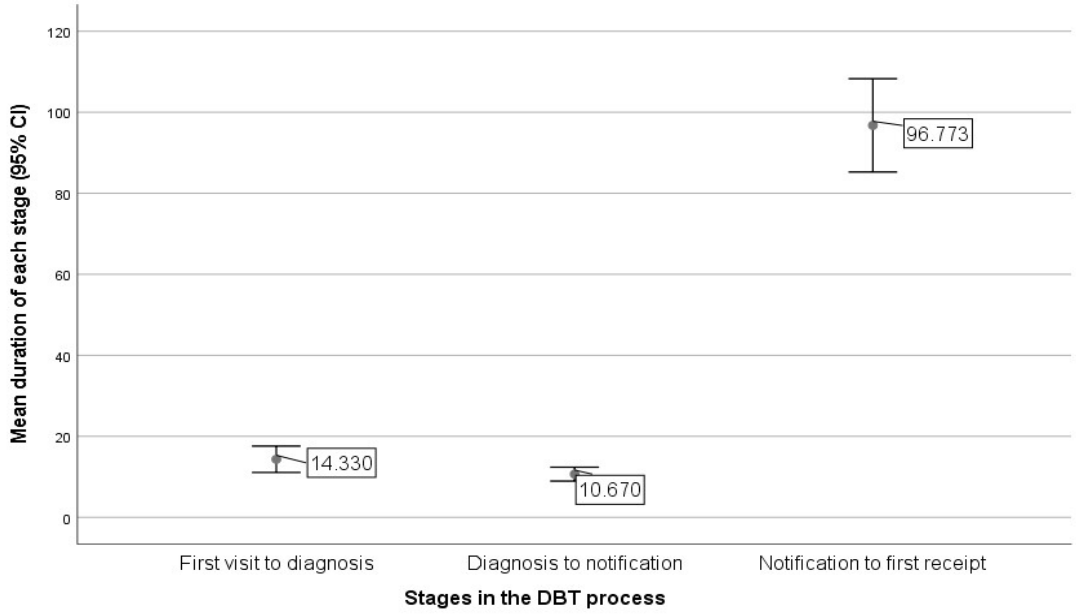
October 2018 - December 2018	46	12 (26.1%)	32 (69.6%)	2 (4.3%)
January 2019 – March 2019	54	3 (5.6%)	38 (70.4%)	13 (24%)
April 2019 – June 2019	57	2 (3.5%)	19 (33.4%)	36 (63.1%)
July 2019 – September 2019	28	2 (7.1%)	5 (17.9%)	21 (75%)
Total	250	67 (26.8%)	107 (42.8%)	76 (30.4%)

N – Total Number

Overall, 107 (42.8 percent) patients had received part of instalment of Direct Benefit Transfer, 67 (26.8 percent) of whom received all instalments. Study period was divided into six quarters. In the first three quarters coverage was relatively better than the last three. The data collection period was from December 2019 to February 2020. This means that those registered in 2018 would have completed the treatment, but even then, coverage was not complete and some were yet to receive even the first instalment. Supplementary figure 4.1 in the annexure I show flowchart of coverage of direct benefit transfer.

The State Government is providing Rs.1000/ month as pension for the Tuberculosis patients, who are in BPL category or in APL category with financial distress. Overall, 155 (62 percent) patients had received financial assistance from both the Nikshay poshan yojana and the Kerala Govt pension scheme, 9.4 percent patients received only NPY (APL patients) and 25.6 percent patients received only the State Government benefit (till date of interview). Also, 20 percent of respondents got financial assistance and food supplementation.

Figure 4.1 Representation of Stages and mean duration in days of each stage of Direct Benefit Transfer process with 95 percent Confidence Intervals (CI)



Mean turnaround time from notification in Nikshay portal to receipt of payment is **96.77 days** (±77.42) with a median of **74 days**. The value ranges from 13 to 530.

4.3 Programmatic aspects - Implementing stakeholders

The process and time requirements from diagnosis of TB to first instalment were explored qualitatively. In the first step open coding was done for the six transcribed interviews. In the second step, forty parent codes were generated from open codes. These parent codes were reorganised and deductively grouped into themes based on the SEIPS model.

SEIPS model - extension of the Donabedian framework (Structure, Process, Outcome). Systems Engineering Initiative for Patient Safety - SEIPS was originally meant for patient safety - but can be adapted for other aspects of work systems. Person, Tasks, Tools and Technologies, Physical environment and Organizational conditions are the five components of the work system. According to this model, a *person* (could be a healthcare

provider or employee of a healthcare centre) carry out a variety of *tasks* using various *tools and technologies*. The implementation of these tasks happens within a certain *physical environment* and under specific *organizational conditions*. All these five components interact with each other and influence each other generating various outcomes (Carayon et al., 2006). Supplementary figure 4.2 in the annexure I shows SEIPS model of Programmatic aspects of NPY - Adaptation of the SEIPS model by Carayon, et al.

4.3.1 Work system or structure

4.3.1.1 Persons

All key informants were aware of the Direct Benefit Transfer scheme processes. All the interviewees reported nutritional assistance as the main purpose of Nikshay Poshan Yojana. (quotes 1-2).

1."This is a new scheme for TB patients. The monetary benefit of 3000 rupees for 6 months is giving to the patient for nutritional support. That is 500rs per month. Actually, it is good to support patients. Because of the disease, they couldn't go for a job and all.so this money is very helpful to...One main feature of this scheme is the benefit is for all TB patients means APL and BPL" (KI1)

2. "*This Nikshay poshan yojana is a nutritional assistance scheme. Means for better health, we have to make good food... Actually 2/3rd of patients are manual workers. We the health staff insist on them not doing heavy works. So, they need money for their food and all. So govt is providing rupees.500 per month to them. We know it is not compensating for their daily wages. But as support, this pension will help them" (KI3)*

Most of the interviewed staff were experienced health workers in the same field. All informants were well aware of their roles in NTEP. Programme staff have commitment to the current position (quote-4).

4. "One thing that people are not that much fast. Sometimes the diagnosis date and notification date are different., a huge difference in dates will see. Every time we are pushing them to do it at the proper time" (KI1)

All were dedicated staff and working hard to improve the programme(quote-3).

3."We have a group of officials committed to providing selfless service to the needy patients" (KI2)

District TB Officer had been conducting monthly meetings to evaluate their work and to discuss the pros and cons of the scheme (quote5).

5. "Monthly meetings will be conducted in the district TB office. All the 5 STSs and STLS, TBHVs other office staff will be there for the meeting." (KI5)

A very well-coordinated team is working under DTO. Even the TB health visitors were coordinating programmes(thoovalaviplavam). All the interviewed informants are experienced and dedicated but some of them mentioned their work load(quote22).

22."For key informant (4), Nikshay entry will be a task, because lab staff have lots of work in the lab. So better to appoint a Staff for this Nikshay related works, monitoring of the scheme will be a part of it. Also, there is no incentive for lab staff to do this extra work" (KI4)

4.3.1.2 Organization

The Nikshay poshan Yojana is a new initiative of the Central TB Division for TB patients. Central TB division releases the fund to NHM. State TB cell and NHM are in-charge of this scheme in each state. District programme officer of NHM, District TB officer, PFMS staff (District accountant), Senior treatment supervisor, Senior treatment lab supervisor, TB health visitors and data entry operator are the main persons to deliver this programme. This is the organizational structure of implementing this scheme (Quote 6,7,8,9).

6. "It is a pension scheme by Central Govt for TB patients. It is for nutritional support. The money transfer is through the online system, PFMS. When a bill comes with the supporting documents, through DDFS" (KI2)

7. "NTEP staff are assigned to deliver the programme" (KI5)

8. "*The main objective of this scheme is all the patient should come for treatment" (KI5)*

9."The district authority is the district collector is indeed the society chairman. DMO is the convener and DTO is the secretary and DPM acts as the vice-chairman along with some committed members. All the STS, STLS, TB health visitors, office staff are also included in this programme. (Scheme)" (KI2)

All the staff are working together to achieve the goal. All the respondents told about the team effort to minimise the challenges faced. (quote10).

10."everybody working under this TB control programme should be work together to minimize the delay in the transfer of money" (KI5)

District TB officer had been doing her best in supervising all aspects of the program including PFMS, initiating meetings, verifying reports, solving problems and

intercommunicating with NHM, State TB officers and NGO's. According to the interviewees, Intersectoral commitment is good in their centre. The higher authority is doing her maximum to solve the Bank related issues. (quote 11,12,13).

11."They can open a zero-balance account using PM's Jan Dhan Yojana Scheme. Central Govt informed all the banks about the TB patient's zero balance account. If the patient will face any problem, I will contact the Bank and gave them a confirmation letter" (KI1)

12. "The next one is some of the patients have cooperative bank accounts, that the bank doesn't have an online transaction, then we have to tell the patient to make another account." (KI1)

13. "I 've found another problem in banking, i.e. Money credited SMS notification will come only for 5000 or above money deposit in most of the banks" (KI5)

Also, there is a good relation with finance department for the release of funds. (quote14).

14."*The funding will be obtained directly by the state. Fund shortage is another issue" (KI5).*

National health mission and Non-governmental organisations evaluate the scheme in regular manner. (quote 15,16)

15."They will release the fund to NHM. State TB cell and NHM are the main in charge of this scheme in a state" (KI1)

16."External evaluation is done by NHM and some other NGOs." (KI2)

4.3.1.3 Tools and Technology

Nikshay software

Data entry and notification of all TB patients was being done on the Nikshay software. Then bank account details and Aadhaar numbers of beneficiaries were seeded on the portal. Later mapping of PFMS agency code and Verification of Mobile numbers of all Nikshay users was done. The interviewees faced challenges like software is slow and errors during transactions. Some of the issues were resolved but they hoped for some software updates also. (quotes17, 18,19)

17."The first thing is Nikshay software is always slow. So always it will take a long time to complete the data entry." (KI3)

18."Actually, we need corrections in Nikshay software. Every year its version is changing, so it is very difficult for us to study things" (KI5)

19. "The software has to be up updated" (KI6)

PFMS is a very easy online transaction system according to 3 respondents. For that the documentation should be proper. (quote 20).

20. "this PFMS cash transfer is an easy process. If all the documents are pakka (exact), cash transfer through PFMS is very easy" (KI1)

One of the major challenges of PFMS was absence of all the bank details.

4.3.1.4 Tasks

Each health providers have tasks specific to Nikshay Poshan Yojana. District TB officer supervise all the aspects of programme including PFMS, initiate meetings, verify reports, problem solving, intercommunicating with NHM, State TB officers and NGO's. This commitment or dedication of the staff to the programme is a facilitator (quote28). But two

interviewed staff told about workload. Data entry was perceived as extra workload for the Lab staff in addition to their routine works. (quote 22).

22."For us, Nikshay entry will be a task, because we have lots of work in the lab. So better to appoint a Staff for this Nikshay related works, monitoring of the scheme will be a part of it. Also, there is no incentive for us to do this extra work" (KI4)

Staff has to rectify some documentation errors. For mismatch rectification, collecting the consent forms from the patient is a task for them (quote 23)

23."Another problem is the collection of consent forms from the patients who have no bank account. Last five-six months I am fed up with this thing. Because of this delay in getting consent forms, cash transfer also getting delayed (KI3)

Sometimes the patient will give incorrect address and finding them is very difficult. This is a barrier for the health system/ provider (quote27).

27. "*Sometimes the patient will not give the correct address or phone number. Then for further follow-up, we have to face so many difficulties to find them" (KI5)*

4.3.1.5 Environment

This is a properly functioning District Tuberculosis Centre with adequate staff. There was excellent working environment because of proper monitoring and supervision. A healthy patient staff relation is also found from the interviews. The hospitals have posters and signs to increase the knowledge about the scheme and the programme. Moreover, they are conducting screening and awareness classes to the public to increase the reachability of the programme (quote 30).

30.“we are giving IEC classes to the patients, in that also we are mentioning the pension schemes” (KI5)

4.3.2 Processes

The processes involved in implementation of this schemes are Registration, Information flow, Documentation, Making the payment, Verification, Cash transfer and Evaluation.

Examples for the representative quotations:

24.“*I will sanction the payment and further move the bill to DTO and DPM for approval again. After getting the sanction, the bill is directed to the bank.” (KI2)*

25.“Then I will check the entries. We will make a batch of 50 /100 patients according to the date of notification... If there are any mismatches seen, I will select those names and send them to STS for correction” (KI6)

4.3.3. Outcomes

Outcomes were categorized under employee or organizational outcomes and beneficiary outcomes. Overburden, time consumption, delay in work and unsatisfied job comes under organizational outcomes. Lag in first receipt comes under beneficiary outcome.

4.4 Implementation facilitators and barriers

The barriers and facilitators of the programme have been described based on EPOC taxonomy, ITAX taxonomy (Schulz et al., 2010) and Theory-based taxonomy recommended by Leeman J et al (2007).

4.4.1 Financial benefit transfer – Perspectives from programme staff

Role expansion:

Most staff in the programme accepted their expanded role in the implementation of NPY optimistically - STS has lots of work, but accepts the new tasks, rectifying the mismatches (collection of consent forms). Expanded DEO role is verification of batch list thoroughly.

- Barrier: Lab staff are not motivated enough and apprehensive about increased work load regarding their role expansion
- Facilitator: District TB Officer is encouraging the other staff for doing their tasks at highest level.

Communication between providers

- Facilitator: Good communication through meetings among programme staff as well as meetings with other stakeholders like field staff in PHCs.

Increase coordination to manage interdependence

There is a lot of interdependence in the NPY process. Interdependence exists within various programme staff for running the NPY process. Interdependence also exists between the DTC, NHM and staff under the DMO. For some specific tasks issues, there are linkages with the District Administration and other sectors like Banking. District level programme is coordinated by DTO. DTO will find out solutions for departmental problems like clarification of matters, DBT scheme discussion and problems of field visits.

- Facilitator: Good team work. Things functions well because of a good team. Without an efficient team, there is no mechanism for the interdependent actions to continue unhindered.

- Barrier: The DTO seeks approval of the beneficiaries from DPM, NHM as a batch. Hence issues with few beneficiary details in a batch delays processing of the whole batch.

Health information systems/ Modified medical record system

Facilitators: The Nikshay portal is a web empowered patient administrative framework for TB control under the National Tuberculosis Elimination Programme (NTEP). Nikshay is utilized by health functionaries at various levels across the country both in the public and private sector, to enrol cases under their consideration, request different sorts of tests from labs the nation over, record treatment subtleties, screen treatment adherence and to transfer cases between care suppliers.

The accounting system PFMS is an easy online transaction process (Less time-consuming process). Beneficiary's Bank details (entered in **Nikshay**), are sent to Public Finance Management System (**PFMS**) for validation/ registration

- Facilitators – Web based software permits health functionaries at different levels to fulfil their data related responsibilities in time.
- Barriers: Nikshay software changes (version changes) affect the whole programme. Sometimes the software is slow.

Policies to reduce corruption

Corruption is less likely in the NPY. This direct benefit Transfer is intended to reduce corruptions because money is directly transferred to beneficiaries account.

- Facilitator: A computerized audit trail is available for verifying all transactions from registration to transfer of money.
- Barrier: The procedures lead to delayed realization of benefits meant for nutritional supplementation.

Ownership

NPY has a dual Programme ownership. This is a centrally sponsored scheme under National Health Mission (NHM). In the studied district, the stakeholders work efficiently and that facilitates the NPY. In a district, the programme will suffer if the coordination is not optimal.

Facilitator: The dual ownership facilitates consensus for issues – as seen in the next point.

Local consensus processes

This is a requirement for NPY implementation. For example, there was a destitute home (poor home) here and the needy patients there did not have a bank account or even identity proof. Therefore, for them as per the special order of the Collector, the money is transferred in the name of the Superintendent.

Facilitator: As seen above, some such processes facilitate implementation of NPY.

Managerial supervision / Workgroup oversight

- Facilitator: Health staff has field visits as duty. TB health visitors and STS has field visits. Patient – staff relation is healthy here. DTO, STS, TBHV are doing routine supervision visits.

Reminders

- Barriers: The system does not have electronic reminders to Programme staff for mismatch/ duplication etc.

Routine patient-reported outcome measures

- Barrier: Patient reported outcome is restricted to the PFMS details of the transaction. Actual receipt and utilization by patients are not documented.

Scripting

The lack of scripted procedure is with respect to verification of receipt from the patient side. According to one interviewee, "*it is difficult to follow up on the patient's cash transaction details to them, because money credited SMS is not coming to the phone. Also, it is very difficult to convince patients about pensions*". Passbook verification is the proof for money transfer at the patient side. Otherwise, most procedures are well scripted. An example is given below how a scripted procedure helps the programme.

- Facilitator: For patients without bank account, they can open a zero-balance account using PM's Jan Dhan Yojana Scheme. Central Govt have informed all the banks about the TB patient's zero balance account. If the patient faces any problem, DTO can contact the bank and will give them a confirmation letter.

Adaptability

Some modifications are possible, but they require the permission of the District Administration (Collector/ District Magistrate) as in the case of the Destitute home. Otherwise the procedure is rigid.

- Barrier: PFMS linkage to bank account for NPY is practically a one-time activity for each beneficiary – if account details change, there can be some issues.

4.4.2 Financial benefit transfer – Perspectives from patients

Conditional cash transfers

- Barrier: One of the major barriers was unavailability of a valid identity proof for opening bank account for patients especially homeless. Some patients had co-operative bank account. Online fund transfer is not possible with these. For some

patients their bank accounts were not working, therefore transfer was not possible or mismatches between account holder's name and the beneficiary's name.

- Barrier: Numerous patients felt that the sum given under this scheme was deficient to address their issues. The providers also stated the same, who felt that the advantage ought to be multiplied

Patients' rights

- Facilitator: Most patients reported that they were aware of Nikshay poshan yojana and its purpose. (See table 4.4 below) Also, Programme personnel were aware of the scheme very well. They are trying maximum to help the patients in every way. The patients and health staffs are in good relation. For instance, one interviewee who was a senior treatment supervisor said "*We are giving details about this scheme and the Kerala govt pension scheme. If the patients are not getting money on time, they are calling us continuously. "What about my pension? When it will come to the account? Like that, so many questions are coming to us. I will give some answers to them…wait for some days …like that*"
- Barrier: Delayed realization of benefit. Also, patients were not receiving any message from bank or Nikshay about the benefit transfer.

4.5 Impact on nutritional aspect

4.5.1 Self-reported dietary modification post TB diagnosis

Patients were asked whether they have bought any food which they considered as nutritious during TB treatment. In this sample of 250 patients, 129 participants (51.6 percent, 95 percent CI 45.3-57.9) added nutritious food in their diet during Tuberculosis treatment. Most of them added more milk, egg and fruits in their food while some of them added nuts, meat and pulses in their diet as extra food. But only 37 percent of the participants reported

having received monetary benefit used it for nutrition. This may be because in many of the cases, the monetary fund was received only after the completion of their treatment.

4.5.2 Bivariate analysis of self-reported dietary modification

Table 4.3 and Table 4.4 show the results of bivariate analysis with self-reported dietary modification as the outcome.

The variable Living alone is very significant but excluded as there are insufficient numbers for analysis. Ten participants are living as single; nobody is taking extra nutritious food in their diet. Other variables like educational status, occupation, socioeconomic status, and caste which are sound to be significantly related to self-reported dietary modification in the univariate analysis are considered in the multivariate analysis.

Classical TB symptoms are cough, fever, weight loss and blood in sputum. Most common co-morbidities of the TB patients are coronary heart disease, cancer, hypertension, low back ache, cholesterol, skin disease. Of the 127 ever-smokers 88 (69.3 percent) participants reported they stopped smoking after the diagnosis of Tuberculosis.

Table 4.2 Demographic characteristics

Variable	Categories	N	Added nutritious food	p value
Age group (in years)	Up to 39	73	52 (71.2%)	<0.001
	40-59	96	38 (39.6%)	
	60 and above	81	39 (48.1%)	
Sex of the subject	Male	176	83 (47.2%)	0.03
	Female	74	46 (62.2%)	
Place of Residence	Rural	201	106 (52.7%)	.525
	Urban	49	23 (46.9%)	
Living alone	No	240	129 (53.8%)	0.001
	Yes	10	0 (0.0%)	
Educational level	Up to high school	177	73 (41.2%)	<0.001
	Higher secondary and above	73	56 (76.7%)	
Occupational category	Others	186	82 (44.1%)	<0.001
	Salaried employment/ Student	64	47 (73.4%)	

Patient is breadwinner	No	119	74 (63.2%)	0.001
	Yes	131	55 (42.0%)	
Socioeconomic status	Poorest of the poor	23	3 (13.0%)	<0.001
	Others	131	126 (55.5%)	
Caste	General	96	63 (65.6%)	<0.001
	OBC	103	51 (49.5%)	
	SC/ST	51	15 (29.4%)	

N- Total number, OBC- other backward class, SC- Scheduled caste, ST- Scheduled Tribe

Table 4.3 Personal habits, clinical, health seeking related variables

Variable	**Categories**	**N**	**Added nutritious food**	**p value**
Smoking status	Never smoker	122	79 (64.8%)	<0.001
	Past smoker	104	46 (44.2%)	
	Current smoker	24	4 (16.7%)	
Habitual consumption of alcohol	No	131	86 (65.6%)	<0.001
	Yes	119	43 (36.1%)	
Initial presenting symptoms	Others	59	30 (50.8%)	0.895
	Classical TB symptoms	191	99 (51.8%)	
Type of TB	Pulmonary	184	93 (50.5%)	0.577
	Extra-pulmonary	66	36 (54.5%)	
Diabetic status	Not diabetic	191	102 (53.4%)	0.305
	Diabetic	59	27 (45.8%)	
Other comorbidities	No	219	114 (52.1%)	0.702
	Yes	31	15 (48.4%)	
State Insurance Scheme Coverage	Yes	220	113 (51.4%)	0.840
	No	30	16 (53.3%)	
Initial health facility visited	Government primary	77	36 (46.8%)	0.763
	Private primary/ AYUSH	12	7 (58.3%)	
	Government higher level	92	49 (53.3%)	
	Private – higher level	69	37 (53.6%)	

N – Total number, AYUSH- Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy

Potential Mediators

In the study we identified that household food insufficiency, lag in diagnosis as potential mediators by comparing logistic regression models. In the annexure I supplementary table 4.2 to 4.5 shows the factors associated with these potential mediators.

Table 4.4 Potential mediators and NPY programme related variables

Variable	Categories	N	Added nutritious food	p value
Household food insufficiency	No food insufficiency	164	109 (68.5)	<0.001
	Any form of food insufficiency	85	20 (23.3)	
Time from first visit to diagnosis	Up to median (17.25 days)	188	100 (53.2)	0.381
	Above median	62	29 (46.8)	
Received monetary benefits	Yes (Completely/Partially)	176	103 (58.5%)	0.001
	No	74	26 (35.1%)	
Reported purpose of the amount	For buying nutritious food	216	120 (55.6%)	0.004
	Don't know	32	9 (28.1%)	
Main information provider (on NPY)	ASHA/TBHV	97	38 (39.2%)	0.002
	Doctor/ STS/ Other health staff	153	91 (59.5%)	

N- Total number, ASHA- Accredited Social Health Activist, TBHV- tuberculosis Health Visitor, STS- Senior Treatment Supervisor

4.5.3 Multivariate modelling – predictors of self-reported dietary modification

Age group (in years), Sex of the subject, Educational level, Occupational category, Patient is breadwinner, Socioeconomic status, Caste, Smoking status, Habitual consumption of alcohol, received monetary benefits, Reported purpose of the amount, Main information provider (on NPY). These are the variables taking forward to multivariate modelling.

Logically arranged hierarchical model building exercise was undertaken with backward conditional binary logistic regression and enter method, putting variables which showed statistical significance in univariate analysis to get adjusted odds ratios with 95 percent confidence intervals. First backword conditional method to adjust for socioeconomic status and gendered variables like smoking and alcohol. Then in model 2, household food insufficiency was added.

Model 1 – BACKWARD CONDITIONAL with the following variables
Age group (in years), Sex of the subject, Educational level, Occupational category, Patient is breadwinner, Socioeconomic status, Caste, Smoking status, Habitual consumption of

alcohol, Received monetary benefits, Reported purpose of the amount, Main information provider (on NPY)

Model 2 – ENTER METHOD

The variables retained in the earlier step (Sex of the subject, Educational level, Occupational category, Patient is bread winner, SES, Smoking status, alcohol status, received monetary benefit, Main information provider and household food insufficiency was added. Logistic regression was run again with Enter method

Table 4.5 Adjusted Odds Ratios (AOR) from multivariate models

		Model-1		**Model-2**	
Variable	**Categories**	**AOR (95% CI)**	**p value**	**AOR (95% CI)**	**p value**
Sex of the subject	Male	Reference	0.104	Reference	0.108
	Female	0.45 (0.17-1.18)		0.44 (0.17-1.20)	
Educational level	Up to high school	Reference	**0.010**	Reference	**0.06**
	Higher secondary and above	2.56 (1.25-5.23)		2.01 (0.96-5.69)	
Occupational category	Others	Reference	**0.004**	Reference	**0.028**
	Salaried employment/ Student	3.21 (1.45-7.09)		2.51 (1.11-5.69)	
Patient is breadwinner	No	Reference	**0.009**	Reference	**0.026**
	Yes	0.38 (0.18-0.79)		0.42 (0.20-0.90)	
Socioeconomic status	Poorest of the poor	Reference	**0.059**	Reference	0.107
	Others	3.73 (0.95-14.59)		3.20 (0.78-12.87)	
Smoking status	Never smoker	Reference		Reference	
	Past smoker	1.08 (0.35-3.31)	0.891	1.05 (0.33-3.35)	0.931
	Current smoker	0.22 (0.05-1.02)	**0.052**	0.29 (0.06-1.42)	0.126
Habitual consumption of alcohol	No	Reference	**0.062**	Reference	0.135
	Yes	0.37 (0.13-1.05)		0.44 (0.15-1.29)	
Received monetary benefits	No	Reference	**0.045**	Reference	**0.02**
	Yes (Completely/ Partially)	2.01 (1.02-3.98)		2.33 (1.14-4.77)	

		Model-1		Model-2	
Variable	**Categories**	**AOR (95% CI)**	**p value**	**AOR (95% CI)**	**p value**
Main information provider (on NPY)	ASHA/TBHA	Reference	**0.004**	Reference	**0.005**
	Doctor/ STS/ Other health staff	2.51 (1.34-4.69)		2.53 (1.33-4.84)	
Household food insufficiency	No food insufficiency	-		Reference	**<0.001**
	Any form of food insufficiency	-		0.26 (0.13-.54)	

AOR- Adjusted Odds Ratio, CI- Confidence Interval, ASHA- Accredited Social Health Activist, TBHV- tuberculosis Health Visitor, STS- Senior Treatment Supervisor

While all other odds ratios moved closer to one in model 2, the adjusted odds ratio for those who received monetary benefits moved away from one.

Table 4.6 Factors associated with household food insufficiency

Multivariate model – factors associated with household food insufficiency

Variable	**Categories**	**Crude OR (95% CI)**	**Adjusted OR (95%CI)**
Age group (in years)	Up to 39	Reference	Reference
	40-59	5.19 (2.44-11.04)	2.79 (1.11-7.00)
	60 and above	3.14 (1.43-6.90)	1.33 (0.48-3.70)
Living alone	No	Reference[@]	
	Yes	19.05 (2.37-153.06)	
Educational level	Up to high school	Reference	Reference
	Higher secondary and above	0.13 (0.06-0.30)	0.26 (0.10-0.67)
Occupational category	Others	Reference	Reference
	Salaried employment/ Student	0.17 (0.07-0.38)	0.31 (0.12-0.84)
Caste	General	Reference	Reference
	OBC	1.92 (1.02-3.61)	2.12 (1.04-4.35)
	SC/ST	4.71 (2.26-9.83)	3.09 (1.30-7.36)
Smoking status	Never smoker	Reference	Reference
	Past smoker	2.19 (1.23-3.89)	1.68 (0.87-3.21)
	Current smoker	8.15 (3.07-21.64)	6.80 (2.22-20.77)

[@] Not included for multivariate due to small sample size. OR- odds Ratio, CI Confidence Interval, OBC- other backward class, SC- Scheduled caste, ST- Scheduled Tribe

Summary:

Factors significant in model-2 were educational status, occupational status, patient is bread winner, monetary benefits received and main information provider of NPY. They were the independent predictors of dietary modification. Factors significant in model-1 are significantly associated with household food insufficiency. The effect of those variables on the outcome (dietary modification) is mediated by household food insufficiency. Adjusted Odds Ratio of occupational category is brought closer to one from model-1 (3.2) to model-2 (2.5). This means that some of the effect of occupation can be explained by the food insufficiency. But regarding the received monetary benefits it seems that effect of household food insufficiency increases the AOR from model-1 to model-2. It means when adjusted for household food insufficiency, the monetary benefits are more likely to be used for purchasing nutritious food. The relationship of monetary benefit to dietary modification was explored after stratifying for household food insufficiency. (Tables 4.7 and 4.8)

Table 4.7 Receipt of monetary benefit and nutritious food addition in households without food insufficiency

Variable	Categories	N	Added nutritious food n (%)	Odds ratio (95% CI)
Received monetary benefits	Yes (Completely/ Partially)	115	85 (73.9)	1.51 (1.11-2.05)
	No	49	24 (49.0)	Reference

Table 4.8 Receipt of monetary benefit and nutritious food addition in households with food insufficiency

Variable	Categories	N	Added nutritious food n (%)	Odds ratio (95% CI)
Received monetary benefits	Yes (Completely/ Partially)	61	18 (29.5)	3.69 (0.92-14.73)
	No	25	2 (8.0)	Reference

4.5.4 Perspectives on nutritional supplementation from the qualitative analysis

Mode of contact with participant

- At times of contact, health staff were orally instructing for nutritional change during TB treatment.

Sensitivity to participant characteristics

- During in-depth interviews programme staff mentioned patient's situation while taking treatment. "*This Nikshay poshan yojana is a nutritional assistance scheme. Means for better health, we have to make good food. In the case of Tb patients at the time of treatment, most of them are not going for work. Actually 2/3rd of patients are manual workers. We the health staff insist on them not doing heavy works. So, they need money for their food and all. So govt is providing rs.500 per month to them. We know it is not compensating for their daily wages. But as support, this pension will help them."*
- Kerala govt is giving an amount of Rs.1000/ month to BPL patients through post office. In some cases, the Medical officer can give a letter to APL patients for this pension. If the patient is facing any financial crisis or suffering with any other illness, programme staff will help them for getting Kerala govt pension scheme.

Raise Awareness of the Practice Change

- Awareness that the money is for food is good among patients. (86 percent) Programme staff also said that Programme is reaching all the patients. At the time of treatment initiation, the health workers are explaining this scheme to the patients. So, patients have knowledge about this scheme. Also, they are giving IEC classes to the patients. (**DTO, TBHV, STS**)

Persuade individuals for behaviour change

- Actually, TB medical officer, STS, TBHV all are giving a detailed session about the dietary changes to the patient. NGO's or persons offer some food kits to the TB centre. If the patient is coming from a food insecurity household, the staff will help them by providing food kit or cash. According to one interviewee (5) "*It is a nutritional assistance scheme. The scheme is available for both BPL and APL patients. We are telling T patients to take good nutritious food. So, the pension scheme exclusively for nutritious food."* This supports the patient reports that TB programme staff told them to take good food including milk, banana, green gram while taking the medicine.

4.6 Summary of the results

1. Among patients who have started the first line anti –TB drugs regime between 1 April 2018 to 30 September 2019 in Kollam District DBT coverage was as follows: full amount received – 67 (26.8 percent); part received - 107(42.8 percent); not received – 76 (30.4 percent)
2. Overall, 155 (62 percent) patients had received financial assistance from Nikshay poshan yojana and Kerala Government pension scheme. Out of 250, 20 percent respondents got both financial assistance and food supplementation.
3. Majority of the participants (81.6 percent) knew that they were qualified to get an advantage of INR 500 and the procedure involved in that.
4. About half (51.6 percent) respondents made dietary modification, but only 37 percent participants who received the beneficiary amount used it for nutrition
5. Having received monetary benefit was an independent predictor of dietary modification. The monetary benefits are more likely to be used for purchasing food

in households facing any form of food insufficiency (Odds ratio 3.69 as compared to 1.51 in households without food insufficiency)

6. Key facilitators of this scheme were inspiration from Tuberculosis officer for doing expanded roles of other staff, Good communication between providers through meetings, efficient team work and coordination, web based software, computerized audit trial (for verification of all transactions), dual ownership enables the local consensus process (such processes facilitate the NPY), healthy patient-staff relation, well scripted procedures for implementation, health staff and patients have better knowledge about the scheme and its purpose
7. Main barriers are related to documentation errors and their rectification – these result in delays in payment. Other barriers are unlikely to cause substantial delay.
8. Health system challenges reported by health providers were staff are not motivated enough and apprehensive about increased work load regarding their role expansion, management of interdependency (Non approval of beneficiaries by DPM), delayed realization of benefit because of lengthy process, Nikshay software related issues, absence of electronic reminders to Programme staff for mismatch/ duplication batch processing, lack of routine patient reported outcome measures, issues related PFMS – bank account linkage (one- time activity). Patient related challenges were unavailability of a valid identity proof for opening bank account for patients especially homeless, inadequate money to meet their needs, patients with co-operative bank account, non-working account or mismatches between account holder's name and the beneficiary's name, delayed realization of benefit (no receipt for cash transfer), absence of message from bank or Nikshay related to cash transfer.

Chapter 5

Discussion

In this study, a combination of both quantitative cross-sectional survey and qualitative in-depth interviews was embraced. Using either a quantitative or qualitative study design, would have only illustrated a part of our objectives. While the quantitative component would well describe the DBT coverage, food insufficiency in TB patients, patients' perspectives on this cash incentive- and pattern of utilization and factors related to self-reported dietary modification, it would not have explained the challenges related to implementation of Direct Benefit Transfer and possible solutions from the provider's view point. Hence a mixed method research was premeditated as the most appropriate here to get the comprehensive picture of the study in a structured manner. The implications of the study findings in terms of window of cash delivery from system, nutritional status of the TB patient and analysis of associated factors will be discussed further in this chapter.

Validity of the findings

While understanding the findings, it is also essential to understand the possible biases that possibly had influenced them. The possible biases of importance that we have anticipated in this study are selection bias of district and participants and measurement bias (observation bias) in self-reported dietary modification.

The study required support and permission from State TB division department of Kerala and then the programme officials at District and lower levels. Selecting Kollam district and implementing the study was acceptable and easy. A district with a well-running programme and good stewardship is likely to process external requests and facilitate smooth conduct of the study. A random district selection might have selected districts without this bias.

However, it was beyond the scope of the study to go for random selection of districts. Only patients enrolled in the Nikshay portal were considered for this study. This raises possibility of a selection bias as the study sample represents the patients registered in the Nikshay portal alone. Definitely the study cannot be extrapolated to TB patients who do not get notified. Fixing the objective of Nikshay Poshan Yojana coverage automatically excludes these patients. However, it is possible some such patients may be migrants or extremely poor and may have serious food insufficiency. These two biases however are unlikely to affect the study result much as among the districts in Kerala. Kollam is one of the districts with the highest reported number of TB patients (Rao M, 2018). As per the programme staff, monetary benefit transfer through Public Finance Management System is being followed by Kollam District only. Kerala is a state with strong efforts for complete notification of TB and the people who get left out will be a small minority. Now since surveillance of TB is good in Kerala and with clear cooperation of private sector hospitals, the Nikshay portal is the most comprehensive data set available to study about TB elimination measures of Kerala. Compliance to treatment protocol of TB is very high in Kollam. Almost every TB control activity in the state are pursued well here as per senior program officials. Hence this district is best suited for the study – an overall strong programme is needed to study the challenges raised by a new component.

If the study was done in another Indian district or state, or a place with slum a lot of population or tribal population or other marginalised societies the findings would have given a different picture altogether. The axes of vulnerability will vary and programme functioning also will be different. Poverty and hunger in marginalised in Kerala is very less due to various social protection schemes compared to other parts of the country. Kerala is a better performing state in the National TB control program. The health system is more robust in general. Additionally, high education rate in Kerala may help the patients

negotiate their care and benefits better. In the study sample, tribal and slum dwellers were too little. In Kollam district, health workers were actively screening vulnerable groups once in a month. So, miss outs is likely to be less.

The programme staff initiated the meetings with patients. The selection could have been biased in that programme staff would suggest people who are more compliant than not. The interviews were carried out assuring the secrecy of data to participants. However, this is unlikely as the coverage from the shortlisted patients was very high. Some of the addresses were incorrect and phone numbers were missing. A few of the participants were from remote areas and programme staff contacted them and interviews had to be arranged in the nearby PHC. Such issues are expected in the field situation. An orchestrated list is unlikely to cause such real problems.

Social desirability and fear of people that benefits may be withdrawn or even poor quality of treatment in future are likely to be common among participants in program evaluation survey. The investigator took help from programme staff mainly for setting up meeting with patients. In this study self-reported dietary modification could have been biased. The actual proportion of patients having modified the diet could have been less. But even after adjusting for strong associated factors like household food insufficiency the Adjusted Odds Ratio of having purchasing food remained significant. Considering the logical consistency of associations across socio-demographic variables it can be assumed the observed relationship between household food insufficiency and dietary modification is actually possible.

Implications of the findings

Only 37 percent of the participants reported having received monetary benefit used it for nutrition. This may be because in many of the cases, the monetary fund was received only after the completion of their treatment. Still, in this study we can see that the monetary

benefit and dietary modification are interconnected. Results shows those who received monetary benefits are more likely to report purchasing nutritious food. In Nikshay poshan Yojana, the cash incentive is mainly for dietary modification with nutritious food (Kumar et al., 2020). This is the key feature of this scheme.

Majority of patients affected with TB were manual labourers. The disease has an impact on the whole family especially when the breadwinner is affected. Patient hailing from a household facing any form of food insufficiency, is undeniably struggling to move their day today activities. In this study half of the participants were took some kind of dietary modification in their food during TB treatment time.

Medicines are free for all the patients. But other expenditures, related to travel and dietary changes is huge for them. So, this monetary benefit always helps the patient in one way or another. One of the key informants stated the amount Rupees 500 is probably too less to address their requirements. But it would definitely be an assistance to all the needy patients. In this study socioeconomic variables like education, occupation, patient is bread winner were associated with self-reported dietary modification mediated by food insufficiency. Whole study shows a pattern of the poorest poor households facing some form of food insufficiency, longer lag in diagnosis and are less likely to report modification in their diet during TB treatment.

India has other DBT programs like LPG subsidy, pension payments etc. Most of the subsidies are intended for citizens living below poverty line (Joy, 2018). But Niksahy Poshan Yojana is for both APL and BPL patients. Many nutritional supports for TB patients generally do not distinguish the rich patient from the poor patient. A study from Afghanistan reported provision of the same rations/benefit irrespective of socio-economic status (Pedrazzoli et al., 2016). But countries like Afghanistan have higher poverty levels than India. India can consider more affirmative action in the scheme, with more benefits

for the poorest. However, the Kerala Government scheme can be considered as a top-up on the NPY that achieves this end.

Malnutrition and Tuberculosis

In this study we found that 34.4 percent households were facing some form of food insufficiency. Several studies shows Tuberculosis (TB) and poverty have a symbiotic relation, Impoverishment worsens the disease and TB lead to further impoverishment (Padmapriyadarsini et al., 2016). Evidence suggest pharmacological treatment of TB should be accompanied by nutritional support. An auxiliary assistance is required for the subgroups instead of 'equal for all' food or cash assistance benefits according to a study by Reshma Ayiraveetil et al on Tuberculosis and household food insecurity. Determining such target groups may not be a simple effort as income is not reported most often (Ayiraveetil et al., 2020). Our study also found that food insufficiency is a potential mediator for the outcome.

The 'End TB Strategy' launched by The World Health Organization in line with United Nations health-related Sustainable Development Goal 3 (Good health and well-being) aiming to end the TB epidemic by the year 2035. India has also enforced its support by reducing the timeline to 2025 (WHO, 2014). In 2013, guidelines for nutritional care and support of patients with TB has been established by World health Organization. This provides an assessment of the nutritional status, counselling, and support as vital measures in the management of TB (WHO, 2014).

A study performed with the aid of Yogesh Jain et.al and Bhargava et.al concluded that dietary support should be considered for severely underweight patients with pulmonary TB to lower their chance of mortality. Malnutrition is an extremely prevalent co-morbidity associated with higher risk of death in TB patients. So, health providers should give more emphasis to nutritional improvement (Bhargava et al., 2013) . Another study stated the gaps

in nutritional evaluation at the level of provider which includes a lack of awareness in BMI calculation and interpretation by the primary care staff in the field. To deal with the difficulties in dietary evaluation, TB program added a cellular (mobile)-based app called N-TB app for BMI calculation, knowledge on balanced diet etc (Bhargava et al., 2019). While comparing those findings with our observation, we discovered that providers were not calculating the BMI of the patients for nutritional assessment instead they are using weight as the measure of dietary status. In addition to that there is no option for BMI calculation within the TB card. Generally, height of the patient is not taken in the routine check-up. Results indicate that majority of patients had not used the financial assistance for nutritional purpose. Hence proper nutritional evaluation, counselling and appropriate care is need of the hour.

Direct Benefit Transfer

In our study, we found that 26.8 percent participants received full payment and 42.8 percent participants received at least one payment. Health system challenges reported by health providers were lack of proper motivation of the staff and apprehension about increased work load regarding their role expansion, management of interdependency (Non approval of beneficiaries by DPM), delayed realization of benefit because of lengthy process, Nikshay software related issues, absence of electronic reminders to Programme staff for mismatch/ duplication batch processing, lack of routine patient reported outcome measures and issues related PFMS – bank account linkage (one- time activity). Patient related challenges were unavailability of a valid identity proof for opening bank account for patients especially homeless, inadequate money to meet their needs, accounts without online transaction (co-operative bank), non-active account or mismatches account holder's name and the beneficiary's name, delayed realization of benefit (no receipt for cash transfer) and lack of message from bank or Nikshay related to cash transfer

Similar studies were done at Dakshina Kannada District (Karnataka), Vadodara city (Gujarat), and Delhi. The Karnataka study by A S Nirgude Et al found that, of 417 patients, 208 (49.9 percent) received approvals for instalment by PFMS and 119 (28.7 percent) got paid by date. Non availability of financial balances for transient workers, refusal to fiscal advantage by rich people, lack of awareness about the scheme, discernment that related barriers advantage was too little to even consider covering their day by day compensation were the explanations behind not receiving the DBT. Health system delays were related to the difficulty of processes and documentation which was put-upon the staff, bulk processing and issues related to technology used (Nirgude et al., 2019).

The results from Gujarat study by B H Patel et.al was 771 (42.2 percent) patients had received at least one instalment of Direct Benefit Transfer, 578 (75.0 percent) of whom received all instalments (Patel et al., 2019). Another study by Rajesh Kumar et. al found that out of 119 patients enlisted under RNTCP program, Delhi, 57 (47.9 percent) patients were interviewed. Of which, 30 (52.6 percent) had received advantage for two months in the fourth and fifth month of treatment. The health providers stated increased activities, absence of training and multifaceted nature of reporting data as principle hindrances in execution of the plan. The patients detailed non-openness of bank accounts and unlinked bank account with Aadhar card as difficulties to receive NPY through DBT (Kumar et al., 2020).

Comparing our study with other studies related to Nikshay Poshan Yojana, the programmatic barriers for implementation of the scheme were almost same. Implementation processes are same in the studied states. So, challenges will be almost similar. When compared with these studies, our study has shown that only a small percentage of patients affected with TB utilizing the fund they received as direct benefit transfer for nutritional modification of diet. Hence along with the incentive, providing

additional food packages like wheat/millet, pulses, ground nut, milk powder, edible oil and eggs in the form of ration can be suggested for the patients. Studies shows that in Kerala, TB programme functions efficiently compared to other states. Also, from the in-depth interviews, we found that the training regarding this DBT implementation was good in Kerala. Heath workers and patient's awareness about the scheme was satisfactory. DBT coverage were almost similar in studies. The main reason for the slow progress of the scheme may be similar in all states. Food insecurity and dietary modification were analysed only in our study.

Comparison to other Benefit Transfer Schemes

A study by Rajarajan et.al discussed Janani Suraksha Yojana. In India, under this scheme the qualified pregnant ladies (underneath destitution Line) get money advantage for institutional delivery. The main aim of this scheme is to increase the institutional delivery and thereby reduce the mortality rate of new born. In a study from South India, 46 percent of eligible mothers received cash benefits, and the average time to receive the benefit was 96 days (IQR 60–120 days) (Rajarajan et al., 2016). The main challenges of this scheme was unavailability of bank accounts and Aadhar number. Also, there were lag in cash transfer. The urban mothers were more likely to receive the benefit. A qualitative study done in three states of India described various obstacles for conditional cash transfer which includes insufficient resources, substandard transport facility, bad quality of health care and approach of health providers (Gupta et al., 2018).

NPY in the larger context of nutritional support programmes for TB patients

A study done at Singapore related to grocery voucher incentive scheme for poor tuberculosis patients reported higher treatment completion rate. In this DOT and shop scheme, grocery vouchers were distributed to TB patients, who have been adherent to the

directly observed therapy. It is a scheme sponsored by a local non - governmental organization. Most of the patients reported that the voucher scheme was beneficial to them (Chua et al., 2015). This model may work in Kerala too as there is a good Public Distribution System. Malpractice will be less since vouchers are given directly to patient's hand during each visit to the clinic.

In Tamilnadu, they are providing free breakfast to TB patients. TB patients with farmer card receive Rupees 1000, *Uzhavar Pathukapu Thittam* (Farmer's benefit scheme) per month additionally during the treatment time. Some of the NGO's offer food supplements to TB patients with low socioeconomic status. This resulted in improved treatment adherence. During 2010-2011 Kasaragod TB centre had distributed 101 food supplementation kits to 101 TB patients, who were coming from food insecure households (Padmapriyadarsini et al., 2016).

Brihanmumbai Municipal Corporation (BMC), Mumbai, gave calorie-rich nourishment, as *Upma* to all multi drug resistant and extensively drug resistant (MDR and XDR) TB patients which received a satisfactory reaction however a couple of patients had expressed some sort of dislike to the provided food. So, they are planning to provide food supplementation either as prepared food or extra month to month rations for TB patients (Padmapriyadarsini et al., 2016).

States are implementing several initiatives for TB control. The main aim of all these schemes is to improve the adherence to treatment. Kerala Government pension scheme is an example. We found that Kollam district utilize this scheme to the most. Studies from different states assert the effect of food supplementation in TB patients. Our study reported that the utilization of monetary funds to nutrition was less. One of our suggestions to the State is to provide food kits or cooked food to the poorest of poor TB patients which may result in positive treatment outcomes.

Direct Benefit Transfer is a TB specific scheme, that is the cash transfer may provide money to pay their TB related cost with confirmed TB diagnosis (Rudgard et al., 2017).

If we adopt TB sensitive cash transfer scheme to Kollam district, it explains providing cash incentive to increase the annual income of all poor households with high TB risk. It has extensive effects on persons, health promotion, disease prevention, and poverty reduction. Also, system has to find out high TB risk population, it is a hurdle. Rise the annual income of all poor households who has high risk of TB, requires more financial budget. At present the State has fund shortage.

But in the present situation in Kollam, with more TB cases need immediate reduction of TB cases. So, TB specific schemes are better to bring patients in to the program. By this approach we can modify the current schemes for better results. But in this approach all patients are receiving same amount of monetary fund, this will be a disadvantage.

General food security schemes

Mid-day meal program, ICDS nutritional programs, Public Distribution System, Tribal nutrition program, community kitchens are some of the food security schemes in Kerala (Sreedevi, 2015).

The food security schemes were devised and programmed to battle the rising problem of food insecurity in the country and also in the process to reduce the extent of poverty. It also encompassed various components of food insecurity as propounded at the World Food Summit in 1996 which included—food availability, food access, food utilization and food stability. These helped create programs that are specific, targeted and helped the vulnerable people in the country. The Integrated child development scheme and the Mid-day meal scheme were initiatives directed especially for children and school going students. These were huge steps taken by a country like India to help the children. Apart from providing nutritious food to the children, this also reduced the burden on the family and helped

promote education thus increasing literacy rates. Besides this, nutritional support for pregnant women, children, destitute persons and homeless person are also provided by the Govt. For pregnant women will also receive maternity benefit of Rupees.6000 (Kasim & Kumar, 2018).

The Public Distribution System is considered one of the poverty relief programmes which provide food to the vulnerable population in urban as well as rural areas. These outlets provide food at subsidized rates to the poor and to certain target populations thereby reducing their economic burden and relieving them of a huge tension in their lives. The mental distress and insecurity that arises out of not being able to eat or have to worry about the next meal are thus alleviated by such programs (Kasim & Kumar, 2018)

Community kitchens are the State Government's new initiative for cooking and distributing food to Covid-19 home quarantine and needy people. This is yet another specific and innovative program from the government that has been helpful (Raghunath A, 2020.).

Thus, India has several programmes trying to achieve food security and Kerala has implemented these and similar programmes very well.

Summing up

Tuberculosis is mainly related to undernutrition. Along with medication, the patient has to take good nutritional food. To achieve the TB elimination goal, the state can adopt these models for TB patients. Or even districts can start any of these models to find out the effectiveness. At national level NPY is the best option, but states with good social infrastructure can think of other options. There have been many studies deciding the advantages of money interventions on results among TB patients universally. A deliberate survey joining this proof derived that cash interventions in low-and middle- income nations contributed in positive clinical results among TB patients (Boccia et al., 2016). A variety of cash interventions in terms of direct bank transfer of cash, cash in hands and non-cash

in the form of food vouchers were provided. However direct cash transfer into TB patient accounts was substantiated as the best method to attain the desired outcome by authors from a study in Peru which reported poor acceptability and availability for food vouchers (Wingfield et al., 2015).

In Kerala earlier health providers were providing food kits to the poorest patients. Some NGO's or persons have offered this food supplements. But now cash pension schemes from the Central Government and State Government are the options. So, the distribution of food kits has reduced. A main issue with food kits is that it will get spoiled if not distributed in time. This is the disadvantage of food supplementation. Food vouchers are another way to reach the money to needy patients. But one can expect malpractice by this type of pension scheme. Sometimes it will not reach the hand of the beneficiary. Money through the bank or directly to hand seems to be a better option. Here in Kerala, the state is providing Rupees 1000/ to the BPL patients and APL patients with poverty through the post office. But it has some procedures before that. The patient has to do submit necessary documents to Village Office and Taluk Office. In Kollam District, this pension reaches hands in beneficiaries on time.

Direct Benefit Transfer remains a relatively easy process with money released directly to the patient's account. Health providers may prefer the account transfer mechanism as they do not have to handle money. However, the role of public distribution system to offer more rations to the poorest TB patients or Community kitchens to serve food to the homeless, needy TB patients are also probably important.

Limitations of the study

The results have constrained generalizability past the locale, since the study was performed distinctly in one district. A question of recall bias might possibly arise although effort was made to keep down the bias by checking the records. Sample size of the study was

inadequate to study special vulnerable groups like schedules tribes. Some of the findings are based on self-reported data, so there is chance of socially desirable responses, hence it can lead to response bias. Key informants were healthcare providers only and patient perspectives were not explored.

Conclusion

This study on the coverage, perspectives and effectiveness of Direct Benefit Transfer found that over half of the study population received at least one instalment. The programme is functioning well in Kollam district, staff are generally motivated and adhering to programme guidelines. Presently, this financial benefit component of program has been operational in the past two years, however, there is often deferral in transferring the advantage to the patient's account. However, whether it is sufficient to meet the nutritional needs of most vulnerable people needs more focused research. Most of the patients interviewed were aware of the benefits of this scheme and its purpose.

The main health system barriers for the execution of Nikshay Poshan Yojana were documentation errors and their correction related administrative paper works. From the patient's perspective the main challenges were delayed realization of advantage due to non-functional bank account, mismatch between beneficiaries and account holders name, having cooperative bank accounts or pre-existing food insufficiency. The barriers appeared to disproportionately affect the neediest patients. For the smooth conduct of the program, we need to address the health system challenges and patient difficulties. It was also noted that household food insufficiency is related to dietary modification. Monetary benefit is bound to be utilised for nutritious nourishment of patients coming from food insecure households. Effective implementation of the Nikshay Poshan Yojana may require good coordination at all levels, documentation and processing systems that do not delay payments and consistent advice to patients to improve the diet quality.

References

Ayiraveetil R, Sarkar S, Chinnakali P, et al. (2020) Household food insecurity among patients with pulmonary tuberculosis and its associated factors in South India: a cross-sectional analysis. *BMJ Open* 10(2): e033798. DOI: 10.1136/bmjopen-2019-033798.

Balinda IG, Sugrue DD and Ivers LC (2019) More Than Malnutrition: A Review of the Relationship Between Food Insecurity and Tuberculosis. *Open Forum Infectious Diseases* 6(4). DOI: 10.1093/ofid/ofz102. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6441779/ [Accessed: 18 September 2019]

Barberis I, Bragazzi NL, Galluzzo L, et al. (2017) The history of tuberculosis: from the first historical records to the isolation of Koch's bacillus. *Journal of Preventive Medicine and Hygiene* 58(1): E9–E12.

Bhargava A, Chatterjee M, Jain Y, et al. (2013) Nutritional Status of Adult Patients with Pulmonary Tuberculosis in Rural Central India and Its Association with Mortality. Noymer A (ed.) *PLoS ONE* 8(10): e77979. DOI: 10.1371/journal.pone.0077979.

Bhargava A, Benedetti A, Oxlade O, et al. (2014) Undernutrition and the incidence of tuberculosis in India: National and subnational estimates of the population-attributable fraction related to undernutrition. *THE NATIONAL MEDICAL JOURNAL OF INDIA* 27(3): 6.

Boccia D, Pedrazzoli D, Wingfield T, et al. (2016) Towards cash transfer interventions for tuberculosis prevention, care and control: key operational challenges and research priorities. *BMC Infectious Diseases* 16(1): 307. DOI: 10.1186/s12879-016-1529-8.

Carayon P, Hundt AS, Karsh B, et al. (2006) Work system design for patient safety: the SEIPS model. *Quality & Safety in Health Care* 15(Suppl 1): i50–i58. DOI: 10.1136/qshc.2005.015842.

Chua AP-G, Lim LK-Y, Ng H, et al. (2015) Outcome of a grocery voucher incentive scheme for low-income tuberculosis patients on directly observed therapy in Singapore. *Singapore Medical Journal* 56(5): 274–279. DOI: 10.11622/smedj.2015054.

De Schacht C, Mutaquiha C, Faria F, et al. (2019) Barriers to access and adherence to tuberculosis services, as perceived by patients: A qualitative study in Mozambique. *PloS One* 14(7): e0219470. DOI: 10.1371/journal.pone.0219470.

Debnath PK, Chattopadhyay J, Mitra A, et al. (2012) Adjunct therapy of Ayurvedic medicine with anti -drugs on the therapeutic management of pulmonary tuberculosis. *Journal of Ayurveda and Integrative Medicine* 3(3): 141–149. DOI: 10.4103/0975-9476.100180.

Dye C (2006) Global epidemiology of tuberculosis. *The Lancet* 367(9514): 938–940. DOI: 10.1016/S0140-6736(06)68384-0.

Getahun B, Zethu Z (2017) Satisfaction of patients with directly observed treatment strategy in Addis Ababa, Ethiopia: A mixed-methods study. DOI: http://dx.doi.org/10.1371/journal.pone.0171209. Available at: https://www.researchgate.net/publication/313540143_Satisfaction_of_patients_with_directly_observed_treatment_strategy_in_Addis_Ababa_Ethiopia_A_mixed-methods_study [Accessed: 6 May 2020]

George NA and McKay FH (2019) The Public Distribution System and Food Security in India. *International Journal of Environmental Research and Public Health* 16(17). DOI:10.3390/ijerph16173221. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6747310/ [Accessed: 7 May 2020].

Glaziou P, Falzon D, Floyd K, et al. (2013) Global Epidemiology of Tuberculosis. *Seminars in Respiratory and Critical Care Medicine* 34(1): 3–16. DOI: 10.1055/s-0032-1333467.

Gupta A, Fledderjohann J, Reddy H, et al. (2018) Barriers and prospects of India's conditional cash transfer program to promote institutional delivery care: a qualitative analysis of the supply-side perspectives. *Bmc Health Services Research* 18: 40. DOI: 10.1186/s12913-018-2849-8.

Hadley C and Crooks DL (2012) Coping and the biosocial consequences of food insecurity in the 21st century. *American Journal of Physical Anthropology* 149(S55): 72–94. DOI: 10.1002/ajpa.22161.

Hargreaves JR, Boccia D, Evans CA, et al. (2011) The Social Determinants of Tuberculosis: From Evidence to Action. *American Journal of Public Health* 101(4): 654–662. DOI: 10.2105/AJPH.2010.199505.

Houben RMGJ and Dodd PJ (2016) The Global Burden of Latent Tuberculosis Infection: A Re-estimation Using Mathematical Modelling. *PLOS Medicine* 13(10): e1002152. DOI: 10.1371/journal.pmed.1002152.

Jain A and Dixit P (2008) Multidrug resistant to extensively drug resistant tuberculosis: What is next? *Journal of Biosciences* 33(4): 605–616. DOI: 10.1007/s12038-008-0078-8.

Jones G (2001) *'Captain of All These Men of Death': The History of Tuberculosis in Nineteenth and Twentieth Century Ireland*. Rodopi.

Joy J (2018) A critical analysis of direct benefit transfer in India. *Indian Journal of Economics and Development* 6: 7.

Kanabus, Annabel "Information about Tuberculosis", GHE, (2020). RNTCP | Government TB Treatment Education & Care NSP 2012 - 2017. Available at: https://www.tbfacts.org/rntcp/ (accessed 29 July 2019a).

Kanabus, Annabel "Information about Tuberculosis", GHE, (2018) National, treatment outcome & state statistics. Available at: https://www.tbfacts.org/tb-statistics-india/ (accessed 5 August 2019b).

Kasim CM and Kumar SH (2018) Public Distribution System (PDS) and Food Security: A Brief Survey of Literature. *Indian Journal of Economics and Development* 6(7). 7: 1-7–7.

Kumar R, Khayyam KU, Singla N, et al. (2020) Nikshay Poshan Yojana (NPY) for tuberculosis patients: Early implementation challenges in Delhi, India. *Indian Journal of Tuberculosis*. DOI: 10.1016/j.ijtb.2020.02.006. Available at: http://www.sciencedirect.com/science/article/pii/S0019570720300317 [Accessed: 6 May 2020].

Mazumdar S, Satyanarayana S and Pai M (2019) Self-reported tuberculosis in India: evidence from NFHS-4. *BMJ Global Health* 4(3): e001371. DOI: 10.1136/bmjgh-2018-001371.

Ng M, Misra A, Diwan V, et al. (2014) An assessment of the impact of the JSY cash transfer program on maternal mortality reduction in Madhya Pradesh, India. *Global Health Action* 7. DOI:10.3402/gha.v7.24939. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4256523/ [Accessed: 5 August 2019]

Nirgude AS, Kumar AMV, Collins T, et al. (2019) 'I am on treatment since 5 months but I have not received any money': coverage, delays and implementation challenges of 'Direct Benefit Transfer' for tuberculosis patients – a mixed-methods study from South India. *Global Health Action* 12(1): 1633725. DOI: 10.1080/16549716.2019.1633725.

Overview of Direct Benefit Transfer — Vikaspedia. [2013]. Available at: http://vikaspedia.in/social-welfare/direct-benefit-transfer/overview-of-direct-benefit-transfer [Accessed: 5 August 2019].

Press Information Bureau. Government of India. Nutritional Support to Tb Patients (2019.). Available at: http://pib.nic.in/newsite/PrintRelease.aspx?relid=187178 (accessed 5 August 2019).

Padmapriyadarsini C, Shobana M, Lakshmi M, et al. (2016) Undernutrition & tuberculosis in India: Situation analysis & the way forward. *Indian Journal of Medical Research* 144(1): 11. DOI: 10.4103/0971-5916.193278.

Patel BH, Jeyashree K, Chinnakali P, et al. (2019) Cash transfer scheme for people with tuberculosis treated by the National TB Programme in Western India: a mixed methods study. *BMJ Open* 9(12): e033158. DOI: 10.1136/bmjopen-2019-033158.

Pedrazzoli D, Houben RM, Grede N, et al. (2016) Food assistance to tuberculosis patients: lessons from Afghanistan. *Public Health Action* 6(2): 147–153. DOI: 10.5588/pha.15.0076.

Purty AJ (2018) Detect-Treat-Prevent-Build: Strategy for TB Elimination in India by 2025. *Indian Journal of Community Medicine: Official Publication of Indian Association of Preventive & Social Medicine* 43(1): 1–4. DOI: 10.4103/ijcm.IJCM_321_17.

Raghunath A (2020) COVID-19: Kerala starts delivering free food at doorsteps by setting up community kitchens | Deccan Herald (2020.). Available at:

https://www.deccanherald.com/national/south/covid-19-kerala-starts-delivering-free-food-at-doorsteps-by-setting-up-community-kitchens-818421.html (accessed 7 May 2020).

Rajarajan K, Kumar SG and Kar SS (2016) Proportion of beneficiaries and factors affecting Janani Suraksha Yojana direct cash transfer scheme in Puducherry, India. *Journal of Family Medicine and Primary Care* 5(4): 817–821. DOI: 10.4103/2249-4863.201146.

Rao M, (2018) How Kerala Is Fighting TB, And Winning | (2018.) IndiaSpend. [Online]. Available at: https://www.indiaspend.com/how-kerala-is-fighting-tb-and-winning/ (accessed 17 May 2020).

Revised National Tuberculosis Control Programme | National Health Portal Of India (2015). Available at: https://www.nhp.gov.in/revised-national-tuberculosis-control-programme_pg (accessed 29 July 2019).

Rudgard WE, Evans CA, Sweeney S, et al. (2017) Comparison of two cash transfer strategies to prevent catastrophic costs for poor tuberculosis-affected households in low- and middle-income countries: An economic modelling study. *PLOS Medicine* 14(11). Public Library of Science: e1002418. DOI: 10.1371/journal.pmed.1002418.

Sabherwal R, Sharma D and Trivedi N (2019) Using direct benefit transfers to transfer benefits to women: a perspective from India. *Development in Practice* 29(8). Routledge: 1001–1013. DOI: 10.1080/09614524.2019.1653264.

Sandhu GK (2011) Tuberculosis: Current Situation, Challenges and Overview of its Control Programs in India. *Journal of Global Infectious Diseases* 3(2): 143–150. DOI: 10.4103/0974-777X.81691.

Sato H (2004) SOCIAL SECURITY AND WELL-BEING IN A LOW-INCOME ECONOMY: AN APPRAISAL OF THE KERALA EXPERIENCE. *The Developing Economies* 42(2): 288–304. DOI: 10.1111/j.1746-1049.2004.tb01067.x.

Schulz R, Czaja SJ, McKay JR, et al. (2010) Intervention Taxonomy (ITAX): Describing Essential Features of Interventions (HMC). *American journal of health behavior* 34(6): 811–821.

Sharma SK and Mohan A (2004) Extrapulmonary tuberculosis. *The Indian journal of medical research*. DOI: 10.1007/978-981-32-9413-4_4.

Sreedevi A (2015) An overview of the development and status of national nutritional programs in India. *Journal of Medical Nutrition and Nutraceuticals* 4(1): 5. DOI: 10.4103/2278-019X.146146.

Sumra I (2017) Making the most of the first 1,000 days: Supporting child nutrition in Kerala, India. Available at: https://insight.wfp.org/making-the-most-of-the-first-1-000-days-supporting-child-nutrition-in-kerala-9fe1541a63f7 (accessed 7 May 2020).

Vijayageetha M, Kumar AM, Ramakrishnan J, et al. (2019) Tuberculosis screening among pregnant women attending a tertiary care hospital in Puducherry, South India: is it worth the effort? *Global Health Action* 12(1). DOI: 10.1080/16549716.2018.1564488. *Global Health Action* 12(1). Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6394292/ [Accessed: 5 August 2019].

WHO (2018.) WHO | Global tuberculosis report 2018. Available at: http://www.who.int/tb/publications/global_report/en/ (accessed 29 July 2019a).

WHO (2013.) WHO | The End TB Strategy. Available at: http://www.who.int/tb/strategy/end-tb/en/ (accessed 5 August 2019b).

Wingfield T, Boccia D, Tovar MA, et al. (2015) Designing and implementing a socioeconomic intervention to enhance TB control: operational evidence from the CRESIPT project in Peru. *BMC Public Health* 15(1): 810. DOI: 10.1186/s12889-015-2128-0.

Wingfield T, Tovar MA, Huff D, et al. (2017) A randomized controlled study of socioeconomic support to enhance tuberculosis prevention and treatment, Peru. *Bulletin of the World Health Organization* 95(4): 270–280. DOI: 10.2471/BLT.16.170167.

Yadav S and Rawal G (2019) The current updates in the TB control program of India. *IP Indian Journal of Immunology and Respiratory Medicine* 4: 75–76. DOI: 10.18231/j.ijirm.2019.017.

Yadav S, Atif M, Rawal G (*2018)* (2018) Nikshay Poshan Yojana- Another step to eliminate TB from India. *IP Indian Journal of Immunology and Respiratory Medicine* 3(2): 28–29. DOI: 10.18231/2581-4222.2018.0010.

Yasmeen A (2018) Direct benefit transfer scheme for TB patients makes slow progress - The Hindu, 17 December 2018 [Online]. Available at: https://www.thehindu.com/sci-tech/health/direct-benefit-transfer-scheme-for-tb-patients-makes-slow-progress/article25762332.ece (accessed 5 August 2019).

ANNEXURE I

Supplementary table 4.1 Sociodemographic, socioeconomic, clinical characteristics, co-morbidities of the sample population

	Variable	Categories	Frequency (%)
1	Age group (in years)	20-39	73(29.2%)
		40-59	96(38.4%)
		60and above	81(32.4%)
2	Area of residence	Rural	201(80.4%)
		Urban	49(19.6%)
3	Gender	Male	176(70.4%)
		Female	74(29.6%)
4	Marital status	Married	198(79.2%)
		Unmarried	39(15.6%)
		Others	13(5.2%)
5	Family size	≤4	138(55.2%)
		≥5	112(44.8%)
6	Bread winner of the family	Subject	131(52.4%)
		others	119(47.6%)
8	Caste	ST	5(2%)
		Others	245(98%)
9	Educational status	Up to high school	177(70.8%)
		Higher secondary and above	73(29.2%)
10	Occupation	Employed	89(35.6%)
		Manual workers	97(38.8%)
		Unemployed	64(25.6%)
11	Ration Card(colour)	Pink_ blue_ white	227(90.8%)
		Yellow _ No RC	23(9.2%)
12	Initial symptoms	Classical symptoms of Tb	191(76.4%)
		Others	59(23.6)
13	Classical symptoms of Tb	Cough Fever Weight loss Blood in sputum	

14	Disease Classification	PTB EPTB	184(73.6%) 66(26.4%)
15	EPTB site	Lymph node Abdomen Pleural effusion Brain and meninges Spine	24(9.6%) 11(4.4%) 23(9.2%) 2(.8%) 6(2.4%)
16	Diabetes Mellitus	Diabetic Non diabetic	59(23.6%) 191(76.4%)
17	Any Co-morbidities	YES NO	31(12.4%) 219(87.6%)
18	Co-morbidities	CHD Cancer Hypertension LBA Cholesterol Skin disease	13(5.2%) 1(.4%) 7(2.8%) 3(1.2%) 3(1.2%) 3(1.2%)

ST- Scheduled tribe, RC- Ration Card, PTB – Pulmonary tuberculosis, EPTB - Extra pulmonary tuberculosis HIV – Human immune Virus (No HIV cases) CHD- Coronary Heart Disease, LBA – Low Back Ache

Category others in caste include Scheduled caste, general, ezhava, other backward classes Category 'Others' in symptoms included are pain, swelling, breathing difficulties, vomiting, head ache, loss of appetite.

Quantitative analyses of potential mediators

Supplementary table 4.5 Potential Mediator I - Any form of food insufficiency

Variable	**Categories**	**N**	**Any form of food insufficiency n (%)**	**p value**
Age group (in years)	Up to 39	73	11 (15.1%)	<0.001
	40-59	96	46 (47.9%)	
	60 and above	81	29 (35.8%)	
Sex of the subject	Male	176	68 (38.6%)	0.030
	Female	74	18 (4.3%)	
Place of Residence	Rural	201	71 (35.3)	0.534
	Urban	49	15 (30.6)	
Staying alone	No	240	77 (32.1%)	<0.001
	Yes	10	9 (90.0%)	
Educational level	Up to high school	177	79 (44.6)	<0.001

	Higher secondary and above	73	7 (9.6)	
Occupational category	Others	186	79 (42.5%)	<0.001
	Salaried employment/ Student	64	7 (10.9%)	
Patient is breadwinner	No	119	32 (26.9%)	0.017
	Yes	131	54 (41.2%)	
Socioeconomic status	Poorest of the poor	23	15 (65.2%)	0.017
	Others	131	54 (41.2%)	
Caste	General	96	21 (21.9%)	<0.001
	OBC	103	36 (35.0%)	
	SC/ST	51	29 (56.9%)	
State Insurance Scheme Coverage	Yes	220	73 (33.2%)	0.272
	No	30	13 (43.3%)	
Smoking status	Never smoker	122	28 (23.0%)	<0.001
	Past smoker	104	41 (39.4%)	
	Current smoker	24	86 (34.4%)	
Habitual consumption of alcohol	No	131	30 (22.9%)	<0.001
	Yes	119	56 (47.1%)	
Initial presenting symptoms	Others	59	14 (23.7%)	0.048
	Classical TB symptoms	191	72 (37.7%)	
Type of TB	Pulmonary	184	71 (38.6%)	0.020
	Extra-pulmonary	66	15 (22.7%)	
Initial health facility visited	Others	181	69 (38.1%)	0.045
	Private-higher level	69	17 (24.6%)	

Supplementary table 4.6 Multivariate model – factors associated with household food insufficiency

Variable	**Categories**	**Crude OR (95% CI)**	**Adjusted OR (95% CI)**
Age group (in years)	Up to 39	Reference	Reference
	40-59	5.19 (2.44-11.04)	2.79 (1.11-7.00)
	60 and above	3.14 (1.43-6.90)	1.33 (0.48-3.70)
Sex of the subject	Male	Reference	
	Female	0.51 (0.28-0.94)	
Place of Residence	Rural	Reference	
	Urban	0.81 (0.41-1.58)	
Living alone	No	Reference[@]	
	Yes	19.05 (2.37-153.06)	

Educational level	Up to high school	Reference	Reference
	Higher secondary and above	0.13 (0.06-0.30)	0.26 (0.10-0.67)
Occupational category	Others	Reference	Reference
	Salaried employment/ Student	0.17 (0.07-0.38)	0.31 (0.12-0.84)
Patient is breadwinner	No	Reference	
	Yes	0.52 (0.31-0.90)	
Socioeconomic status	Poorest of the poor	Reference	
	Others	0.24 (0.10-0.60)	
Caste	General	Reference	Reference
	OBC	1.92 (1.02-3.61)	2.12 (1.04-4.35)
	SC/ST	4.71 (2.26-9.83)	3.09 (1.30-7.36)
State Insurance Scheme Coverage	Yes	Reference	
	No	1.54 (0.71-3.34)	
Smoking status	Never smoker	Reference	Reference
	Past smoker	2.19 (1.23-3.89)	1.68 (0.87-3.21)
	Current smoker	8.15 (3.07-21.64)	6.80 (2.22-20.77)
Habitual consumption of alcohol	No	Reference	
	Yes	2.99 (1.74-5.16)	
Initial presenting symptoms	Others	Reference	
	Classical TB symptoms	1.95 (1.0-3.79)	
Type of TB	Pulmonary	Reference	
	Extra-pulmonary	0.47 (0.25-0.90)	
Initial health facility visited	Others	Reference	
	Private-higher level	0.53 (0.28-0.99)	

@ Not included for multivariate due to small sample size.

Supplementary table 4.7 Potential Mediator II - Lag in diagnosis

Lag is defined as a diagnosis made 17 days or more (Median=) after the reported first visit for the illness. This does not necessarily imply belated diagnosis.

Variable	**Categories**	**N**	**Lag in diagnosis n (%)**	**p value**
Age group (in years)	Up to 39	73	22 (30.1%)	0.329
	40-59	96	24 (25.0%)	
	60 and above	81	16 (19.8%)	
Sex of the subject	Male	176	41 (23.3%)	0.396

	Female	74	21 (28.4%)	
Place of Residence	Rural	201	54 (26.9%)	0.126
	Urban	49	8 (16.3%)	
Living alone	No	240	59 (24.6%)	0.470*
	Yes	10	3 (30.0%)	
Educational level	Up to high school	177	46 (26.0%)	0.498
	Higher secondary and above	73	16 (21.9%)	
Occupational category	Others	186	51 (27.4%)	0.102
	Salaried employment/ Student	64	11 (17.2%)	
Patient is breadwinner	No	119	26 (21.8%)	0.303
	Yes	131	36 (27.5%)	
Socioeconomic status	Poorest of the poor	23	10 (43.5%)	0.029
	Others	131	52 (22.9%)	
Caste	General	96	19 (19.8%)	0.311
	OBC	103	30 (29.1%)	
	SC/ST	51	13 (25.5%)	
State Insurance Scheme Coverage	Yes	220	54 (24.5%)	0.801
	No	30	8 (26.7%)	
Smoking status	Never smoker	122	31 (25.4%)	0.329
	Past smoker	104	28 (26.9%)	
	Current smoker	24	3 (12.5%)	
Habitual consumption of alcohol	No	131	29 (22.1%)	0.306
	Yes	119	33 (27.7%)	
Initial presenting symptoms	Others	59	28 (47.5%)	<0.001
	Classical TB symptoms	191	34 (17.8%)	
Type of TB	Pulmonary	184	33 (17.9%)	<0.001
	Extra-pulmonary	66	29 (43.9%)	
Diabetic status	Not diabetic	191	54 (28.3%)	0.025
	Diabetic	59	8 (13.6%)	
Other comorbidities	No	219	54 (24.7%)	
	Yes	31	8 (25.8%)	
Initial health facility visited	Government primary	77	15 (19.5%)	0.367 *
	Private primary/ AYUSH	12	5 (41.7%) *	
	Government higher level	92	24 (26.1%)	
	Private – higher level	69	18 (26.1%)	

*Exact test

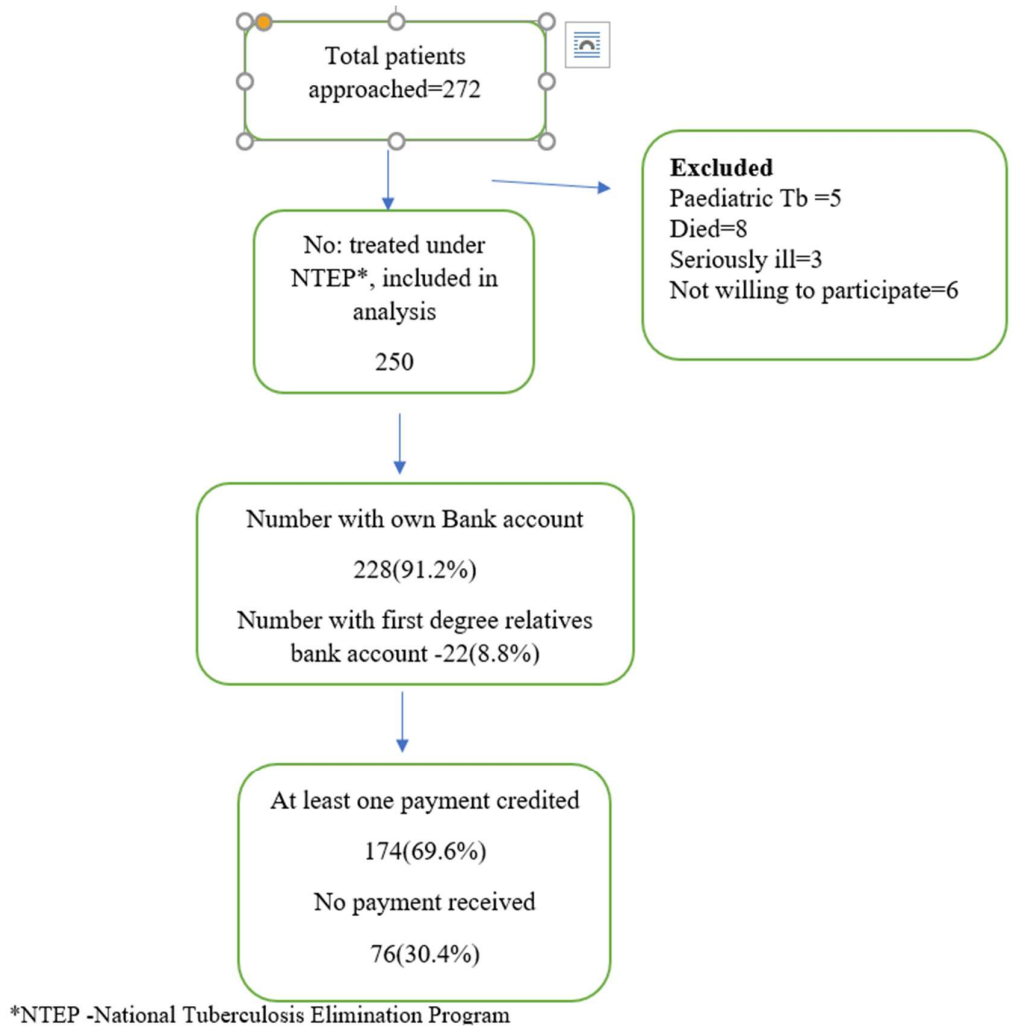
Supplementary table 4.8 Multivariate model – factors associated with lag in diagnosis

Variable	Categories	Crude OR (95% CI)	Adjusted OR (95% CI)
Age group (in years)	Up to 39	Reference	
	40-59	0.77 (0.39-1.53)	
	60 and above	0.57 (0.27-1.20)	

Sex of the subject	Male	Reference	
	Female	1.31 (0.71-2.41)	
Place of Residence	Rural	Reference	
	Urban	0.53 (0.23-1.21)	
Living alone	No	Reference	
	Yes	1.32 (0.33-5.25)	
Educational level	Up to high school	Reference	
	Higher secondary and above	0.80 (0.42-1.53)	
Occupational category	Others	Reference	
	Salaried employment/ Student	0.56 (0.27-1.13)	
Patient is breadwinner	No	Reference	
	Yes	1.36 (0.76-2.42)	
Socioeconomic status	Poorest of the poor	Reference	Reference
	Others	0.39 (0.16-0.93)	0.26 (0.10-0.67)
Caste	General	Reference	
	OBC	1.67 (0.86-3.22)	
	SC/ST	1.39 (0.62-3.10)	
State Insurance Scheme Coverage	Yes	Reference	
	No	1.12 (0.47-2.66)	
Smoking status	Never smoker	Reference	
	Past smoker	1.08 (0.60-1.96)	
	Current smoker	0.42(0.12-1.50)	
Habitual consumption of alcohol	No	Reference	
	Yes	1.35 (0.76-2.40)	
Initial presenting symptoms	Others	Reference	Reference
	Classical TB symptoms	0.24 (0.13-0.45)	0.21 (0.11-0.41)
Type of TB	Pulmonary	Reference	
	Extra-pulmonary	3.59 (1.94-6.63)	
Diabetic status	Not diabetic	Reference	Reference
	Diabetic	0.40 (0.18-0.89)	0.44 (0.19-1.01)
Other complications	No	Reference	
	Yes	1.06 (0.45-2.52)	
Initial health facility visited	Government primary	Reference	
	Private primary/ AYUSH	2.95 (0.82-10.61)	
	Government higher level	1.50 (0.70-3.03)	
	Private – higher level	1.50 (0.67-3.18)	

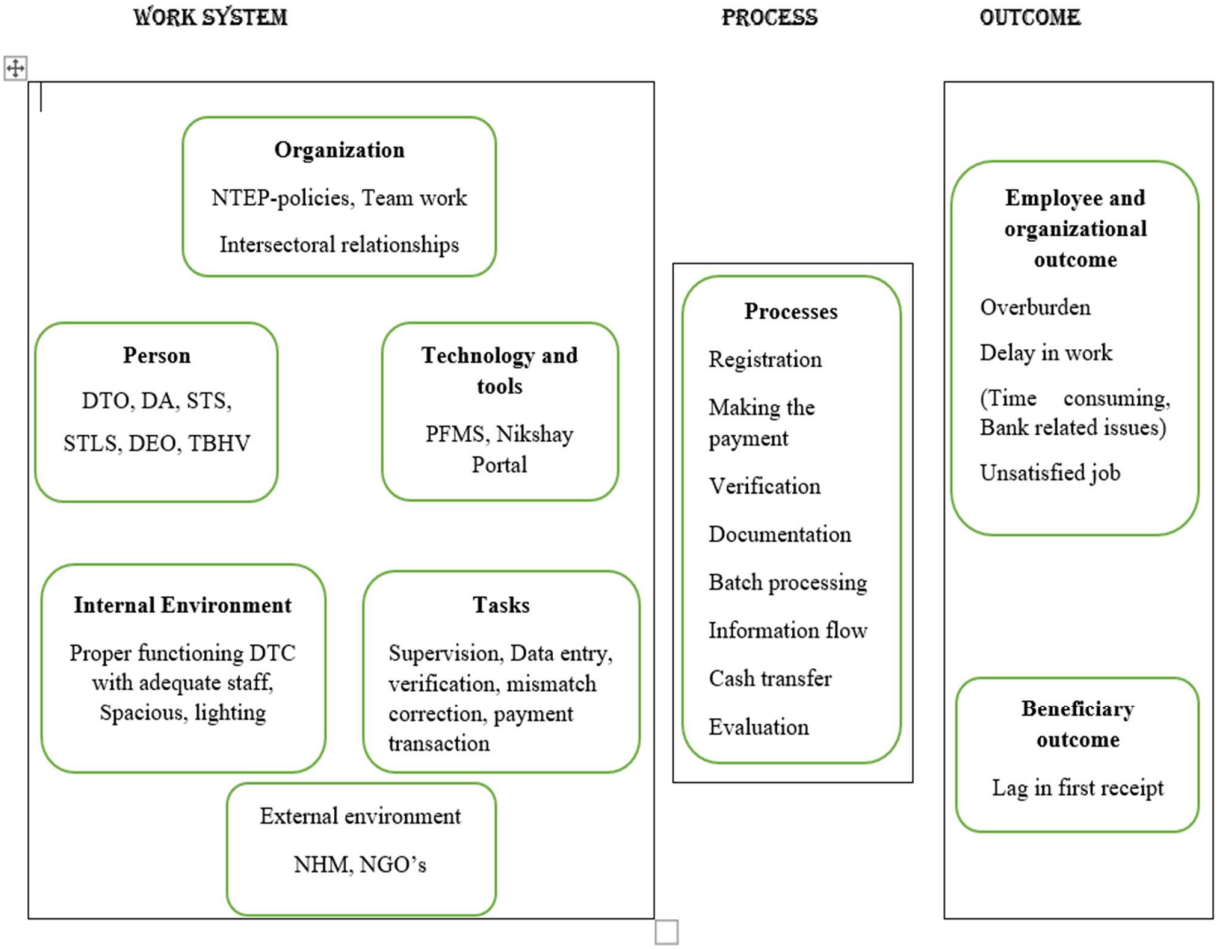
ANNEXURE II

Supplementary figure 4.1 Flow chart of Coverage of direct benefit transfer among tuberculosis patients in Kollam District, Kerala from April 2018 to September 2019



*NTEP -National Tuberculosis Elimination Program

Supplementary figure 4.3 SEIPS model of Programmatic aspects of NPY - Adaptation of the SEIPS model by Carayon, et al.



Adaptation of the SEIPS model by Carayon, et al. The work system includes five factors: tools and technology, organization, environment, person, and tasks. These affect related processes and outcomes. Direct Benefit Transfer programmatic aspects

Annexure III

Achutha Menon Centre for Health Science Studies,
Sree Chitra Tirunal Institute for Medical Sciences & Technology,
Trivandrum, Kerala, 695011

Interview schedule for participants

INTERVIEW SCHEDULE

SL. NO: NIKSAHY ID:	TU ID: UNIQUE ID:	DATE: PH NUMBER:

Section 1: Sociodemographic details

Variable name	Question	Response	Remark
1.1	Place of residence	1.Rural ☐ 2. Urban ☐ 3. Tribal ☐ 4. Costal☐ 4.Urban slum ☐	
1.2	What is the highest level of education you have attained?	1. No formal schooling ☐ 2. Primary school ☐ 3. Secondary school ☐ 4. Higher secondary school ☐ 5. Degree and above ☐ 6. Other (Specify)……... 7. Refused to answer ☐	
1.3	What is your current Marital status?	1. Married ☐ 2. Unmarried ☐ 3. Divorced ☐ 4.Widowed ☐ 5. Other ☐ (Specify)…….	
1.4	What is your current Occupation	1.Govt. employee ☐	

		2.Private employee ☐ 3.Self-employed ☐ 4.Farmer ☐ 5. Manual Labourer ☐ 6.Homemaker ☐ 7.Student ☐ 8.Unemployed ☐ 9.Other (Specify)…… 10. Refused to answer ☐	
1.5	Was this your occupation before the diagnosis of Tb? Any change?	1. Yes ☐ 2. No ☐ If no, Specify…….	
1.6	Who is the breadwinner of the family?	1.Subject ☐ 2.Other (specify)…….	Multiple
1.7	How many persons including you live in this household?		
1.8	Colour of Ration card	1.Yellow ☐ 2.Pink ☐ 3.Blue ☐ 4.White ☐ 5.No ration card ☐	
1.9	Caste/Tribe	1.Scheduled Tribe ☐ 2. Scheduled Caste ☐ 3. General ☐ 4. Other backward classes ☐ 5. Refused to answer ☐	
1.10	Do you have any health insurance scheme?	1.KASP ☐ 2.Nil ☐ 3.Other (Specify)…….	

Section 2: Information from TB treatment card and Nikshay portal

2.1	Age (completed in years)		
2.2	Gender	1.Male ☐ 2.Female ☐ 3.Transgender ☐	
2.3	What is your DOTS Provider designation?		
2.4	Which is your DOTS center?		
2.5	Disease Classification	1. Microbiologically confirmed pulmonary TB ☐ 2. Clinically diagnosed pulmonary TB ☐ 3. Microbiologically confirmed Extrapulmonary TB ☐ 4. Clinically diagnosed extrapulmonary TB ☐	
2.6	Extrapulmonary site	1. Lymph nodes (Specify site) 2. Abdomen ☐ 3. Pleural effusion ☐ 4. Bones/Joints ☐ 5. Brain/meninges ☐ 6. Other (Specify)…… 7. Not applicable ☐	
2.7	Date of the first diagnosis of Tb		
2.8	Date of notification of Tb in Nikshay portal		
2.9	Date of diagnosis written in Tb card		
2.10	Date of treatment initiation		

2.11	Details of X-ray/Histopathology /CBNAAT/Culture		
2.12	Smear status at the start of treatment and follow-up visits	1. 2. 3.	Skip if 2.5 is 2/3/4
2.13	Weight at the start of treatment (first visit) (Date)	Weight: ……kg Date: …….	
2.14	Weight at the second visit (Date)	Weight: ……kg Date: …….	
2.15	Weight at the time of third visit (Date)	Weight: ……kg. Date: …….	
2.16	Diabetes mellitus status	1.Diabetic ☐ 2.Nondiabetic ☐ 3.Not entered ☐	
2.17	If diabetic Fasting Blood Sugar / Random blood sugar value at (in mg/dl)	1._____ 2. Don't know ☐	
2.18	HIV status,	1.Positive ☐ 2.Negative ☐ 3.Unknown ☐	
2.19	Any Other Comorbidity	1.Yes ☐ 2.No ☐	
2.20	If yes, Specify	1. 2. 3. 4.	
2.21	TB Treatment outcome	1. Cured ☐ 2. Treatment completed ☐ 3. Died ☐ 4. Treatment discontinued ☐ 5. Treatment Failure☐ 6. Treatment continuing ☐ 7. Not recorded ☐	
2.22	Any adverse events reported in the TB Card?		

2.23	The present condition of the patient	1.Bedridden ☐ 2.Wheelchair-bound ☐ 3.Stable☐ 4.Others (Specify)…….	

Section 3: Information from patients about symptoms, diagnosis, and treatment

3.1	What were the initial symptoms/complaints with regard to disease?	1.Cough ☐ 2.Fever ☐ 3.Weight loss ☐ 4.Blood in sputum ☐ 5.Other (Specify)…….	Multiple options possible
3.2	Date of the first visit to any healthcare facility for any of the above symptoms?		
3.3	Type of health-care facility first visited for any of these symptoms	1.PHC ☐ 2.CHC ☐ 3.District/Taluk Hospital ☐ 4.Medical College-Govt/Private ☐ 5.Private hospital ☐ 6.Private practitioner☐ 7.Alternative system ☐ 8. Others (specify)……	
3.4	How much is the distance of the DOT center from your residence? (In Kilometre)	…….km	Approximate

3.5	Reason for coming to the current center for treatment	…….	
3.6	Mode of transport	1. Walking ☐ 2. Vehicle ☐ 3. Both vehicle and walking☐	
3.7	Did you miss any dose during treatment?	1.Yes 2. No	If 2 jumps to 3.13
3.8	Any missed doses during treatment?	1. In the first two months (specify no.) 2.In the last 4 months (specify no.) 3.Both☐ 4. No missed doses ☐ 5.Not recorded ☐ 6.Others (Specify) ……	
3.9	Retrieval action by whom?	1.Dot provider ☐ 2.Other (specify)…… 3.Not recorded ☐	
3.10	Any retrieval action for missed doses	1.Yes for each missed dose☐ 2.For some missed doses ☐ 3.No action ☐ 4.Not recorded ☐	
3.11	The approximate number of missed doses	……..	
3.12	Reason for the missed dose	(Specify)……..	
3.13	Have You ever smoked any tobacco product such as beedi/cigarette/pipe/other?	1.Yes ☐ 2.No ☐ 3.Refused to answer ☐	If 2/3 jump to 3.15
3.14	Which of the following best suits your status concerning smoking tobacco products??	1.Stopped before the diagnosis of TB ☐ 2.Stopped after diagnosis of TB ☐	

		3.Continued to smoke during treatment (specify how frequently) …… 4.Refused to answer ☐	
3.15	Have You ever consumed alcoholic drinks like beer, wine, whiskey, toddy, locally prepared alcohol?	1.Yes ☐ 2.No ☐ 3.Refused to answer ☐	If 2/3 jump to 3.17
3.16	Which of the following best suits your alcohol consumption status?	1.Stopped before the diagnosis of TB ☐ 2.Stopped after diagnosis of TB ☐ 3.Continued to consume during treatment (How frequently) ……. 4.Refused to answer ☐	
3.17	Have you ever been treated differently from the community because of your disease status?	1. Yes ☐ 2. No ☐	
3.18	If Yes, can you tell me more about it?		

Section 4: Food Security

4.1	In the past 12 months, you did not have sufficient money to buy enough or more food.	1. Mostly true ☐ 2. Sometimes true☐ 3. Not at all true☐ 4. don't know/didn't answer ☐	
4.2	For the last 12 months, you are not financially able enough to buy balanced diet. By a balanced diet, I mean a combination of milk, egg, meat, fruits, potato, pulses, plenty of water	1.Mostly true ☐ 2. Sometimes true ☐ 3. Not at all true ☐ 4. don't know/didn't answer ☐	

4.3	How often did you & your family members did not receive any food or sufficient food, due to lack of money?	1. Almost every month ☐ 2. Few months – Not every month ☐ 3. 1 or 2 months ☐ 4. Never ☐	
4.4	In the past 12 months did lack money prevent you from taking food even though you were hungry or you starved?	1. Yes ☐ 2. No ☐	
4.5	In TB treatment time, did you buy any food that you considered as nutritious?	1.Yes ☐ 2.No ☐	
4.6	If yes, specify the food items?		
4.7	How did you find the money for the extra expenditure?		

Section 5: Nikshay Poshan Yojana and Direct Benefit Transfer

5.1	During TB treatment, did you have any beneficiary help made available to you?	1. Yes ☐ 2. No ☐	If 2, go to5.4
5.2	If yes, which kind of beneficiary help (financial assistance/food supplements)	1.Financial assistance ☐ 2. Food supplement ☐ 3. Both ☐ 4. No assistance 5. Others (Specify)……	
5.3	In which source you are getting financial assistance	1. Nikshay poshan yojana ☐ 2. Kerala Government ☐ 3. Both ☐ 4. Others (specify)……	
5.4	If No, are you aware of any schemes in TB treatment?	1.Yes ☐ 2. No ☐	If 2, no further questions
5.5	If Yes, are you aware of Nikshay Poshan Yojana?	1. Yes ☐ 2. No ☐	

5.6	Have you received monetary benefit from Nikshay Poshan Yojana?	1. Received the entire amount. ☐ 2. Received part of the amount☐ 3. Received no money.☐	
5.7	If No, the reason for not as part of the scheme	1. No Aadhar Number ☐ 2. No bank accounts ☐ 3. Other (specify)…….	
5.8	Do you know how much money you are getting as the beneficiary amount from the government for TB patients?	……Rs	
5.9	Do you know the purpose of this beneficiary amount?	1.Yes ☐ (Specify)…… 2. No ☐	
5.10	How did you come to know about the beneficiary scheme from the government for TB patients?	1. ASHA ☐ 2. JHI / JPHN☐ 3. Senior Treatment Supervisor☐ 4. TB health visitor☐ 5. Doctor☐ 6. Media 7. Others (Specify……)	
5.11	When did you receive the first payment after initiation of treatment?	Date:	
5.12	When did you receive the last payment?	Date:	
5.13	How did you spend the money received through this scheme?	1. Food ☐ 2. Travel expenses ☐ 3. Household activities/family support 4. Others☐ 5. Don't know ☐	If 1, go to 5.14 If 2/3/4 go to 5.15

5.14	Have you bought any specific food with the money you received? / What foods have you bought with the money received? (Specify)		
5.15	If you have no bank account, in whose account is the money credited to?	1. I have account ☐ 2. Other accounts (Specify who) …….	
5.16	Do you have any proof for this money transfer?	1.Yes (Specify)……. 2.No	
5.17	Have you had any trouble in withdrawing the received amount? (If yes, specify?)	1. Yes ☐ (Specify) 2. No ☐	
5.18	Did you find this scheme beneficial?	1. Yes ☐ 2. No ☐	

ANNEXURE IV

Interview Guidelines

ID NO:

1. Personal information
    a. Tell me something about yourself
    b. How many years have you been working in this field?
    c. Could you please elaborate on your working background?
    d. Please describe your role in Tb control program?
2. Can you please explain the details of Nikshay Poshan Yojana, the nutritional beneficiary scheme under the TB control program?
    a. What do you feel are the key features of this program?
3. How is the Tb control division organized to deliver this program?

Who is in charge/ who are mainly responsible?

4. Could you please explain to me the steps in the implementation process of this program?
    a. How long does it take for completing each step?
    b. Do you find any difficulty in implementing this program? Can you please explain to me what you mean when you say _____ is a difficulty?
5. How visible are the activities of this cash transfer scheme to Tb patients?
    a. Do you think that the patient can follow up their enrolment process in this scheme? Please clarify?
    b. Is it sufficient to convince patients about the transparency of the scheme? Please explain
6. Did you undergo any training or orientation program for getting a better understanding of the nutritional assessment in Tb patients?

a. What were the objectives of the training?

b. What did you learn?

c. How has the training helped you in your work since then?

d. What about Nikshay Poshan Yojana?

e. What information did you receive about it in the training?

7. How is the monitoring of the NPY done? Who is responsible? Are there any external evaluations done about the implementation of NPY?
8. Are there any gaps in the current program?
    a. How do you feel it could be improved?
9. Do you feel that this program reaches to all those in need?
    a. If not, why do you feel so?

P.S.: The questions above are for all participants. There may be some questions which are guided by participants' responses that are not listed in the interview guideline.

ANNEXURE V

Sree Chitra Tirunal Institute of Medical Science and Technology
Thiruvananthapuram, Kerala

"Assessing the Implementation of Direct Benefit Transfer Scheme (DBT) for Patients with Tuberculosis Notified under the National TB Program in Kollam"

INFORMATION SHEET FOR PARTICIPANTS

Namaskaram! I am Rajalakshmi S, doing Masters of Public Health course at Achutha Menon Centre for Health Science Studies (AMCHSS), Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) Trivandrum. As a part of my thesis work, I am doing a study on "**Assessing the Implementation of Direct Benefit Transfer Scheme (DBT) for Patients with Tuberculosis Notified under the National TB Program in Kollam"**

Purpose of the study

The role of a nutritious diet is imperative in the fight against Tb. So, taking into account these problems which are obstructing the overall treatment outcome in TB cases, the GOI has launched 'Nikshay Poshan Yojana' - An Aadhar linked direct benefit transfer (DBT), cash transfer scheme.

The purpose of this study is to assess the status of implementation of the scheme and understand the enablers and challenges perceived by the providers and to capture the pattern of utilization of the funds received by the beneficiaries.

Description of the study

I will be conducting interviews with the TB patients registered/notified on the Nikshay portal on or after 1st April 2018. Total of 250 interviews from 5 tuberculosis cells will be done in Kollam for a period of two to two and a half months. In-depth interviews will be conducted among healthcare providers to represent the different cadres involved in DBT implementation process.

The ethics approval for this study has been obtained from the Institutional Ethics Committee of Sree Chitra Tirunal Institute for Medical Sciences and Technology.

Your contribution

Your contribution involves answering some questions regarding your socioeconomic status, disease status including diagnosis, actions taken by you/patient while seeking care/treatment, Nikshay poshan yojana and cash transfer scheme. If you agree to participate in this study, it will take twenty to thirty minutes. This will include the time of reading the information sheet, signing of the consent form and the interview. The information given by you will be documented. After the interview, you may be contacted again only if it is found that information document is either incomplete or if any further clarification is needed.

Benefits from the study

The study will not provide any direct benefits for you also will not affect your treatment and services. But the information collected from you and other participants will help in further research and policymaking which may benefit the society as a whole.

Risks and discomforts

Some of the data will be collected from the Tb treatment card. And some of the questions will be of a personal nature which may make you uncomfortable if you are not willing to answer the questions you are allowed to skip those questions. If still, you are not willing to answer further questions, you will be free to terminate the interview without any obligation. The collected data will be only used for the research purpose.

Confidentiality of your data

I hereby assure you that the information collected from you will be kept confidential. The accessibility of information collected from you will be restricted to me and my research guide only. Your details will not be shared with anyone at any stage. Only the data other than your identifiers will be used for the analysis of the study and the results of the study will be presented and published.

Contact Information

Is there any query or doubt you want to ask? I will try to clarify it to the best of my ability.

Name of the Principal Investigator: Rajalakshmi S

Signature of Principal Investigator:

Contact No. of Principal Investigator: 9633313357

Email: rajalakshmi4ever@gmail.com

If you have any doubt/ query on the authentication of this study or wish to verify my credentials, you may contact, Dr. Mala Ramanathan, Institutional Ethics Committee Secretary, Sree Chitra Tirunal Institute for Medical Sciences &Technology (SCTIMST), Trivandrum-695011, Kerala, India, office number: 0471-2524234.

Mail id: iec.mem.sec@sctimst.ac.in

Voluntary participation

Your participation in this study will be completely voluntary which means that you can decide whether to participate in the study or not. You are free and have the right to withdraw from the study at any time. You will continue to get all your current benefit/ services. If you have decided to participate, kindly sign the enclosed informed consent form.

Date: Signature of the investigator

ANNEXURE VI

Sree Chitra Tirunal Institute of Medical Science and Technology
Thiruvananthapuram, Kerala

"Assessing the Implementation of Direct Benefit Transfer Scheme (DBT) for Patients with Tuberculosis Notified under the National TB Program in Kollam"

Information Sheet for In-depth Interview participants

Namaskaram! I am Rajalakshmi S, doing Masters of Public Health course at Achutha Menon Centre for Health Science Studies (AMCHSS), Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) Trivandrum. As a part of my thesis work, I am doing a study on "**Assessing the Implementation of Direct Benefit Transfer Scheme (DBT) for Patients with Tuberculosis Notified under the National TB Program in Kollam"**

The role of a nutritious diet is imperative in the fight against Tb. So, taking into account these problems which are obstructing the overall treatment outcome in TB cases, the GOI has launched 'Nikshay Poshan Yojana' - An Aadhar linked direct benefit transfer (DBT), cash transfer scheme.

The purpose of this study is to assess the status of implementation of the scheme and understand the enablers and challenges perceived by the providers and to capture the pattern of utilization of the funds received and the perceived benefits of the scheme by the beneficiaries for the effective implementation of the scheme in terms of delivery and utilization**.**

In this regard, I will be conducting in-depth interviews among healthcare providers to represent the different cadres involved in DBT implementation process. This included a laboratory technician (maker), two medical officers (checker), three Senior TB Laboratory Supervisor (STLS) or Senior Treatment Supervisor (STS), one Tuberculosis Health visitor

(TBHV) of a Medical college, the data entry operator at district level, the district accountant (DTC), the district programme manager (at approver level), and the district accounts manager (PFMS).

I humbly request you to participate in this study. Participation involves sharing some of your personal information and your knowledge about this program. Also, I am trying to collect the information regarding the implementation challenges related to DBT and its possible solutions. In this process, your name or identity will not be revealed.

The ethics approval for this study has been obtained from the Institutional Ethics Committee of Sree Chitra Tirunal Institute for Medical Sciences and Technology.

The study will not provide any direct benefits for you also will not affect your professional work. But the information collected from you and other participants will help in further research and policymaking which may benefit the society as a whole.

Some of the questions may be about difficult situations you have seen concerning Nikshay Poshan Yojana which may make you mildly uncomfortable. You have the right to withdraw your participation at any time without any explanation. The interview will take approximately 30-45 minutes. I would like to record this interview to make sure that I remember accurately all the information you provide. I will keep these recordings safely. They will only be used by me. The interview recordings will not be shared with anyone. Only the aggregated data from the interviews (which will have no identifiers) will be shared. If you do not consent for the recording, I shall take notes instead.

I hereby assure you that the information collected from you will be kept confidential. The accessibility of information collected from you will be restricted to me and my research guide only. Your details will not be shared with anyone at any stage. Only the data other than your identifiers will be used for the analysis of the study and the results of the study will be presented and published.

Contact Information

Is there any query or doubt you want to ask? I will try to clarify it to the best of my ability.

Name of the Principal Investigator: Rajalakshmi S

Signature of Principal Investigator:

Contact No. of Principal Investigator: 9633313357

Email: rajalakshmi4ever@gmail.com

If you have any doubt/ query on the authentication of this study or wish to verify my credentials, you may contact,

Dr. Mala Ramanathan, Institutional Ethics Committee Secretary, Sree Chitra Tirunal Institute for Medical Sciences &Technology (SCTIMST), Trivandrum-695011, Kerala, India, office number: 0471-2524234. Mail id: iec.mem.sec@sctimst.ac.in

Voluntary participation

Your participation in this study will be completely voluntary which means that you can decide whether to participate in the study or not. You are free and have the right to withdraw from the study at any time. There will be no penalty for the withdrawal. If you have decided to participate, kindly sign the enclosed informed consent form.

Date: Signature of the investigator

ANNEXURE VII

Achutha Menon Centre for Health Science Studies
Sree Chitra Tirunal Institute for Medical Sciences & Technology, Trivandrum, Kerala, 695011

Initial consent form

Rajalakshmi S, Master of Public Health student of Achutha Menon Centre for Health Science Studies (AMCHSS) of the Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, is doing a study on "Assessing the Implementation of Direct Benefit Transfer Scheme (DBT) for Patients with Tuberculosis Notified under the National TB Program" in Kollam district. The objectives of her study are to understand the patient perspectives about the enablers and challenges in receiving the cash incentives under Direct Benefit Transfer and pattern of utilization and to understand the effectiveness of Nikshay Poshan Yojana in ensuring food security to TB patients. You are selected for her study. She has obtained permission from the concerned authority for conducting this study. She wants to ask you a few questions which will take around 20 minutes

Patient response

Yes, I am willing to be contacted for the study _____

No, I am not _____

Signature of the person obtaining consent:

Name and Designation:

Date:

ANNEXURE VIII

Achutha Menon Centre for Health Science Studies
Sree Chitra Tirunal Institute for Medical Sciences & Technology, Trivandrum, Kerala, 695011

Written informed consent

I, _____ have read/heard and understood all the information provided in the 'Research subject information sheet' and I have clarified all my doubts. I realize that the study is unlikely to cause any harm to me and I have no direct benefits from taking part in the study. By signing/putting thumb impression I confirm my voluntary participation in this study. I agree to be contacted again if any missing information or further clarification is needed. I understand my right to withdraw from the interview anytime without any obligation. I also understand that my identity will not be revealed in any published or released information from this study.

Name of the participant _____.

Signature of respondent/Thumb impression _____ .

Date:

Place:

ANNEXURE IX

Achutha Menon Centre for Health Science Studies
Sree Chitra Tirunal Institute for Medical Sciences & Technology,
Trivandrum, Kerala, 695011

Informed Consent for In-depth Interview

I _____have read/heard all the information given on study subject information sheet. I have clarified all my doubts and I confirm my voluntary participation by signing/putting thumb impression. I understand that I can withdraw from the interview at any time without any explanation, if I wish to do so. I permit/ do not permit the researcher to record the interview. I also understand that my identity will not be revealed in any published or released information from this study

Name of the respondent _____

Signature of respondent/Thumb impression

Date:

Place:

ANNEXURE X

അഭിമുഖ ചോദ്യാവലി

ക്രമനമ്പർ:

നിക്ഷയ ഐഡി:

TU ID:

UNIQUE ID:

തീയതി:

ഫോൺ നമ്പർ:

വിഭാഗം 1: സാമൂഹികവും ജനസംഖ്യാപരവുമായ വിവരങ്ങൾ

നമ്പർ	ചോദ്യം	പ്രതികരണം	പരാമർശിക്കുക
1.1	താമസിക്കുന്ന സ്ഥലം	1.ഗ്രാമം 2.പട്ടണം 3. ആദിവാസി മേഖല 4.തീരദേശ മേഖല 5.നഗരത്തിലുള്ള ചേരി പ്രദേശം	
1.2	നിങ്ങൾ നേടിയ ഏറ്റവും ഉയർന്ന വിദ്യാഭ്യാസ നിലവാരം എന്താണ്?	1. സ്കൂളിൽ പോയിട്ടില്ല 2. പ്രാഥമിക സ്കൂൾ □ 3. സെക്കൻഡറി സ്കൂൾ □ 4. ഹയർ സെക്കൻഡറി സ്കൂൾ □ 5. ബിരുദം /ബിരുദാനന്തര ബിരുദം□ 6.മറ്റുള്ളവ (വ്യക്തമാക്കുക) .... 7. ഉത്തരം നൽകാൻ നിരസിക്കുക□	
1.3	എന്താണ് നിങ്ങളുടെ നിലവിലെ വൈവാഹിക നില?	1. വിവാഹിത/ വിവാഹിതൻ □ 2. അവിവാഹിത /അവിവാഹിതൻ□ 3. വിവാഹമോചിതർ □ 4. ഭർത്താവ് /ഭാര്യ മരിച്ചത്□ 5. മറ്റുള്ളവ (വ്യക്തമാക്കുക)	

നമ്പർ	ചോദ്യം	പ്രതികരണം	പരാമർശിക്കുക
1.4	നിങ്ങളുടെ നിലവിലെ തൊഴിൽ എന്താണ്?	1. ഗവ. ജീവനക്കാരൻ □ 2.സ്വകാര്യ ജീവനക്കാരൻ □ 3. സ്വയം തൊഴിൽ □ 4. കൃഷിക്കാരൻ □ 5. കൈത്തൊഴിൽ □ 6. വീട്ടുജോലി □ 7. വിദ്യാർത്ഥി □ 8. തൊഴിലില്ല □ 9. മറ്റുള്ളവ (വ്യക്തമാക്കുക) ..... 10. ഉത്തരം നൽകാൻ നിരസിക്കുക □	
1. 5	ക്ഷയരോഗം നിർണയിക്കപ്പെടുന്നതിനു മുൻപ് നിങ്ങളുടെ തൊഴിൽ ഇത് തന്നെയായിരുന്നോ	1. അതെ □ 2. അല്ല □ (വ്യക്തമാക്കുക)	
1. 6	കുടുംബത്തിന്റെ വരുമാനം നൽകുന്നത് ആരാണ്?	1. പങ്കെടുക്കുന്ന വ്യക്തി □ 2. മറ്റുള്ളവ (വ്യക്തമാക്കുക)	ഒന്നിലധികം വ്യക്തികൾ
1. 7	നിങ്ങൾ ഉൾപ്പെടെ എത്ര പേർ ഈ വീട്ടിൽ താമസിക്കുന്നു?		
1. 8	റേഷൻ കാർഡിന്റെ നിറം	1. മഞ്ഞ □ 2. പിങ്ക് □ 3. നീല □ 4. വെള്ള□ 5. റേഷൻ കാർഡ് ഇല്ല □	
1. 9	സാമൂഹിക വിഭാഗം	1. ആദിവാസി ഗോത്രം □ 2. പട്ടിക ജാതി □ 3. ജനറൽ □ 4. മറ്റു പിന്നോക്ക ജാതി □ 5. ഉത്തരം നൽകാൻ നിരസിച്ചു. □	
1.1 0	നിങ്ങൾക്ക് എന്തെങ്കിലും ആരോഗ്യ ഇൻഷുറൻസ് പദ്ധതി ഉണ്ടോ?	1. കേരള ആരോഗ്യ സുരക്ഷാ പദ്ധതി(KASP) □ 2. ഇല്ല □ 3. മറ്റുള്ളവ (വ്യക്തമാക്കുക)	

വിഭാഗം 2: ക്ഷയരോഗ ചികിത്സ കാർഡിൽ നിന്നുള്ള വിവരങ്ങൾ

2.1	വയസ്സ് (പൂർത്തിയാക്കിയ വർഷങ്ങളിൽ)		
2 .2	ലിംഗഭേദം	1. പുരുഷൻ □ 2. സ്ത്രീ □ 3. നപുംസകം	
2.3	നിങ്ങളുടെ ഡോട്ട്സ് പ്രൊവൈഡറെ ആലോചിക്കുക.അവർ ഏത് പദവി വഹിക്കുന്നവരാണ്?	.....	
2.4	നിങ്ങളുടെ ഡോട്ട്സ് സെന്ററർ ഏതാണ്?	.....	
2.5	രോഗ വർഗ്ഗീകരണം	1.മൈക്രോബയോളജിക്കൽ പരിശോധന വഴി ശ്വാസകോശത്തിലെ ക്ഷയരോഗ സ്ഥിരീകരിച്ചു □ 2. ചികിത്സാപരമായി ശ്വാസകോശത്തിലെ ക്ഷയരോഗ രോഗനിർണ്ണയം □ 3. മൈക്രോബയോളജിക്കൽ പരിശോധന വഴി ശ്വാസകോശത്തിന് പുറത്ത് ക്ഷയരോഗ സ്ഥിരീകരിച്ചു □ 4. ചികിത്സാപരമായി ശ്വാസകോശത്തിന് പുറത്ത് ക്ഷയരോഗ രോഗനിർണ്ണയം □	
2.6	ശ്വാസകോശത്തിന് പുറത്ത് എവിടെയാണ് രോഗം ബാധിച്ചിരിക്കുന്നത്?	1. ലിംഫ് നോഡുകൾ (സ്ഥലം വ്യക്തമാക്കുക) ..... 2. അടിവയർ □ 3. പ്ലൂറൽ എഫ്യൂഷൻ □ 4. അസ്ഥികളുടെ / സന്ധികൾ □ 5. തലച്ചോറ് / മെനിഞ്ചസ് □ 6. മറ്റുള്ളവ (വ്യക്തമാക്കുക) ..... 7. ബാധകമല്ല □	
2.7	ക്ഷയരോഗത്തിന്റെ ആദ്യ രോഗനിർണയ തീയതി	തീയതി:	
2.8	നിക്ഷയ് പോർട്ടലിൽ ക്ഷയരോഗത്തിന്റെ അറിയിപ്പ് തീയതി	തീയതി:	
2.9	ക്ഷയരോഗ ചികിത്സാ കാർഡിൽ എഴുതിയിരിക്കുന്ന രോഗനിർണയ തീയതി	തീയതി:	
2.10	ചികിത്സ ആരംഭിച്ച തീയതി	തീയതി:	
2.11	എക്സ്- റേ /ഹിസ്റ്റോപാത്തോളജി / CBNAAT / കൾചർ വിശദാംശങ്ങൾ		
2.12	ചികിത്സയുടെ ആരംഭത്തിലും തുടർന്നുള്ള സന്ദർശനങ്ങളിലും സ്മിയർ നില എങ്ങിനെയാണ്?	1. 2. 3.	2.5, 2/3/4 ആണെങ്കിൽ ഒഴിവാക്കുക

2.13	ചികിത്സ ആരംഭിക്കുമ്പോൾ ഭാരം (kg) (ആദ്യ സന്ദർശനം) (തീയതി)	ഭാരം: .....kg തീയതി:	
2.14	രണ്ടാമത്തെ സന്ദർശനത്തിലെ ഭാരം(kg) (തീയതി)	ഭാരം: .....kg തീയതി:	
2.15	മൂന്നാമത്തെ സന്ദർശന സമയത്ത് ഭാരം (kg)(തീയതി)	ഭാരം: ..... തീയതി:	
2.16	പ്രമേഹം നില	1. ഉണ്ട് □ 2. ഇല്ല □ 3. നൽകിയിട്ടില്ല □	
2.17	പ്രമേഹം ഉണ്ടെങ്കിൽ രക്തത്തിലെ പഞ്ചസാരയുടെ മൂല്യം (mg / dl ൽ)	1._____mg/dl 2. അറിയില്ല □	
2.18	എച്ച് ഐ വി നില	1. പോസിറ്റീവ് □ 2. നെഗറ്റീവ് □ 3. അറിയില്ല □	
2.19	മറ്റേതെങ്കിലും രോഗങ്ങൾ ഉണ്ടോ?	1. ഉണ്ട് □ 2. ഇല്ല □	
2.20	ഉണ്ടെങ്കിൽ, വ്യക്തമാക്കുക	1. 2. 3. 4.	
2.21	ക്ഷയരോഗ ചികിത്സാ ഫലം	1. സുഖപ്പെടുത്തി□ 2. ചികിത്സ പൂർത്തിയായി □ 3. മരിച്ചു□ 4. ചികിത്സ നിർത്തി□ 5. ചികിത്സ പരാജയം □ 6 . ചികിത്സ തുടരുന്നു □ 7. രേഖപ്പെടുത്തിയിട്ടില്ല □	
2.22	ക്ഷയരോഗ ചികിത്സാ കാർഡിൽ എന്തെങ്കിലും പ്രതികൂല സംഭവങ്ങൾ റിപ്പോർട്ട് ചെയ്യപ്പെട്ടിട്ടുണ്ടോ?		
2 .2 3	രോഗിയുടെ ഇപ്പോഴത്തെ അവസ്ഥ	1. കിടപ്പിലാണ് □ 2. വീൽചെയർ ബന്ധിതമാണ് □ 3. ആരോഗ്യവാനാണ് □ 4. മറ്റുള്ളവ (വ്യക്തമാക്കുക)	

വിഭാഗം 3: രോഗലക്ഷണങ്ങൾ, രോഗനിർണയം, ചികിത്സ എന്നിവയെക്കുറിച്ച് രോഗികളിൽ നിന്നുള്ള വിവരങ്ങൾ

3. 1	രോഗവുമായി ബന്ധപ്പെട്ട് എന്തായിരുന്നു പ്രാരംഭ ലക്ഷണങ്ങൾ?	1. ചുമ □ 2. പനി□ 3. ഭാരനഷ്ടം□ 4.□□□□□ □□□□□□ □□□ □ 5. മറ്റുള്ളവ (വ്യക്തമാക്കുക)	ഒന്നിലധികം ഉത്തരങ്ങൾ തിരഞ്ഞെടുക്കുന്നതാണ്

3. 2	മേൽപ്പറഞ്ഞ ഏതെങ്കിലും ലക്ഷണങ്ങൾക്ക് വേണ്ടി ആദ്യമായി ആശുപത്രി സന്ദർശിച്ച തീയതി ?		ഏകദേശ തീയതി
3. 3	ആദ്യം സന്ദർശിച്ച ആശുപത്രി	1. പ്രാഥമിക ആരോഗ്യ കേന്ദ്രം □ 2. കമ്മ്യൂണിറ്റി ഹെൽത്ത് സെന്റർ □ 3. ജീല്ല / താലൂക്ക് ആശുപത്രി □ 4. മെഡിക്കൽ കോളജ് –(ഗവ / സ്വകാര്യ) □ 5 സ്വകാര്യ ആശുപത്രി □ 6. ഇതര ചികിത്സ □ 7.മറ്റുള്ളവ(വ്യക്തമാക്കുക)	
3. 4	നിങ്ങളുടെ വസതിയിൽ നിന്ന് ഡോട്ട്സ് സെന്ററിലേക്കുള്ള ദൂരം എത്രയാണ്? (കിലോമീറ്ററിൽ)	.....km	
3.5	ചികിത്സയ്ക്കായി നിലവിലെ കേന്ദ്രത്തിലേക്ക് വരുന്നതിനുള്ള കാരണം എന്താണ്	(വ്യകതമാക്കുക)	
3. 6	ചികിത്സാ കേന്ദ്രത്തിലേക്ക് എത്തിച്ചേരുന്നതിനുള്ള ഗതാഗത മാർഗ്ഗം ഏതാണ്?	1. നടന്ന് □ 2. വാഹനം □ 3. വാഹനവും നടത്തവും □	
3. 7	ചികിത്സയ്ക്കിടെ എന്തെങ്കിലും ഒരു നേരത്തേക്കുള്ള മരുന്ന് കഴിക്കാതിരിക്കേണ്ടി വന്നിട്ടുണ്ടോ?	1. ഉണ്ട് □ 2. ഇല്ല □	ഉത്തരം2 എങ്കിൽ 3.1 3 ലേക്ക് പോകുക
3.8	ഉണ്ട് എങ്കിൽ എത്ര പ്രാവിശ്യം മരുന്ന് കഴിക്കാതിരിക്കേണ്ടി വന്നിട്ടു ണ്ട്	1 . ആദ്യ രണ്ട് മാസം (എത്ര പ്രാവിശ്യം - വ്യക്തമാക്കുക) ..... 2. കഴിഞ്ഞ 4 മാസങ്ങളിൽ (എത്ര പ്രാവിശ്യം -വ്യക്തമാക്കുക) ..... 3. രണ്ടും □ 4 . നഷ്ടപ്പെടുത്തിയില്ല □ 5.രേഖപ്പെടുത്തിയിട്ടില്ല □ 6 . മറ്റുള്ളവ (വ്യക്തമാക്കുക)	
3.9	വീണ്ടെടുക്കൽ നടപടി ആരാണ് ചെയ്യേണ്ടത് ?	1. ഡോട്സ് ദാതാവ് □ 2. മറ്റുള്ളവർ (വ്യക്തമാക്കുക) 3.രേഖപ്പെടുത്തിയിട്ടില്ല □	
3.1 0	നഷ്ടമായ ഡോസുകൾക്കായി ഏതെങ്കിലും വീണ്ടെടുക്കൽ നടപടി ചെയ്തിട്ടുണ്ടോ?	1. നഷ്ടമായ ഓരോ ഡോസിനും 2. ചില നഷ്ടമായ ഡോസിന് □ 3. ഒരു നടപടിയും സ്വീകരിച്ചില്ല □ 4.രേഖപ്പെടുത്തിയിട്ടില്ല	
3.1 1	നഷ്ടമായ ഡോസുകളുടെ ഏകദേശ എണ്ണം		
3.1 2	നഷ്ടമായ ഡോസിനുള്ള കാരണം	(വ്യക്തമാക്കുക)	
3.1 3	നിങ്ങൾ പുകയില, പോലുള്ള അതേ ബീഡി / സിഗരറ്റ് /	1. ഉണ്ട് □ 2. ഇല്ല □ 3. ഉത്തരം നൽകാൻ നിരസിച്ചു □	ഉത്തരം 2/3 എങ്കിൽ 3.1 5

	കുഴൽ / മറ്റെന്തെങ്കിലും ഉപയോഗിക്കുന്നുണ്ടോ??		ലേക്ക് പോകുക
3.1 4	പുകവലി ഉൽപ്പന്നങ്ങളുമായി ബന്ധപ്പെട്ട് നിങ്ങളുടെ നിലയ്ക്ക് അനുയോജ്യമായത് ഏതാണ് ??	1. ക്ഷയരോഗ നിർണയത്തിന് മുമ്പ് നിർത്തി □ 2. ക്ഷയരോഗ നിർണയത്തിന് ശേഷം നിർത്തി □ 3. രോഗനിർണയത്തിനുശേഷം പുകവലി തുടർന്നു (വ്യക്തമാക്കുക)..... 4. ഉത്തരം നൽകാൻ നിരസിച്ചു □	
3.1 5	നിങ്ങൾ ബിയർ, വൈൻ, വിസ്കി, കള്ള്, പ്രാദേശികമായി തയ്യാറാക്കിയ മദ്യം കുടിക്കാറുണ്ടോ?	1. ഉണ്ട് □ 2. ഇല്ല □ 3. ഉത്തരം നൽകാൻ നിരസിച്ചു □	ഉത്തരം 2/3 3. 17 ലേക്ക് പോകുക
3. 16	ഇനിപ്പറയുന്നവയിൽ നിങ്ങളുടെ മദ്യപാന നിലയ്ക്ക് അനുയോജ്യമാണോ ?	1ക്ഷയരോഗനിർണയത്തിന് മുമ്പ് നിർത്തി 2. ക്ഷയരോഗ ഗനിർണയത്തിന് ശേഷം നിർത്തി 3.ചികിത്സയ്ക്കിടെ തുടർന്നു (എത്ര തവണ) 4. . ഉത്തരം നൽകാൻ നിരസിച്ചു	
3. 17	രോഗാവസ്ഥ കാരണം താങ്കൾക്ക് എപ്പോളെങ്കിലും സമൂഹത്തിൽ നിന്ന് എന്തെങ്കിലും വിവേചനം അനുഭവപ്പെട്ടിട്ടുണ്ടോ ?	1. അതെ □ 2. ഇല്ല □	
3.18	ഉണ്ടെങ്കിൽ, വ്യക്തമാക്കുക		

വിഭാഗം 4: ഭക്ഷ്യ സുരക്ഷ

4.1	കഴിഞ്ഞ 12 മാസത്തിൽ ആവശ്യത്തിന് അല്ലെങ്കിൽ കൂടുതൽ ഭക്ഷണം വാങ്ങാൻ നിങ്ങൾക്ക് മതിയായ പണമില്ലാത്ത അവസ്ഥ ഉണ്ടായിട്ടുണ്ടോ ?.	1. കൂടുതലും ശരിയാണ് □ 2. ചിലപ്പോഴൊക്കെ സത്യം □ 3. ഒട്ടും ശരിയല്ല □ 4. അറിയില്ല / ഉത്തരം നൽകിയില്ല□	
4.2	കഴിഞ്ഞ 12 മാസത്തിൽ നിങ്ങൾക്ക് സമീകൃതാഹാരം വാങ്ങാനുള്ള സാമ്പത്തികം ഉണ്ടായിരുന്നില്ല. ഈ വാചകം ശരിയാണെന്ന് കരുതുന്നുണ്ടോ? സമീകൃത ആഹാരം എന്ന് വച്ചാൽ - പാൽ, മുട്ട, ഇറച്ചി, പഴങ്ങൾ, ഉരുളക്കിഴങ്ങ്, പയർ വർഗ്ഗങ്ങൾ എന്നിവ അടങ്ങിയ ഭക്ഷണരീതി	1. കൂടുതലും ശരിയാണ് □ 2. ചിലപ്പോഴൊക്കെ സത്യം □ 3. ഒട്ടും ശരിയല്ല □ 4. അറിയില്ല / ഉത്തരം നൽകിയില്ല □	

4.3	പണത്തിന്റെ അഭാവം മൂലം നിങ്ങൾക്കും നിങ്ങളുടെ കുടുംബാംഗങ്ങൾക്കും എത്ര മാസങ്ങളിൽ ഭക്ഷണമോ അല്ലെങ്കിൽ മതിയായ ഭക്ഷണമോ ലഭിക്കാൻ ബുദ്ധിമുട്ടുണ്ടായി?	1. മിക്കവാറും എല്ലാ മാസവും ☐ 2. കുറച്ച് മാസങ്ങൾ - എല്ലാ മാസവും അല്ല ☐ 3. 1 അല്ലെങ്കിൽ 2 മാസം ☐ 4.ഒരിക്കലും സംഭവിച്ചിട്ടില്ല ☐	
4.4	കഴിഞ്ഞ 12 മാസങ്ങളിൽ എപ്പോഴെങ്കിലും പണത്തിന്റെ അഭാവം കാരണം നിങ്ങൾക്ക് വിശക്കുന്നുണ്ടെങ്കിലും പട്ടിണി കിടക്കേണ്ട സാഹചര്യം ഉണ്ടായിട്ടുണ്ടോ?	1. ഉണ്ട് ☐ 2. ഇല്ല ☐	
4.5	ക്ഷയരോഗ ചികിത്സാ സമയത്ത്, നിങ്ങൾ പോഷകസമൃദ്ധമാ യി താങ്കൾക്ക് തോന്നിയ എന്തെങ്കിലും ആഹാരങ്ങൾ പ്രത്യേകമായി വാങ്ങിയിട്ടുണ്ടോ ?	1. ഉണ്ട് ☐ 2. ഇല്ല ☐	
4.6	ഉണ്ടെങ്കിൽഎന്ത് തരം ആഹാരമാണെന്നു വ്യക്തമാക്കുക		
4.7	അധികച്ചെലവിനായി നിങ്ങൾ എങ്ങനെയാണ് പണം കണ്ടെത്തിയത്?		

വിഭാഗം 5: നിക്ഷയ് പോഷണ യോജനയും നേരിട്ടുള്ള ആനുകൂല്യ കൈമാറ്റവും

5. 1	ക്ഷയരോഗ ചികിത്സ സമയത്ത്, എന്തെങ്കിലും ഗുണഭോക്തൃ സഹായം നിങ്ങൾക്ക് ലഭ്യമായോ?	1.അതെ ☐ 2.ഇല്ല ☐	2ആണെങ്കിൽ, 5.4 ലേക്ക് പോകുക
5.2	ലഭ്യമായെങ്കിൽ എന്ത് തരത്തിലുള്ള ഗുണഭോക്തൃ സഹായം ആണ് ലഭിച്ചത് (ധനസഹായം / ഭക്ഷ്യ വസ്തുക്കൾ)	1.സാമ്പത്തിക സഹായം ☐ 2 . ഭക്ഷണ വസ്തുക്കൾ ☐ 3. രണ്ടും ☐ 4. സഹായമില്ല ☐ 5. മറ്റുള്ളവ (വ്യക്തമാക്കുക)	
5. 3	എവിടെ നിന്നാണ് നിങ്ങൾക്ക് സാമ്പത്തിക സഹായം ലഭിക്കുന്നത്	1. നിക്ഷയ് പോഷണ യോജന ☐ 2.കേരള സർക്കാർ ☐ 3. □□□□□□□ □□□□□□□ ☐ 4.മറ്റുള്ള (വ്യക്തമാക്കുക)	

5.4	5.1 ന്റെ ഉത്തരം ഇല്ല എന്നാണെങ്കിൽ , ക്ഷയരോഗ ചികിത്സയിലെ ഏതെങ്കിലും പദ്ധതികളെക്കുറിച്ച് നിങ്ങൾക്കറിയാമോ?	1. അറിയാം □ 2.ഇല്ല □	2 ആണെങ്കിൽ, കൂടുതൽ ചോദ്യങ്ങളൊന്നുമില്ല
5. 5	അറിയുന്നുണ്ടെങ്കിൽ, നിക്ഷയ് പോഷൻ യോജനയെക്കുറിച്ച് നിങ്ങൾ കേട്ടിട്ടുണ്ടോ?	1.ഉണ്ട് □ 2.ഇല്ല □	
5.6	നിക്ഷയ് പോഷൻ യോജനയിൽ നിന്ന് നിങ്ങൾക്ക് ധനസഹായം ലഭിച്ചിട്ടുണ്ടോ ?	1.മുഴുവൻ തുകയും ലഭിച്ചു . □ 2.തുക ഭാഗികമായി ലഭിച്ചു □ 3.പണമൊന്നും ലഭിച്ചില്ല. □	
5.7	5.5 ന്റെ ഉത്തരം ഇല്ല എന്നാണെങ്കിൽ ഈ പദ്ധതിയുടെ ഭാഗമാകാത്തതിനുള്ള കാരണം എന്താണ്?	1.ആധാർ നമ്പർ □□□□ □□□□□□□ 2.ബാങ്ക് അക്കൗണ്ട് ഇല്ല □ 3മറ്റുള്ളവ (വ്യക്തമാക്കുക)	
5.8	ക്ഷയരോഗികൾക്കുള്ള സർക്കാരിൽ നിന്നുള്ള ഗുണഭോക്തൃ തുക എത്ര രൂപ ആണ്?	.....Rs	
5.9	ഈ ഗുണഭോക്തൃ തുകയുടെ ഉദ്ദേശ്യം നിങ്ങൾക്കറിയാമോ ?	1. അറിയാം □ (വ്യക്തമാക്കുക) ..... 2. ഇല്ല	
5.10	ടിബി രോഗികൾക്കുള്ള സർക്കാരിൽ നിന്നുള്ള ഗുണഭോക്തൃ പദ്ധതിയെക്കുറിച്ച് നിങ്ങൾ എങ്ങനെ മനസ്സിലാക്കി ?	1.ആശ വർക്കർ □ 2. JHI/JPHN 3.സീനിയർ ചികിത്സ സൂപ്പർവൈസർ □ 4.ക്ഷയരോഗ ആരോഗ്യ സന്ദർശകൻ □ 5.ഡോക്ടർ □ 6. □□□□□□□□□□□□. □ 7. മറ്റുള്ളവ (വ്യക്തമാക്കുക)	
5.11	ചികിത്സ ആരംഭിച്ചതിന് ശേഷം നിങ്ങൾക്ക് ആദ്യ ഗടു (തുക) എപ്പോഴാണ് ലഭിച്ചത്?	.....	ഏകദേശ തീയതി
5.12	അവസാന ഗടു (തുക)നിങ്ങൾക്ക് എപ്പോഴാണ് ലഭിച്ചത്?	.....	ഏകദേശ തീയതി
5.1 3	ഈ പദ്ധതി ലൂടെ ലഭിച്ച പണം നിങ്ങൾ എങ്ങനെ ചെലവഴിച്ചു?	1.ആഹാരം വാങ്ങുന്നതിന് □ 2. യാത്ര ചെലവുകൾക്ക് □ 3.വീട്ടിലെആവശ്യങ്ങക്ക് □ 4മറ്റുള്ളവ □ (വ്യക്തമാക്കുക) ..... 5.അറിയില്ല □	1 ആണെങ്കിൽ, 5.14 ലേക്ക് പോകുക 2/3/4 എങ്കിൽ 5.15 ലേക്ക് പോകുക
5.14	നിങ്ങൾക്ക് ലഭിച്ച പണം ഉപയോഗിച്ച് എന്തെങ്കിലും പ്രത്യേക ഭക്ഷണം വാങ്ങിയിട്ടുണ്ടോ? / ലഭിച്ച പണം ഉപയോഗിച്ച് നിങ്ങൾ ഏത് ഭക്ഷണമാണ് വാങ്ങിയത്? (വ്യക്തമാക്കുക)		
5.15	താങ്കൾക്ക് ബാങ്ക് അക്കൗണ്ട് ഇല്ലെങ്കിൽ,ആരുടെ അക്കൗണ്ടിലേക്കാണ് ഈ തുക വരുന്നത്.	1. എനിക്ക് അക്കൗണ്ട് ഉണ്ട് □ 2.മറ്റുള്ളവ (ആരുടേയെന്ന് വ്യകതമാക്കുക)	

5.16	ഈ തുക അക്കൗണ്ടിൽ എത്തിയതിന്റെ എന്തെങ്കിലും തെളിവുകൾ താങ്കളുടെ പക്കൽ ഉണ്ടോ?	1.അക്കൗണ്ട് ബുക്കിൽ പതിച്ചു കിട്ടിയിട്ടുണ്ടോ □ 2.എസ് എം എസ് (SMS) വന്നിട്ടുണ്ടോ □ 3. മറ്റുള്ളവ (വ്യകതമാക്കുക)	
5.17	തുക ബാങ്കിൽ നിന്നും പിൻവലിക്കുന്നതിന് താങ്കൾക്ക് എന്തെങ്കിലും ബുദ്ധിമുട്ട് ഉണ്ടായിട്ടുണ്ടോ ?	1.ഉണ്ട് □ 2.ഇല്ല □	
5.18	ഈ പദ്ധതി പ്രയോജനകരമാണെന്നു താങ്കൾക്ക് തോന്നുന്നുണ്ടോ?	1.ഉണ്ട് □ 2.ഇല്ല □	

ANNEXURE XI

ക്രമ നമ്പർ:

അഭിമുഖ മാർഗ്ഗനിർദ്ദേശങ്ങൾ

1. വ്യക്തിഗത വിവരം
    a. താങ്കളെക്കുറിച്ചു എന്തെങ്കിലും സംസാരിക്കാമോ?
    b. ഈ രംഗത്ത് താങ്കൾ എത്ര വർഷമായി പ്രവർത്തിക്കുന്നു?
    c. താങ്കളുടെ പ്രവർത്തന പശ്ചാത്തലം വിശദീകരിക്കാമോ ?
    d. ക്ഷയരോഗ നിയന്ത്രണ പ്രോഗ്രാമിലെ താങ്കളുടെ പങ്ക് ദയവായി വിവരിക്കുക?
2. ക്ഷയരോഗ നിയന്ത്രണ പ്രോഗ്രാമിന്റെ കീഴിൽ വരുന്ന നിക്ഷയ പോഷണ് യോയാന പോഷകാഹാര ഗുണഭോക്തൃ പദ്ധതിയെക്കുറിച്ച താങ്കൾ ദയവായി വിശദികരിക്കാമോ?
    a. ഈ പ്രോഗ്രാമിന്റെ പ്രധാന സവിശേഷതകൾ എന്തൊക്കെയാണെന്ന് പറയാമോ?
3. ഈ പ്രോഗ്രാം എല്ലാവരിലും എത്തിച്ചേരുന്നതിനായി ടിബി നിയന്ത്രണ വിഭാഗം എങ്ങനെ ക്രമീകരിച്ചിരിക്കുന്നു ?

   ആരൊക്കെയാണ് ചുമതലയുള്ളവർ ?
4. ഈ പദ്ധതി നടപ്പിലാക്കാനുള്ള ഘട്ടങ്ങൾ താങ്കൾ ദയവായി വിശദികരിക്കാമോ?
    a. ഓരോ ഘട്ടവും പൂർത്തിയാക്കുന്നതിനായി ഏകദേശം എത്ര സമയം വേണ്ടി വരും?
    b. ഈ പ്രോഗ്രാം നടപ്പിലാക്കുന്നതിൽ താങ്കൾക്ക് എന്തെങ്കിലും ബുദ്ധിമുട്ട് തോന്നുന്നുണ്ടോ? _____ ഒരു ബുദ്ധിമുട്ടാണെന്ന് നിങ്ങൾ പറയുമ്പോൾ താങ്കൾ എന്താണ് ഉദ്ദേശിക്കുന്നതെന്ന് ദയവായി എനിക്ക് വിശദീകരിക്കാമോ?
5. ഈ സാമ്പത്തിക സഹായ പദ്ധതിയുടെ പ്രവർത്തനങ്ങൾ ക്ഷയരോഗം നിർണയിക്കപെട്ടവർക്കു എത്ര മാത്രം സുതാര്യമാണ്?
    a. ഈ പദ്ധതിയിൽ രോഗികൾക്ക് ഈ പ്രക്രിയയുടെ വിവിധ ഘട്ടങ്ങൾ പിന്തുടരാനാകുമെന്ന് താങ്കൾ കരുതുന്നുണ്ടോ? ദയവായി വ്യക്തമാകുക?
    b. പദ്ധതിയുടെ സുതാര്യതയെക്കുറിച്ച് രോഗികളെ ബോധ്യപ്പെടു ത്താൻ കഴിയുന്നുണ്ടോ? ദയവായി വിശദീകരിക്കുക
6. ക്ഷയരോഗികളിലെ പോഷക വിലയിരുത്തലിനെക്കുറിച്ച് നന്നായി മനസ്സിലാക്കുന്നതിന് താങ്കൾ എന്തെങ്കിലും പരിശീലനം അല്ലെങ്കിൽ ഓറിയന്റേഷൻ പ്രോഗ്രാമിന് വിധേയമായിട്ടുണ്ടോ ?
    a. പരിശീലനത്തിന്റെ ലക്ഷ്യങ്ങൾ എന്തായിരുന്നു?
    b. താങ്കൾ എന്താണ് മനസിലാക്കിയത്?
    c. അതിനുശേഷം താങ്കളുടെ ജോലിയിൽ ഈ പരിശീലനം താങ്കളെ എങ്ങനെ സഹായിച്ചു?
    d. നിക്ഷയ് പോഷണ യോജനയെക്കുറിച്ചു താങ്കൾക്കു അറിയുന്ന കാര്യങ്ങൾ പറയാമോ?

e. പരിശീലനത്തിൽ ഇതിനെക്കുറിച്ച് താങ്കൾക്ക് എന്ത് വിവരമാണ് ലഭിച്ചത്?

7. നിക്ഷയ് പോഷണ് യോജനയയുടെ നിരീക്ഷണം എങ്ങനെയാണ് ചെയ്യുന്നത്? ആരാണ് മേൽനോട്ടം വഹിക്കുന്നത്? നിക്ഷയ് പോഷണ് യോജന നടപ്പാക്കുന്നതിനെക്കുറിച്ച് എന്തെങ്കിലും ബാഹ്യ വിലയിരുത്തലുകൾ നടത്തിയിട്ടുണ്ടോ?

8. നിലവിലെ പ്രോഗ്രാമിൽ എന്തെങ്കിലും വിടവുകളോ/ കുറവുകളോ ഉണ്ടോ?

a. ഇത് മെച്ചപ്പെടുത്താൻ കഴിയുമെന്ന് താങ്കൾക്ക് എങ്ങനെ തോന്നുന്നു?

9. ഈ പ്രോഗ്രാം ആവശ്യമുള്ള എല്ലാവരിലേക്കും എത്തുമെന്ന് താങ്കൾക്ക് തോന്നുന്നുണ്ടോ?

a. ഇല്ലെങ്കിൽ , എന്തുകൊണ്ടാണ് താങ്കൾക്ക് അങ്ങനെ തോന്നുന്നത്?

PS: മുകളിലുള്ള ചോദ്യങ്ങൾ പങ്കെടുക്കുന്ന എല്ലാവർക്കുമുള്ളതാണ്. അഭിമുഖ മാർഗ്ഗനിർദ്ദേശത്തിൽ പട്ടികപ്പെടുത്തിയിട്ടില്ലാത്ത ചില ചോദ്യങ്ങൾ കൂടി ഉണ്ടാവുന്നതാണ്

ANNEXURE XII

ശ്രീ ചിത്തിര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഓഫ് മെഡിക്കൽ സയൻസ് ആൻഡ് ടെക്നോളജി ,തിരുവനന്തപുരം, കേരളം

പങ്കെടുക്കുന്ന ആളിന്റെ അറിവിനുള്ള വിവരണ പത്രിക

നമസ്കാരം ! ഞാൻ രാജലക്ഷ്മി എസ്, അച്ചുത മേനോൻ സെന്റർ ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസ് (എഎംസിഎച്ച്എസ്), ശ്രീ ചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് ആൻഡ് ടെക്നോളജി (എസ്സിടിഎംടി) തിരുവനന്തപുരത്ത് മാസ്റ്റേഴ്സ് ഓഫ് പബ്ലിക് ഹെൽത്ത് കോഴ്സ് ചെയ്യുന്നു . എന്റെ ഗവേഷണത്തിന്റെ ഭാഗമായി, "**ക്ഷയരോഗമുള്ള രോഗികൾക്കായി നേരിട്ടുള്ള ആനുകൂല്യ കൈമാറ്റ പദ്ധതി (ഡിബിടി) നടപ്പാക്കുന്നത് വിലയിരുത്തുന്നു**" എന്ന വിഷയത്തിൽ ഞാൻ ഒരു പഠനം നടത്തുന്നു **.**

പഠനത്തിന്റെ ഉദ്ദേശ്യം

ക്ഷയരോഗത്തിനെതിരായ പോരാട്ടത്തിൽ പോഷകസമൃദ്ധമായ ഭക്ഷണത്തിന്റെ പങ്ക് അനിവാര്യമാണ്. അതിനാൽ, ക്ഷയരോഗികളുടെ മൊത്തത്തിലുള്ള ചികിത്സാ ഫലത്തെ തടസ്സപ്പെടുത്തുന്ന ഈ പ്രശ്നങ്ങൾ കണക്കിലെടുത്ത് ഗവണ്മെന്റ് ഓഫ് ഇന്ത്യ 'നിക്ഷയ് പോഷൻ യോജന' - ഒരു ആധാർ കാർഡ് ഉപയോഗിച്ചുള്ള നേരിട്ടുള്ള ആനുകൂല്യ കൈമാറ്റ പദ്ധതി (ഡിബിടി) / സാമ്പത്തിക സഹായ പദ്ധതി ആരംഭിച്ചു.

ഈ പഠനത്തിന്റെ ലക്ഷ്യം പദ്ധതി നടപ്പിലാക്കുന്നതിന്റെ നില വിലയിരുത്തുകയും ദാതാക്കൾ ക്കുണ്ടാകുന്ന ബുദ്ധിമുട്ടികളെയും വെല്ലുവിളികളെയും മനസിലാക്കുകയും ഗുണഭോക്താക്കൾക്ക് ലഭിച്ച ഫണ്ടുകളുടെ വിനിയോഗത്തിന്റെ രീതി മനസ്സിലാക്കുകയും ചെയ്യുക എന്നതാണ് .

പഠനത്തിന്റെ വിവരണം

2018 ഏപ്രിൽ ഒന്നാം തീയതി മുതൽ നിക്ഷയ് പോർട്ടലിൽ സാക്ഷ്യപെടുത്തിയിട്ടുള്ള/ രജിസ്റ്റർ ചെയ്തിട്ടുള്ള ക്ഷയരോഗ ബാധിതരെയാണ് ഞാൻ അഭിമുഖം ചെയ്യുന്നത്. ആകെ 250 അഭിമുഖങ്ങൾ കൊല്ലം ജില്ലയിലെ 5 ക്ഷയ രോഗ ചികിത്സാ കേന്ദ്ര ങ്ങളിൽ നിന്ന് രണ്ടു മുതൽ രണ്ടര മാസം കാലാവധിയിൽ പൂർത്തിയാക്കും. നേരിട്ടുള്ള ആനുകൂല്യ കൈമാറ്റ പദ്ധതിയുടെ നടപ്പാക്കൽ പ്രക്രിയയിൽ ഉൾപ്പെട്ടിട്ടുള്ള വിവിധ തലങ്ങളിൽ ജോലി ചെയ്യുന്ന ആരോഗ്യസംരക്ഷണ ദാതാക്കളിൽ ആഴത്തിലുള്ള അഭിമുഖങ്ങൾ നടത്തും.

ശ്രീ ചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് ആൻഡ് ടെക്നോളജിയുടെ ഇൻസ്റ്റിറ്റ്യൂഷണൽ എത്തിക്സ് കമ്മിറ്റിയിൽ നിന്ന് ഈ പഠനത്തിനുള്ള അംഗീകാരം ലഭിച്ചു.

നിങ്ങളുടെ സംഭാവന

നിങ്ങളുടെ സംഭാവനയിൽ നിങ്ങളുടെ സാമൂഹിക സാമ്പത്തിക നില, രോഗനിർണയം ഉൾപ്പെടെയുള്ള രോഗാവസ്ഥ, പരിചരണം / ചികിത്സ തേടുമ്പോൾ നിങ്ങൾ / രോഗി സ്വീകരിച്ച നടപടികൾ എന്നിവ സംബന്ധിച്ച ചില ചോദ്യങ്ങൾക്ക് ഉത്തരം നൽകുന്നത് ഉൾപ്പെടുന്നു. നിക്ഷയ് പോഷൻ യോജനയേയും സാമ്പത്തിക സഹായ പദ്ധതിയേയും കുറിച്ചുള്ള ചോദ്യങ്ങൾ ഉണ്ടായിരിക്കുന്നതാണ്. ഈ പഠനത്തിൽ പങ്കെടുക്കാൻ നിങ്ങൾ സമ്മതിക്കുകയാണെങ്കിൽ, ഇരുപത് മുതൽ മുപ്പത് മിനിറ്റ് വരെ സമയം എടുക്കും. വിവര_പത്രിക വായിക്കുന്ന സമയം, സമ്മതപത്രം ഒപ്പിടൽ, അഭിമുഖം എന്നിവ ഇതിൽ ഉൾപ്പെടും. നിങ്ങൾ നൽകിയ വിവരങ്ങൾ രേഖപ്പെടുത്തും. അഭിമുഖത്തിന് ശേഷം, വിവരങ്ങൾ അപൂർണ്ണമാണെന്ന് കണ്ടെത്തിയാൽ അല്ലെങ്കിൽ കൂടുതൽ വ്യക്തത ആവശ്യമെങ്കിൽ നിങ്ങളെ വീണ്ടും ബന്ധപ്പെടുന്നതായിരിക്കും

പഠനത്തിൽ നിന്നുള്ള നേട്ടങ്ങൾ

പഠനം നിങ്ങൾക്ക് നേരിട്ടുള്ള നേട്ടങ്ങളൊന്നും നൽകില്ല , ഇത് നിങ്ങളുടെ ചികിത്സയെയും സേവനങ്ങളെയും ബാധിക്കുകയില്ല. എന്നാൽ ഈ പഠനത്തിലെ ഫലങ്ങൾ ഒരു സമൂഹത്തെ മുഴുവനായും പ്രയോജനത്തക്കവണ്ണം ഭാവിയിൽ ഒരുപാട് ഗവേഷണങ്ങൾക്കും, പുതിയ നയങ്ങൾ കൊണ്ടുവരുന്നതിനും സഹായകരമാകും.

പഠനത്തിൽ നിന്നുമുള്ള പ്രയാസങ്ങളും ബുദ്ധിമുട്ടുകളും

നിങ്ങളുടെ രോഗവുമായി ബന്ധപ്പെട്ട കുറച്ചു വസ്തുതകൾ ക്ഷയരോഗ ചികിത്സാ കാർഡിൽ നിന്നും എടുക്കുന്നതാണ്.

ചില ചോദ്യങ്ങൾ നിങ്ങൾക്ക് അസുഖകരമായി തോന്നാവുന്നതാണ് എങ്കിൽ ആ ചോദ്യങ്ങൾ നിങ്ങൾ ഒഴിവാക്കുക. കൂടുതൽ ചോദ്യങ്ങൾക്ക് ഉത്തരം നൽകാൻ നിങ്ങൾ തയ്യാറല്ലെങ്കിൽ, ഒരു ബാധ്യതയുമില്ലാതെ അഭിമുഖം അവസാനിപ്പിക്കാൻ നിങ്ങൾക്ക് സ്വാതന്ത്ര്യമുണ്ട്. ശേഖരിച്ച അടിസ്ഥാന വിവരങ്ങൾ ഗവേഷണ ആവശ്യത്തിനായി മാത്രമേ ഉപയോഗിക്കൂ.

നിങ്ങളുടെ വിവരങ്ങളുടെ രഹസ്യസ്വഭാവം

താങ്കളിൽ നിന്ന് ചോദിച്ചറിയുന്ന വിവരങ്ങൾ എന്ത് തന്നെ ആയാലും അവ വളരെ സുരക്ഷിതമായി സൂക്ഷിക്കുകയും അവ എനിക്കും എന്റെ മേലധികാരിക്കും മാത്രം ലഭ്യമാകുന്നതാണു്. നിങ്ങളുടെ വിശദാംശങ്ങൾ ഒരു ഘട്ടത്തിലും ആരുമായും പങ്കിടില്ല. നിങ്ങളുടെ വ്യക്തിഗത വിവരങ്ങൾ ഒഴികെയുള്ളവ മാത്രമേ പഠനത്തിന്റെ വിശകലനത്തിനായി ഉപയോഗിക്കൂ. കൂടാതെ പഠന ഫലങ്ങൾ അവതരിപ്പിക്കുകയും പ്രസിദ്ധീകരിക്കുകയും ചെയ്യും .

ബന്ധപ്പെടാനുള്ള വിവരങ്ങൾ

നിങ്ങൾ ചോദിക്കാൻ ആഗ്രഹിക്കുന്ന എന്തെങ്കിലും ചോദ്യമോ സംശയമോ ഉണ്ടോ? എന്റെ കഴിവിന്റെ പരമാവധി അത് വ്യക്തമാക്കാൻ ഞാൻ ശ്രമിക്കും.

പ്രധാന അന്വേഷകന്റെ പേര്: രാജലക്ഷ്മി എസ്

പ്രധാന അന്വേഷകന്റെ ഒപ്പ്:

പ്രധാന അന്വേഷകന്റെ ബന്ധപ്പെടേണ്ട നമ്പർ: 9633313357

ഇമെയിൽ: rajalakshmi4ever@gmail.com

ഈ പഠനത്തിന്റെ ആധികാരികതയെക്കുറിച്ച് നിങ്ങൾക്ക് എന്തെങ്കിലും സംശയം / അന്വേഷണം ഉണ്ടെങ്കിൽ, അല്ലെങ്കിൽ എന്റെ യോഗ്യതാപത്രങ്ങൾ പരിശോധിക്കാൻ ആഗ്രഹിക്കുന്നുവെങ്കിൽ, ഇൻസ്റ്റിറ്റ്യൂഷണൽ എത്തിക്സ് കമ്മിറ്റി സെക്രട്ടറി ഡോ. മാല രാമനാഥൻ, ശ്രീ ചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് & ടെക്നോളജി (SCTIMST), തിരുവനന്തപുരം- 695011, കേരളം, ഇന്ത്യ, ഓഫീസ് നമ്പർ: 0471-2524234 നിങ്ങൾക്ക് ബന്ധപ്പെ ടാവുന്നതാണ്.

സ്വമേധയാ പങ്കാളിത്തം

ഈ പഠനത്തിലെ നിങ്ങളുടെ പങ്കാളിത്തം പൂർണ്ണമായും സ്വമേധയാ ഉള്ളതാണ്, അതിനർത്ഥം പഠനത്തിൽ പങ്കെടുക്കണോ വേണ്ടയോ എന്ന് നിങ്ങൾക്ക് തീരുമാനിക്കാം. നിങ്ങൾക്ക് എപ്പോൾ വേണമെങ്കിലും പഠനത്തിൽ നിന്ന് പിന്മാറാനുള്ള അവകാശമുണ്ട്. നിങ്ങളുടെ നിലവിലെ എല്ലാ ആനുകൂല്യങ്ങളും സേവനങ്ങളും നിങ്ങൾക്ക് തുടർന്നും ലഭിക്കും. പങ്കെടുക്കാൻ നിങ്ങൾ തീരുമാനിച്ചിട്ടുണ്ടെങ്കിൽ, അറിയിച്ചുള്ള സമ്മതപത്രത്തിൽ ദയവായി ഒപ്പിടുക.

തീയതി: അന്വേഷകന്റെ ഒപ്പ്

ANNEXURE XIII

ശ്രീ ചിത്തിര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഓഫ് മെഡിക്കൽ സയൻസ് ആൻഡ് ടെക്നോളജി തിരുവനന്തപുരം, കേരളം

അഭിമുഖത്തിനായുള്ള പ്രതികരണ വിവര പത്രിക

നമസ്കാരം ! ഞാൻ രാജലക്ഷ്മി എസ്, അച്ചുത മേനോൻ സെന്റർ ഫോർ ഹെൽത്ത് സയൻസ് സ്റ്റഡീസ് (എഎംസിഎച്ച്എസ്), ശ്രീ ചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് ആൻഡ് ടെക്നോളജി (എസ്സിടിഎംടി) തിരുവനന്തപുരത്ത് മാസ്റ്റേഴ്സ് ഓഫ് പബ്ലിക് ഹെൽത്ത് കോഴ്സ് ചെയ്യുന്നു . എന്റെ ഗവേഷണത്തിന്റെ ഭാഗമായി, " ക്ഷയരോഗമുള്ള രോഗികൾക്കായി നേരിട്ടുള്ള ആനുകൂല്യ കൈമാറ്റ പദ്ധതി (ഡിബിടി) നടപ്പാക്കുന്നത് വിലയിരുത്തുന്നു " എന്ന വിഷയത്തിൽ ഞാൻ ഒരു പഠനം നടത്തുന്നു .

ക്ഷയരോഗത്തിനെതിരായ പോരാട്ടത്തിൽ പോഷകസമൃദ്ധമായ ഭക്ഷണത്തിന്റെ പങ്ക് അനിവാര്യമാണ് . അതിനാൽ, ക്ഷയരോഗ രോഗികളുടെ മൊത്തത്തിലുള്ള ചികിത്സാ ഫലത്തെ തടസ്സപ്പെടുത്തുന്ന ഈ പ്രശ്നങ്ങൾ കണക്കിലെടുത്ത് ഗവണ്മെന്റ് ഓഫ് ഇന്ത്യ 'നിക്ഷയ് പോഷൻ യോജന' - ആധാർ കാർഡ് ഉപയോഗിച്ചുള്ള നേരിട്ടുള്ള ആനുകൂല്യ കൈമാറ്റ പദ്ധതി (ഡിബിടി) / സാമ്പത്തിക സഹായ പദ്ധതി ആരംഭിച്ചു.

ഈ പഠനത്തിന്റെ ലക്ഷ്യം: പദ്ധതി നടപ്പിലാക്കുന്നതിന്റെ നില വിലയിരുത്തുകയും ദാതാക്കൾക്കുണ്ടാകുന്ന ബുദ്ധിമുട്ടികളെയും വെല്ലുവിളികളെയും മനസിലാക്കുകയും, ഗുണഭോക്താക്കൾക്ക് ലഭിച്ച ഫണ്ടുകളുടെ വിനിയോഗത്തിന്റെ രീതി മനസ്സിലാക്കുകയും ചെയ്യുക എന്നതാണ്.

ക്ഷയരോഗ ചികിത്സക്കു വേണ്ടിയുള്ള നേരിട്ടുള്ള ആനുകൂല്യ കൈമാറ്റ പദ്ധതി നടപ്പാക്കൽ പ്രക്രിയയിൽ ഉൾപ്പെട്ടിട്ടുള്ള വിവിധ തലത്തിലുള്ള ആരോഗ്യസംരക്ഷണ ദാതാക്കളിൽ ആഴത്തിലുള്ള അഭിമുഖങ്ങൾ നടത്തും. ഇതിൽ ഒരു ലബോറട്ടറി ടെക്നീഷ്യൻ, മെഡിക്കൽ ഓഫീസർമാർ (ചെക്കർ), സീനിയർ ടിബി ലബോറട്ടറി സൂപ്പർവൈസർ (STLS) അല്ലെങ്കിൽ സീനിയർ ട്രീറ്റ്മെന്റ് സൂപ്പർവൈസർ (STS) , ഒരു മെഡിക്കൽ കോളേജിലെ ഒരു ക്ഷയരോഗ ആരോഗ്യ സന്ദർശകൻ ,ജില്ലയിലെ ഡാറ്റാ എൻട്രി ഓപ്പറേറ്റർ, ജില്ലാ അക്കൗണ്ടന്റ് (ഡിടിസി), ജില്ലാ പ്രോഗ്രാം മാനേജർ (അംഗീകാര തലത്തിൽ), ജില്ലാ അക്കൗണ്ട് മാനേജർ (പിഎഫ്എംഎസ്) ഉൾപ്പെടും.

ഈ പഠനത്തിൽ പങ്കെടുക്കാൻ ഞാൻ താഴ്മയോടെ അഭ്യർത്ഥിക്കുന്നു. ഈ അഭിമുഖത്തിലൂടെ താങ്കളുടെ കുറച്ചു സ്വകാര്യവിവരങ്ങളും , ഈ പദ്ധതിയെ കുറിച്ച് താങ്കൾക്കുള്ള അറിവും, ഇത് നടപ്പിലാകുനത്തിൽ നേരിടേണ്ടി വരുന്ന വെല്ലുവിളികളെയും അതിന്റെ സാധ്യമായ പരിഹാരങ്ങളെയും കുറിച്ചുള്ള വിവരങ്ങൾ ശേഖരിക്കാൻ ഞാൻ ശ്രമിക്കുന്നു . ഈ പ്രക്രിയയിൽ താങ്കളുടെ പേരോ സ്വകാര്യ വിവരങ്ങളോ വെളിപ്പെടുത്തുന്നതല്ല.

ശ്രീ ചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് ആൻഡ് ടെക്നോളജിയുടെ ഇൻസ്റ്റിറ്റ്യൂഷണൽ എത്തിക്സ് കമ്മിറ്റിയിൽ നിന്ന് ഈ പഠനത്തിനുള്ള അംഗീകാരം ലഭിച്ചു.

പഠനം താങ്കൾക്ക് നേരിട്ടുള്ള നേട്ടങ്ങളൊന്നും നൽകില്ല, മാത്രമല്ല ഇത് നിങ്ങളുടെ പ്രൊഫഷണൽ ജോലിയെ ബാധിക്കുകയുമില്ല. എന്നാൽ ഈ പഠനത്തിലെ ഫലങ്ങൾ ഒരു സമൂഹത്തെ മുഴുവനായും പ്രയോജനത്തക്കവണ്ണം ഭാവിയിൽ ഒരുപാട് ഗവേഷണങ്ങൾക്കും, പുതിയ നയങ്ങൾ കൊണ്ടുവരുന്നതിനും സഹായകരമാകും .

ചില ചോദ്യങ്ങൾ താങ്കൾക്ക് അസുഖകരമായി തോന്നാവുന്നതാണ് എങ്കിൽ ആ ചോദ്യങ്ങൾ താങ്കൾ ഒഴിവാക്കുക. കൂടുതൽ ചോദ്യങ്ങൾക്ക് ഉത്തരം നൽകാൻ താങ്കൾ തയ്യാറല്ലെങ്കിൽ, ഒരു ബാധ്യതയുമില്ലാതെ അഭിമുഖം അവസാനിപ്പിക്കാൻ താങ്കൾക്ക്

സ്വാതന്ത്ര്യമുണ്ട്. ശേഖരിച്ച അടിസ്ഥാന വിവരങ്ങൾ ഗവേഷണ ആവശ്യത്തിനായി മാത്രമേ ഉപയോഗിക്കൂ.

അഭിമുഖത്തിന് ഏകദേശം 30-45 മിനിറ്റ് എടുക്കും. താങ്കൾ നൽകുന്ന എല്ലാ വിവരങ്ങളും ഞാൻ കൃത്യമായി ഓർക്കുന്നുവെന്ന് ഉറപ്പാക്കുന്നതിന് ഈ അഭിമുഖം റെക്കോർഡുചെയ്യാൻ ഞാൻ ആഗ്രഹിക്കുന്നു. ഞാൻ ഈ റെക്കോർഡിംഗുകൾ സുരക്ഷിതമായി സൂക്ഷിക്കും. അവ ഞാൻ മാത്രമേ ഉപയോഗിക്കൂ. അഭിമുഖ റെക്കോർഡിംഗുകൾ ആരുമായും പങ്കിടില്ല. അഭിമുഖങ്ങളിൽ നിന്നുള്ള വിവരങ്ങൾ മാത്രം (അതിൽ താങ്കളുടെ സ്വകാര്യ വിവരങ്ങളില്ല) പങ്കിടും. റെക്കോർഡിംഗിന് നിങ്ങൾ സമ്മതിക്കുന്നില്ലെങ്കിൽ, പകരം ഞാൻ കുറിപ്പുകൾ എടുക്കുന്നതായിരിക്കും.

താങ്കളിൽ നിന്ന് ചോദിച്ചറിയുന്ന വിവരങ്ങൾ എന്ത് തന്നെ ആയാലും അവ വളരെ സുരക്ഷിതമായി സൂക്ഷിക്കുകയും അവ എനിക്കും എന്റെ മേലധികാരിക്കും മാത്രം ലഭ്യമാകുന്നതാണു്. താങ്കളുടെ വിശദാംശങ്ങൾ ഒരു ഘട്ടത്തിലും ആരുമായും പങ്കിടില്ല. താങ്കളു ടെ വ്യക്തിഗത വിവരങ്ങൾ ഒഴികെയുള്ളവ മാത്രമേ പഠനത്തിന്റെ വിശകലനത്തിനായി ഉപയോഗിക്കൂ. കൂടാതെ പഠന ഫലങ്ങൾ അവതരിപ്പിക്കുകയും പ്രസിദ്ധീകരിക്കുകയും ചെയ്യും

ബന്ധപ്പെടാനുള്ള വിവരങ്ങൾ

താങ്കൾ ചോദിക്കാൻ ആഗ്രഹിക്കുന്ന എന്തെങ്കിലും ചോദ്യമോ സംശയമോ ഉണ്ടോ? എന്റെ കഴിവിന്റെ പരമാവധി അത് വ്യക്തമാക്കാൻ ഞാൻ ശ്രമിക്കും.

പ്രധാന അന്വേഷകന്റെ പേര്: രാജലക്ഷ്മി എസ്

പ്രധാന അന്വേഷകന്റെ ഒപ്പ്:

പ്രധാന അന്വേഷകന്റെ ബന്ധപ്പെടേണ്ട നമ്പർ: 9633313357

ഇമെയിൽ: rajalakshmi4ever@gmail.com

ഈ പഠനത്തിന്റെ ആധികാരികതയെക്കുറിച്ച് താങ്കൾക്ക് എന്തെങ്കിലും സംശയം / അന്വേഷണം ഉണ്ടെങ്കിൽ, അല്ലെങ്കിൽ എന്റെ യോഗ്യതാപത്രങ്ങൾ പരിശോധിക്കാൻ ആഗ്രഹിക്കുന്നുവെങ്കിൽ, ഇൻസ്റ്റിറ്റ്യൂഷണൽ എത്തിക്സ് കമ്മിറ്റി സെക്രട്ടറി ഡോ. മാല രാമനാഥൻ, ശ്രീ ചിത്ര തിരുനാൽ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഫോർ മെഡിക്കൽ സയൻസസ് & ടെക്നോളജി (SCTIMST), തിരുവനന്തപുരം- 695011, കേരളം, ഇന്ത്യ, ഓഫീസ് നമ്പർ: 0471-2524234 നിങ്ങൾക്ക് ബന്ധപ്പെ ടാവുന്നതാണ്.

സ്വമേധയാ പങ്കാളിത്തം

ഈ പഠനത്തിലെ താങ്കളുടെ പങ്കാളിത്തം പൂർണ്ണമായും സ്വമേധയാ ഉള്ളതാണ്, അതിനർത്ഥം പഠനത്തിൽ പങ്കെടുക്കണോ വേണ്ടയോ എന്ന് താങ്കൾക്ക് തീരുമാനിക്കാം. താങ്കൾക്ക് എപ്പോൾ വേണമെങ്കിലും പഠനത്തിൽ നിന്ന് പിന്മാറാനുള്ള അവകാശമുണ്ട്. പിൻവലിക്കലിന് പിഴയില്ല. പങ്കെടുക്കാൻ നിങ്ങൾ തീരുമാനിച്ചിട്ടുണ്ടെങ്കിൽ, അറിയിച്ചുള്ള സമ്മതപത്രത്തിൽ ദയവായി ഒപ്പിടുക.

തീയതി: അന്വേഷകന്റെ ഒപ്പ്

ANNEXURE XIV

പ്രാരംഭ സമ്മത പത്രം

ശ്രീ ചിത്ര തിരുനാൾ ഇൻസ്റ്റിറ്റ്യൂട്ടിലെ അച്യുത മേനോൻ സെന്റർ ഫോർ ഹെൽത്ത് സയൻസിൽ മാസ്റ്റർ ഓഫ് പബ്ലിക് ഹെൽത്ത് പഠിക്കുന്ന രാജലക്ഷ്മി എന്ന വിദ്യാർഥിനി ദേശിയ റ്റി ബി പദ്ധതിയുടെ കീഴിൽ വരുന്ന ക്ഷയരോഗമുള്ളവർക്കു നേരിട്ടുള്ള ആനുകൂല്യങ്ങൾ നൽകുന്ന പദ്ധതിയെക്കുറിച്ചു പഠനം നടത്തുന്നു. വിദ്യാർത്ഥിനിയുടെ പഠനലക്ഷ്യം ഈ സാമ്പത്തിക സഹായം ലഭിക്കുന്നതിന് നേരിടേണ്ടി വരുന്ന ബുദ്ധിമുട്ടുകളെയും, ഈ പദ്ധതി മുഖാന്തരം ഭക്ഷ്യസുരക്ഷ ഉറപ്പു വരുത്താൻ കഴിയുന്നുണ്ടോ എന്നും പഠിക്കുക എന്നതാണ്.താങ്കൾ ഈ പഠനത്തിനായി തിരഞ്ഞെടുക്കപ്പെട്ടിട്ടുണ്ട് . ആരോഗ്യവകുപ്പിൽ നിന്നും ഈ പഠനം നടത്തുന്നതിന് അനുമതി ലഭിച്ചിട്ടുണ്ട് .ഗവേഷകൻ താങ്കളോട് ചില ചോദ്യങ്ങൾ ചോദിക്കുന്നതാണ് .ഇതിനു വേണ്ടി ഇരുപത് മിനുറ്റ് സമയം എടുക്കുന്നതെയിരിക്കും.

രോഗിയുടെ പ്രതികരണം

അതെ, പഠനത്തിനായി ബന്ധപ്പെടാൻ ഞാൻ തയ്യാറാണ് _ _____
ഇല്ല, ഞാൻ തയ്യാറല്ല _____

സമ്മതം നേടിയ വ്യക്തിയുടെ ഒപ്പ് :
സമ്മതം നേടിയ വ്യക്തിയുടെ പേരും സ്ഥാനവും:

തീയതി:

ANNEXURE XV

അഭിമുഖത്തിനായുള്ള സമ്മതപത്രം

ഞാൻ, _____ "പങ്കെടുക്കുന്ന ആളിന്റെ അറിവിനുള്ള വിവരണ പത്രിക" നൽകിയിട്ടുള്ള എല്ലാ വിവരങ്ങളും വായിക്കുകയും കേൾക്കുകയും മനസ്സിലാക്കുകയും ചെയ്തു, എന്റെ എല്ലാ സംശയങ്ങളും ഞാൻ വ്യക്തമാക്കിയിട്ടുണ്ട്. പഠനം എനിക്ക് ഒരു ദോഷവും വരുത്താൻ സാധ്യതയില്ലെന്നും പഠനത്തിൽ പങ്കെടുക്കുന്നതിൽ നിന്ന് എനിക്ക് നേരിട്ട് നേട്ടങ്ങളൊന്നുമില്ലെന്നും ഞാൻ മനസ്സിലാക്കുന്നു . ഒപ്പിട്ടുകൊണ്ട് / പെരുവിരൽ അടയാളം ഇട്ടുകൊണ്ട് ഈ പഠനത്തിലെ എന്റെ സ്വമേധയാ പങ്കാളിത്തം ഞാൻ സ്ഥിരീകരിക്കുന്നു . നഷ്ടമായ വിവരങ്ങൾ ശേഖരിക്കുന്നതിനോ കൂടുതൽ വ്യക്തതയോ ആവശ്യമെങ്കിൽ വീണ്ടും ബന്ധപ്പെടാൻ ഞാൻ സമ്മതിക്കുന്നു . ഒരു ബാധ്യതയുമില്ലാതെ എപ്പോൾ വേണമെങ്കിലും അഭിമുഖത്തിൽ നിന്ന് പിന്മാറാനുള്ള എന്റെ അവകാശം ഞാൻ മനസ്സിലാക്കുന്നു. ഈ പഠനത്തിൽ നിന്ന് പ്രസിദ്ധീകരിച്ച അല്ലെങ്കിൽ പുറത്തുവിട്ട ഏതെങ്കിലും വിവരങ്ങളിൽ എന്റെ വ്യക്തിപരമായ വിവരങ്ങൾ വെളിപ്പെടുത്തില്ല എന്നും ഞാൻ മനസ്സിലാക്കുന്നു

പങ്കെടുക്കുന്നയാളുടെ പേര് _ _____.

പ്രതികരിക്കുന്നയാളുടെ ഒപ്പ് / പെരുവിരൽ അടയാളം _____.

തീയതി:

സ്ഥലം:

ANNEXURE XVI

അഭിമുഖത്തിനായുള്ള സമ്മതപത്രം

ഞാൻ ..... പഠനവിഷയ വിവര പത്രികയിൽ നൽകിയിരിക്കുന്ന എല്ലാ വിവരങ്ങളും വായിച്ചിട്ടുണ്ട്/ കേട്ടിട്ടുണ്ട്.എന്റെ എല്ലാ സംശയങ്ങളും ഞാൻ വ്യക്തമാക്കിയിട്ടുണ്ട്. ഒപ്പിട്ടുകൊണ്ട്/ പെരുവിരൽ അടയാളം പതിപ്പിച്ചു കൊണ്ട് ഞാൻ സ്വമേധയാ പങ്കാളിത്തം സ്ഥിതീകരിക്കുന്നു.ഞാൻ ആഗ്രഹിക്കുന്നുവെങ്കിൽ ഒരു വിശദീകരണവുമില്ലാതെ എനിക്ക് എപ്പോൾ വേണമെങ്കിലും അഭിമുഖത്തിൽ നിന്ന് പിന്മാറാൻ കഴിയുമെന്ന് ഞാൻ മനസിലാക്കുന്നു. ഗവേഷണ ആവശ്യത്തിനായി അഭിമുഖം റെക്കോർഡ് ചെയ്യുന്നതിന് ഗവേഷകനെ ഞാൻ അനുവദിക്കുന്നു/ അനുവദിക്കുന്നില്ല. കൂടാതെ എന്റെ വ്യക്തിപരമായ വിവരങ്ങൾ അതീവരഹസ്യമായി സൂക്ഷിക്കുമെന്നും മനസിലായി.

ഉത്തരം പറയുന്ന ആളിന്റെ പേര്:

ഒപ്പ്/ വിരാടലയാളം :

തീയതി:

സ്ഥലം:

ANNEXURE XVII

श्री चित्रा तिरुनाल आयुर्विज्ञान और प्रौद्योगिकी संस्थान, त्रिवेन्द्रम
तिरुवनन्तपुरम - ६९५०११, केरल, इंडिया
SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY, TRIVANDRUM
Thiruvananthapuram - 695 011, Kerala, India
(An Institute of National Importance under Govt. of India)
Grams : Chitramet, Phone : +91-471-2443152, Fax : +91-471-2550728 / 2446433, E-mail : sct@sctimst.ac.in, Website : www.sctimst.ac.in

DUPLICATE

Institutional Ethics Committee
(IEC Regn No. ECR/189/Inst/KL/2013/RR-16)

SCT/IEC/ 1442/NOVEMBER-2019 14.11.2019

Ms. Rajalakshmi S
MPH Student, AMCHSS
SCTIMST, Thiruvananthapuram

Dear Ms. Rajalakshmi,

The Institutional Ethics Committee reviewed and discussed your application to conduct the study entitled "ASSESSING THE IMPLEMENTATION OF DIRECT BENEFIT TRANSFER SCHEME (DBT) FOR PATIENTS WITH TUBERCULOSIS NOTIFIED UNDER THE NATIONAL TB PROGRAM IN KOLLAM (IEC/1442)" on 2nd November, 2019.

The following documents were reviewed:

Original submission

1. *Covering letter addressed to the Chairperson, IEC, SCTIMST dated 16.10.2019 with checklist*
2. *Full proposal.*
3. *IEC application form*
4. *TAC Approval letter*
5. *Forwarding letter from Guide*
6. *Information Sheet and Informed Consent Form in English and Malayalam*
7. *Tools in English and Malayalam*
8. *CV of Principal Investigator*

Revised submission

1. *Covering letter addressed to the Chairperson, IEC, SCTIMST dated 07.11.2019 with checklist*
2. *Copy of IEC Recommendation Letter dated 05.11.2019*
3. *Full proposal.*
4. *IEC application form*
5. *TAC Approval letter*
6. *Forwarding letter from Guide*
7. *Information Sheet and Informed Consent Form in English and Malayalam*
8. *Tools in English and Malayalam*
9. *CV of Principal Investigator*

The following members of the Ethics Committee were present at the meeting held on 2nd November, 2019 a G. Parthasarathi Board Room, AMCHSS, SCTIMST

SL. No.	Member Name	Highest Degree	Gender	Scientific /Non Scientific	Affiliation with Institution(s)
1.	Dr. Harikrishnan S	MD, DM (Cardiology) DNB (Cardiology)	Male	Clinician	Yes
2.	Dr. Kala Kesavan. P	MBBS, MD	Female	Basic Medical Scientist	No
3.	Smt. Sathi Nair	MA (English Literature)	Female	Lay Person	No
4.	Dr. Christina George	MD Psychiatry	Female	Clinician	No
5.	Dr. Mala Ramanathan	PhD	Female	Social Scientist (Member Secretary)	Yes

IEC Decision

The IEC approved the conduct of the study in the present form.

Remarks:
The Institutional Ethics Committee expects to be informed about the progress of the study, any SAE occurring in the course of the study, any changes in the protocol and patient information/informed consent and asks to be provided a copy of the final report.

There was no member of the study team / Guide who participated in voting / decision making process. The ethics committee is organized and operated according to the requirements of Good Clinical Practice and the requirements of the Indian Council of Medical Research (ICMR).

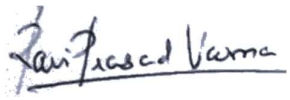
Sincerely,

Mala Ramanathan
Member Secretary, IEC

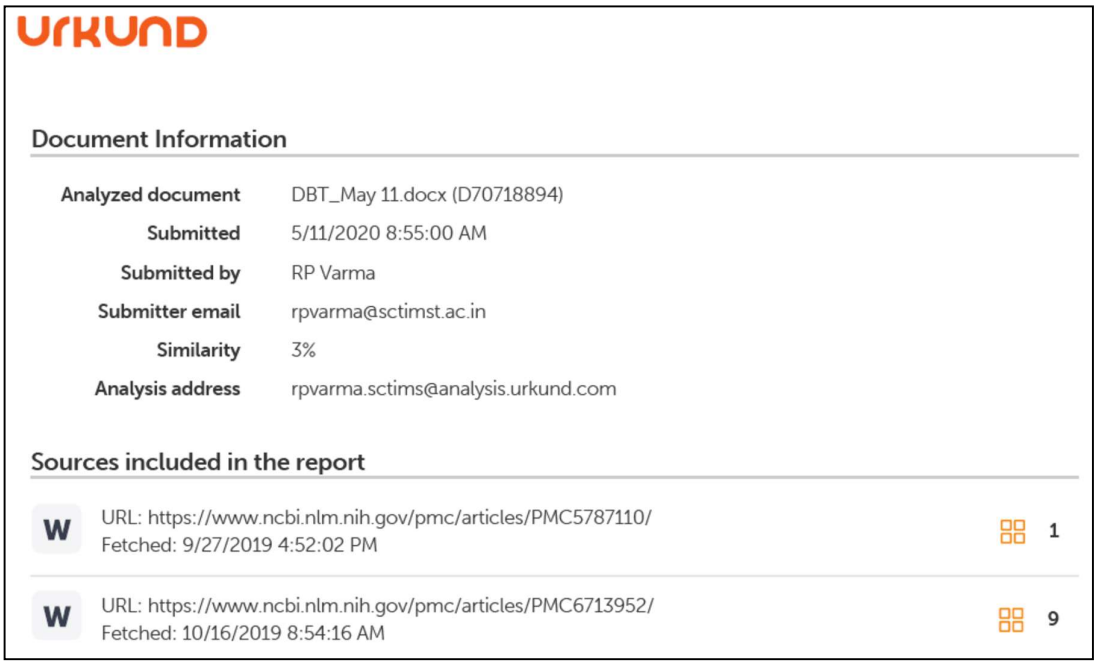
ANNEXURE XVII

PLAGIARISM CHECK REPORT

This is to confirm that the dissertation titled **"Assessing the implementation of direct benefit transfer scheme (DBT) for patients with tuberculosis notified under National TB program – Kollam"** has undergone plagiarism check as per order R&P Cell/PDS/SCTIMST/Oct 2019/002 dated 10/10/2019 using the Plagiarism Detection Software – URKUND provided through the Information and Library Network centre (INFLIBNET) under the aegis of Ministry of Human Resource Development. The document has a similarity of **3%** (screenshot appended).



Dr RAVI PRASAD VARMA, MD,
Associate Professor
Achutha Menon Centre for Health Science Studies
Sree Chitra Tirunal Institute for Medical Sciences and Technology
May 2020



URKUND

Document Information

Analyzed document	DBT_May 11.docx (D70718894)
Submitted	5/11/2020 8:55:00 AM
Submitted by	RP Varma
Submitter email	rpvarma@sctimst.ac.in
Similarity	3%
Analysis address	rpvarma.sctims@analysis.urkund.com

Sources included in the report

W URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5787110/ Fetched: 9/27/2019 4:52:02 PM 1

W URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6713952/ Fetched: 10/16/2019 8:54:16 AM 9