"FACTORS AFFECTING TUBERCULOSIS TREATMENT OUTCOME AMONG NEWLY DIAGNOSED TUBERCULOSIS PATIENTS – A LONGITUDINAL STUDY"

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LIST OF ABBREVIATIONS USED

TB	Tuberculosis
PTB	Pulmonary Tuberculosis
MTB	Mycobacterium Tuberculosis
EPTB	Extra Pulmonary Tuberculosis
RNTCP	Revised National Tuberculosis Program
NTP	National Tuberculosis Program
BMI	Body mass index
PUC	Pre-University Course
HIV	Human Immunodeficiency Virus
ATT	Anti-Tubercular Therapy
DTC	District Tuberculosis Centre
CPI	Consumer Price Index
PPD	Purified Protein Derivative
AFB	Acid Fast Bacilli
DM	Diabetes Mellitus
IHD	Ischemic Heart Disease
COPD	Chronic Obstructive Pulmonary Disease
DOTS	Directly Observed Treatment Short course
WHO	World Health Organisation

NTEP	National Tuberculosis Elimination Program
IP	Intensive phase
CP	Continuation phase
CBNAAT	Cartridge based nucleic acid amplification test
RBS	Random blood sugar
ART	Anti-retro viral therapy
SDG	Sustainable development goal
DTPB	Detect treat prevent build
NHM	National health mission
DALY	Disability adjusted life years
YLL	Years of life lost
SD	Standard deviation
SCC	Short course chemotherapy
NGO	Non-governmental organisation
IEC	Information education communication

ABSTRACT

TITLE - FACTORS AFFECTING TUBERCULOSIS TREATMENT OUTCOME AMONG NEWLY DIAGNOSED TUBERCULOSIS PATIENTS – A LONGITUDINAL STUDY

Introduction:

In the year 2017, an estimated 10 million new tuberculosis cases (active TB) worldwide were reported. India is the highest TB burden country in the world in terms of absolute number of incident cases that occur each year. According to WHO, the estimated incident cases of TB in India was approximately 28, 00,000 (211/lakh) which accounted for one fourth of the estimated global incident TB cases in 2017. Tuberculosis disease epidemiology is closely related to social and economic conditions which make its prevention, control and cure challenging. Early diagnosis and adequate treatment will help to prevent various tuberculosis related morbidities but due to various factors the management becomes difficult. Factors such as adverse effects of drugs, transportation cost, family support, distance to the treatment centre, personal habits, co morbid conditions, and patients' multiple obligations concerning to their employment, family and society have an impact on the treatment outcomes.

Objective: To know the factors affecting tuberculosis treatment outcome among newly diagnosed tuberculosis patients.

Materials and Methods:

A longitudinal study was done from 1st January 2020 to 31st December 2020. Enrolment was done in the first 6 months (JANUARY to JUNE) and the patients were followed up for treatment outcomes. A total of 261 Tuberculosis patients registered in

NTEP under District tuberculosis centre during January 2020 to June 2020 were enrolled using universal sampling method. Outcomes were observed and statistical analysis was done using R i386 4.0.3. Chi square test ($p<0.05$), ANOVA, logistic regression analysis was used. Patients were interviewed as soon as diagnosed or at the time of initiation of treatment using pre-designed and pre-tested questionnaire. Data was collected during patient provider meeting. First follow up was done at the end of intensive phase i.e. End of 2 months. Patients positive at end of 2 months were not followed up further. (Drug resistant cases) Second follow up was done after completion of treatment i.e., End of 6^{th} month. Information regarding socio demographic details, factors affecting treatment outcome, knowledge regarding tuberculosis and successful and unsuccessful treatment outcomes were enquired.

Results:

Of the total 261 people studied, 65.13% participants were males and 34.87% were females.

Majority of the study participants belonged to joint family. Majority 70.11% participants were married and 80.08% of them were from socioeconomic class II.

Majority of the participants 67.43%, 44.44%, 79.70% had cough, decreased appetite and weight loss as their presenting symptoms. 68.97% participants were diagnosed as smear positive pulmonary tuberculosis and 30.26% as extra pulmonary tuberculosis.

Among the total participants 92.72% had poor knowledge regarding tuberculosis disease and only 7.28% had good knowledge. Majority 76.25%, 80.46%, 62.84%, 97.32% participants did not know the cause of tuberculosis, ways of

preventing tuberculosis, duration of tuberculosis treatment and side effects of tuberculosis treatment respectively.

Majority 59% participants were diagnosed as smear negative at 2nd month follow up and 45.21% and 28.73% participants were diagnosed as cured and treatment completed respectively at 6th month follow up. 73.95% participants had successful outcome (cured + treatment completed).

Association was found between age, past history of tuberculosis, type of house, cough, fever with outcome of tuberculosis ($p<0.05$). Association was also found with respect to weight and BMI between the two outcome groups and outcome of tuberculosis ($p<0.00001$). Association was also found with respect to weight and BMI within the two outcome groups and outcome of tuberculosis ($p<0.0001$).

Association was found between supervision by family, support of supervisor, family support and outcome of tuberculosis ($p<0.05$). In post hoc analysis there was significant difference in the mean weight and mean BMI in the outcome groups ($p<0.00001$).

Univariate and multivariate logistic regression analysis showed that treatment outcomes of tuberculosis were affected by type of house (pucca house), presence of cough, past history of tuberculosis, family support, supervision by family and support of supervisor.

Conclusion:

Majority of the newly diagnosed tuberculosis patients were of 21 to 40 years. 65% of the participants were males. NTEP needs to look into this aspect of providing a decent amount as compensation for working days lost due to tuberculosis.

49% of the participants were smokers. Awareness generation at the community level about this risk factor should be taken up.

81% of the participants had to travel more than 5 kilometres to reach the nearest health facility, 65% participants had no counselling regarding the side effects of tuberculosis drugs and 92% of the participants had poor knowledge regarding tuberculosis disease. Easy accessibility, prior knowledge of side effects of drugs and appropriate knowledge among common people regarding tuberculosis disease is key to reducing the number of tuberculosis infections every year.

Also, past history of tuberculosis, housing, weight gain at end of 2^{nd} and 6^{th} month, family support, supervision by family and support of supervisor were some of the key factors in the successful outcome of tuberculosis treatment.

Our study calls for promotion of awareness of importance of nutritional support in treatment process. Most important is that the government should provide financial support for the patient so that they can afford a better quality of life and food supplies.

Keywords: Tuberculosis, NTEP, Default, Failure, Relapse, Treatment outcomes

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INTRODUCTION

Tuberculosis in humans started in a city called Atilt Yam, now below the Mediterranean Sea 9000 years ago.[1] TB is spread by the bacterium called as Mycobacterium tuberculosis, that spreads when people who are affected with TB disperse bacteria into the air; for example, by coughing. This disease mostly targets the lungs (pulmonary TB) but it can also involve other organ systems (extrapulmonary).[2]

About 25% of the global population is affected with M. tuberculosis. In 2019, globally an estimated 10.0 million (range, 8.9–11.0 million) human beings were affected with TB. Globally 1.2 million TB deaths among HIV negative individuals and an additional 208000 deaths (range, 177 000–242 000) among those who were HIV-positive was reported. The burden of disease ranges from fewer than five to more than 500 new cases per 100,000 population per year, in different countries.[2]

Our country accounts for about 25% of the total burden of TB world over. The estimated incidence in 2019 in India was 26 lakhs, with 193 per one lakh affected. An estimated 4,49,000 died due to it. Second highest number of HIV associated TB cases are seen in India.[3] In Karnataka 91,318 new TB cases were reported with an incidence rate of 135 cases per lakh in 2019. In Belagavi in 2016 the incidence rate was 78 per one lakh population.[4]

WHO has said that this disease is a global emergency, because TB has gone beyond human control in various parts of the world. The main reasons why TB is beyond human control is because governments in all the nations have neglected the disease, inadequate TB control programmes have led to an increased burden of

disease (inadequately treated TB patients live longer with chronic disease and infect other people) and the rise of drug resistant TB, rapid increase in population have led to the rise in TB cases and the HIV epidemic was some of the main reasons for the increase in the incidence and prevalence of TB cases, in places where both TB and HIV are common.[5]

TB infects people of both the genders and all age groups, but the major share of the infections are seen in male adults, accounting for roughly around 50% of the cases in 2019; compared to women and children who had a share of 32% and 12% respectively. Those human beings infected with HIV were around 8.2%. Deaths due to TB is the third leading cause of the productive years lost in one's life in the country. TB alone contributes to 3.3% of adjusted life years lost due to disability attributable to all-cause premature mortality and morbidity in the country.[6]

Extrapulmonary TB (EPTB) can occur at any age. Young children and HIV positive adults are particularly susceptible. Up to 25% of TB cases may present with EPTB. Children of less than two years of age are at risk of disseminated disease causing TB meningitis or miliary TB. The common forms of extrapulmonary TB linked with HIV are the following: lymphadenopathy, pleural effusion, pericardial disease, miliary TB, and TB meningitis. Many people with extra pulmonary TB also have coexistent pulmonary TB.[7]

Between 10% to 20% of the TB in the community are present in the children where the main mode of spread of the disease is usually via a member of the household, with smear-positive PTB. The factors deciding the spread of tuberculosis in children in community depends upon the following: age structure of the community, the time period when he or she gets exposed, the amount of infected

cases present, contact with a infective case. Smear positive TB is rarely seen in children and they are very rarely a strong source of transmission.

TB in children is mainly due to failure of TB control in adults. The highest priority in TB control is to cure the infectious cases. However, it is still important to cure children with TB. Good treatment of TB in childhood will result in improved well-being through decreased morbidity and mortality, improved credibility and reputation of the National Tuberculosis Program and less chance for children to have TB reactivation with cavitation in later life.[8]

The COVID-19 pandemic could adversely affect and reverse all development made in this field in the past few decades. The deaths related to TB world over is expected to increase by a margin of 0.2–0.4 million in 2020 alone if the TB health programme is hampered leading to a fall in the amount of cases detected by 30-50% in a 3-month period. India, Indonesia and South Africa are the three countries that account for around 40% of the cases in the whole world. A drastic fall was seen in the amount of cases detected between January and June 2020. During the same time period of 6 months in 2019 in India, Indonesia it was roughly around 25-30%.[2]

Epidemiology of tuberculosis is closely related to the socioeconomic conditions which makes its prevention, control and cure challenging. Despite of decades of efforts and having a nationwide RNTCP programme for control of Tuberculosis since 1997 in India, unsuccessful treatment outcomes such as relapse, failure and default is high. Multiple factors play a crucial role in the successful treatment outcomes of tuberculosis. TB is seen more in people in poverty, financial distress, vulnerable, marginalized sect and discrimination, stigma are seen in these people.[9]

The biggest battle over TB in our country was started as National TB Control Programme (NTCP) which began in 1962 and was implemented in two parts between the year 1997 to 2019. The reanalysis of NTCP in 1992 highlighted managerial weaknesses, the over-emphasis for diagnosis on X rays, underutilization of laboratory services, drug scarcity, and failure to complete treatment. Hence Government of India decided to revitalize NTCP with the assistance of international agencies.[10]

In 1997, The national program for TB, RNTCP was started and expanded in a phase wise manner. The RNTCP was designed to deliver TB services through the general health service infrastructure, building on the network developed by the NTCP. The programme was based on Directly Observed Treatment Short course which promotes diagnosis by sputum smear microscopy, observation of treatment directly, standardized regimens, recording and reporting of notified cases and treatment outcomes, and above all political and bureaucratic commitment.[11]

India's fight against TB got a new name in 2020. The name of the control program got a change from Revised TB control Programme (RNTCP) to National Tuberculosis Elimination Programme (NTEP).[12]

India's National TB Elimination Program (NTEP) recognizes the need to address the dynamic social, environmental, economic, human rights and gender drivers of the disease through empowering and meaningfully engaging TB survivors and affected communities.

The shift in the name is based on the larger objective of eliminating this deadly disease by 2025, way ahead of the target set in sustainable development goal. Prime Minister Modi set the year of 2025 for eliminating TB in the country.

The National Tuberculosis Elimination Program (NTEP) is the Public Health initiative of the Government of India that helps in fighting TB in our country. It plays a major role in the National Health Mission (NHM) and provides key inputs to the workforce involved in tackling this disease. The national Strategic Plan 2012-17 aims to make the country free of tuberculosis and also provide each citizen access to the health services. This program also provides drugs free of cost and free diagnosis and treatment throughout the country through a chain of health establishments.[13]

In recent times the people and the TB service providers have shifted focus to eliminating this disease. Ultimately it is our success which will determine the future of this disease. The aim of the National Strategic Plan (NSP) established under Revised National tuberculosis program is the complete elimination of this disease by the year 2025. The four key elements of this strategic plan are as follows: Detect-Treat-Prevent-Build (DTPB).[14]

WHO's End TB Strategy and the UN Sustainable development Goals were adopted by all WHO and UN states in 2014 and 2015 for ending this deadly epidemic. The key initiatives under this include the targets set for decrease in TB deaths and incidence and financial loss faced by the individual and the families.[2]

The key here to reducing the number of infections lie in having a multi-pronged approach that involves removing poverty, malnutrition, diabetes, HIV infection and smoking cessation. TB in the end is treatable and preventable. Majority of the individuals who get infected can be treated with a simple drug regimen of 6 months. It also stops the further dissemination of the bacterium.

Stigma also increases the distress faced by these patients and also plays a key role in the time taken for diagnosis and treatment initiation and the poor outcomes. Stigma is also a major hurdle in TB elimination.[15]

So, study of such factors which affect the tuberculosis outcome will help in improving the treatment outcome, reduce treatment failure, drug resistance, relapse and death among tuberculosis patients and will also improve the successful outcome rate and also play a crucial role in improving existing programmes. We believe very few community studies on factors affecting tuberculosis treatment outcome have been conducted. Hence the current study is planned to know the factors playing crucial role in the tuberculosis treatment outcome in newly diagnosed tuberculosis patients.

OBJECTIVE

To know the factors affecting tuberculosis treatment outcome among newly diagnosed tuberculosis patients.

REVIEW OF LITERATURE

Tuberculosis is a worldwide, chronic communicable bacterial disease. It is a very different kind of disease because of its varied clinical presentation, host response, chemotherapeutic response, etiology and social implications. It is a very ancient disease and its description has also been seen in the ancient Buddhist and Chinese writings. Even the Egyptian mummies as old as 500 BC show the evidence of man suffering from tuberculosis. Tuberculosis is known by many names in India as *`Kshyya Rog', Tapedik', 'Rajayaakhsma'* whereas in western world it is known as *phthisis*, in Romans as *tabes*, in Greek it was *consumption*. Hippocrates (460-377 BC) had also made few observations on tuberculosis.[16]

It is spread by Mycobacterium tuberculosis which is commonly known as "Koch's bacillus" or tubercle bacillus or Acid-Fast Bacillus (AFB) discovered by Dr. Robert Koch on his birthday on 24th March in 1882 (the day known as World TB Day).

Revised National Tuberculosis Control Program

Objectives: To focus on the cure of infectious patients of tuberculosis, through administration of supervised Short Course Chemotherapy, to reach a target cure rate of 85% and increase the detection of cases to find 70% of the cases.

Revised Strategy includes – Building up of administrative support at different hierarchy levels for meaningful coordination, increased budgetary outlay, use of sputum testing as the most important tool of diagnosis among self-reporting patients, standardized treatment regimens, building up of ground level supervision by making a

subdistrict supervisory unit, ensuring a regular, nonstop supply of medicines to all the corners of the country, focus on providing skill development, health education, scientific research and bringing in the Non-governmental organisations into play.

To ensure a systematic and speedy introduction of Revised NTCP without sacrificing quality control, the following series of interventions have been introduced that have modified the functioning of the entire National Tuberculosis Control Program. These are as follows: Strengthening of the TB cells at various levels, strengthening of the Training Institutions for Tuberculosis at the different levels, gradual implementation of the updated plan for TB control covering a population, strengthening of the National Tuberculosis Control Program in remaining Short Course Chemotherapy districts as transitional step to adopt the RNTCP, providing for a continuous availability of TB curing drugs (Both SCC and Conventional) for sputum positive patients throughout the country.[16]

RNTCP in its phase II has emphasized on following: To strengthen the quality of DOTS through implementation of the RNTCP quality assurance protocol for sputum microscopy; decentralized accessible and patient friendly DOTS services; proactive public-private mix (PPM) activities to increase the reach of DOTS services; rational use of standardized first and second line anti-TB drugs and need based behaviour change and social mobilization at ground level to generate awareness and demand for quality services.

National TB Elimination Programme

National TB Elimination Programme (earlier known as Revised National TB Control Programme) under the aegis of National Health Mission (NHM) ensures

provision of free TB services and management of TB as per the Standards for TB Care. India has achieved Millennium Development Goal and has geared up to achieve targets for TB five years before the set date under the Sustainable Development Goal by 2025. The deaths and new cases are decreasing at the rate of 3% and 2% each year respectively.

The Indian government has launched the response for ending TB through a robust National Strategic Plan (NSP) 2017-25 of NTEP. The plan envisages rapid expansion of services, newer diagnostic tools, bold innovations and major institutional reforms, patient centric strategies with multi- sectoral involvement to take up the challenge of ensuring a TB Free India. GoI has rolled out many key initiatives under the NSP including active case finding, introduction of daily regimen and universal Drug Susceptibility Testing (DST). The country has also expanded molecular diagnostic laboratories (CBNAAT/TrueNat) to 3042 plus laboratories. Systematic active TB case finding has been implemented for the last three years across the country with an aim to intensify case finding efforts.[17]

National Strategic Plan (NSP) 2017-25

Vision: A country with no TB deaths, disease and poverty because of TB.

Goal: To accomplish a very fast decrease in the amount of TB cases and also reduce the deaths by trying to eliminate TB by 2025.

Objectives: To detect all drug sensitive and drug resistant cases especially those taking treatment from private health facilities, also to screen all the people living in high-risk zones. Making sure that all the patients complete their treatment course.[16]

Key Strategies: Involvement of private hospitals, treating drug resistant cases, management of malnutrition, active and passive surveillance system and community engagement and multisectoral.

DTPB system of NSP 2017 -2025

Detect – Search all the TB cases with more focus on those taking medicine from private hospitals.

Treat – Start and maintain the patients on anti-tuberculous therapy, moral support from government and private sector and family support.

Prevent – Stop the emergence of TB in high-risk groups.

Build – Develop strong government policies, man power support, infrastructure development.[6]

A cross-sectional study done between 2018 to 2019 comprising 875 new adult pulmonary TB patients in 21 health facilities in North Ethiopia showed that 27.2% were farmers, 21.6% were housewives, 18.9% were employed and 10.5% unemployed. The mean BMI was 17.9Kg/m^2. The major symptoms seen were cough (99%), weight loss (45%) and fever (48%). 11.3% were HIV positive. 57% lived within 10km of nearest health facility.64.8% of patients went to ≥1 centre before getting diagnosed. 43.8% had good knowledge of TB, 45.6% had low degree to stigma and 49% had adequate satisfaction to treatment. Risk factors associated with treatment delay were illiteracy (OR=2.12,95%CI 1.27-3.56), those with secondary education (OR=1.73,95%CI 1.03-2.89), started therapy in primary healthcare (OR=1.7, 95%CI 1.3-2.3) and private clinic (OR=1.7, 95%CI 1.2-2.5).[18]

A cross sectional study conducted between October 2017 to May 2018 in Gedeo Zone, South Ethiopia among the 8 selected health facilities involving 422 patients showed that 41.7%, 58.5%, 46.2% and 40.8% had no formal education, rural residence, being farmer and ≤ 500 monthly income respectively. 8.5% had history of TB in past and 26% were house/bed bound due to illness.14.9% were smokers, 44.5% had poor knowledge of TB. 45% travelled >10Km to the closest health centre. Average total lag in starting treatment was 60 days. Key elements linked with delay in treatment were female gender, age >45years, not having formal education, rural residence and having big family of >7 individuals ($p<0.05$).[19]

A retrospective study was done in Pakistan in 2018 to study the outcomes of treatment amid pulmonary TB (PTB) patients and to find the factors of unsuccessful outcome in treatment. Among new patients and retreatment patients of PTB 67% was the success rate of therapy and 69% in new smear positive patients was noticed. During treatment lost to follow up was 21% and 15.7% of the PTB and new smear positive patients. Overall, the key elements linked to the bad treatment outcomes were, those who are elderly, smokers and repeat treatment cases. However, key indicator of bad outcome in the newly diagnosed cases were, showing positive sputum microscopy at the end of two months. The achievement of the TB success rate among the patients was way below the set target of 85%. The study concluded that better supervision and treatment monitoring is the key to improve the success rate of TB management in Pakistan.[20]

Another retrospective study was done from 2016 to 2017 in the Punjab province of Pakistan to find the clinical form, treatment outcomes and know the factors linked with unfavourable treatment outcome among EPTB patients. The study

had 651 EPTB patients. Majority of the participants had TB of the pleura (n= 217, 33.3%). Those who finished the treatment were 71.1%. Unfavourable treatment outcome was seen in 27.2% patients, in that 1.5% died, while 25.4% lost to follow-up in the course of therapy. TB of lymph node and of meninges were greatly linked to bad treatment outcome. The study concluded that treatment success rate within EPTB patients was way less than what was (i.e., ≥ 90%) set by the WHO.[21]

In a study done in 2017 in Hyderabad to know the circumstances affecting treatment outcome among tuberculosis patients revealed that half of the patients were in the age of 21- 40yrs and 28.3% were in the age group of 41-60 years. The most common presenting symptom was cough and it was seen in 76.7% of the cases. Non-alcoholics compared to alcoholics had a higher cure rate. Only 60% of smokers got cured. Smokers had a higher non cure rate. 40% of the smokers never achieved cure compared to 11% in non-smokers. This variation in cure rates was found to be statistically significant. In the end the major causes for failing treatment were alcoholism and smoking.[22]

In another study done in 2017 in West Ethiopia on 315 tuberculosis patients to know the treatment outcomes of tuberculosis treatment and the factors among tuberculosis patients on anti-tuberculosis therapy showed that out of total ,21.5% were smear positive pulmonary TB,34 % were smear negative pulmonary TB, and extra pulmonary cases were 44.4%. 17.01% were cured, 65.4% completed treatment, 3.5% had treatment failure, 3.5% defaulted, 6.3% of them died. 82.5% was the overall treatment success rate. Factors crucial to unsuccessful treatment outcome were age ≥ 45 years, smear negative PTB and retreatment cases. The study revealed the below standard successful treatment outcome of TB patients and for better treatment

outcome among TB patients, the key lies in providing health education on the importance of TB treatment and the consequences of poorly treated TB to patients during their follow up.[23]

Another study done in China in 2017 using data from Anqing Centre for Diseases Prevention and Control revealed that among 22,000 patients, smear-positive patients were 64.54%. 95.02% of smear-positive patients and 95.00% of smear-negative patients had successful outcome. Miliary shadows in chest X-ray, age above 35 years, self-medication, full-course management and supervision in intensive phase, unchecked chest X-ray, cavity in chest X-ray were found to have higher affinity for unsuccessful treatment in smear positive individuals. Presence of miliary shadow in chest X-ray, delay over 51 days, age over 45 years, treatment management model of full-course management, unchecked chest X-ray had higher affinity for unsuccessful treatment in smear negative individuals. The study revealed that treatment of tuberculosis in China was independent and successful of treatment schedules. They concluded that special efforts were needed for individuals with negative outcomes.[24]

A prospective observational study done in 2017 in three DOTS centres in Nigeria involving 213 newly diagnosed positive pulmonary TB patients showed the success rate of treatment to be 86.4%.85% were cured, 1.4% completed treatment, 11.3% individuals lost to follow up, 1.9% failed treatment and 0.5% died. Younger patients (15-24-year-old) showed better treatment success rate (90%) compared to older patients(>65years) at 71.4%. Unemployment (81.8%), no formal education (17.6%) and being married (12.6%) were associated with unsuccessful outcomes ($p<0.05$).[25]

A longitudinal study done in 2015 -2016 at a microscopy centre in a Government Medical college, Miraj revealed that 30.71% were from >30-45yrs age group and 47.05% cases belonged to nuclear family. 82.35% cases had finished their treatment schedule and were declared as cured at the end of study, while among 17.65% cases, 11.11% "Died" during treatment schedule, 5.88% cases became "defaulters" and 0.65% cases were "failure" cases. The study also showed an association between treatment outcomes and gender of study cases which was found to be significant. ($p<0.05\%$)[26]

Another retrospective cohort study conducted in DOTS centre in Govt hospital, Andhra Pradesh from 2014 to 2016 involving 1113 patients showed that majority 761(68.3%) were new TB cases, 70(6.28%) were relapse cases, 59(5.3%) were treatment failure cases and 171(15.3%) were returning after default. 734(66%) were males, 289 were in the age group of 50 – 59 years, 165(14.8%) were from urban area while 948 (85.1%) were from rural area. 68% (756) had positive sputum test while 23% (256) were HIV positive. 53.5% individuals had smoking history and alcoholism was seen in 35.3% (393) cases. Crucial factors in unsuccessful treatment were, having HIV infection, smear negative, all retreatment cases, smoking, and alcohol intake. Failure rate and death rate was lower among smear positive patients compared to smear negative patients. HIV positive patients had significantly unfavourable outcomes in death rate (OR= 9.17, 95% CI=5.31-15.83; $p < 0.001$) and treatment failure (OR=13.3, 95% CI= 7.31-24.17; $p < 0.001$).[27]

Another retrospective study conducted in public hospitals in Eastern Ethiopia from 2011 to 2015 involving 1236 patients showed that majority (97%) were new TB cases. 756 (61.2%) showed with pulmonary TB among whom 400(52.9%) were smear

positive, 376(30.4%) were cured, 767(62.1%) completed treatment, 48(3.9%) were dead, 30(2.4%) defaulted and 15(1.2%) had treatment failed. The success rate was greater among females (93.8%) and those coming from rural settings (94.4%) compared to males (91.6%) and urban patients (92.4%). 92.5% was the success rate between the participants. Factors associated with successful treatment outcome were being female (AOR=1.89,95%CI:1.14-3.14), having pre-treatment weight of 20–29kg (AOR=11.03,95%CI:1.66-73.35), being HIV negative (AOR=6.50,95%CI:3.95-10.71), and having a new TB patient (AOR =3.2295%CI:1.10-9.47).[28]

A study done in rural Chhattisgarh from January 2003 to September 2015 showed that out of 4979 patients, 62.2% had a BMI < 16Kg/m^2 whereas 12.2% had ≥ 16 Kg/m^2. Positive treatment outcome was seen in 51.5% of patients while 29.3% had negative outcome. Men (RR = 0.56, 0.41-0.74) and women (RR = 0.59, 0.42 – 0.80) treated in primary centres had a less negative outcome then those treated in secondary care hospitals. Worst outcomes were seen in those travelling long distance during summer and monsoon. Annual case fatality rate was 4.4%.[29]

A retrospective study was done from 2014 to 2015 using the data from city register of new TB patients to know the treatment outcomes and factors playing a crucial role in the outcomes of new tuberculosis patients in South Korea. Total participants were 4732 patients. 83.9% was the treatment success rate; 8.0% of patients were dead and lost to follow-up was 3.6%. A higher rate of loss to follow-up was associated with foreign nationality, registered as TB positive at least twice, and being in fourth quartile or fifth quartile of the deprivation index. Also, a lower rate of loss to follow-up was seen with female gender, smear-positive for pulmonary TB (PTB), and the treatment outcome being reported by a public hospital. Being

registered as TB-positive twice, old age (≥ 75years), smear-positive PTB, treatment outcome being reported by the hospital, were associated with higher mortality whereas female gender, treatment outcome being reported by a public health clinic was associated with lower mortality.[30]

A retrospective cross-sectional study conducted in 2015 in Tanzania to find the risk factors and outcome in TB patients involving 700 participants revealed that majority 51.5% were males with a median age of 38 (IQR 27- 47) and 60.06% of the participants were younger than 40 years. Majority of the participants i.e. 58.35% had smear positive pulmonary tuberculosis and about 51.07% of the participants tested positive for HIV. From the total patients, 87.02% were alive at the end of TB treatment while 12.98% died during the course of treatment. Odds of deaths of patients on anti-TB therapy were strongly associated with male sex (OR=2.1, p=0.002), HIV co infection (OR=2.7, p<0.001) and severe anaemia (OR=3.2, p<0.001).[31]

A cross sectional study was done in Uganda to assess the different TB risk factors and ways of TB disease presentation among TB patients. 365 patients were assessed, in which 43.3% patients were male and 29 was the median age. More than half of the participants i.e. 89.2% had pulmonary Tb in which 86.9% were new and 13.2% were retreatment cases. 38.5% of the participants had wasting and cough was present in 63% participants. 32.1% participants reported symptoms such as fever, night sweats, anorexia and loss of weight. 78.6% presented with lung parenchymal disease and 35.2% had lung cavity. 19.3% of the participants had pleural disease. 52.7% and 36.5% of the participants had positive smear microscopy and culture. 21.1% of the patients were diagnosed as drug resistant. The TB risk factors detected

were: HIV 41.4%, diabetes 5.4%, close contact 11.5%, family history 17.5%, smoking 26.37%, poverty 39.5%, alcoholism 50.7% and overcrowding 57.3%. Smear positivity was by overcrowding, but rest of the risk factors did not affect clinical, radiological and mycobacteriological study patient characteristics.[32]

Another case-control study was done in Burkina Faso to find out the factors playing a crucial role in treatment failure of tuberculosis patients between 2010 to 2014. Study subjects included all the cases of pulmonary tuberculosis who were cured and these were matched to those failing first line treatment in that region. 381 patients with positive pulmonary tuberculosis were included in the study. Among these 305 controls were cured and 76 cases were those that failed first line treatment. Weight loss between diagnosis and first sputum smear examination [aOR: 2.5, 95% CI: 1.3-4.7], delay from treatment initiation to first sputum smear examination and high bacillary load at first sputum smear examination are crucial in treatment failure. ($p<0.001$). Study concluded that adherence to treatment among patients with weight loss between treatment initiation and 2 month sputum smear examination is key to successful outcome.[33]

Another observational prospective longitudinal study done between February 2011 to January 2014 in West Bengal revealed that out of 74 retreatment cases, 64.5% were males and 35.5% were females. Cough (92.1%) and fever (84.2%) were most common presenting complaints. Majority had BMI between 14-19.5 (73.4%). Diabetes was seen in 14 (9.2%) patients and 4 (2.6%) were HIV positive, 30.2% were alcoholics. Important factors for loss to follow up were being young, unmarried, males working outside. Unfavourable outcome was linked with low BMI, treatment

from private sector, history of alcoholism, radiological cavitary lesions and large duration of previous treatment.[34]

A retrospective study from 2008 to 2013 at DOTS TB Clinic was conducted to understand the factors involved in the unsuccessful outcome of the TB patients in Ethiopia. A total of 1536 patients were included in the study. Majority were males 61.3%, 66% were from rural areas, around 35.4% were smear positive patients, 53.1% were smear negative patients and 11.7% were extra pulmonary. Records showed that 11.8% were cured, 73.5% completed treatment, 11.15 defaulted, 3.4% died and 0.3% had treatment failure. 85.2% was the overall treatment success rate. The success rate increased from 80.5% in 2008 to 84.8% in 2013.Key factors to unsuccessful outcome were tuberculosis type, age, residence and year of treatment. Those in rural areas (AOR=1.63,95%CI:1.21–2.20) had higher chances of unsuccessful outcome compared to urban areas. PTB negative patients and EPTB patients had more unsuccessful outcome compared to PTB positive patients. Unsuccessful treatment outcome was also observed in PTB negative (AOR=1.77,95%CI:1.26–2.50) and EPTB patients (AOR=2.07,95%CI:1.28– 3.37) compared to the PTB positive patients.[35]

A retrospective population-based study between 2003 and 2012 to know and describe the factors influencing treatment default of tuberculosis (TB) patients was done in South Africa. Out of 1 10 349 patients 7980 defaulted on treatment. Majority were male 8.3%, < 25 years old, undergoing treatment for TB, had negative pre-treatment sputum smear result, in the first 2 months of treatment initiation and did not know their HIV status. Female patients at 40% were less likely to default compared to their male counterparts. Treatment default was more likely in younger patients when

compared to those >24 years old. HIV-TB cases on antiretroviral therapy were 40% less likely to default on treatment than those whose HIV status was not known.[36]

A study was done to understand the pattern of unsuccessful TB outcome and the factors associated in Ethiopia in 2012.Old records of registered cases of defaulter, dead and treatment failure were used and controls were those cured. Among cases, 30.3% were defaulters and 5.5% were treatment failure. Sputum smear negative at beginning of treatment, absence of contact person, smear positive sputum at the end of 2nd month and Being HIV positive were independently associated with increased risk of unsuccessful TB treatment outcome. The study showed that the major cause of unsuccessful outcome was death. The study showed that TB patients with negative sputum smear, HIV positive and smear positive on 2nd month of treatment initiation needed strict follow up throughout the treatment.[37]

A retrospective cohort study was done in Malaysia to understand the factors playing a key role in the treatment outcomes of the patients. Total patients registered were 21582. Majority were in the age group of 40-42 years and non-Malaysians were 14.2%. 93% were new cases and around 21% had unfavourable outcome in which 46% died, 50% defaulted and around 1% failed treatment. Factors playing a crucial role in bad outcome were being male, older age, being foreign, low educational status, absence of BCG vaccination, smoking, treatment in medical college, past history of TB treatment, HIV infection, extra pulmonary TB, not under directly observed therapy, advanced disease on X ray. Key to mortality were similar except for rural dwelling and citizenship. Risk factors not linked to mortality were past treatment of TB, absence of BCG scar and MDR TB. Unfavourable outcome was seen less in the native people of Malaysia.[38]

In a study done in Turkey in 2011 involving 700 bacteriologically confirmed TB patients to know the key factors in successful outcome and to know the final outcomes showed that majority 92.6% had successful outcome. 3.9% had treatment default, 2.4% died, and 1.1% had treatment failure. Key factors in the successful treatment outcome were being young, no past history of treatment, absence of comorbidity, absence of drug resistance and higher educational status ($p < 0.05$). Therapy was more effective in those who were young and had higher educational status and had no drug resistance, no previous treatment history and no comorbidities. The study showed that for reducing treatment failure the in-depth knowledge of the factors affecting the treatment process is very important.[39]

Another study done in a hospital in Malaysia involving 336 PTB patients between 2010 and 2011 to study the crucial factors playing an important role in the outcomes of TB treatment as well as the duration of treatment. (> 6 months), 67.26% (n=226) was the treatment success rate. A total of 110 patients were in the unsuccessful group of which 59 died, 30 participants defaulted and 21 were send to other health centres. 8.19 ±1.65 months was the average duration of treatment. Important factors for death were cavities in the lung, high grade sputum, being elderly and alcohol abuse. Important factors for bad outcome were being illiterate, foreign citizenship and being male. Important factors in longer duration of treatment were presence of diabetes, lung cavities at the start of therapy and smoking. ($p<0.05$).[40]

A historical cohort study done from 2009 to 2010 at Addis Ababa from three randomly selected health centres showed that out of 6450 patients, 1652(25.6%) were pulmonary positive, 2187(33.9%) were pulmonary negative and 2611(40.5%) were extra pulmonary TB patients .1167(18%) were cured, 4164(64.6%) completed

treatment, 2.36(3.7%) died, 26(0.4%) were treatment failure, 328(5.1%) defaulted and 351(5.4%) transferred out. Success of treatment was 81% among pulmonary positive patients, 83% among pulmonary negative patients and 83% among extra pulmonary TB patients.[41]

A cross sectional study done in Federal Medical Centre (FMC) Ido-Ekiti, South Western Nigeria in 2010 to study outcomes of tuberculosis treatment among TB cases and factors affecting treatment outcomes of tuberculosis. Successful outcome was seen in 46% of the cases. Under 10 years of age everyone was sputum smear positive. Bad treatment outcomes were as follows: 66.7% were defaulters, 25% died and 8.3% were treatment failure respectively. Smear positive status at diagnosis, failure to give consent for HIV test, HIV co-infection, and Extrapulmonary TB had negative impact on the TB outcome. Successful outcome was seen in 50% of the cases. Major factors determining negative treatment outcome were HIV coinfection & lack of consent for HIV testing.[42]

A case-control study done in 30 counties in Shaanxi province showed that inspite of implementation of DOTS the successful outcome was <85%. Out of total 659 patients, 23.2% had unsuccessful treatment outcome. Non cure was more strongly linked to stoppage of drug therapy (OR = 8.7, 95% CI 3.9-18.4). Major factors affecting the end results were low educational status, loss of appetite, diagnosis in private hospitals, co morbidity, absence of treatment observer, missing sputum recheck. Treatment observer were absent in 25% of cases. Family member (OR 0.62, 95%CI 0.37-1.03) as a treatment observer had a better outcome than those having doctor (odds ratio 0.38, 95%CI 0.17-0.88) as a treatment observer. Main reason for treatment stoppage was side effects of drug therapy (46%).[43]

Another case control study involving 905 patients done between 2006 to 2009 in Turkey showed that factors such as >65years of age (OR: 3.39), male gender (OR: 2.11), foreign citizenship (OR: 5.48), co morbidity (OR:1.85), lesions on both sides on X ray chest (OR: 2.07), previous treatment history (OR:3.99) were linked with bad treatment outcome. No linkage was found between the place of DOTS treatment beginning, supervisors and the adverse outcome of the therapy ($p>0.05$).[44]

A case-control study was done from 2007 to 2009 in eight PHCs that included newly diagnosed TB patients to understand the factors linked to non-continuation of treatment at public health centres in Jayapura, Papua Province, Indonesia. Non adherent cases were those not taking medication for more than 2 weeks or more than 1 month duration. Controls were patients who took all the doses of the medicine. Crucial factors in the non-continuation of treatment were difficulty in reaching health facility, knowledge gap regarding TB and bad treatment experience, along with being aged under 35 years and having a history of TB in the family.[45]

METHODOLOGY

Source of Data

Patients registered under District tuberculosis centre, Belagavi.

Study design

Longitudinal study.

Study Period

From 1st January 2020 to 31st December 2020. Enrolment was done in the first 6 months (JANUARY to JUNE) and the patients were followed up for treatment outcomes for next 6 months from the time of enrolment.

Sample size

A total of 261 Tuberculosis patients registered in NTEP under District tuberculosis centre during January 2020 to June 2020 were enrolled using universal sampling method.

Method of collection of data

Patients were interviewed as soon as diagnosed or at the time of initiation of treatment using pre-designed and pre-tested questionnaire.

Data was collected during patient provider meeting.

First follow up was done at the end of intensive phase i.e. End of 2 months.

Patients positive at end of 2 months were not followed up further. (Drug resistant cases) Second follow up was done after completion of treatment i.e., End of 6th month.

Information regarding socio demographic details, factors affecting treatment outcome, knowledge regarding tuberculosis and successful and unsuccessful treatment outcomes were enquired. Pulmonary tuberculosis patients were diagnosed using sputum microscopy.

CBNAAT was done to identify the drug susceptibility to rifampicin.

Inclusion criteria

1. Patients registered for treatment of tuberculosis under National Tuberculosis Elimination Programme, District Tuberculosis Centre from January 2020 to June 2020.
2. Must have taken antituberculosis treatment for a minimum period of 2 weeks.
3. Those who agree to take treatment under DTC Belagavi.

Exclusion criteria

1. Registered cases not willing to participate in the study.
2. Patients with incomplete data and patients not willing to complete the treatment from Belagavi DTC during study period (transferred out cases).
3. Patients having Drug resistance to any of the ATT drugs / Multidrug resistant tuberculosis patients.

Ethical clearance

The study was approved from Institutional Ethics Committee for Human Subject's Research, Jawaharlal Nehru Medical College, Belagavi (Annexure I), Letter No. MDC/DOME/158.

Informed consent

Written informed consent was taken from each participant prior to the study.

Statistical analysis

Data Analysis was done using R i386 4.0.3. Categorical data is represented by frequency table and continuous data is represented using mean ± S.D/median (range). The categorical data was analysed using Chi square test. To compare weight/BMI change over time Welch's test and one-way repeated measures of ANOVA was used. For post-hoc analysis pairwise t test was used.

DEFINITIONS OF STUDY VARIABLES

1. **Age:** Calendar age in years was considered for the study (nearest completed years).
2. **Sex:** Either male or female was mentioned.
3. **Occupation:**

Employed: An occupation by which a person earns a living.[46]

Unemployed: Not engaged in a gainful occupation.[47]

4. **Religion:** "An organized system of beliefs, ceremonies, and rules used to worship a God or groups or Gods. For examples Hindu, Muslims and Christian".[48]
5. **Education status**

Illiterate: "A person who could not read and write any language".[49]

Primary school: "A person who had studied from first to seventh standard".[49]

High school: "A person had studied 8th standard to 12th standard".[49]

PUC or diploma: "Person who has studied up to PUC 2nd year or a Diploma Course".[49]

Graduation: "A person who had a bachelor's degree in any field".[49]

6. **Marital status:** Marital status was classified as: married, unmarried, widow, widower, divorcee.
7. **Family:**

Nuclear family: "Married couple along with their dependent children who live in the same house".[50]

Joint family: "More than one married couple along with their dependent children who live in the same household. Male members are blood relatives and female members of the family are related by either marriage or blood".[50]

8. Socio economic status[51]

Modified B. G. Prasad's classification was used

The B.G. Prasad's scale was introduced in 1961 considering the base of

Consumer Price Index (CPI) for 1960 as 100.

Consumer Price Index for January 2020 was 330

Multiplication factor = Current index value (330) = 3.3

Base index value in 2001 (100)

The new income value is calculated using the following equation:

= multiplication factor × old income value × 4.63 × 4.93.

Here 4.63 and 4.93 are the linking factors given by the Labour Bureau of India.

So, after substituting the values, the new scale is,

Modified BG Prasad Socio-economic Classification, Updated – 2020

Socio-economic status: class	B. G. Prasad's classification of 1961 (monthly income in rupees)	Revised B. G. Prasad's classification for 2020 (Monthly income in rupees)
I	100 and above	7533 and above
II	50-99	3766-7532
III	30-49	2260-3765
IV	15-29	1130-2259
V	Below 15	1129 and below

9. Type of house[52]

Kacha – "The walls and/or roof of which are made of material other than those mentioned above, such as unburnt bricks, bamboos, mud, grass, reeds, thatch, loosely packed stones, etc. are treated as kutcha house".

Semi pucca – "A house that has fixed walls made up of pucca material but roof is made up of the material other than those used for pucca house".

Pucca – "A pucca house is one, which has walls and roof made of the following material. Wall material: Burnt bricks, stones (packed with lime or cement), cement concrete, timber, ekra etc".

10. Overcrowding[53] – "is expressed as the number of persons divided by the number of rooms. It is called overcrowding if these standards are exceeded".

"Criteria for overcrowding – persons per room"

"1 room – 2 persons"

"2 rooms – 3 persons"

"3 rooms – 5 persons"

"4 rooms – 7 persons"

"5 or more rooms – 10 persons"

11. Tobacco use[54]: "For the assessment of history of use of tobacco in any form (smoking/smokeless) period of recall was considered for the past one year".

Smoking tobacco:

Smokers: "Subjects those who had smoked in the past or smoking at present were considered as smokers".

Non-Smokers: "Subjects who had never smoked any form of tobacco (Cigarettes/Beedi) were considered as non-smokers".

Smokeless tobacco use:

Smokeless tobacco user: "Subjects those who had used smokeless tobacco in the past or using at present were considered as smokeless tobacco user".

Non user of smokeless tobacco: "Subjects who had never used smokeless tobacco in any form were considered as non-users".

Alcohol consumption[55]: "For the assessment of alcohol consumption, period of recall was considered for the past one year".

Alcoholic: A person who has been taking alcohol at least 30 ml per day for at least six months preceding the survey.

Non-Alcoholic: "Subject who had never consumed alcohol were considered and kept in the category of Non-Alcoholic".

12. **Pulmonary positive[56]** – "refers to any bacteriologically confirmed or clinically diagnosed case of TB involving the lung parenchyma or the tracheobronchial tree".

Pulmonary negative – "if at least two sputum specimens at the start of treatment are negative for AFB, but a chest x- ray suggest tuberculosis".

Extrapulmonary tuberculosis (EPTB) – "refers to any bacteriologically confirmed or clinically diagnosed case of TB involving organs other than the lungs, e.g., pleura, lymph nodes, abdomen, genitourinary tract, skin, joints, meninges and bones".

13. **New patients**[57] **–** "have never had treatment for TB, or have taken anti-TB drugs for less than 1 month. New patients may have positive or negative bacteriology and may have disease at any anatomical site".

Retreatment Patients[58] **–** "represent those who have been treated previously for one month or more with anti-TB drugs and who have been diagnosed once again with the disease. These patients mainly include relapses, treatment after failure, or loss to follow-up on a first-line treatment regimen".

Smear-positive[59] **-** "A patient with two positive direct smear microscopy results or one positive direct smear microscopy result and one positive sputum culture for Mycobacterium tuberculosis (MTB) or one positive direct smear microscopy result and radiographic abnormalities consistent with active PTB as determined by a clinician".

Smear-negative[59] **–** "A patient with three negative sputum smear results, chest imaging showing lesions of active PTB and one of the following: (a) suspected PTB symptom as cough, expectoration and haemoptysis; (b) strongly positive purified protein derivative (PPD) reaction; (c) positive anti-MTB antibody response; (d) lesions of TB confirmed by histopathological examination of extra-pulmonary tissues.

In addition, a patient with positive sputum culture for MTB but negative sputum smear result is also a PTB- case".

14. **Body Mass Index (BMI)[53] –** According to the guidelines recommended by WHO, persons with BMI values of less than 18.5 were classified as "Underweight", 18.5 to 24.9 were classified as "Normal weight", 25 to 29.99 were classified as "over-weight" and 30 and above were classified as "Obese".

Body Mass Index was calculated as;

$$\text{BMI} = \frac{\text{Weight in Kgs}}{(\text{Height in Meter})^2}$$

Classification	BMI
Normal range	18.50-24.99
Overweight	≥25.00
Pre-obese	25.00-29.99
Obese class I	30.00-34.99
Obese class II	35.00-39.99
Obese class III	≥40.00

15. Definitions for outcomes of treatment[59]

Definition of treatment outcomes according to the National TB program (NTP) guidelines adopted from WHO.

TERMS	DEFINITIONS
Cured	"Microbiologically confirmed TB patients at the beginning of treatment who was smear or culture negative at the end of the complete treatment".
Treatment Completed	"A TB patient who completed treatment without evidence of failure or clinical deterioration but with no record to show that the smear or culture results of biological specimen in the last month of treatment was negative, either because test was not done or because result is unavailable".
Failure	"A TB patient whose biological specimen is positive by smear or culture at the end of treatment".
Lost to follow up	"A patient whose treatment was interrupted for 1 consecutive month or more".
Not evaluated	"A TB patient for whom no treatment outcome is assigned. This includes former Transfer out"
Treatment regimen changed	"A TB patient who is on first line regimen and has been diagnosed as having DRTB and switched to drug resistant TB regimen prior to being declared as failed".
Died	"A patient who has died during the course of anti TB treatment"
Successful treatment outcome	"If TB patient was cured or completed treatment with resolution of symptoms".
Unsuccessful treatment outcome	"If treatment of TB patients resulted in treatment failure, default or death & treatment regimen changed".

16. Treatment regimen[53]

Type of TB case	Treatment regimen in IP	Treatment regimen in CP
New	(2) HRZE	(4) HRE

17. Sputum results in microscopy[53]

Number of bacilli			Result reported
No	AFB	per 100 oil immersion fields	0
1-9	AFB	per 100 oil immersion fields	scanty
10-99	AFB	per 100 oil immersion fields	+ (1+)
1-10	AFB	per 100 oil immersion fields	++ (2+)
> 10	AFB	per 100 oil immersion fields	+++ (3+)

18. **HEIGHT MEASUREMENT[60]** – "The subject stood straight without footwear, with heels, buttocks and back touching the wall and arms hanging by side. The height was measured from heal to heal. The coinciding reading was measured to the nearest 0.1 cm using a measuring tape".

19. **WEIGHT MEASUREMENT[60]** – "Body weight was measured without any foot wear and minimal clothing to the nearest 0.1 kilogram using a standard portable weighing machine, which was standardized periodically during the study. The scale was adjusted to zero before each session and weight was recorded in kilogram".

20. **Cartridge based nucleic acid amplification test (CBNAAT)[25]** - Current gold standard for TB diagnosis. In addition, CBNAAT also provides information on drug susceptibility to rifampicin, which is a surrogate marker for identification of patients who are most likely to have MDR-TB, thus allowing the early initiation of standardized 2nd line TB treatment.

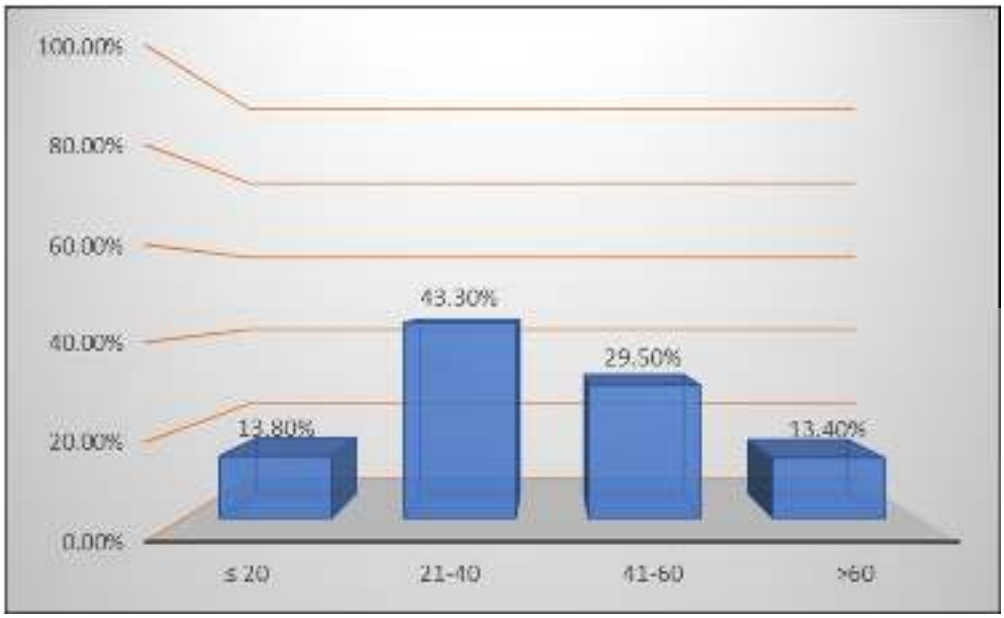
RESULTS

I. Socio-demographic profile of study participants

Table 1: Age distribution of study participants.

Age (in years)	Number	Percentage
≤ 20	36	13.80
21-40	113	43.30
41-60	77	29.50
>60	35	13.40
Total	261	100

Graph 1 (Table No 1): Age distribution of study participants

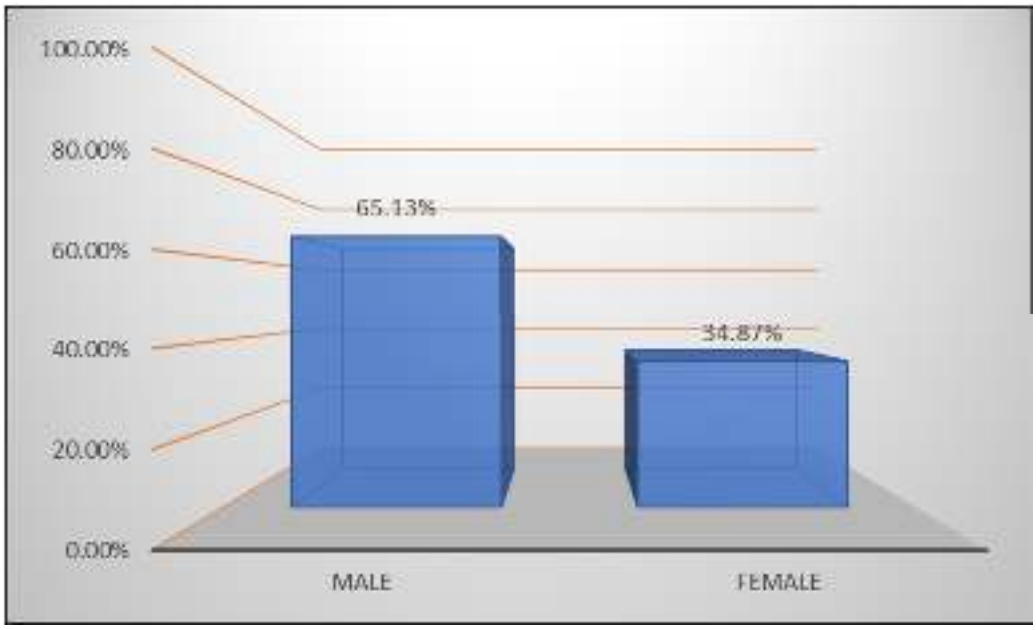


In the present study, out of 261 participants 36 (13.80%) were aged 20 years or less, 113 (43.30%) were aged 21 to 40 years followed by 77 (29.50%) aged 41 to 60 years, 35 (13.40%) were aged 60 years and above. The mean age (± S.D) of study participants was 40.11 ± 17.33 years.

Table 2: Distribution of study participants according to gender.

Gender	Number	Percentage
Male	170	65.13
Female	91	34.87
Total	261	100

Graph 2 (Table No 2): Distribution of study participants according to gender.

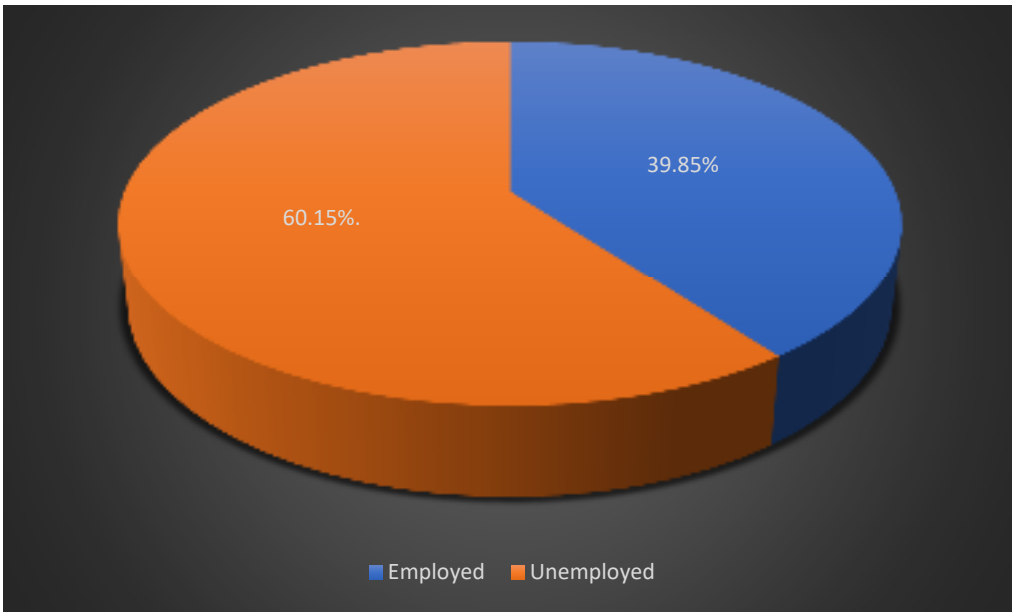


Of the total 261 people studied, 170 (65.13%) participants were males and 91 (34.87%) were females.

Table 3: Distribution of study participants according to their occupation

Occupation	Number	Percentage
Employed	104	39.85
Unemployed	157	60.15
Total	261	100

Graph 3 (Table No 3): Distribution of study participants according to their occupation

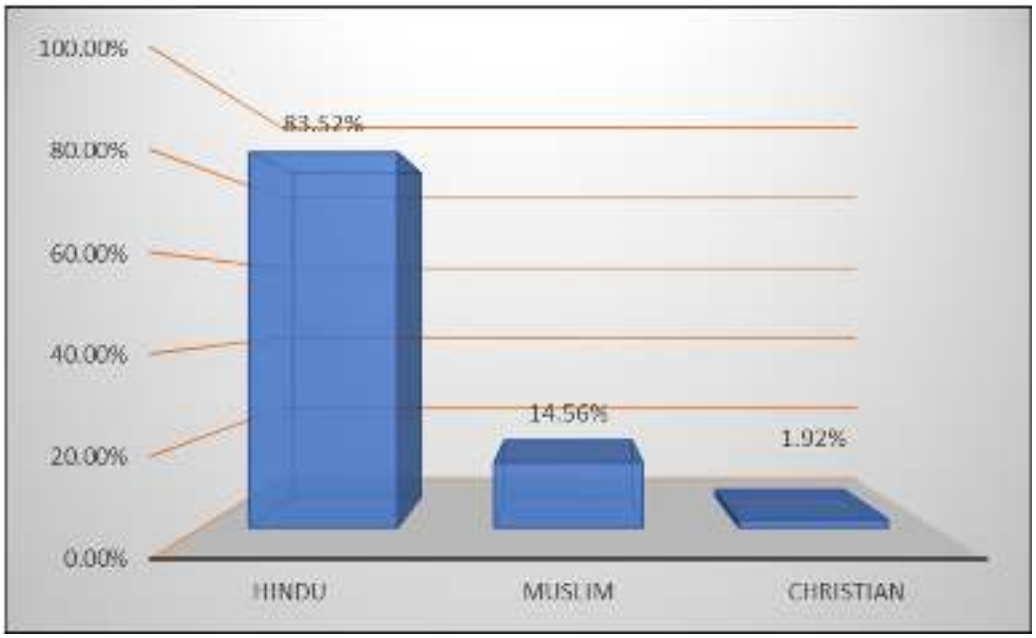


Among the 261 participants 157 (60.15%) were unemployed and 104 (39.85%) were employed.

Table 4: Distribution of study participants according to their religion.

Religion	Number	Percentage
Hindu	218	83.52
Muslim	38	14.56
Christian	5	1.92
Total	261	100

Graph 4 (Table No 4): Distribution of study participants according to their religion.

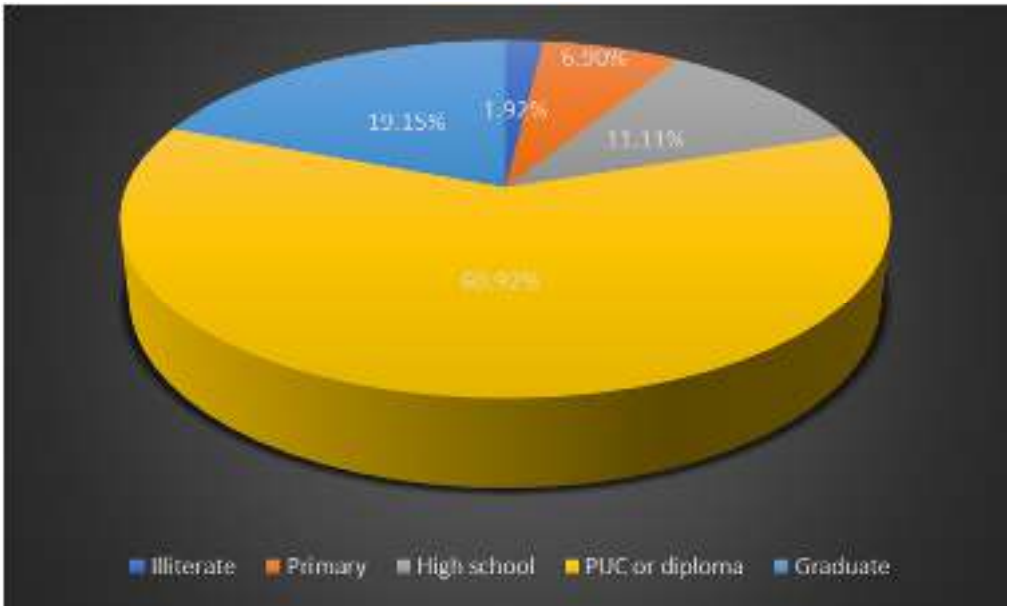


Of the total 261 studied, majority 218 (83.52%) of the participants were Hindus, followed by 38 (14.56%) were Muslims and five (1.92%) were Christians.

Table 5: Distribution of study participants according to their literacy status.

Literacy Status	Number	Percentage
Illiterate	5	1.92
Primary	18	6.90
High school	29	11.11
PUC or diploma	159	60.92
Graduate	50	19.15
Total	261	100

Graph 5 (Table 5): Distribution of study participants according to their literacy status.

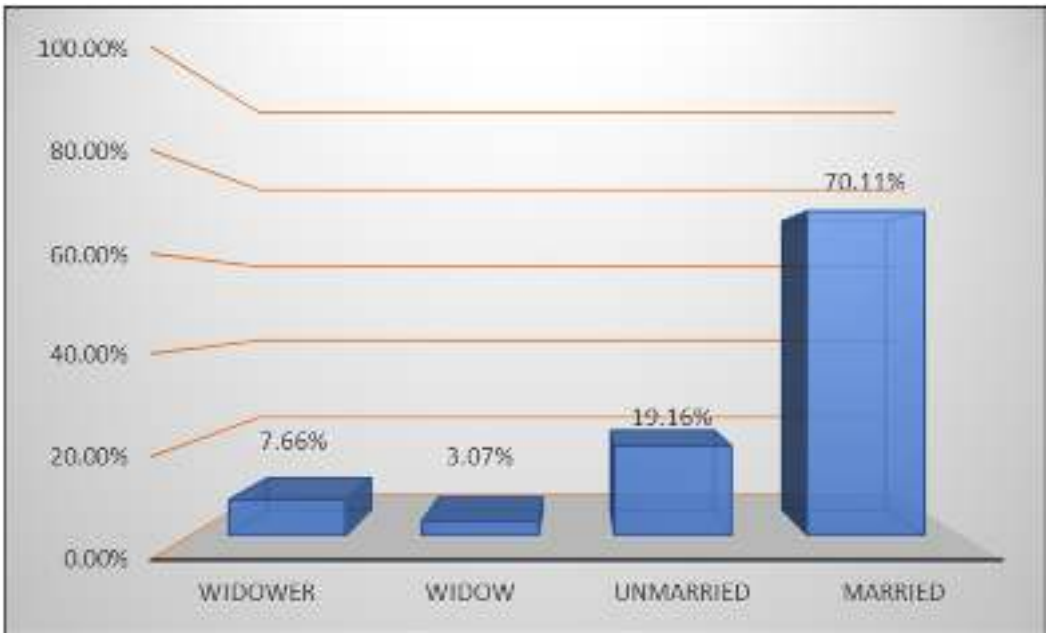


Out of 261 study participants, five (1.92%) were illiterate, 18 (6.9%) had primary education, 29 (11.11%) had high school education, 159 (60.92%) had PUC or diploma education and 50 (19.15%) were graduate.

Table 6: Distribution of study participants according to marital status.

Marital status	Number	Percentage
Married	183	70.11
Unmarried	50	19.16
Widow	8	3.07
Widower	20	7.66
Total	261	100

Graph 6 (Table 6): Distribution of study participants according to marital status.

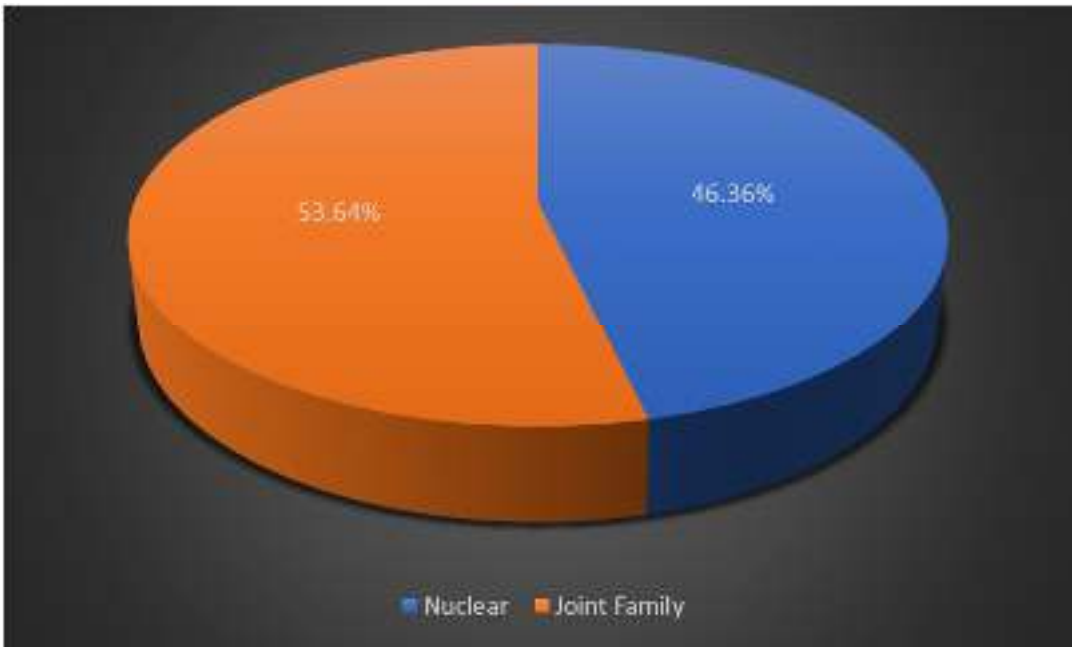


In the present study, majority 183 (70.11%) participants were married, 50 (19.16%) were unmarried, eight (3.07%) were widow and 20 (7.66%) were widower.

Table 7: Distribution of study participants according to type of family.

Type of Family	Number	Percentage
Nuclear	121	46.36
Joint family	140	53.64
Total	261	100

Graph 7 (Table 7): Distribution of study participants according to type of family.

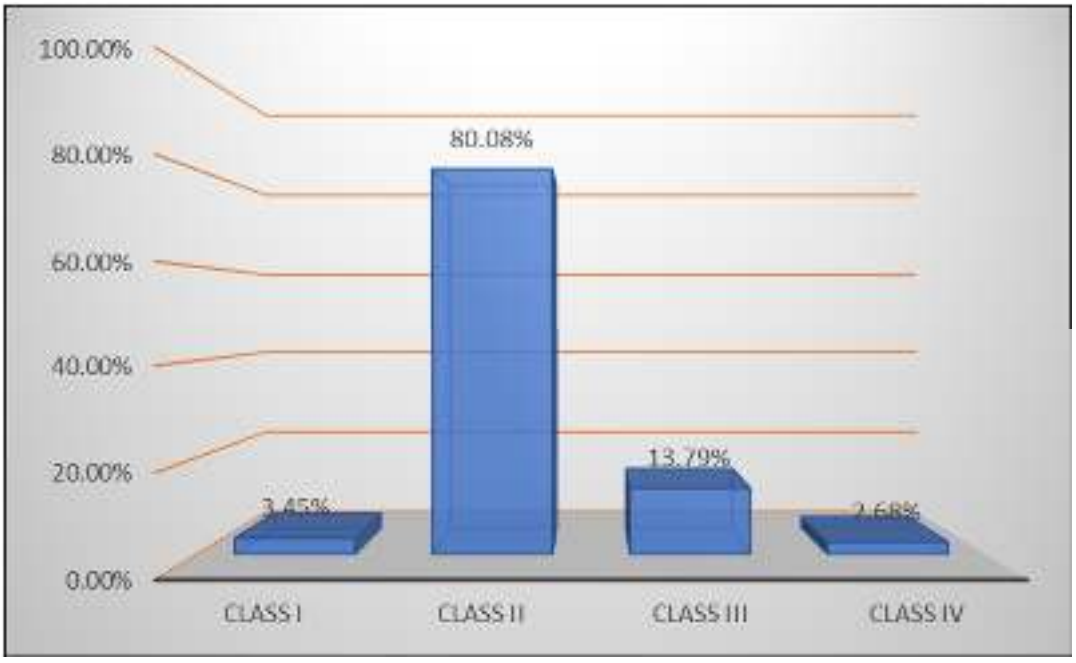


In our study, 140 (53.64%) of the study participants belonged to joint family and 121 (46.36%) to nuclear family.

Table 8: Distribution of study participants according to socioeconomic status.

Socioeconomic status	Number	Percentage
Class I	9	3.45
Class II	209	80.08
Class III	36	13.79
Class IV	7	2.68
Total	261	100

Graph 8 (Table 8): Distribution of study participants according to socioeconomic class.

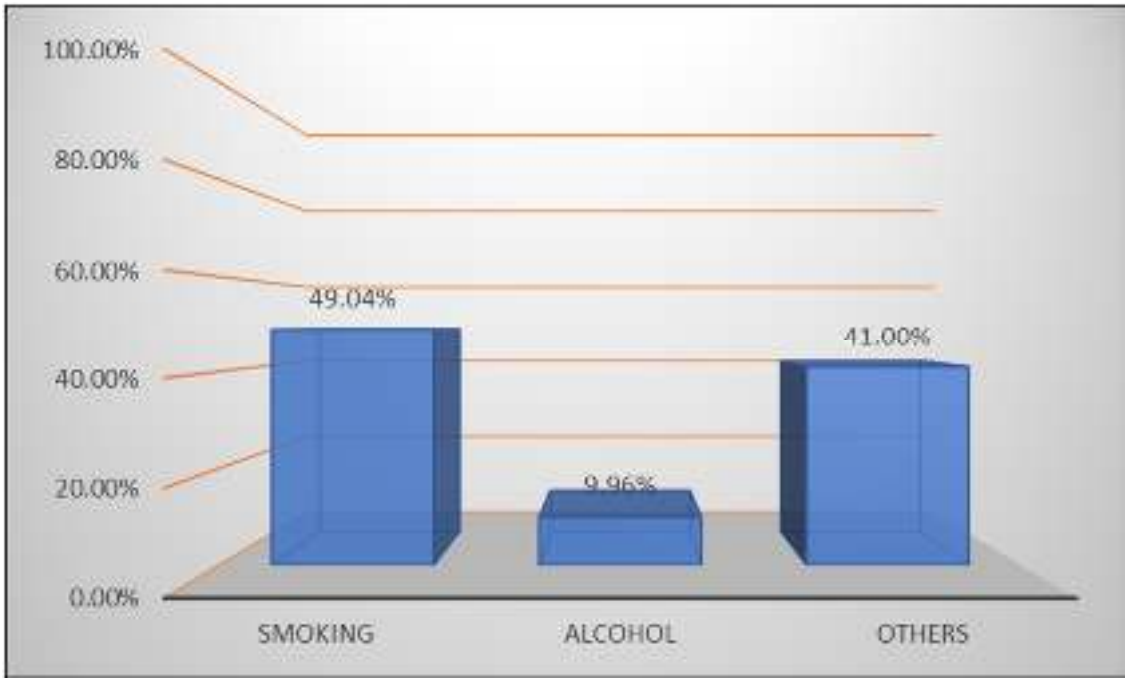


In our study, according to modified B.G. Prasad classification majority 209 (80.08%) of the study participants were from socioeconomic class II and 36(13.79%) were from class III, nine (3.45%) and seven (2.68%) from class I and class IV respectively.

Table 9: Distribution of study participants according to personal habits.

Personal Habits	Number	Percentage
Smoking	128	49.04
Alcohol	26	9.96
Others	107	41.00
Total	261	100

Graph 9 (Table 9): Distribution of study participants according to personal habits.

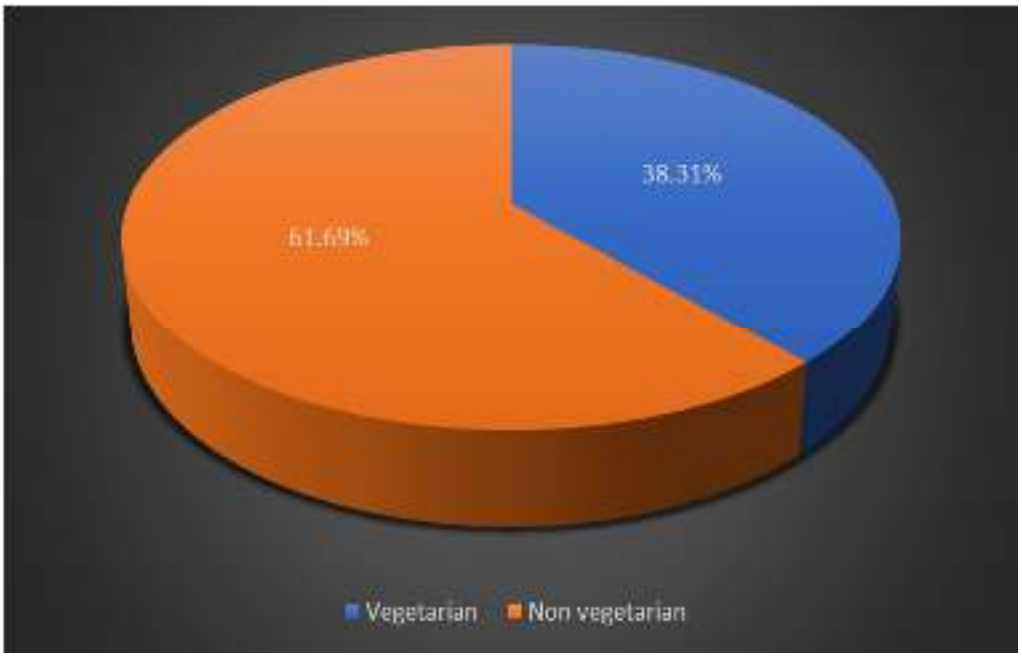


Among the 261 participants 128 (49.04%) were smokers, 26 (9.96%) were alcoholic and 107 (41.00%) had other habits.

Table 10: Distribution of study participants according to type of diet.

Type of diet	Number	Percentage
Vegetarian	100	38.31
Non vegetarian	161	61.69
Total	261	100

Graph 10 (Table 10): Distribution of study participants according to type of diet.

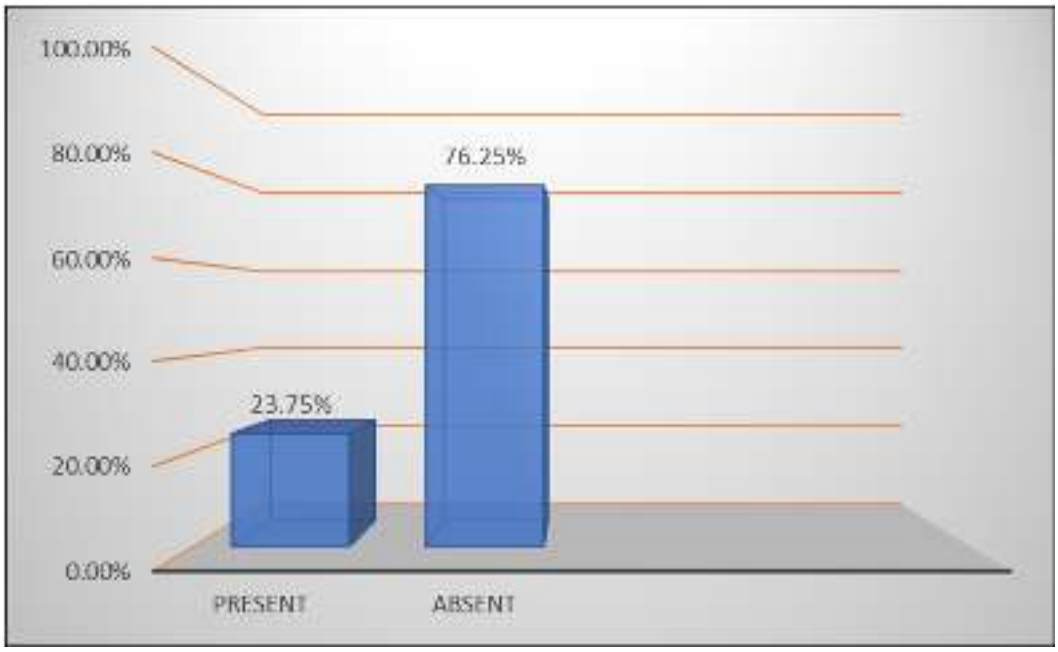


In the present study, more than half of the participants 161 (61.69%) were non vegetarian and 100 (38.31%) were vegetarian.

Table 11: Distribution of study participants according to family history of tuberculosis.

Family history of tuberculosis	Number	Percentage
Present	62	23.75
Absent	199	76.25
Total	261	100

Graph 11 (Table 11): Distribution of study participants according to family history of tuberculosis.

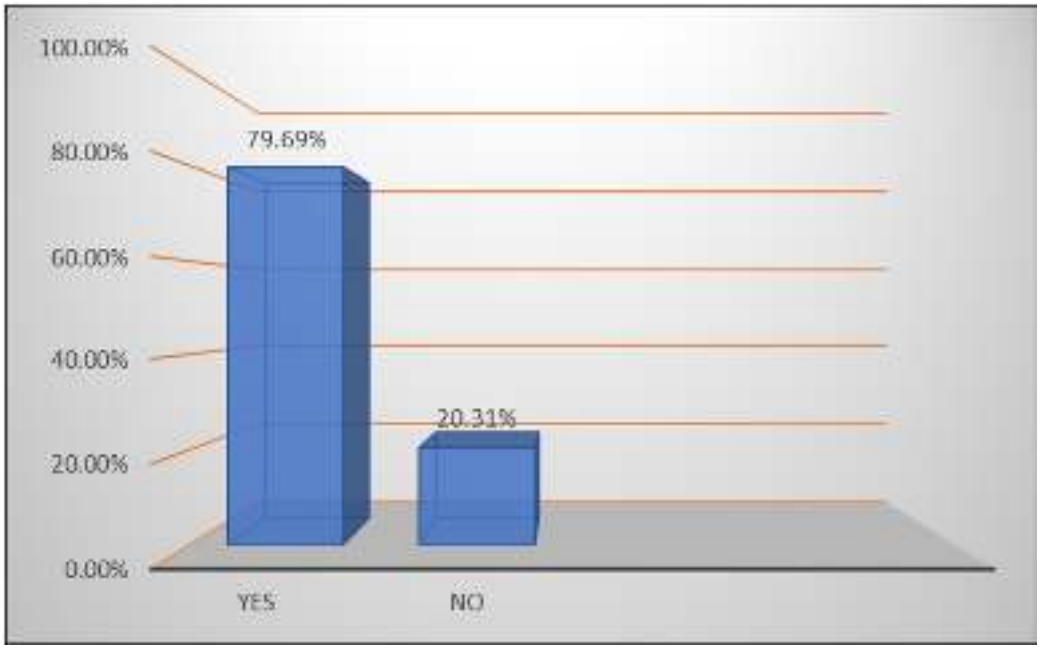


In the present study, family history of TB was absent in 199 (76.25%) participants, while it was present in 62 (23.75%) participants.

Table 12: Distribution of study participants according to family support.

Family support	Number	Percentage
Yes	208	79.69
No	53	20.31
Total	261	100

Graph 12 (Table 12): Distribution of study participants according to family support.

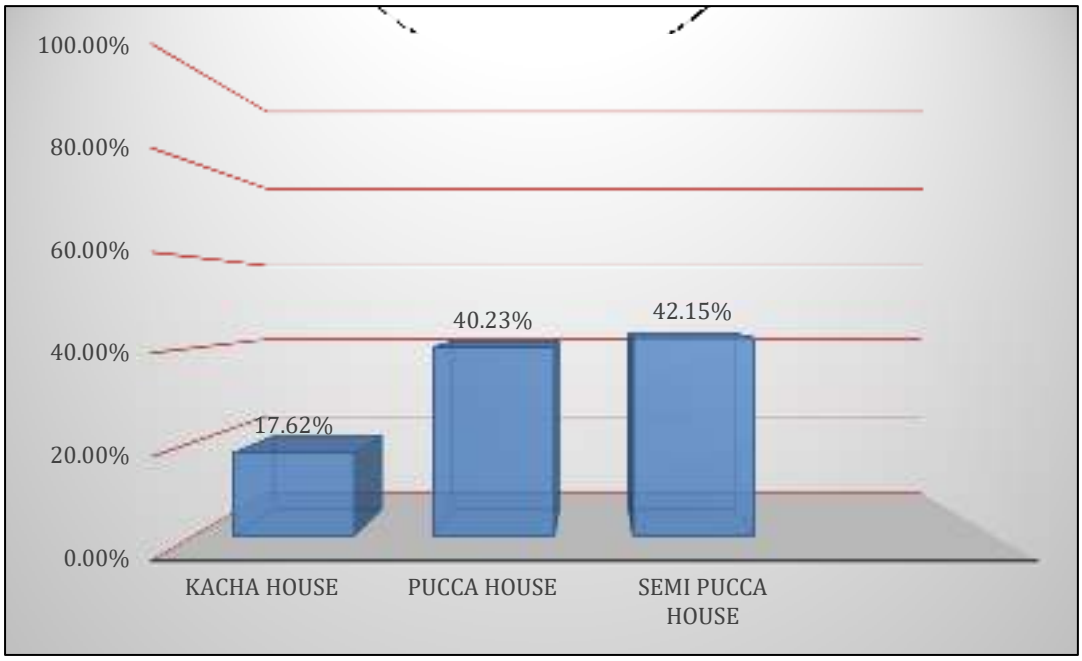


In the present study, family support was absent in 53 (20.31%) participants, while it was present in 208 (79.69%) participants.

Table 13: Distribution of subjects by type of house

Type of house	Number	Percentage
Kacha house	46	17.62
Pucca house	105	40.23
Semi-pucca house	110	42.15
Total	261	100

Graph 13 (Table 13): Distribution of subjects by type of house



In the present study, 46 (17.62%) participants stayed in kacha house while 105 (40.23%) and 110 (42.15%) participants stayed in pucca and semi-pucca house respectively.

II. Clinical profile of study participants

Table 14: Distribution of study participants according to ventilation of house.

Ventilation of house	Number	Percentage
Yes	195	74.71
No	66	25.29
Total	261	100

In the present study, majority 195 (74.71%) participants had ventilation of house and 66 (25.29%) had no ventilation of house.

Table 15: Distribution of study participants according to overcrowding.

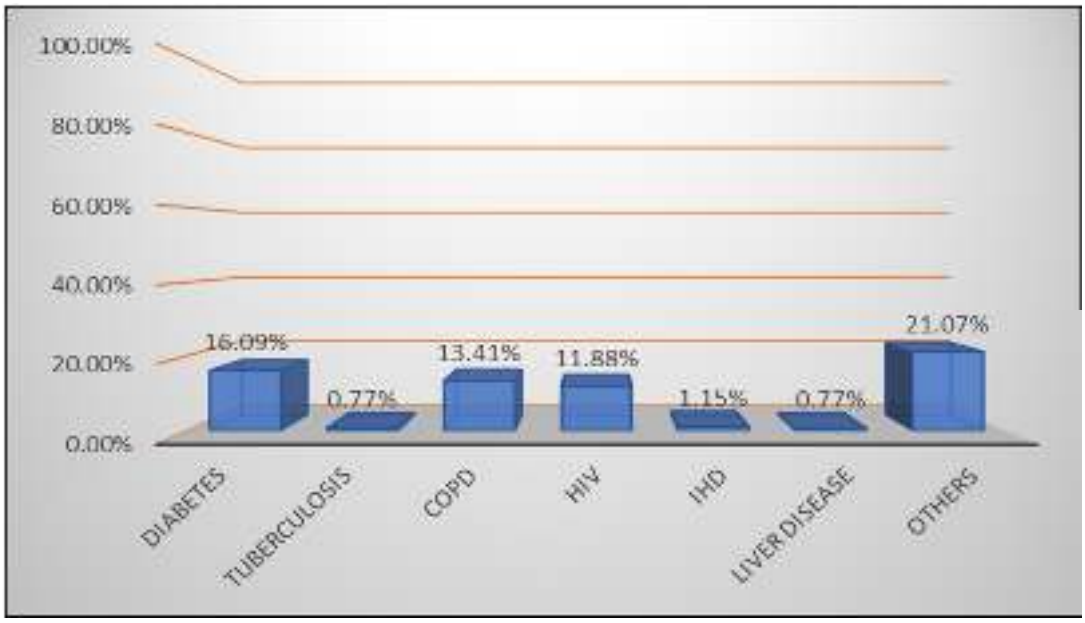
Overcrowding	Number	Percentage
Present	113	43.30
Absent	148	56.70
Total	261	100

In our study, in 113 (43.30%) of the participants house overcrowding was present and in 148 (56.70%) participants house overcrowding was absent.

Table 16: Distribution of study participants according to past history.

Past history	Number	Percentage
Diabetes	42	16.09
Tuberculosis	2	0.77
Chronic obstructive pulmonary disease	35	13.41
HIV	31	11.88
IHD	3	1.15
Liver disease	2	0.77
Others	55	21.07
No past history	91	34.86
Total	261	100

Graph 14 (Table 16): Distribution of study participants according to past history

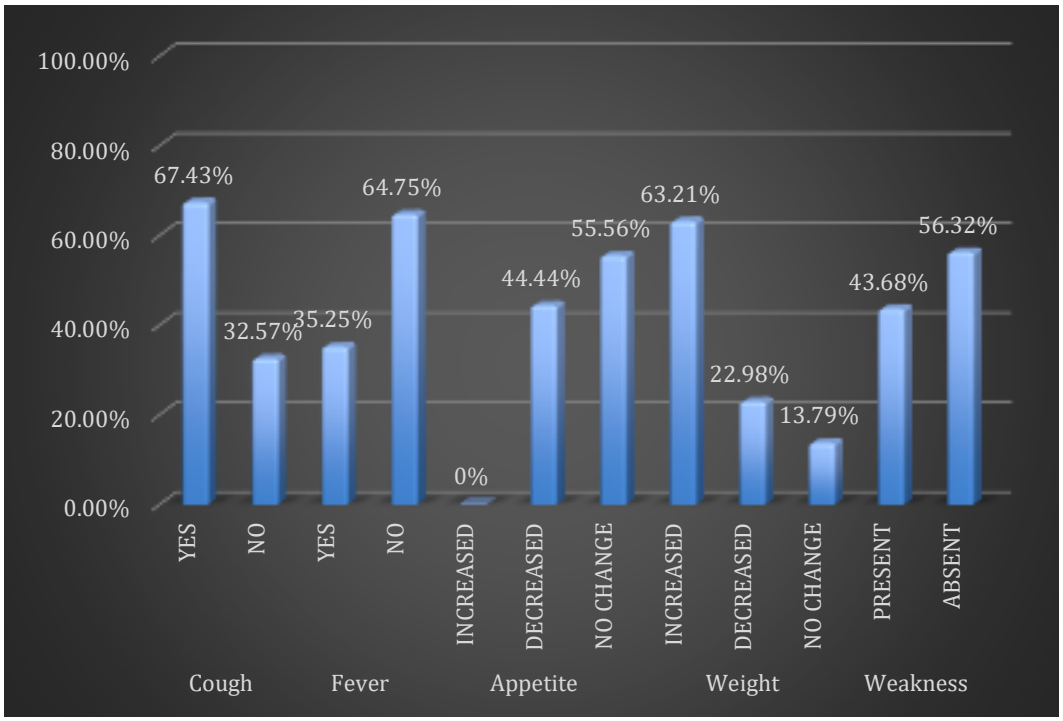


In the present study, 42 (16.09%) had past history of diabetes, 35 (13.41%) had chronic obstructive pulmonary disease, 31 (11.88%) had HIV, two (0.77%) had TB, three (1.15%) had IHD and two (0.77%) had liver disease. 91(34.86%) of them did not have past history of any diseases.

Table 17: Distribution of study participants according to their presenting symptoms.

Symptom		Number	Percentage
Cough	Yes	176	67.43
	No	85	32.57
Fever	Yes	92	35.25
	No	169	64.75
Appetite	Increased	0	0
	Decreased	116	44.44
	No change	145	55.56
Weight	Increased	165	63.21
	Decreased	60	22.98
	No change	36	13.79
Weakness	Present	114	43.68
	Absent	147	56.32

Graph 15 (Table 17): Distribution of study participants according to their symptoms

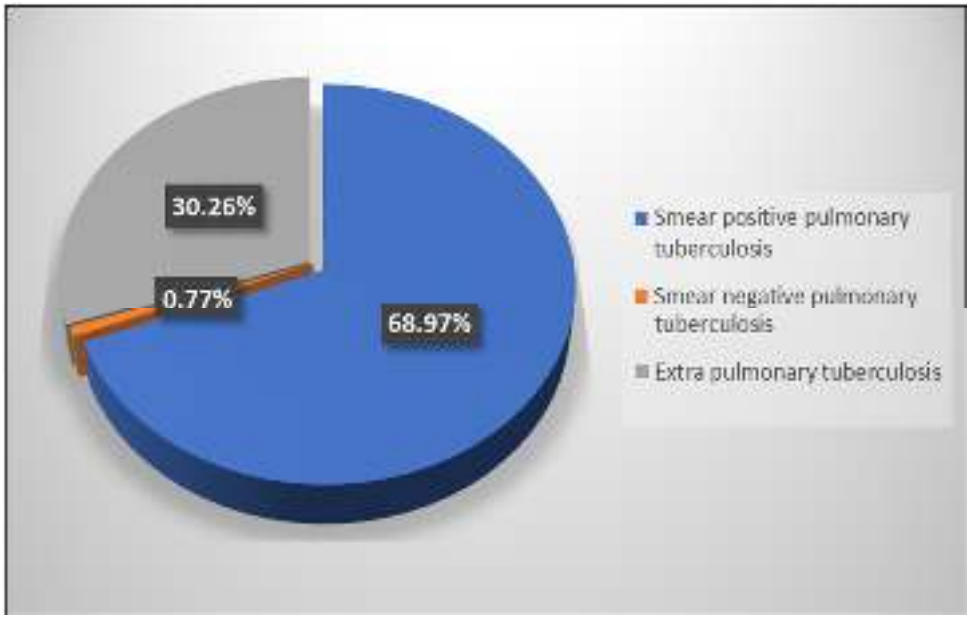


In the present study, 176 (67.43%) participants had cough, 92 (35.25%) had fever, 116 (44.44%) had decreased appetite, 60 (22.98%) had decreased weight and 114 (43.68%) had weakness.

Table 18: Distribution of study participants according to type of tuberculosis.

Type of tuberculosis	Number	Percentage
Smear positive pulmonary tuberculosis	180	68.97
Smear negative pulmonary tuberculosis	2	0.77
Extra pulmonary tuberculosis	79	30.26
Total	261	100

Graph 16 (Table 18): Distribution of study participants according to type of tuberculosis



Among the 261 participants 180 (68.97%) were smear positive pulmonary tuberculosis, two (0.77) were smear negative pulmonary tuberculosis and 79 (30.26%) had extra pulmonary tuberculosis.

III. Treatment profile of study participants

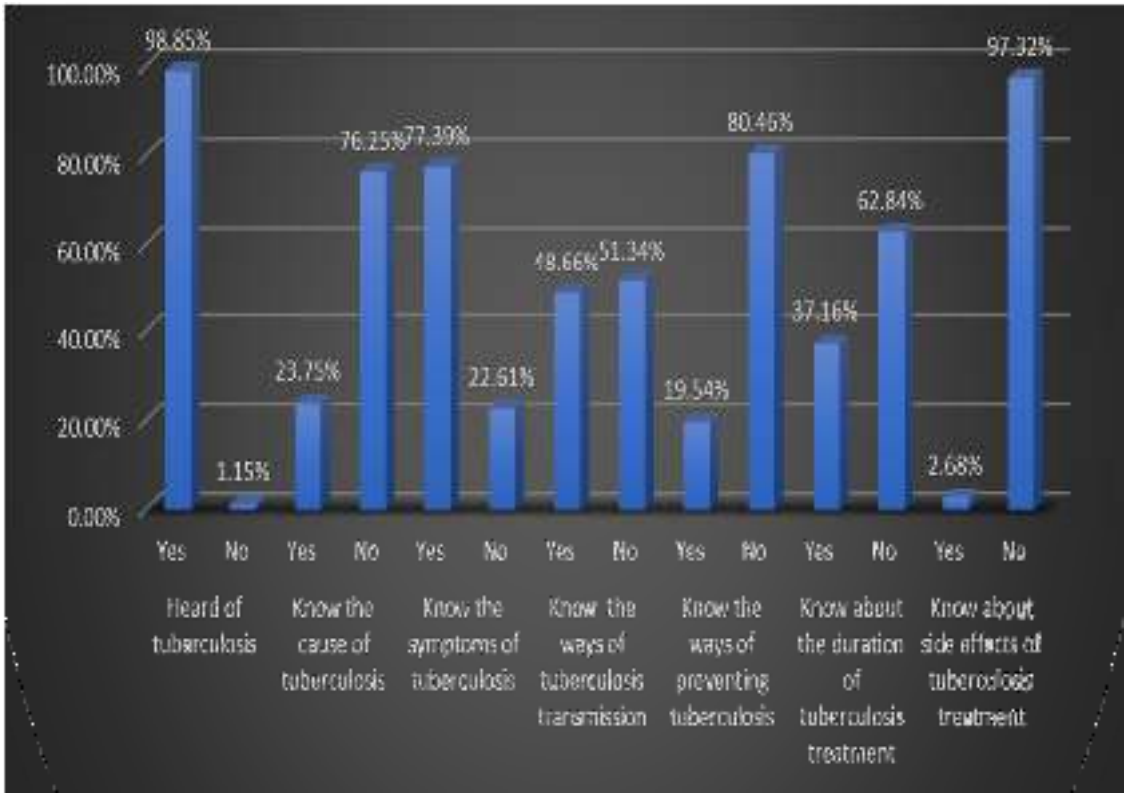
In the present study, supervision by family member was absent in 27 (10.34%) participants, while it was present in 234 (89.66%) participants. Support from treatment supervisor was absent in 67 (25.67%) participants, while it was present in 194 (74.33%) participants. 48 (18.39%) participants had to travel less than five kilometres from home to hospital whereas 213 (81.61%) participants had to travel more than five kilometres from home to hospital. Counselling regarding treatment duration was done in 227 (86.97%) participants, while it was not done in 34 (13.03%) participants. Counselling regarding side effects was done in 90 (34.48%) participants, while it was not done in 171 (65.52%) participants.

IV. Knowledge of study participants

Table 19: Distribution of study participants according to knowledge of tuberculosis.

Knowledge of tuberculosis		Number	Percentage
Have you heard of tuberculosis	Yes	258	98.85
	No	3	1.15
Do you know the cause of tuberculosis	Yes	62	23.75
	No	199	76.25
Do you know the symptoms of tuberculosis	Yes	202	77.39
	No	59	22.61
Do you know the ways of tuberculosis transmission	Yes	127	48.66
	No	134	51.34
Do you know the ways of preventing tuberculosis	Yes	51	19.54
	No	210	80.46
Do you know about the duration of tuberculosis treatment	Yes	97	37.16
	No	164	62.84
Do you know about the side effects of tuberculosis treatment	Yes	7	2.68
	No	254	97.32

Graph 17 (Table 19): Distribution of study participants according to knowledge of tuberculosis.



Among the 261 participants 258 (98.85%) had heard about tuberculosis, 62 (23.75%) knew the cause of tuberculosis, 202 (77.39%) knew about the symptoms of tuberculosis, 127 (48.66%) knew about the ways of tuberculosis transmission, 51 (19.54%) knew the ways of preventing tuberculosis, 97 (37.16%) knew about the duration of tuberculosis treatment and seven (2.68%) participants knew about the side effects of tuberculosis treatment.

Table 20: Distribution of study participants according to knowledge score.

Knowledge	Knowledge score	Number	Percentage
Poor	≤ 4	242	92.72
Good	> 4	19	7.28
	Total	261	100

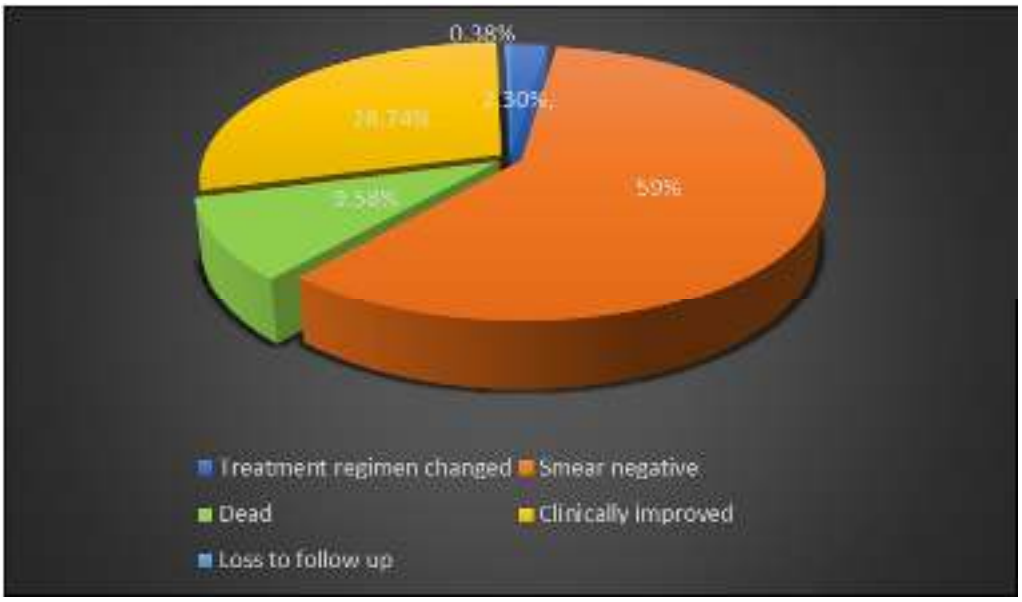
Among the 261 participants 242 (92.72%) had a knowledge score of four or less while 19 (7.28%) had a knowledge score of more than four. The mean score was 3.04±1.21 with minimum score of 0 and maximum score of 6.

V. Treatment follow at the end of 2 months and end of 6th months of treatment

Table 21: Distribution of study participants according to the outcomes at the end of 2 months of treatment (n=261).

Outcomes	Number	Percentage
Smear positive (Treatment regimen changed)	6	2.30
Smear negative	154	59
Dead	25	9.58
Clinically improved (Extrapulmonary tuberculosis)	75	28.74
Loss to follow up	1	0.38
Total	261	100

Graph 18 (Table 21): Distribution of study participants according to the outcomes at the end of 2 months of treatment (n=261).



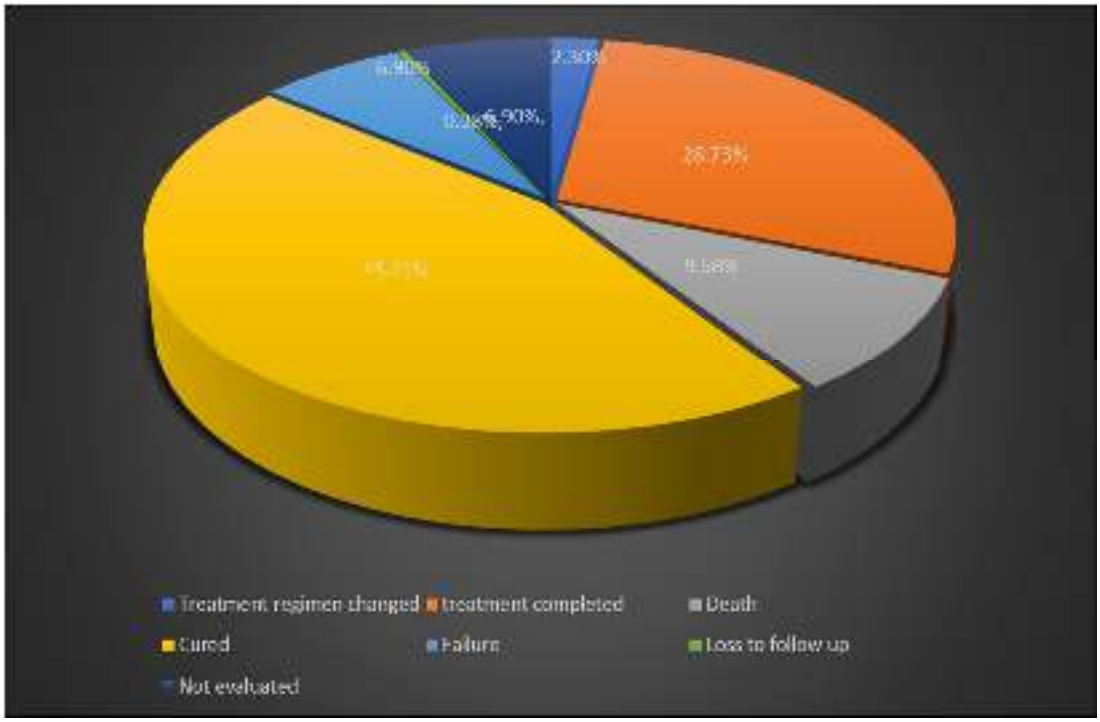
Among the 261 participants six (2.30%) were smear positive (treatment regimen changed), 154 (59%) were sputum negative, 25 (9.58%) were dead, 75 (28.74%) had clinically improved (extra pulmonary tuberculosis) and one (0.38%) was lost to follow up at the end of 2 months of treatment.

Table 22: Distribution of study participants according to the outcomes at the end of 6 months of treatment (n=261).

Outcomes	Number	Percentage
Cured	118	45.21
Treatment completed	75	28.73
Treatment regimen changed	6	2.30
Failure	18	6.90
Death	25	9.58
Loss to follow up	1	0.38
Not Evaluated	18	6.90
Total	261	100

* 6 patients with multidrug resistant tuberculosis (Treatment regimen changed) at 2nd month were also included as outcome at 6th month.

Graph 19 (Table 22): Distribution of study participants according to the outcomes at the end of 6 months of treatment (n=261).



Among the 261 participants 118 (45.21%) were cured, 75 (28.73%) were treatment completed, six (2.30%) were treatment regimen changed, 18 (6.90%) were failure cases, 25 (9.58%) were dead, one (0.38%) was lost to follow up and 18 (6.90%) were not evaluated at the end of 6 months of treatment.

Table 23. Distribution of study participants according to overall treatment outcomes of tuberculosis

Outcomes	Number	Percentage
Successful (cured + treatment completed)	193	73.95
Unsuccessful (Treatment regimen changed + failure + death + loss to follow up + not evaluated)	68	26.05
Total	261	100

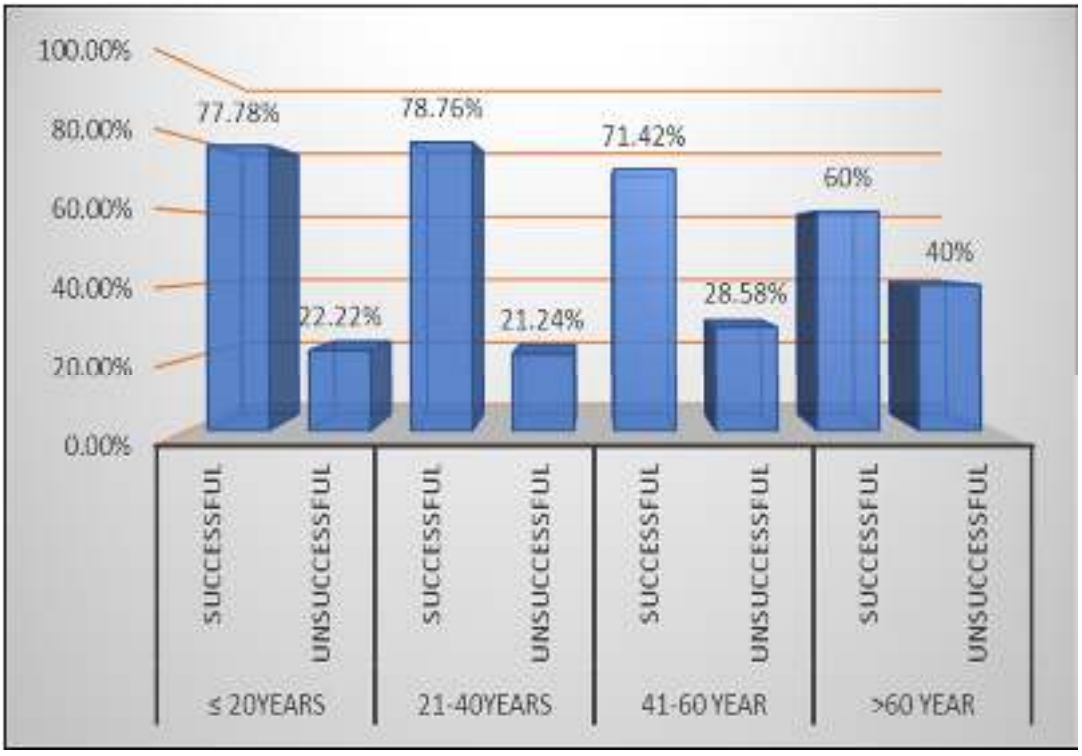
In the present study 193 (73.95%) of tuberculosis patients had successful outcome and 68 (26.05%) of tuberculosis patient had unsuccessful outcome.

VI. Association between sociodemographic factors and outcome of tuberculosis

Table 24. Association between age and outcomes of tuberculosis

Age in years	Outcomes		Total
	Successful	Unsuccessful	
≤ 20	28 (77.78%)	8 (22.22%)	36 (100%)
21-40	89 (78.76%)	24 (21.24%)	113 (100%)
41-60	55 (71.42%)	22 (28.58%)	77 (100%)
> 60	21 (60%)	14 (40%)	35 (100%)
Total	193 (73.95%)	68 (26.05%)	261 (100%)
χ^2 = 5.4208		df = 3	p<0.05

Graph 20 (Table 24). Association between age and outcomes of tuberculosis



The mean age of participants with successful outcome was 38.69±16.74yrs and the mean age of participants with unsuccessful outcome was 44.15±18.45yrs. In the present study 89 (78.76%) participants in the age group of 21-40 years had successful outcome. 55 (71.42%) in the age group of 41-60 years, 28 (77.78) in the age group of 20 years or less and 21 (60%) in the age group of above 60 years had successful outcome. Significant association was found between age and outcome of tuberculosis ($p<0.05$).

Table 25. Association between gender and outcome of tuberculosis

Gender	**Outcomes**		**Total**
	Successful	**Unsuccessful**	
Female	68 (74.72%)	23 (25.28%)	91 (100%)
Male	125 (73.52%)	45 (26.48%)	170 (100%)
Total	193 (73.94%)	68 (26.06%)	261 (100%)
$\chi^2 = 0.8339$		df = 1	p>0.05

In our study 125 (73.52%) males had successful outcomes when compared to 68 (74.72%) females. Significant association was not found between gender and outcomes of tuberculosis. ($p>0.05$).

Table 26. Association between occupation and outcome of tuberculosis

Occupation	Outcomes		Total
	Successful	**Unsuccessful**	
Employed	81 (77.88%)	23 (22.12%)	104 (100%)
Unemployed	112 (71.33%)	45 (28.67%)	157 (100%)
Total	193 (73.94%)	68 (26.06%)	261 (100%)
$\chi^2 = 1.3919$	df = 1		p>0.05

In our study 81(77.88%) employed had successful outcome and 112(71.33%) unemployed had successful outcome. Significant association was not found between occupation and outcomes of tuberculosis. (p>0.05).

Table 27. Association between literacy status and outcomes of tuberculosis

Literacy status	Outcomes		Total
	Successful	**Unsuccessful**	
Illiterate	12 (66.66%)	6 (33.34%)	18 (100%)
Literate	181 (74.48%)	62 (25.52%)	243 (100%)
Total	193 (73.94%)	68 (26.06%)	261 (100%)
$\chi^2 =$ 0.5318	df = 1		p>0.05 [MC]

MC: Monte-Carlo's simulation used in Chi-square test

In our study 181 (74.48%) literates and 12 (66.66%) illiterates had successful outcome. Significant association was not found between literacy status and outcomes of tuberculosis. (p>0.05)

Table 28. Association between type of family and outcome of tuberculosis

Type of family	Outcomes		Total
	Successful	**Unsuccessful**	
Joint	101 (72.14%)	39 (27.86%)	140 (100%)
Nuclear	92 (76.03%)	29 (23.97%)	121 (100%)
Total	193 (73.94%)	68 (26.06%)	261 (100%)
$\chi^2 = 0.50984$		df = 1	p>0.05

In our study 101 (72.14%) from joint families and 92 (76.03%) from nuclear families had successful outcome. Significant association was not found between type of family and outcomes of tuberculosis (p>0.05).

Table 29. Association between socio economic status and outcome of tuberculosis

Socio economic status	Outcomes		Total
	Successful	Unsuccessful	
I	5 (55.55%)	4 (44.45%)	9 (100%)
II	158 (75.59%)	51 (24.41%)	209 (100%)
III	26 (72.22%)	10 (27.78%)	36 (100%)
IV	4 (57.14%)	3 (42.86%)	7 (100%)
Total	193 (73.95%)	68 (26.05%)	261 (100%)
χ^2 =2.5974	df = 3		$p>0.05^{MC}$

MC: Monte-Carlo's simulation used in Chi-square test

In our study five (55.55%), 158 (75.59%), 26 (72.22%), and four (57.14%) participants belonging to socioeconomic class I, class II, class III and class IV respectively had successful outcome. Significant association was not found between socio economic status and outcome of tuberculosis ($p>0.05$).

Table 30. Association between type of diet and outcome of tuberculosis

Type of Diet	Outcome		Total
	Successful	Unsuccessful	
Vegetarian	73 (73%)	27 (27%)	100 (100%)
Non-Vegetarian	120 (74.53%)	41 (25.47%)	161 (100%)
Total	193 (73.95%)	68 (26.05%)	261 (100%)
χ^2= 0.0756	df = 1		p>0.05

In the present study 120 (74.53%) participants who were non vegetarian and 73 (73%) who were vegetarian had successful outcome. Significant association was not found between type of diet and outcome of tuberculosis (p>0.05).

Table 31. Association between past history of tuberculosis and outcome of tuberculosis

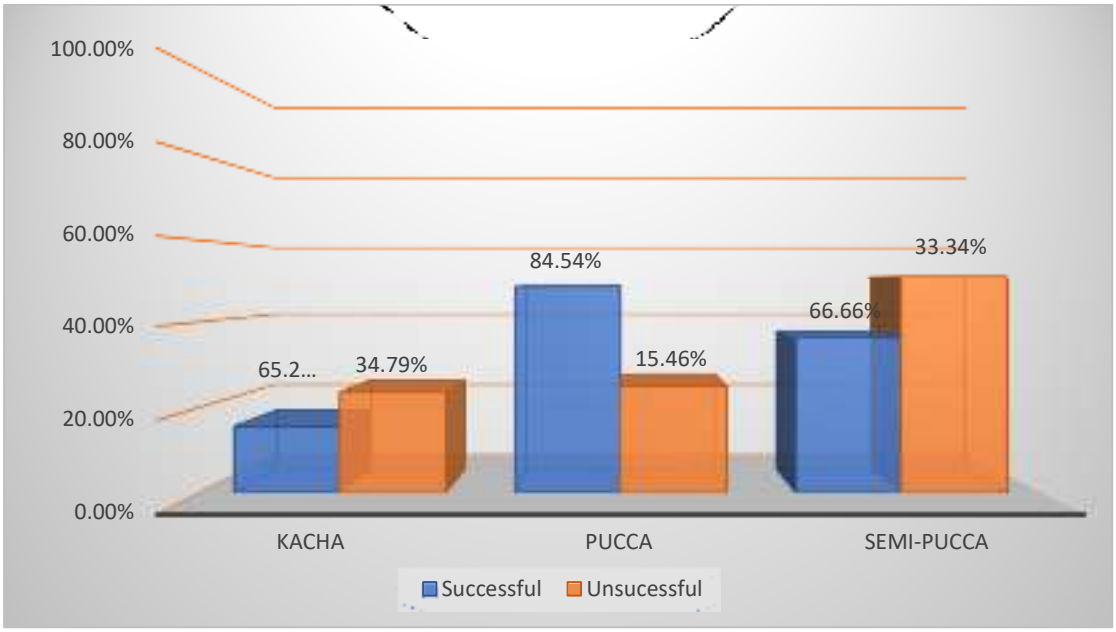
Past history of tuberculosis	Outcome		Total
	Successful	Unsuccessful	
Absent	153 (77.27%)	45 (22.73%)	198 (100%)
Present	40 (63.49%)	23 (36.51%)	63 (100%)
Total	193	67	261 (100%)
χ^2 = 4.0167	df = 1		p<0.05*

In the present study 153 (77.27%) participants who had no history of TB and 40 (63.49%) who had history of TB had successful outcome. Significant association was found between past history of tuberculosis and outcome of tuberculosis (p<0.05).

Table 32. Association between type of house and outcome of tuberculosis

Type of house	Treatment Outcome		Total
	Successful	Unsuccessful	
Kacha house	30 (65.21%)	16 (34.79%)	46(100%)
Pucca house	93 (84.54%)	17 (15.46%)	110(100%)
Semi-pucca house	70 (66.66%)	35 (33.34%)	105(100%)
Total	193 (73.94%)	68 (26.06%)	261(100%)
$\chi^2 =$ 11.122		df = 2	p<0.05

Graph 21 (Table 32): Association between type of house and outcome of tuberculosis



In our study almost half of the study participants 93 (84.54%) staying in pucca house had successful outcome of tuberculosis. 70 (66.66%) of participants staying in semi-pucca house and 30 (65.21%) staying in kacha house had successful outcome of tuberculosis. Significant association was found between type of house and outcome of tuberculosis. ($p<0.05$)

VII. Association between clinical profile and outcome of tuberculosis

Table 33. Association between ventilation and outcome of tuberculosis

Ventilation	Outcome		Total
	Successful	Unsuccessful	
No	48 (71.64%)	19 (28.36%)	67 (100%)
Yes	145 (74.74%)	49 (25.26%)	194 (100%)
Total	193 (73.94%)	68 (26.06%)	261 (100%)
$\chi^2 = 0.67223$	df = 1		$p>0.05^{MC}$

MC: Monte-Carlo's simulation used in Chi-square test

In the present study 145 (74.74%) participants with good ventilation and 48 (71.64%) with poor ventilation had successful outcome. Significant association was not found between ventilation and outcome of tuberculosis. (p>0.05)

Table 34. Association between overcrowding and outcome of tuberculosis

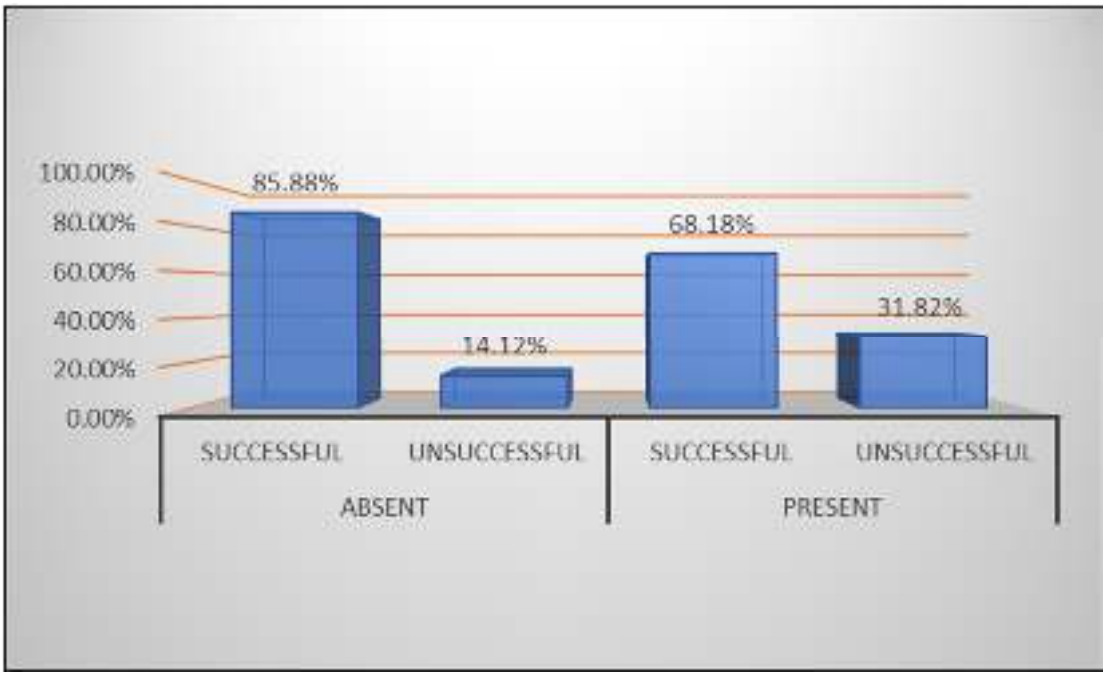
Over crowding	Outcome		Total
	Successful	Unsuccessful	
No	108 (72.97%)	40 (27.03%)	148 (100%)
Yes	85 (75.22%)	28 (24.77%)	113 (100%)
Total	193 (73.94%)	68 (26.06%)	261 (100%)
$\chi^2 = 0.16812$	df = 1		p>0.05

In this study 108 (72.97%) participants with no overcrowding in house and 85 (75.22%) with overcrowding in house had successful outcome. Significant association was not found between overcrowding and outcome of tuberculosis. (p>0.05)

Table 35. Association between cough and outcome of tuberculosis

Cough	Outcome		Total
	Successful	Unsuccessful	
Absent	73 (85.88%)	12 (14.12%)	85 (100%)
Present	120 (68.18%)	56 (31.82%)	176 (100%)
Total	193 (73.94%)	68 (26.06%)	261 (100%)
$\chi^2 = 9.3213$		df = 1	p<0.05

Graph 22 (Table 35) Association between cough and outcome of tuberculosis

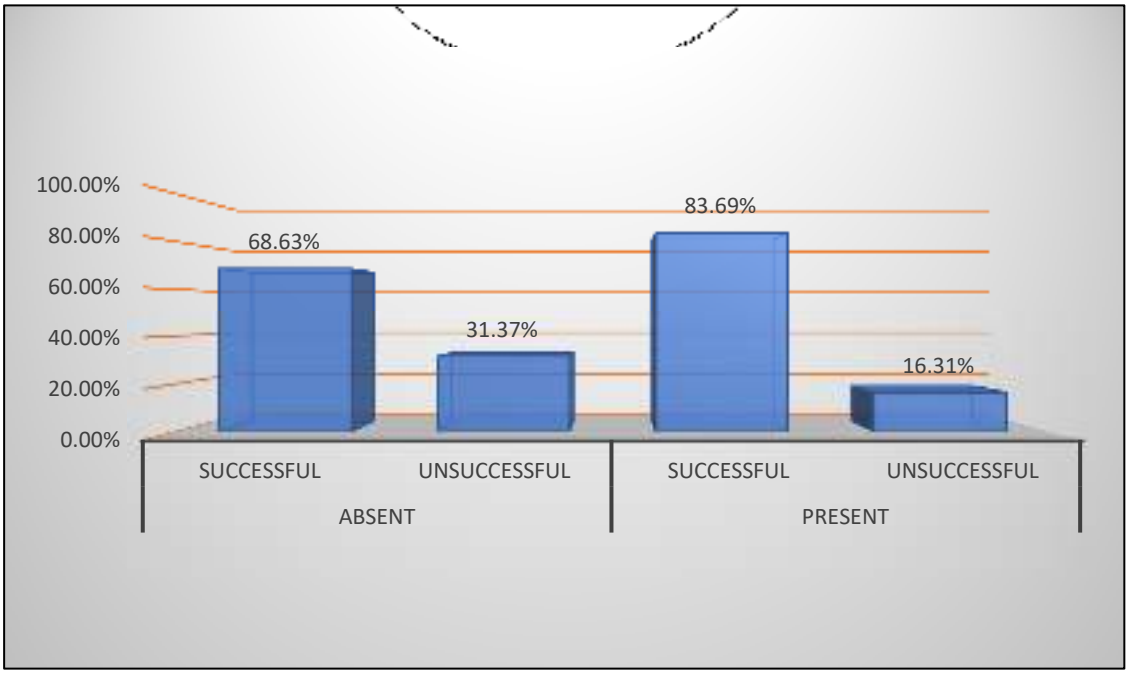


In the present study 120 (68.18%) participants with cough and 73 (85.88%) without cough had successful outcome. Significant association was found between cough and outcome of tuberculosis. (p<0.05)

Table 36. Association between fever and outcome of tuberculosis

Fever	Outcome		Total
	Successful	Unsuccessful	
Absent	116 (68.63%)	53 (31.37%)	169 (100%)
Present	77 (83.69%)	15 (16.31%)	92 (100%)
Total	193 (73.94%)	68 (26.06%)	261 (100%)
$\chi^2 = 7.0098$	df = 1		p<0.05

Graph 23 (Table 36) Association between fever and outcomes of tuberculosis



In the present study 116 (68.63%) participants with no fever and 77 (83.69%) with fever had successful outcome. Significant association was found between fever and outcome of tuberculosis. (p<0.05)

Table 37. Association between weight and outcome of tuberculosis

Weight	**Outcome**		Total
	Successful	**Unsuccessful**	
Increased	144 (87.27%)	21 (12.73%)	165 (100%)
Decreased	20 (33.33%)	40 (66.67%)	60 (100%)
No change	29 (80.56%)	7 (19.44%)	36 (100%)
Total	193 (73.95%)	68 (26.05%)	261 (100%)
$\chi^2 = 67.394$		df = 3	$p<0.05$

In the present study, among 144 (87.27%) participants with successful outcome the weight increased. Among 20 (33.33%) of participants weight decreased and among 29 (80.56%) of them there was no change in their weight.

There was significant association between weight change and outcome of tuberculosis. ($p<0.05$)

Table 38. Association of weight change over time during follow-up between two outcome groups of tuberculosis

Weight (in Kg)	Outcome			
	Successful	**Unsuccessful**	**t value**	**p value**
Baseline	43.55±7.09	40.12±4.45	4.6227	0.00001 [WT]
End of 2 month	44.49±6.89	37.73± 2.77	10.04	0.00001 [WT]
End of 6 month	46.04± 6.91	36.59± 3.0	13.466	0.00001 [WT]

Abbreviations: WT: Welch's test

In the present study, the mean weight of the successful outcome group at baseline, end of 2 months and end of 6 months was 43.55±7.09, 44.49±6.89 and 46.04± 6.91 respectively. The mean weight of the unsuccessful outcome group at baseline, end of 2 months and end of 6 months was 40.12±4.45, 37.73± 2.77 and 36.59± 3.0 respectively. There is difference in the mean weights at baseline, end of 2 months and 6 months between two outcome groups of tuberculosis. This was found to be statistically significant. ($p<0.00001$)

Table 39. Association of BMI change over time during follow-up between two outcome groups of tuberculosis

BMI	Outcome			
	Successful	**Unsuccessful**	**t value**	**p value**
Baseline	16.81±2.75	15.8±2.02	3.1959	0.00084[WT]
End of 2 month	17.19 ± 2.73	15.22 ± 1.47	6.3213	0.00001 [WT]
End of 6 month	17.80 ± 2.78	14.77 ± 1.64	9.0094	0.00001 [WT]

Abbreviations: WT: Welch's test

In the present study, the mean BMI of the successful outcome group at baseline, end of 2 months and end of 6 months was 16.81±2.75, 17.19±2.73 and 17.8±2.78 respectively. The mean BMI of the unsuccessful outcome group at baseline, end of 2 months and end of 6 months was15.8±2.02, 15.22± 1.47 and 14.77±1.64 respectively. There is difference in the mean BMI at baseline, end of 2 months and 6 months between participants with successful and unsuccessful outcome which was found to be statistically significant. ($p<0.00001$)

Table 40. Association of weight change over time during follow-up within two outcome groups of tuberculosis

Weight (in Kg)	Outcome	
	Successful	**Unsuccessful**
Baseline	43.55±7.09	40.12±4.45
End of 2 month	44.49±6.89	37.73± 2.77
End of 6 month	46.04± 6.91	36.59± 3.0
	F value- 1221.4 Df = 2 P < 0.0001*RMA	F value- 46.902 Df = 2 P < 0.2101*RMA

*Abbreviations: RMA – One-way repeated measures of ANOVA

In the present study, within the successful outcome group the mean body weight increased at end of 2 months when compared to baseline body weight. The mean body weight also increased at the end of 6 months when compared to 2 months. This difference in weight change over time during follow up within the successful outcome group was found to be statistically significant ($p<0.00001$).

Within the unsuccessful outcome group the mean body weight decreased at the end of 2 months when compared to baseline body weight. The mean body weight also decreased at the end of 6 months when compared to 2 months. This difference in weight over time during follow up within the unsuccessful outcome groups of tuberculosis was not found to be statistically significant ($p<0.2101$).

Table 41. Association of BMI change over time during follow-up within two outcome groups of tuberculosis

BMI	Outcome	
	Successful	**Unsuccessful**
Baseline	16.81±2.75	15.8±2.02
End of 2 month	17.19±2.73	15.22± 1.47
End of 6 month	17.80±2.78	14.77±1.64
	F value- 566.87 Df = 2 P < 0.0001*RMA	F value- 1.5942 Df = 2 P < 0.2101*RMA

*Abbreviations: RMA – One-way repeated measures of ANOVA

In the present study, within the successful outcome group the mean BMI increased at end of 2 months when compared to baseline. The mean BMI also increased at the end of 6 months. This difference in change of BMI over time was found to be statistically significant ($p<0.00001$).

Within the unsuccessful outcome group the mean BMI decreased at the end of 2 months when compared to baseline BMI. The mean BMI also decreased at the end of 6 months when compared to 2 months which was not statistically significant($p=0.2101$).

Table 42: Post hoc analysis for weights over different time points for both groups.

Weight	Outcome					
	Successful			Unsuccessful		
	Baseline	End of 2 months	End of 6 months	Baseline	End of 2 months	End of 6 months
Baseline	--------	<0.00001*	<0.00001*	--------	<0.00001*	<0.00001*
End of 2 months	<0.00001*	--------	<0.00001*	<0.00001*	--------	<0.00001*
End of 6 months	<0.00001*	<0.00001*	------	<0.00001*	<0.00001*	-------

* Post hoc analysis for one-way repeated measures of ANOVA test

* Pairwise t test is used for post hoc analysis.

In the present study from post hoc analysis, it was observed that, there is difference in the mean weight over time point (Baseline v/s end of 2 months, end of 2 months v/s end of 6 months and baseline v/s end of 6 months) in both outcome groups ($p<0.00001$)

(i.e., mean weight has increased over time point in successful group and decreased over time in unsuccessful group which is found to be statistically significant.)

Table 43: Post hoc analysis for BMI over different time points for successful group.

BMI	Outcome		
	Successful		
	Baseline	End of 2 months	End of 6 months
Baseline	--------	<0.00001*	<0.00001*
End of 2 months	<0.00001*	--------	<0.00001*
End of 6 months	<0.00001*	<0.00001*	------

* Post hoc analysis for one-way repeated measures of ANOVA test

* Pairwise t test is used for post hoc analysis.

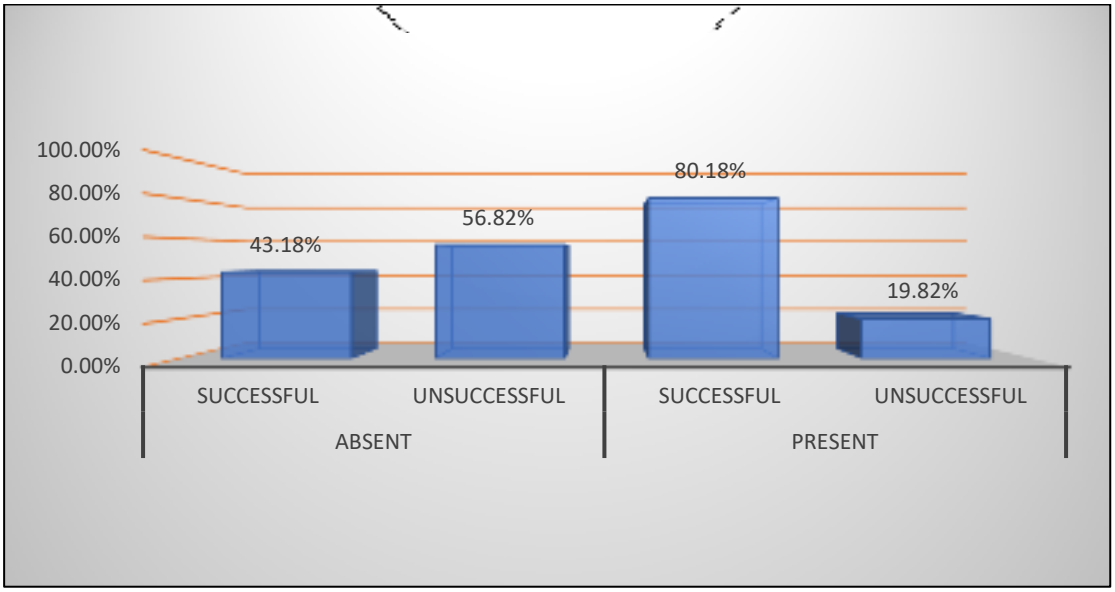
In the present study from post hoc analysis, it was observed that mean BMI increased over time point (Baseline v/s end of 2 months, end of 2 months v/s end of 6 months and baseline v/s end of 6 months) in successful group which was found to be statistically significant. ($p<0.00001$)

VIII. Association between treatment profile and outcomes of tuberculosis

Table 44: Association between supervision by family and outcomes of tuberculosis.

Supervision by family	Outcome		Total
	Successful	Unsuccessful	
Absent	19 (43.18%)	25 (56.82%)	44 (100%)
Present	174 (80.18%)	43 (19.82%)	217 (100%)
Total	193 (73.94%)	68 (26.06%)	261 (100%)
$\chi^2 = 25.999$	df = 1		p<0.05

Graph 24 (Table 44) Association between supervision by family and outcomes of tuberculosis

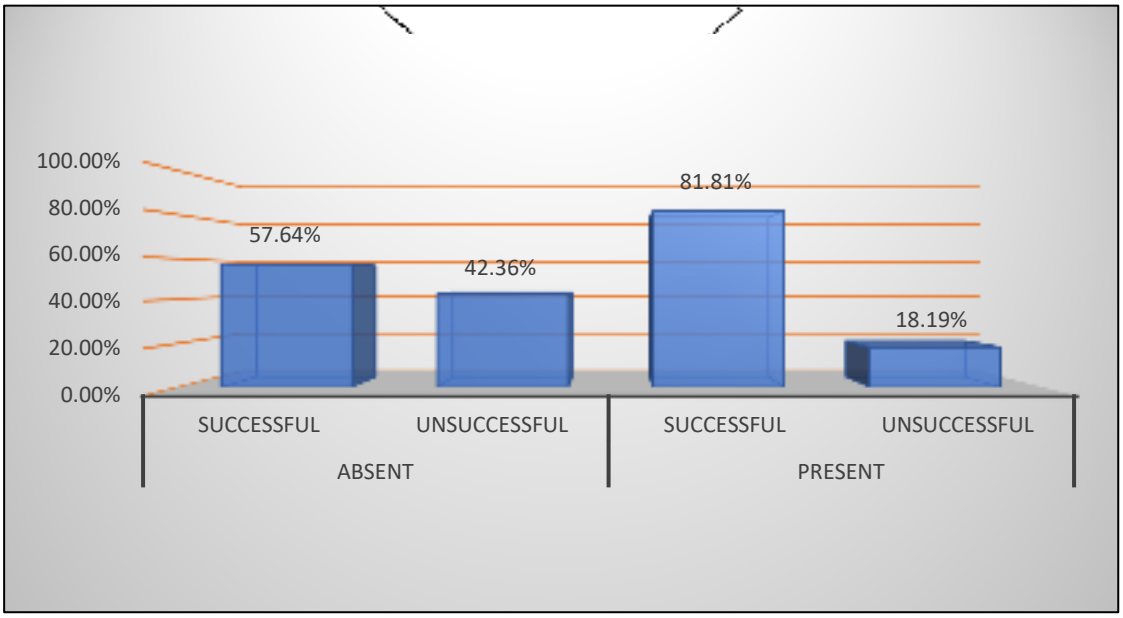


In the present study 174 (80.18%) participants who had supervision by family and 19 (43.18%) who had no family supervision had successful outcome. Also 43 (19.82%) participants who had supervision by family and 25 (56.82%) who had no family supervision had unsuccessful outcome. This difference was found to be statistically significant (p< 0.05).

Table 45: Association between support of supervisor and outcomes of tuberculosis.

Support of supervisor	Outcome		Total
	Successful	Unsuccessful	
No	49 (57.64%)	36 (42.36%)	85 (100%)
Yes	144 (81.81%)	32 (18.19%)	176 (100%)
Total	193 (73.94%)	68 (26.06%)	261 (100%)
$\chi^2 = 17.382$	df = 1		p<0.05

Graph 25 (Table 45) Association between support of supervisor and outcomes of tuberculosis



In the present study 144 (81.81%) participants who had support of supervisor and 49 (57.64%) who had no support of supervisor had successful outcome. This difference was found to be statistically significant (p< 0.05).

Table 46: Association between family support and outcomes of tuberculosis.

Family Support	Outcome		Total
	Successful	Unsuccessful	
Absent	31 (43.66%)	40 (56.34%)	71 (100%)
Present	162 (85.26%)	28 (14.74%)	190 (100%)
Total	193 (73.94%)	68 (26.06%)	261 (100%)
$\chi^2 = 46.43$	df = 1		p<0.05

In the present study 162 (85.26%) participants who had family support and 31 (43.66%) who had no family support had successful outcome. This difference was found to be statistically significant ($p< 0.05$).

Table 47: Association between knowledge of tuberculosis and outcome of tuberculosis

Knowledge	Knowledge score	Outcome		Total
		Successful	Unsuccessful	
Poor	≤ 4	177 (73.14%)	65 (26.86%)	242 (100%)
Good	> 4	16 (84.21%)	3 (15.79%)	19(100%)
Total		193 (73.94%)	68 (26.06%)	261 (100%)
χ^2 =1.1206		df = 1		$p>0.05^{MC}$

MC: Monte-Carlo's simulation used in Chi-square test

In the present study 177 (73.14%) participants who had knowledge score of four or less and 16 (84.21%) who had knowledge score of more than four had successful outcome. This difference was found to be statistically not significant ($p>0.05$).

Table 48 - Univariate logistic regression analysis of factors associated with outcome of tuberculosis

		Successful	Unsuccessful	UOR (95% CI)	P value
Age (in years)	≤ 20	28 (14.51%)	8(11.76%)	1	-
	21-40	89 (46.11%)	24 (35.29%)	1.0595 (0.4282, 2.6135)	0.90044
	41-60	55 (28.5%)	22 (32.35%)	0.7143 (0.2823, 1.8074)	0.47747
	> 60	21 (10.88%)	14 (20.59%)	0.4286 (0.1519, 1.2085)	0.10917
Type of house	Kacha	30 (15.54%)	16 (23.53%)	1	-
	Pucca	93 (48.19%)	17 (25%)	**2.9176 (1.3147, 6.4747)**	0.00847*
	Semi-pucca	70 (36.27%)	35 (51.47%)	1.0667 (0.5141, 2.2132)	0.86242
Cough	Absent	73 (37.82%)	12 (17.65%)	1	-
	Present	120 (62.18%)	56 (82.35%)	**0.3522 (0.177, 0.7008)**	**0.00295***
Past history of TB	Absent	153 (79.27%)	45 (66.18%)	1	-
	Present	40 (20.73%)	22 (32.35%)	**0.5347 (0.2884, 0.9914)**	**0.0469***
Family support	Absent	31 (16.06%)	40 (58.82%)	1	-
	Present	162 (83.94%)	28 (41.18%)	**7.4654 (4.0275, 13.8381)**	**<0.00001***
Supervision by family	Absent	19 (9.84%)	25 (36.76%)	1	-
	Present	174 (90.16%)	43 (63.24%)	**5.3243 (2.6878, 10.5471)**	**<0.00001***
Support of supervisor	No	49 (25.39%)	36 (52.94%)	1	
	Yes	144 (74.61%)	32 (47.06%)	**2.6173 (1.4624, 4.6845)**	**<0.00001***

In the present study univariate logistic regression analysis showed that treatment outcomes of tuberculosis were affected by type of house, presence of cough, past history of tuberculosis, family support, supervision by family and support of supervisor.

Patients who stayed in pucca house were 2.9 times more likely to have successful outcome than staying in kacha and semi-pucca house. [UOR: 2.9176; 95% CI (1.3147-6.4747)]. Odds of having successful outcome is 0.3 times less for patients who had cough compared to patients who don't have cough. [UOR: 0.3522; 95%CI (0.177-0.7008)]. Similarly, patients without past history of tuberculosis were 0.5 times less likely to have successful outcome than those with past history of tuberculosis. [UOR: 0.5347; 95%CI (0.2884 – 0.9914)]. Patients with family support were 7 times more likely to have successful outcome when compared to patients without family support [UOR: 7.4654; 95%CI (4.0275 -13.8381)]. Regarding supervision by family, patients with supervision by family were 5 times likely to have successful outcome when compared to patients without supervision by family [UOR: 5.3243; 95%CI (2.6878 - 10.5471)]. Patients who had support of supervisor are 2.6 times likely to have successful outcome when compared to unsuccessful outcome. [UOR: 2.6173;95%CI (1.4624 – 4.6845)].

Table 49 - Multivariate logistic regression analysis of factors associated with outcome of tuberculosis

		Successful	Unsuccessful	AOR (95%CI)	P value
Age (in years)	≤ 20	28 (14.51%)	8 (11.76%)	1	-
	21-40	89 (46.11%)	24 (35.29%)	0.922 (0.2746, 2.8471)	0.890676
	41-60	55 (28.5%)	22 (32.35%)	0.5083 (0.1461, 1.605)	0.26419
	> 60	21 (10.88%)	14 (20.59%)	0.4197 (0.106, 1.5463)	0.2004
Type of house	Kacha	30 (15.54%)	16 (23.53%)	1	-
	Pucca	93 (48.19%)	17 (25%)	**2.9545 (1.0725, 8.2705)**	0.03633*
	Semi-pucca	70 (36.27%)	35 (51.47%)	1.2282 (0.5114, 2.8959)	0.64036
Cough	Absent	73 (37.82%)	12 (17.65%)	1	-
	Present	120 (62.18%)	56 (82.35%)	**0.2448 (0.0979, 0.5579)**	**0.001411***
Past history of TB	Absent	153 (79.27%)	45 (66.18%)	1	-
	Present	40 (20.73%)	22 (32.35%)	2.1411 (0.8194, 6.024)	0.13216
Family support	Absent	31 (16.06%)	40 (58.82%)	1	-
	Present	162 (83.94%)	28 (41.18%)	**6.0292 (2.4277, 15.9449)**	**0.000162**
Supervision by family	Absent	19 (9.84%)	25 (36.76%)	1	-
	Present	174 (90.16%)	43 (63.24%)	**3.8695 (1.4982, 10.0448)**	**0.004962**
Support of supervisor	No	49 (25.39%)	36 (52.94%)	1	-
	Yes	144 (74.61%)	32 (47.06%)	**2.5736 (1.2631, 5.2749)**	0.009194*

In the present study multivariate logistic regression analysis showed that treatment outcomes of tuberculosis were affected by type of house, presence of cough, past history of tuberculosis, family support, supervision by family and support of supervisor.

Patients who stayed in pucca house were 2.9 times more likely to have successful outcome than staying in kacha and semi-pucca house. [AOR: 2.9545; 95% CI (1.0725-8.2705)]. Odds of having successful outcome is 0.2 times less for patients

who had cough compared to patients who don't have cough. [AOR: 0.2448; 95%CI (0.0979-0.5579)]

Similarly, patients without past history of tuberculosis had 2.14 times more likely to have successful outcome than those with past history of tuberculosis. [AOR: 2.1411;95%CI (0.8194-6.024)]. Patients with family support were 6 times more likely to have successful outcome when compared to patients without family support,[AOR : 6.0292; 95%CI (2.4277 -15.9449)].Regarding supervision by family, patients with supervision by family were 3.8 times likely to have successful outcome when compared to patients without supervision by family[AOR : 3.8695; 95%CI (1.4982-10.0448)].Patients who have support of supervisor are 2.5 times likely to have successful outcome when compared to unsuccessful outcome.[AOR: 2.5736;95%CI (1.2631-5.2749)].

DISCUSSION

India has the highest estimated burden of tuberculosis infection globally, with nearly 35-40 crores Indian population having tuberculosis infection of which 26 lakh people (18-36 lakh) are estimated to develop tuberculosis disease annually. Several studies have shown that, on average, 5–10% of those infected will develop TB disease over the course of their lives, usually within the first 2 years after initial infection. The risk for TB disease after infection depends on several factors, the most important being immunological status. This risk is increased >25 times among contacts of bacteriologically confirmed TB patients compared to general populations, 16-21 times in case of HIV coinfection and 3-4 times in other immune-compromised status like diabetes etc. Monitoring the tuberculosis treatment outcomes and identifying the factors associated with unsuccessful outcome will help in evaluating the National Tuberculosis Elimination Programme.

Table No 1-13: Socio-demographic Profile of Study Participants

In the present study, 261 participants were included; their mean age was 40.11 ± 17.33 years. Almost half of the study participants were in the age group of 21-40 years. Similar findings were seen in a study conducted in Hyderabad, Telangana.[22]

In the present study 65.13% participants were male, 83.52% were Hindu, 60.15% were unemployed, 53.64% of the study participants belonged to joint family, 80.08% belonged to socioeconomic status class-III, 49.04% were smokers. Another study done at Sangli, Maharashtra[26] showed majority 71.90% were males, 81.05% were Hindu, 26.80% were unemployed,10.46% belonged to joint family and 56.21% belonged to socioeconomic status class IV. Similar findings were seen in longitudinal

study[61] conducted in various parts of India (Four North Indian states -Madhya Pradesh, Delhi, Chhattisgarh and Odisha) which showed that 81.3% were Hindus, more than half were males, around 67% were literates.

In our study 23.75% study participants had family history of tuberculosis, similar study done in the Haramaya district of Eastern Ethiopia[62] showed 32% of participants as having family history of tuberculosis which was similar to a longitudinal study[61] done in various parts of India (Four North Indian states -Madhya Pradesh, Delhi, Chhattisgarh and Odisha). In our study 20.31% had no family support, similar study done in Indonesia[63] showed family support lacking in 16.4% of the study participants. In our study 42.15% stayed in semi-pucca house, similar study done in the Haramaya district of Eastern Ethiopia[62] showed 7.3% of participants as staying in semi-pucca house. This difference may be due to the vast differences in the socio-economic conditions of both the regions.

In our study the males were affected more with tuberculosis when compared to females may be due to differential susceptibility to tuberculosis caused by biological mechanism, high exposure among males due to social interactions among males and less notification among females due to sociocultural barriers and access to health care services.[64]

Table No 14-18: Clinical profile of study participants

In the present study, 43.30% of the participants had overcrowding in house, 16.09% had past history of DM, 11.88% had HIV. In a similar study done in Kampala, Uganda house overcrowding was present in 57.3% of the study participants, 5.7% had diabetes and 41.4% had HIV.[32] Uganda being a under developed nation

with high burden of HIV may be the reason for the high percentage of HIV in its study participants.

In our study 67.43% participants had cough, 35.25% had fever, 79.69% had decreased weight which was similar to a longitudinal study[61] done in various parts of India (Four North Indian states -Madhya Pradesh, Delhi, Chhattisgarh and Odisha). Similar study done in Northern Ethiopia showed that cough was present in 99% of the study participants followed by 48.6% had fever and 45.5% had weight loss.[18]

In our study 68.97% were smear positive pulmonary tuberculosis, 0.77% were smear negative pulmonary tuberculosis and 30.27% had extra pulmonary tuberculosis. Similar study done in Eastern Ethiopia showed that 52.9% were smear positive pulmonary tuberculosis, 47.1% were smear negative pulmonary tuberculosis and 38.8% had extra pulmonary tuberculosis.[28]

Table No 19-20: Knowledge of study participants

In our study 23.75% knew the cause of tuberculosis, 48.66% knew the ways of tuberculosis transmission, 37.16% knew about the duration of tuberculosis treatment which is far below the national average of 88%.[65] Study done in North Indian states[61] (Madhya Pradesh, Delhi, Chhattisgarh and Odisha) of India showed that 67.2% knew about tuberculosis, more than half knew cough as a major symptom and one third of patients knew fever as a symptom of tuberculosis. In a similar study done in Papua Province, Indonesia[45] it was seen that 23% of participants knew the cause of tuberculosis,50% knew the ways of tuberculosis transmission, 87% knew about the duration of tuberculosis treatment. Better awareness at community level may be the

reason for the increased knowledge level among study participants in Papua Province, Indonesia.

In our study majority of the participants had a knowledge score of four or less while 7.28% had a knowledge score of more than four. The mean score was 3.04±1.21 with minimum score of 0 and maximum score of 6. In a similar study done in Southern Ethiopia almost half of the participants had good knowledge while 44.5% had poor knowledge.[19]

Table No 21-22: Treatment follow up during 2nd and 6th month

In our study 2.30% were smear positive, 59% were sputum negative during 2nd month follow up. In a similar study done in Eastern Ethiopia 2.5% were sputum positive and 97.7% were sputum negative at 2nd month follow up.[37]

In our study 45.21% were cured, 28.73% were treatment completed, 6.90% were failure cases, 9.58% were dead, 0.38% was lost to follow up during sixth month follow up. In a similar study done in Anqing China[24] 60.89% were cured, 34.12% were treatment completed, 0.55% were failure cases and 0.68% were dead during the sixth month follow up.

Table 23. Distribution of study participants according to overall treatment outcomes of tuberculosis

In our study the success rate was 73.95% which is far less than the target (i.e., ≥90%) set in End TB strategy.[66] This was similar to a study done in Bahawalpur Pakistan.[21] The reasons for lower success rate could be nonadherence to antituberculosis drugs, side effects, of antituberculosis drugs, lack of tuberculosis knowledge and distance from tuberculosis centres.[67] The unsuccessful treatment rate

in this study was 26.05% which could be due to extrapulmonary tuberculosis patients as they have more unsuccessful outcomes when compared to pulmonary tuberculosis patients.[35] A longitudinal study showed 9.1% of participants had poor outcome.[68] The comparably more successful rate 73.95% in our study shows a promising performance of DOTS programme in the study area.

Table 24. Association between age and outcomes of tuberculosis

In our study 78.76% participants in the age group of 21-40 years had successful outcome. Significant association was found between age and outcome of tuberculosis ($p<0.05$) which was similar to a study conducted in Sangli[26] (Maharashtra) and Anambra state (Nigeria).[25]

Table 25. Association between gender and outcome of tuberculosis

In our study 73.52% males had successful outcomes when compared to females 74.72%. Significant association was not found between gender and outcomes of tuberculosis ($p>0.05$) which was similar to a study conducted in Sangli[26] (Maharashtra) and Anambra state (Nigeria).[25]

Table 26. Association between occupation and outcome of tuberculosis

In our study 77.88% employed and 71.33% unemployed had successful outcome. Significant association was not found between occupation and outcomes of tuberculosis. ($p>0.05$) which was similar to a study conducted in Sangli[26] (Maharashtra) and Anambra state (Nigeria)[25] in which the successful treatment outcome in employed was 71.43% and 81% respectively.

Table 27. Association between literacy status and outcomes of tuberculosis

In our study 74.48% literates and 66.66% illiterates had successful outcome. Significant association was not found between literacy status and outcomes of tuberculosis. ($p>0.05$) which was similar to a study conducted in Sangli[26] (Maharashtra) and Anambra state (Nigeria)[25] in which the percentage of successful treatment in literates were 90% and 81% respectively.

Table 28. Association between type of family and outcome of tuberculosis

In our study 72.14% from joint families and 76.03% from nuclear families had successful outcome. Significant association was not found between type of family and outcomes of tuberculosis ($p>0.05$) which was similar to a study conducted in Sangli[26] (Maharashtra).

Table 29. Association between socio economic status and outcome of tuberculosis

In our study 75.59% participants belonging to socioeconomic class II had successful outcome. Also, it was seen that 42.86% participants belonging to socioeconomic class IV had unsuccessful outcome. Poverty seems to be hampering the achievement of success rate of ≥90% (WHO).[66] Significant association was not found between socio economic status and outcomes of tuberculosis ($p>0.05$) which was similar to a study conducted in Sangli[26] (Maharashtra) and Melghat.[69]Whereas study conducted in Brazil showed that unsuccessful outcome was associated with low socioeconomic status.[70]

Table 30. Association between type of diet and outcome of tuberculosis

In the present study 74.53% participants who were non-vegetarian and 73% who were vegetarian had successful outcome. Significant association was not found between type of diet and outcome of tuberculosis ($p>0.05$) which was similar to a study conducted in United Kingdom.[71]

Table 31. Association between past history of tuberculosis and outcome of tuberculosis

In the present study 77.27% participants who had no history of TB and 63.49% who had history of TB had successful outcome. Significant association was found between past history of tuberculosis and outcome of tuberculosis ($p<0.05$) which was similar to a study conducted in North West Ethiopia.[72]

Table 32. Association between type of house and outcome of tuberculosis

In our study it was seen that 15.46% participants staying in pucca house, 33.34% participants staying in semi-pucca house and 34.79% staying in kacha house had unsuccessful outcome of tuberculosis. Significant association was found between type of house and outcome of tuberculosis ($p<0.05$) which was similar to a study conducted in India[73] and Pakistan[74] where unsuccessful outcome was seen more in study participants staying in Kacha house.

Table 33 and 34. Association between ventilation and overcrowding with outcome of tuberculosis

In the present study 74.74% participants with good ventilation and 71.64% with poor ventilation had successful outcome. Significant association was not found

between ventilation and outcome of tuberculosis. (p>0.05). Whereas study conducted in China[75] showed significant association between ventilation and outcome of tuberculosis. In this study 72.97% participants with no overcrowding in house and 75.22% with overcrowding in house had successful outcome. Significant association was not found between overcrowding and outcome of tuberculosis. (p>0.05) Study conducted in India showed that household environment increases risk of tuberculosis.[73] Living and working in a high risk setting like poor ventilation and overcrowding increases the risk of exposure.[76]

Table 35. Association between cough and outcome of tuberculosis

In the present study 68.18% participants with cough and 85.88% without cough had successful outcome. Significant association was found between cough and outcome of tuberculosis. (p<0.05) Similar study done in Malaysia[40] found no significant association between cough and successful outcome of tuberculosis showing that cough alone may not be the presenting symptom in all suspected tuberculosis patients.

Table 36. Association between fever and outcome of tuberculosis

In the present study 68.63% participants with no fever and 83.69% with fever had successful outcome. Significant association was found between fever and outcome of tuberculosis. (p<0.05) Similar study done in Shaanxi Province, China[43] found significant association between fever and successful outcome of tuberculosis.

Table 37. Association between weight and outcome of tuberculosis

In the present study, among 72.11% participants with successful outcome the weight decreased. Among 27.89% of participants with unsuccessful outcome the weight decreased. This difference in weight and outcome of tuberculosis was not found to be statistically significant. ($p>0.05$) Similar study done in Pakistan[74] found no significant association between weight loss and successful outcome of tuberculosis. Weight variation during tuberculosis therapy follow up can predict treatment outcome especially in the first month.[77]

Table 38 - 43: Association of weight change and BMI over time during follow-up between two outcome groups of tuberculosis

In our study, we observed that, mean weight and BMI is significantly more in successful group at the end of 2 months and end of 6 months compared to unsuccessful group by Welch's t test at every time point.

The mean body weight increased from baseline to end of 2 months among successful outcome group which suggested that 2 months of intensive treatment helped in significant body weight gain in the successful outcome group. Weight gain during tuberculosis treatment can predict treatment outcome especially after 2 months of intensive treatment.[77] Similarly, a study done in Chennai[76] showed higher mean body weights at the end of 2 months and 6 months of treatment. Repeated measures of ANOVA showed statistical significance ($p<0.001$).

Whereas study done in Peru[77] showed that there was no difference in weight at baseline in both the groups ($p>0.05$) but at first month and 4th month patients with good outcome gained on average almost 1kg and 3kg compared to their baseline

weight respectively ($p<0.001$). Patients with poor outcome did not gain weight during first two months of therapy. In a study done in Pakistan[74] showed no significant change in BMI over the course of treatment ($p>0.05$).

In our study through post hoc analysis, it was seen that mean weights differed significantly from each other in follow ups at baseline, end of 2 months and end of 6 months indicating the body weight was increasing during the course of treatment. ($p<0.001$).

Similarly, studies done in Chennai[78] and USA[79] showed increase in weight during the course of tuberculosis treatment.

Table 44 - 46: Association between supervision by family, support of supervisor, family support and outcomes of tuberculosis.

In the present study 80.18% participants who had supervision by family and 43.18% who had no family supervision had successful outcome. This difference was found to be statistically significant ($p< 0.05$). Similar study done in Shaanxi Province, China[43] found significant association between supervision by family and successful outcome of tuberculosis.

In the present study 81.81% participants who had support of supervisor and 57.64% who had no support of supervisor had successful outcome. This difference was found to be statistically significant ($p< 0.05$). Similar study done in Eastern Ethiopia[37] found significant association between support of supervisor and successful outcome of tuberculosis.

In the present study 85.26% participants who had family support and 43.66% who had no family support had successful outcome. This difference was found to be statistically significant ($p< 0.05$). Similar study done in Shaanxi Province, China[43] found significant association between family support and successful outcome of tuberculosis.

Table 47: Association between knowledge of tuberculosis and outcome of tuberculosis

In the present study 73.14% participants who had knowledge score of four or less and 84.21% who had knowledge score of more than four had successful outcome. This difference was found to be statistically not significant ($p>0.05$). Similar study done in Southern Ethiopia[37] and Somalia[80] found significant association between knowledge of tuberculosis and successful outcome of tuberculosis. Having good knowledge of tuberculosis, modes of transmission, prevention, diagnosis & treatment option are vital for early seeking of TB medical care.

Table 48 - 49: Univariate analysis and multivariate analysis

In our study it was seen that type of house (pucca house), no past history of tuberculosis, patients with family support, supervision of treatment by family members, support of supervisor were likely to have successful outcome. Similar results were also seen in studies done in various studies done in Sangli Maharashtra[26], Vellore Tamil Nadu[81], Kampala Uganda[32], China[24], Nigeria[25], Malaysia.[40] Similarly, a study done in four districts of Odisha[82] showed that ignorance about tuberculosis symptoms, addiction to alcohol, difficulty in reaching health facility owing to long distances and lack of communication and transport as risk factors.

CONCLUSION

The study shows that majority of the newly diagnosed tuberculosis patients were in the age group of 21 to 40 years which is the most important and productive phase in our life. 65% of the participants were males who may be the only earning member in the family and this could lead to loss of income and push the family into further debt and poverty. NTEP needs to look into this aspect of providing a decent amount as compensation for working days lost due to tuberculosis.

49% of the participants were smokers which could be a very important factor in the increased susceptibility of these participants to tuberculosis also it could play a key role in the poor outcome of the disease. Awareness generation at the community level about this risk factor should be taken up.

81% of the participants had to travel more than 5 kilometres to reach the nearest health facility and 65% participants had no counselling regarding the side effects of tuberculosis drugs. Easy accessibility and prior knowledge of side effects of drugs could play a key role with respect to compliance and successful outcome of tuberculosis treatment.

92% of the participants had poor knowledge regarding tuberculosis disease. Appropriate knowledge among common people regarding tuberculosis disease is key to reducing the number of tuberculosis infections every year.

At the end of 6 months of treatment 45.21% were cured, 28.73% completed treatment, 2.30% had treatment regimen changed, 6.90% were failure cases, 9.58% were dead, 0.38% were lost to follow up and 6.90% were not evaluated. Overall

treatment success rate was 73.95% which was lower compared to national average of 87% and the 90% target for WHO.

The contributing factors for successful outcome of tuberculosis were age, past history of TB, type of house, presence of cough and fever, weight gain, family support, supervision by family and support of supervisor.

The mean body weight and BMI increased from baseline to 2 months and 2 months to 6 months in successful outcome group when compared to unsuccessful outcome group.

To reach successful treatment outcome for tuberculosis patients, our study concludes that active monitoring, supervision, motivation and counselling at regular intervals during the treatment of tuberculosis is required. Unsuccessful outcomes inspite of free anti-tuberculosis drugs must be further explored and corrective action need to be taken.

RECOMMENDATIONS

1. Along with continuous and close follow up of TB patients during the course of treatment health workers or TB treatment supervisors can be trained for conducting qualitative studies to understand the factors influencing the completion of TB treatment and to add humane approach to existing NTEP.

2. Cured patients can be used as peer counsellors to motivate the newly diagnosed cases of TB to complete treatment.

3. Refresher training must be regularly provided for improvement of quality of care.

4. We recommend active monitoring, motivation and counselling of TB patients during treatment especially to those with economic constraints, no family support and supervision, adverse effects of drugs and no improvement of symptoms even after treatment to avoid defaulting of treatment and to encourage successful completion of TB treatment.

STRENGTHS

1. All newly diagnosed tuberculosis patients from the study area during the study period were included using universal sampling method.
2. Factors influencing the successful treatment outcome of TB were identified.
3. Factors influencing the unsuccessful treatment outcome of TB were identified.

LIMITATIONS

1. Qualitative research could have been done to address more about risk factors and hurdles for unsuccessful outcomes of tuberculosis treatment.
2. Due to COVID-19 pandemic, less cases of tuberculosis patients were identified as screening of tuberculosis patients was affected.

SUMMARY

The present study was a community based longitudinal study undertaken to know the factors affecting tuberculosis treatment outcome among newly diagnosed tuberculosis patients. The study included 261 newly diagnosed tuberculosis cases registered under NTEP during January 2020 to June 2020, District Tuberculosis Centre Belagavi using universal sampling method. The duration of the study was one year from 1st January to 31st December 2020. After obtaining informed consent the participants were interviewed using a predesigned and pretested questionnaire and were followed up to end of 2 months and end of 6 months for treatment outcomes.

The mean age (± S.D) of study participants was 40.11±17.33 years. Of the total 261 people studied, 170 (65.13%) participants were males and 91 (34.87%) were females. In our study, 5 (1.92%) were illiterate, 18 (6.9%) had primary education, 29 (11.11%) were high school educated, 159 (60.92%) were PUC or diploma pass and 50 (19.15%) were graduates.

Majority of the study participants belonged to joint family. More than half of them were Hindus. Majority 183 (70.11%) participants were married. 209 (80.08%) of them were from socioeconomic class II and 36 (13.79%) were from class III, 9 (3.45%) from class I and 7 (2.68%) from class IV respectively.

Majority of the participants 128 (49.04%) were smokers, 161 (61.69%) participants followed non-vegetarian type of diet, 62 (23.75%) participants had family history of tuberculosis, 208 (79.69%) participants had family support and 110 (42.15%) participants stayed in semi-pucca house.

Among the total participants 66 (25.29%) had poor ventilation in the house, 113 (43.30%) participants had overcrowding in house, 42 (16.09%) and 31 (11.88%) participants had past history of diabetes and HIV respectively.

Majority of the participants 176 (67.43%), 116 (44.44%), 208 (79.70%) had cough, decreased appetite and weight loss respectively as their presenting symptoms. 180 (68.97%) participants were diagnosed as smear positive pulmonary tuberculosis and 79 (30.26%) as extra pulmonary tuberculosis.

Majority 213 (81.61%) participants had to travel more than five kilometres from home to hospital. Counselling regarding side effects was not done in 171 (65.52%) participants.

Among the total participants 242 (92.72%) had poor knowledge regarding tuberculosis disease and only 19 (7.28%) had good knowledge. Majority 199 (76.25%), 210 (80.46%), 164 (62.84%), 254 (97.32%) participants did not know the cause of tuberculosis, ways of preventing tuberculosis, duration of tuberculosis treatment and side effects of tuberculosis treatment respectively.

Majority 154 (59%) participants were diagnosed as smear negative at the end of 2 months follow up and 118 (45.21%) and 75 (28.73%) participants were diagnosed as cured and treatment completed respectively at the end of 6 months follow up. 193 (73.95%) participants had successful outcome (cured + treatment completed) and 68 (26.05%) patients had unsuccessful outcome.

Association was found between age, past history of tuberculosis, type of house, symptoms like cough and fever, supervision by family, support of supervisor, family support with outcome of tuberculosis ($p<0.05$).

Mean weight and mean BMI increased at the end of 2 months and at the end of 6 months of treatment in successful outcome group when compared to unsuccessful outcome group ($p<0.00001$). Within the successful outcome group the mean weight and mean BMI increased from baseline to 2 months and 2 months to 6 months which was found to be statistically significant ($p<0.00001$).

Within unsuccessful outcome group the mean weight and mean BMI decreased from baseline to 2 months and 2 months to 6 months which was found to be statistically significant ($p<0.2101$).

Post hoc analysis also showed that there is a increase in mean weight and BMI over time point in successful group ($p<0.00001$).

Univariate and multivariate logistic regression analysis showed that treatment outcomes of tuberculosis were affected by type of house (pucca house), presence of cough, past history of tuberculosis, family support, supervision by family and support of supervisor.

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ANNEXURE I – ETHICAL CLEARANCE LETTER

K.L.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH
(Deemed – to- be- University)
Accredited 'A' Grade by NAAC (2nd Cycle) Placed in Category 'A' by MHRD (GoI)
JAWAHARLAL NEHRU MEDICAL COLLEGE,
NEHRU NAGAR, BELAGAVI-590010 (KARNATAKA-INDIA)
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Fax No. +91 (0)831 – 2470759

Ref: MDC/DOME/ 158. **Date: 24/12/2019**

To,

Dr. Umayorubhagom Ashok
PG student in Community Medicine,
J.N.Medical College,
BELAGAVI.

Sub: Institutional Ethical Clearance for the study.

With reference to the above, we wish to inform you that your proposed research project titled **"FACTORS AFFECTING TUBERCULOSIS TREATMENT OUTCOME AMONG NEWLY DIAGNOSED TUBERCULOSIS PATIENTS – A LONGITUDINAL STUDY"**, is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee on Human Subjects Research.

(Dr. Anita Dalal)
Member Secretary
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

(Dr. Roopa M Bellad)
Chairman,
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

ANNEXURE II- NTEP GRANT LETTER

Government of Karnataka
District Health & Family Welfare Society, Belagavi
District TB Office, M-Vadagaon, Belagavi
Phone No:- 0831-2407243 E-mail ID- DTOKABEL@rntcp.org

NO/DTC/NTEP/BGM/454/2021-22 Date: 10/10/2020

To.

Dr. Umayorubhagom Ashok
Community Medicine
JNMC, Belagavi – 590010
ashokurose4@gmail.com

Dear Dr. Umayorubhagom Ashok

This is with reference to your application seeking financial assistance from the NTEP for MD/MS dissertation thesis entitled **"factors affecting Tuberculosis treatment outcome among newly diagnosed tuberculosis patients – A Longitudinal study".**

I am glad to inform you that NTEP based on the recommendation of the State Expert Committee has sanctioned a sum of **Rs. 30,000\- (Thirty thousand only).**

Kind regards.

Yours sincerely.

(Dr. Anil korabu)
District TB Elimination Officer

ANNEXURE III – WRITTEN INFORMED CONSENT FORM

"Factors affecting Tuberculosis treatment outcome among newly diagnosed tuberculosis patients – A Longitudinal study"

Principle investigator: _____

PG Student, Dept of Community Medicine,

J. N. Medical College, KAHER, Belagavi-10.

Guide: _____

Associate Professor, Department of Community Medicine,

J.N. Medical College, KAHER, Belagavi-10.

Introduction: You are being invited to participate in this study to find out "Factors affecting Tuberculosis treatment outcome among newly diagnosed tuberculosis patients''. Tuberculosis remains a substantial global public health issue despite considerable advances in treatment aspect. India is the highest TB burden country in the world in terms of absolute number of incident cases that occur each year. Multiple factors like adverse effects of drugs, transportation cost, family support, nutritional support, personal habits, distance to treatment center and comorbid conditions etc. play a major role in the treatment outcome. Study of all such factors will help in improving the treatment outcome, reduce treatment failure, drug resistance, relapse and death among tuberculosis patients. Hence the present study is undertaken. Participation in this study is completely voluntary.

Explanation of procedures: In this study, you will have to answer a few prepared questions about socio demographic details, factors affecting treatment outcome, knowledge regarding tuberculosis and successful and unsuccessful treatment outcomes.

If you agree to participate, then only questions will be asked to you. At any moment, you can withdraw from the study.

Possible Benefits: The investigator does not promise that you will receive direct benefit in this study. It will benefit the whole community.

Possible Risks: There is no risk involved in this study.

Confidentiality: All the data collected will remain confidential and only aggregated data will be published. Your personal identity will not be revealed.

Withdrawal: Your participation in this study is purely voluntary. You may decide to participate or not. Even though you decide not to participate, you will not be deprived of the benefits of this study.

Costs of Participation: The cost of the study will be borne by the researcher. There will be no additional cost to you for participating in this study.

Payment of Participation: There will be no incentives to you for participating in this study.

Questions:

If you have any question about your rights as a study participant, you may contact Dr. Roopa Bellad, Chairman, Institutional Ethics Committee on Human Subjects' Research, J.N. Medical College, Belgaum -590010, Ph. No 0831-2473777, Extn 4052, 4057.

Legal Rights: By signing this consent form; you are not waiving any of your Legal rights.

Consent statement:

"I volunteer and consent to participate in the study. I have read (or it has been read to me in the language known to me) the information sheet thoroughly. Full opportunity was given to me to ask questions. I am fully satisfied with the answers to the questions I wanted to ask. I hereby voluntarily agree to participate in this research project".

Name of the Participant	Signature of the participant or Left-Hand Thumb impression
Name of Investigator	Signature of investigator
Name of Witness	Signature of Witness
Date:	Place:

Assent (<18 years)

'Factors affecting Tuberculosis treatment outcome among newly diagnosed tuberculosis patients – A Longitudinal study'

I have read the information in this form. After understanding all details about the study, I agree to give assent to be included as a volunteer in the study titled "Factors affecting Tuberculosis treatment outcome among newly diagnosed tuberculosis patients".

Name of the Participant	Signature of the participant or Left-Hand Thumb impression
Name of the Parent	Signature of the parent
Name of Investigator	Signature of investigator
Name of Witness	Signature of Witness

Date: _____ Place: _____

ANNEXURE IV – RESEARCH PROFORMA

Title: Factors affecting Tuberculosis treatment outcome among newly diagnosed tuberculosis patients – A Longitudinal study

Sl. No: _____ Date of registration: _____

TB. No: _____

1. Sociodemographic details

1. Age: ___yrs.
2. Sex: Male /Female
3. Occupation: Employed / Unemployed
4. Religion: Hindu/ Muslim/ Christian/ Others
5. Education status: Illiterate/Primary/ High school/ PUC or Diploma/Graduation
6. Marital status: Married /unmarried/widow/Widower/ Divorcee
7. Family: Nuclear/ Joint
8. Total income of family per month: Rs. _____
9. Total number of family members: _____
10. Socio economic status: I / II / III / IV / V
11. Type of house: Kachha /Semi-pucca / Pucca
12. House well ventilated: Yes / No
13. Overcrowding Yes / No

2. Clinical profile

1. Chief complaints: _____

- Cough: Present /Absent
  Dry/ Productive
- Fever: Present /Absent

- Appetite: Increased / decreased/ No change
- Weight: Increased/ decreased / no change
- Generalized weakness: Present/Absent
- Others, specify _____

3. Past history:

Diabetes / Tuberculosis / COPD / HIV / IHD / Liver disease

4. Personal history:

a. Habits:

Habits	Duration	If left, since how long
Beedi/cigarette smoking		
Alcohol		
Others (specify)		

b. Diet history: Vegetarian/Non -Vegetarian

5. Family History:

a. H/o TB: Present/Absent

b. Family support: Present/Absent

6. Details of treatment: Date of visit: _____, TB No: _____

a. Name of the NTEP UNIT _____

b. Date of starting treatment: _____

c. Type: Pulmonary positive/ Pulmonary negative / Extra - Pulmonary

d. Treatment category: New / Retreatment

e. ART: Initiated / Not initiated

7. Treatment related factors

a. Supervisor of treatment by – family member/if others, specify _____

b. Distance from home to health centre - < 5km / > 5km

c. Support of treatment supervisor – Yes / No

d. Counselling regarding treatment duration – Done / Not Done

e. Counselling regarding side effects of drugs –Done / Not Done

8. Knowledge regarding tuberculosis

a. Have you heard of tuberculosis – YES/NO

b. Do you know the cause of tuberculosis – YES/NO

c. Do you know regarding symptoms of tuberculosis – YES/NO

d. Do you know the ways of tuberculosis transmission – YES/NO

e. Do you know the ways of preventing tuberculosis – YES/NO

f. Do you know about duration of tuberculosis treatment – YES/No

g. Do you know about side effects of tuberculosis treatment– YES/No

Physical Examination:

I. General Physical Examination

1. Built and nourishment: Poor / Moderate / Fair

2. Height: _____ cms Weight: _____ Kgs.

3. BMI: _____kg / m^2

9. Investigation profile:

Name of test	Result
Sputum AFB	
CBNAAT	
Chest X-ray	

First follow up:

Treatment History:

Intensive phase treatment completed: Yes / No

If no, Month of discontinuation of treatment: _____

Number of times forgotten to take medicine – 0/ 1/2/3/4/>5

Side effects of drugs: None/ Gastritis /loss of appetite/ fever/ peripheral neuritis/ Others ____

Any other commitments during treatment: functions/ festival / overlapping of working hours/others if specify_____/ None

Treatment management – self-medication / full course supervision / supervision only in intensive phase.

Satisfied with the services of TB centre – Yes / No

Family support during treatment: No change / less support / more support

Appetite – Increased/ Decreased / No change

General Physical Examination

1.Built and nourishment: Poor / Moderate / Fair

2. Weight: _____ Kgs.

3. BMI: _____ kg / m^2

Investigation profile:

Name of test	Result
Sputum AFB at end of 2 months	
Drug Sensitivity Test if applicable	
Chest X-ray	

Second follow up:

Treatment History:

Continuation phase treatment completed: Yes / No

Month of discontinuation of treatment: _____

Number of times forgotten to take medicine –0/1/2/3/4/>5

Side effects of drugs: None/ Gastritis /loss of appetite/ fever/ peripheral neuritis/ Others ____

Any other commitments during treatment: functions/ festival / overlapping of working hours/others if specify_____/ None

Treatment management – self-medication / full course supervision / supervision only in intensive phase.

Satisfied with the services of TB centre – Yes / No

Family support during treatment: No change / less support / more support

Appetite – Increased/ Decreased / No change

General Physical Examination

1.Built and nourishment: Poor / Moderate / Fair

2. Weight: _____ Kgs.

3. BMI: _____Kg / m^2

Investigation profile:

Name of test	Result
Sputum AFB at end of 6 months	
Chest X-ray	

ANNEXURE V – KEY TO MASTER CHART

SL.NO.	ITEMS	KEY CODE
1	Sex	
	Male	1
	Female	2
2	Occupation	
	Employed	1
	Unemployed	2
3	Religion	
	Hindu	1
	Muslim	2
	Christian	3
4	Literacy status	
	Illiterate	1
	Primary	2
	High school	3
	PUC or diploma	4
	Graduate	5
5	Marital status	
	Married	1
	Unmarried	2
	Widow	3
	Widower	4
6	Type of Family	
	Nuclear	1
	Joint	2
7	Modified Prasad's classification in the study period (2020) per capita income in RS/ month	Socio-economic class
	7533 and above	I
	3766-7532	II
	2260-3765	III
	1130-2259	IV
	Below 1129	V
8	Type of house	
	Kacha	1
	Semi pucca	2
	Pucca	3
9	Ventilation of house	
	Yes	1
	No	2
10	Overcrowding	
	Yes	1
	No	2
11	Cough	
	Yes	1
	No	2
12	Fever	

	Yes	1
	No	2
13	Appetite	
	Increased	1
	Decreased	2
	No change	3
14	Weight	
	Increased	1
	Decreased	2
	No change	3
15	Generalised weakness	
	Present	1
	Absent	2
16	Past History	
	Diabetes mellitus	1
	Tuberculosis	2
	COPD	3
	HIV	4
	IHD	5
	Liver disease	6
17	Personnel history	
	Beedi / cigarette	1
	Alcohol	2
	Others	3
18	Diet	
	Vegetarian	1
	Non vegetarian	2
19	Family history of Tuberculosis	
	Present	1
	Absent	2
20	Family support	
	Present	1
	Absent	2
21	Type of tuberculosis	
	Smear positive pulmonary tuberculosis	1
	Smear negative pulmonary tuberculosis	2
	Extra pulmonary tuberculosis	3
22	Treatment category	
	New case	1
	Retreatment case	2
23	Anti-retroviral therapy	
	Started	1
	Not started	2
24	Supervision of treatment by family member	
	Yes	1
	No	2
25	Distance from home to health centre	
	< 5km	1

	>5km	2
26	Support of treatment supervisor	
	Yes	1
	No	2
27	Counselling regarding treatment duration	
	Done	1
	Not done	2
28	Counselling regarding side effects	
	Done	1
	Not done	2
29	Have you heard of tuberculosis	
	Yes	1
	No	2
30	Do you know the cause of tuberculosis	
	Yes	1
	No	2
31	Do you know the symptoms of tuberculosis	
	Yes	1
	No	2
32	Do you know the ways of tuberculosis transmission	
	Yes	1
	No	2
33	Do you know the ways of preventing tuberculosis	
	Yes	1
	No	2
34	Do you know the duration of tuberculosis treatment	
	Yes	1
	No	2
35	Do you know about the side effects	
	Yes	1
	No	2
36	Built and nourishment	
	Poor	1
	Moderate	2
	Fair	3
37	CBNAAT	
	MTB positive, Rifampicin sensitive	1
	MTB positive, Rifampicin resistant	2
	MTB negative	3
	Nil significant	4

KEY TO MASTER CHART FOR FOLLOW UP AT THE END 2nd MONTH

(INTENSIVE PHASE)

38	Intensive phase treatment completed	
	Yes	1
	No	2
39	Side effects of drug	
	None	1
	Gastritis	2
	Loss of appetite	3
	Fever	4
	Peripheral neuropathy	5
	others	6
40	Any other commitment during treatment	
	Family function	1
	Festival	2
	Overlapping of working hours	3
	Others	4
41	Treatment management	
	Self-medication	1
	Full course supervision	2
	Supervision only in IP	3
42	Satisfied with the services of tuberculosis centre	
	Yes	1
	No	2
43	Family support during treatment	
	No change	1
	Less support	2
	More support	3
44	Appetite	
	Increased	1
	Decreased	2
	No change	3
45	Build and nourishment	
	Poor	1
	Moderate	2
	fair	3
46	Continuation phase treatment completed	
	Yes	1
	No	2

KEY TO MASTER CHART FOR FOLLOW UP AT THE END 6th MONTH

(CONTINUATION PHASE)

47	Side effects of drug	
	None	1
	Gastritis	2
	Loss of appetite	3
	Fever	4
	Peripheral neuropathy	5
	others	6
48	Any other commitment during treatment	
	Family function	1
	Festival	2
	Overlapping of working hours	3
	Others	4
49	Treatment management	
	Self-medication	1
	Full course supervision	2
	Supervision only in CP	3
50	Satisfied with the services of tuberculosis centre	
	Yes	1
	No	2
51	Family support during treatment	
	No change	1
	Less support	2
	More support	3
52	Appetite	
	Increased	1
	Decreased	2
	No change	3
53	Build and nourishment	
	Poor	1
	Moderate	2
	fair	3

sl no	Age	Sex	Occupation	Religion	Education	Family	Income	Family member	SES	Type house	Ventilation	Overcrowd	Cough	Fever	Appetite	Wt	Weakness	Past hist	Personnel hist	Diet	Hist of tb	Familysupport	TB type
1	13	Male	Unemployed	Hindu	Literate	Joint	7000	5	II	Semi-pucca	Yes	Yes	Present	Present	No change	No change	Present	7	3	2	Absent	Present	Extra-Pulmonar
2	48	Female	Employed	Hindu	Literate	Joint	9000	5	I	Pucca	No	Yes	Present	Present	Decreased	No change	Absent	1	3	2	Absent	Absent	Pulmonary positive
3	47	Female	Unemployed	Muslim	Literate	Nuclear	6500	6	II	Semi-pucca	Yes	Yes	Present	Absent	Decreased	Decreased	Absent	3	1	2	Present	Absent	Pulmonary positive
4	29	Female	Unemployed	Hindu	Literate	Nuclear	7500	4	II	Pucca	Yes	No	Present	Absent	Decreased	No change	Present	7	3	1	Absent	Present	Extra-Pulmonar
5	16	Female	Unemployed	Hindu	Literate	Joint	9000	4	I	Pucca	Yes	Yes	Present	Absent	No change	Decreased	Absent	7	3	2	Absent	Present	Extra-Pulmonary
6	60	Male	Unemployed	Hindu	Literate	Joint	5000	3	II	Semi-pucca	Yes	No	Absent	Present	Decreased	Decreased	Absent	1	3	2	Present	Present	Extra-Pulmonary
7	52	Male	Employed	Hindu	Literate	Joint	7000	6	I	Pucca	Yes	Yes	Absent	Present	Decreased	Decreased	Absent	1	3	1	Absent	Present	Extra-Pulmonary
8	33	Female	Unemployed	Hindu	Literate	Nuclear	6000	4	II	Pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	7	3	2	Absent	Absent	Pulmonary positive
9	24	Female	Unemployed	Hindu	Literate	Joint	5000	4	II	Pucca	No	Yes	Present	Absent	No change	Decreased	Present	7	3	2	Absent	Present	Pulmonary positive
10	24	Female	Employed	Muslim	Literate	Joint	5000	5	II	Semi-pucca	No	Yes	Absent	Present	No change	Decreased	Present	7	3	2	Present	Present	Extra-Pulmonary
11	21	Male	Unemployed	Hindu	Literate	Joint	5700	6	II	Pucca	Yes	Yes	Present	Absent	No change	Decreased	Present	7	3	2	Absent	Absent	Pulmonary positive
12	32	Female	Unemployed	Muslim	Literate	Joint	7200	4	II	Pucca	Yes	No	Absent	Present	No change	No change	Present	7	3	2	Absent	Present	Extra-Pulmonary
13	34	Male	Employed	Hindu	Literate	Joint	8000	4	I	Pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	7	3	2	Present	Absent	Pulmonary positive
14	3	Female	Unemployed	Hindu	Illiterate	Nuclear	7500	4	II	Semi-pucca	Yes	No	Absent	Present	No change	Decreased	Absent	7	3	1	Absent	Present	Extra-Pulmonary
15	68	Male	Unemployed	Hindu	Literate	Joint	4000	5	II	Semi-pucca	Yes	No	Present	Absent	Decreased	No change	Present	1,3	1	1	Present	Absent	Pulmonary positive
16	23	Female	Unemployed	Muslim	Literate	Joint	6600	6	II	Pucca	No	Yes	Present	Absent	Decreased	No change	Present	7	3	2	Absent	Absent	Pulmonary positive
17	45	Male	Employed	Hindu	Literate	Joint	5500	4	II	Pucca	Yes	No	Absent	Present	Decreased	No change	Present	1	1	2	Present	Present	Extra-Pulmonary
18	25	Female	Unemployed	Hindu	Literate	Nuclear	6600	4	II	Pucca	Yes	No	Present	Present	No change	Decreased	Absent	7	3	2	Absent	Present	Pulmonary positive
19	23	Male	Employed	Hindu	Literate	Nuclear	6700	5	II	Pucca	Yes	No	Absent	Present	Decreased	Decreased	Absent	7	3	2	Absent	Present	Extra-Pulmonary
20	26	Male	Employed	Hindu	Literate	Nuclear	7100	6	II	Kacha	Yes	Yes	Present	Absent	Decreased	Decreased	Absent	7	3	2	Absent	Absent	Pulmonary positive
21	17	Male	Unemployed	Hindu	Literate	Joint	7200	5	II	Semi-pucca	Yes	No	Present	Present	No change	Decreased	Absent	7	3	1	Absent	Absent	Pulmonary positive
22	40	Male	Employed	Hindu	Literate	Joint	5600	5	II	Pucca	Yes	No	Absent	Present	Decreased	Decreased	Absent	1	3	2	Absent	Present	Extra-Pulmonary
23	15	Female	Unemployed	Hindu	Literate	Nuclear	6800	4	II	Semi-pucca	Yes	No	Present	Present	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive
24	35	Female	Unemployed	Muslim	Literate	Nuclear	5000	5	II	Pucca	Yes	No	Absent	Present	Decreased	No change	Present	1	3	2	Absent	Present	Extra-Pulmonary
25	18	Female	Unemployed	Hindu	Literate	Nuclear	8000	4	II	Pucca	Yes	No	Present	Present	No change	Decreased	Absent	7	3	2	Absent	Absent	Pulmonary positive
26	69	Female	Unemployed	Hindu	Literate	Nuclear	6500	5	II	Semi-pucca	Yes	Yes	Absent	Present	Decreased	Decreased	Present	1	3	2	Present	Present	Extra-Pulmonary
27	47	Female	Employed	Hindu	Literate	Joint	6500	6	II	Pucca	Yes	Yes	Present	Absent	No change	Decreased	Present	3	1	2	Absent	Present	Pulmonary positive
28	28	Male	Unemployed	Christian	Literate	Nuclear	5000	5	II	Pucca	No	Yes	Present	Absent	Decreased	Decreased	Absent	7	3	1	Absent	Absent	Pulmonary positive
29	48	Male	Employed	Hindu	Literate	Nuclear	7000	4	II	Semi-pucca	No	Yes	Absent	Present	No change	Decreased	Present	3	1	2	Absent	Present	Extra-Pulmonary
30	65	Female	Employed	Muslim	Literate	Joint	6500	6	II	Semi-pucca	Yes	Yes	Absent	Present	No change	Decreased	Present	1	1	2	Absent	Present	Extra-Pulmonary
31	17	Male	Unemployed	Hindu	Literate	Nuclear	7000	4	II	Pucca	Yes	No	Absent	Present	No change	Decreased	Present	7	3	2	Absent	Present	Extra-Pulmonary
32	22	Female	Unemployed	Hindu	Literate	Joint	6000	5	II	Semi-pucca	No	Yes	Absent	Present	No change	Decreased	Present	7	3	2	Present	Present	Extra-Pulmonary
33	34	Male	Employed	Muslim	Literate	Joint	7400	6	II	Semi-pucca	Yes	Yes	Present	Absent	No change	Decreased	Absent	1	3	2	Absent	Absent	Pulmonary positive
34	14	Female	Unemployed	Hindu	Literate	Nuclear	6800	4	II	Pucca	Yes	No	Present	Present	No change	Decreased	Present	7	3	2	Absent	Present	Pulmonary positive

sl no	Treat category	ART	Supervision by family	Dist frm home to centre	Support of supervisor	Counselling regard treat duration	Counsell side effects	Score	Score1	Build nourish	Ht	Wt1	BMI1	RBS	Sputum AFB	HIV	CBNAAT	Chest xray	IP treat complete	Month od discontinuation	times forgot to tak med	Side effects	Commitment during treat	Treat management	Satisfied wit services	Family support	Appetite
1	1	Not intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	2	150	35	15.6	normal	NA	NR	4	positive	1	NS	1	2	1	3	1	1	1
2	1	Not intiated	Absent	> 5km	No	Not done	Not done	3	LE 4	2	160	35	23.4	normal	positive	reactive	1	NA	1	NS	1	3	1	2	1	1	3
3	1	Intiated	Present	> 5km	Yes	Not done	Not done	2	LE 4	1	148	55	25.1	normal	NA	reactive	1	NA	1	NS	2	4	1	2	1	2	3
4	1	Not intiated	Present	< 5km	Yes	Done	Not done	3	LE 4	1	150	48	21.3	normal	NA	NR	3	positive	1	NS	2	2	2	2	2	2	3
5	1	Not intiated	Absent	> 5km	Yes	Done	Not done	3	LE 4	1	142	40	19.8	normal	NA	NR	3	positive	1	NS	1	1	2	3	1	3	1
6	1	Not intiated	Present	> 5km	Yes	Not done	Not done	3	LE 4	1	170	50	17.3	diabetic	NA	NR	3	positive	1	NS	2	3	1	3	2	1	3
7	1	Not intiated	Present	> 5km	No	Done	Not done	3	LE 4	3	170	56	19.4	normal	NA	NR	3	positive	1	NS	1	3	3	3	2	3	3
8	1	Not intiated	Absent	> 5km	No	Done	Done	3	LE 4	2	162	49	18.7	normal	NA	NR	3	positive	1	NS	1	3	2	2	1	1	2
9	1	Not intiated	Present	< 5km	Yes	Done	Not done	2	LE 4	2	145	48	22.8	normal	NA	NR	1	positive	1	NS	1	4	1	2	1	1	1
10	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	145	40	19	normal	NA	NR	4	positive	1	NS	2	1	3	2	2	1	1
11	1	Not intiated	Absent	> 5km	No	Done	Not done	3	LE 4	1	151	44	19.3	normal	positive	NR	3	positive	1	NS	2	4	1	3	2	2	3
12	1	Not intiated	Present	> 5km	No	Done	Not done	1	LE 4	2	160	48	18.7	normal	NA	NR	3	positive	1	NS	1	1	1	3	1	1	2
13	1	Not intiated	Absent	> 5km	No	Done	Not done	2	LE 4	2	170	57	19.7	normal	positive	NR	3	NA	1	NS	3	3	4	3	1	1	2
14	1	Not intiated	Present	> 5km	Yes	Done	Not done	1	LE 4	2	93	10	11.6	normal	NA	NR	4	positive	1	NS	1	2	4	3	1	3	1
15	1	Not intiated	Present	> 5km	Yes	Done	Not done	1	LE 4	1	172	49	16.6	diabetic	NA	NR	1	NA	1	NS	2	3	2	2	1	2	1
16	1	Not intiated	Absent	> 5km	No	Done	Not done	1	LE 4	2	142	37	18.3	normal	positive	NR	1	NA	1	NS	1	4	2	3	1	2	2
17	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	146	44	20.6	normal	NA	NR	1	positive	1	NS	1	3	3	2	1	1	2
18	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	150	42	18.7	normal	positive	NR	1	NA	1	NS	2	3	1	3	1	1	3
19	1	Not intiated	Present	< 5km	Yes	Done	Not done	4	LE 4	2	154	40	16.9	normal	NA	NR	1	positive	1	NS	2	2	2	2	1	2	3
20	1	Not intiated	Absent	> 5km	No	Done	Not done	2	LE 4	2	149	40	18	normal	positive	NR	1	NA	1	NS	2	3	2	3	2	2	3
21	1	Not intiated	Absent	> 5km	No	Done	Not done	2	LE 4	2	148	47	21.5	normal	NA	NR	1	NA	1	NS	2	3	2	2	2	2	3
22	1	Not intiated	Present	< 5km	Yes	Done	Not done	4	LE 4	1	152	42	18.2	normal	NA	NR	1	positive	1	NS	2	3	1	2	1	1	3
23	1	Not intiated	Present	> 5km	No	Done	Done	2	LE 4	2	150	40	17.4	normal	positive	NR	1	NA	1	NS	2	2	2	2	1	3	3
24	1	Not intiated	Absent	< 5km	No	Done	Done	3	LE 4	2	149	52	23.4	normal	NA	NR	3	positive	1	NS	1	2	1	2	1	1	3
25	1	Not intiated	Absent	> 5km	No	Done	Not done	2	LE 4	2	158	46	18.4	normal	positive	NR	1	NA	1	NS	2	1	2	3	1	1	1
26	1	Not intiated	Present	< 5km	Yes	Done	Not done	2	LE 4	1	154	45	19	normal	NA	NR	3	positive	1	NS	3	1,2	1	2	1	1	3
27	1	Intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	150	40	17.8	normal	NA	reactive	1	NA	1	NS	2	2,3	1	2	1	1	3
28	1	Not intiated	Absent	> 5km	No	Done	Not done	3	LE 4	1	156	45	18.5	normal	positive	NR	1	NA	1	NS	1	3	4	2	1	1	2
29	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	165	58	21.3	normal	NA	NR	3	positive	1	NS	3	4	3	2	2	2	3
30	1	Not intiated	Present	> 5km	No	Done	Done	3	LE 4	2	170	66	22.8	normal	NA	NR	4	positive	1	NS	2	2	3	3	1	1	3
31	1	Not intiated	Present	> 5km	Yes	Not done	Not done	4	LE 4	1	162	48	18.3	normal	NA	NR	3	positive	1	NS	3	1	2	2	1	1	1
32	1	Not intiated	Absent	> 5km	Yes	Done	Not done	4	LE 4	2	158	60	24	normal	NA	NR	4	positive	1	NS	1	2	2	3	1	2	2
33	1	Not intiated	Absent	> 5km	No	Done	Not done	2	LE 4	2	160	54	21.1	normal	NA	NR	1	NA	1	NS	1	4	3	2	1	1	3
34	1	Not intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	2	135	33	18.1	normal	positive	NR	1	NA	1	NS	2	2	2	3	1	2	3

sl no	Build nourish	Wt2	BMI2	RBS	Sputum AFB	HIV	DST	Chest xray	CP treat complete	mnth of discontinuation	Times forgot med	Side effects	Commit during treat	Treat management	Satisfied wit treat	Family support	Appetite	Build nourish	Wt3	BMI3	RBS	Sputum AFB	Out1	Out2	HIV	Chest xray
1	2	37	16.4	NA	EP(CI)	NA	NA	normal	1	NS	1	2	2	3	1	3	1	3	39	17.3	NA	NA	Successful		NA	normal
2	2	61	23.8	NA	EP(CI)	NA	NA	NA	1	NS	5	2	2	3	2	2	2	1	61	23.8	NA	positive	Unsucessfull		NA	NA
3	2	57	26	NA	EP(CI)	NA	NA	NA	1	NS	1	2	2	2	1	1	1	3	59	26.9	NA	negative	Successful		NA	NA
4	2	50	22.2	NA	EP(CI)	NA	NA	normal	1	NS	3	1	2	3	2	1	1	3	52	23.1	NA	NA	Successful		NA	normal
5	2	42	20.8	NA	EP(CI)	NA	NA	normal	1	NS	2	2	1	1	1	1	3	3	44	21.8	NA	NA	Successful		NA	normal
6	2	52	18	NA	EP(CI)	NA	NA	normal	1	NS	2	2	2	3	2	2	1	3	54	18.7	NA	NA	Successful		NA	normal
7	3	58	2.8	NA	EP(CI)	NA	NA	normal	1	NS	2	2	3	3	1	3	1	3	59	20.4	NA	NA	Successful		NA	normal
8	2	50	19.1	NA	EP(CI)	NA	NA	NA	1	NS	5	2,3	1	3	2	2	2	1	52	19.8	NA	positive	Unsucessfull		NA	NA
9	2	50	23.8	NA	EP(CI)	NA	NA	NA	1	NS	2	2	1	2	1	1	1	3	52	24.7	NA	negative	Successful		NA	NA
10	2	42	20	NA	EP(CI)	NA	NA	normal	1	NS	1	4	3	2	2	2	1	3	44	20.9	NA	NA	Successful		NA	normal
11	2	45	19.7	NA	EP(CI)	NA	NA	NA	1	NS	4	2	3	3	2	2	2	1	45	19.7	NA	positive	Unsucessfull		NA	NA
12	2	49	19.1	NA	EP(CI)	NA	NA	normal	1	NS	2	2	4	2	1	2	1	3	52	20.3	NA	NA	Successful		NA	normal
13	2	58	20.1	NA	EP(CI)	NA	NA	NA	1	NS	4	2	3	1	2	2	2	1	58	20.1	NA	positive	Unsucessfull		NA	NA
14	2	11	12.7	NA	EP(CI)	NA	NA	normal	1	NS	1	1	4	2	1	3	1	3	12	13.9	NA	NA	Successful		NA	normal
15	2	50	16.9	NA	EP(CI)	NA	NA	NA	1	NS	3	2	2	3	2	2	1	3	54	18.3	NA	negative	Successful		NA	NA
16	2	38	18.8	NA	EP(CI)	NA	NA	NA	1	NS	4	2,4	1	3	2	2	2	2	39	19.3	NA	positive	Unsucessfull		NA	NA
17	2	45	21.1	NA	EP(CI)	NA	NA	normal	1	NS	2	2	3	3	2	2	1	3	46	21.6	NA	NA	Successful		NA	normal
18	2	44	19.6	NA	EP(CI)	NA	NA	NA	1	NS	3	2	2	2	2	2	1	3	46	20.4	NA	negative	Successful		NA	NA
19	2	42	17.7	NA	EP(CI)	NA	NA	normal	1	NS	3	2	2	2	2	1	1	3	45	19	NA	NA	Successful		NA	normal
20	2	42	18.9	NA	EP(CI)	NA	NA	NA	1	NS	5	3	2	3	2	2	2	2	44	19.8	NA	positive	Unsucessfull		NA	NA
21	2	49	22.4	NA	EP(CI)	NA	NA	NA	1	NS	4	3	2	3	2	2	2	2	51	23.3	NA	positive	Unsucessfull		NA	NA
22	2	44	19	NA	EP(CI)	NA	NA	normal	1	NS	2	3	2	3	1	2	3	3	46	19.9	NA	NA	Successful		NA	normal
23	2	42	18.7	NA	EP(CI)	NA	NA	NA	1	NS	3	2	2	2	1	2	1	3	44	19.6	NA	negative	Unsucessfull		NA	NA
24	2	54	24.3	NA	EP(CI)	NA	NA	normal	1	NS	3	3	1	2	2	2	1	3	56	25.2	NA	NA	Successful		NA	normal
25	2	48	19.2	NA	EP(CI)	NA	NA	NA	1	NS	5	4	2	1	2	2	2	2	50	20	NA	positive	Unsucessfull		NA	NA
26	2	47	19.8	NA	EP(CI)	NA	NA	normal	1	NS	3	2	2	2	1	1	3	3	49	20.7	NA	NA	Successful		NA	normal
27	2	42	18.7	NA	EP(CI)	NA	NA	NA	1	NS	3	4	1	2	1	3	3	3	44	19.6	NA	negative	Successful		NA	NA
28	2	47	19.3	NA	EP(CI)	NA	NA	NA	1	NS	5	2	1	3	2	2	2	2	49	20.1	NA	positive	Unsucessfull		NA	NA
29	2	60	22	NA	EP(CI)	NA	NA	normal	1	NS	3	2	3	2	1	3	1	3	62	22.8	NA	NA	Successful		NA	normal
30	2	67	23.2	NA	EP(CI)	NA	NA	normal	1	NS	3	2	3	3	2	2	1	3	68	23.5	NA	NA	Successful		NA	normal
31	2	50	19.1	NA	EP(CI)	NA	NA	normal	1	NS	3	3	1	2	2	2	1	3	52	19.8	NA	NA	Successful		NA	normal
32	2	62	24.8	NA	EP(CI)	NA	NA	normal	1	NS	2	1	2	3	1	2	1	3	64	25.6	NA	NA	Successful		NA	normal
33	2	55	21.5	NA	EP(CI)	NA	NA	NA	1	NS	5	2	3	3	2	2	2	2	56	21.9	NA	positive	Unsucessfull		NA	NA
34	2	35	19.2	NA	negative	NA	NA	NA	1	NS	3	3	1	2	1	1	3	3	36	19.8	NA	negative	Successful		NA	NA

35	43	Male	Employed	Hindu	Literate	Nuclear	8000	5	II	Pucca	Yes	Yes	Absent	Present	Decreased	Decreased	Absent	1	1,2	2	Present	Absent	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	3	178	82	25.9	diabetic	NA	NR	3	positive	1	NS	3	2	3	3	2	2	2	3	83	26.2	NA	EP(CI)	NA	NA	normal	1	NS	2	4	3	2	1	3	1	3	83	26.2	NA	NA	Successful		NA	normal
36	16	Female	Unemployed	Hindu	Literate	Nuclear	7200	4	II	Pucca	Yes	No	Absent	Present	Decreased	No change	Present	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	Yes	Done	Not done	4	LE 4	2	168	45	15.9	normal	NA	NR	3	positive	1	NS	2	3	1	2	2	2	3	2	46	16.3	NA	EP(CI)	NA	NA	normal	1	NS	3	2	2	2	1	2	1	3	50	17.7	NA	NA	Successful		NA	normal
37	28	Male	Employed	Hindu	Literate	Nuclear	7100	3	II	Semi-pucca	Yes	No	Present	Present	No change	Decreased	Absent	7	3	2	Absent	Absent	Pulmonary positive	2	Not intiated	Absent	> 5km	No	Done	Not done	2	LE 4	2	16	51	19.9	normal	positive	NR	1	NA	1	NS	1	1	2	1	1	1	3	2	53	20.7	NA	negative	NA	NA	NA	1	NS	5	2	2	3	2	2	2	2	55	21.5	NA	positive	Unsucessfull		NA	NA
38	21	Male	Employed	Hindu	Literate	Joint	6000	5	II	Pucca	Yes	Yes	Present	Absent	Decreased	No change	Present	7	2	2	Absent	Present	Pulmonary positive	1	Not intiated	Absent	> 5km	Yes	Not done	Not done	3	LE 4	2	162	44	16.8	normal	positive	NR	1	NA	1	NS	2	2	3	2	1	2	3	2	46	17.5	NA	negative	NA	NA	NA	1	NS	3	3	2	2	1	2	1	3	48	18.3	NA	negative	Successful		NA	NA
39	15	Female	Unemployed	Hindu	Literate	Nuclear	7100	5	II	Semi-pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	7	3	2	Present	Absent	Pulmonary negative	1	Not intiated	Present	< 5km	Yes	Not done	Not done	4	LE 4	2	140	35	17.9	normal	positive	NR	1	NA	1	NS	2	3	2	3	2	2	3	2	36	18.4	NA	negative	NA	NA	NA	1	NS	3	4	2	2	1	2	1	3	38	19.4	NA	negative	Successful		NA	NA
40	65	Male	Unemployed	Hindu	Literate	Joint	4000	6	II	Semi-pucca	Yes	No	Present	Absent	Decreased	Decreased	Present	1	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Not done	Not done	1	LE 4	1	160	45	17.6	normal	positive	NR	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull			0
41	55	Female	Unemployed	Hindu	Literate	Nuclear	6100	4	II	Pucca	No	Yes	Present	Absent	Decreased	Decreased	Absent	3	1	2	Present	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	150	71	31.6	diabetic	positive	NR	1	NA	1	NS	1	2	2	2	2	2	3	2	72	32	NA	negative	NA	NA	NA	1	NS	3	3	1	1	2	2	3	3	72	32	NA	negative	Successful		NA	NA
42	39	Male	Employed	Hindu	Literate	Joint	7600	4	I	Pucca	Yes	No	Present	Present	No change	Decreased	Present	3	1,2	2	Absent	Present	Pulmonary positive	2	Not intiated	Present	> 5km	Yes	Not done	Not done	3	LE 4	2	160	89	34.8	normal	positive	NR	1	NA	1	NS	1	2	2	2	2	2	3	2	88	34.4	NA	negative	NA	NA	NA	1	NS	3	1	2	2	1	1	3	3	88	34.4	NA	negative	Successful		NA	NA
43	40	Male	Unemployed	Hindu	Literate	Nuclear	4500	5	II	Semi-pucca	Yes	Yes	Absent	Present	Decreased	Decreased	Absent	1	1	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	No	Done	Not done	4	LE 4	2	158	40	16	normal	NA	NR	3	positive	1	NS	1	2	1	2	2	1	2	2	42	16.8	NA	EP(CI)	NA	NA	normal	1	NS	4	2	1	3	1	2	1	3	45	18	NA	NA	Successful		NA	normal
44	67	Male	Unemployed	Hindu	Literate	Nuclear	4800	6	II	Semi-pucca	No	Yes	Present	Present	Decreased	Decreased	Absent	1	1	1	Present	Absent	Pulmonary positive	1	Not intiated	Present	< 5km	Yes	Done	Not done	2	LE 4	1	168	51	18.1	normal	positive	NR	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
45	36	Male	Employed	Hindu	Literate	Joint	7000	10	II	Pucca	No	Yes	Present	Absent	Decreased	No change	Present	1	1	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	No	Done	Not done	4	LE 4	2	150	64	28.4	normal	NA	NR	1	positive	1	NS	2	2	2	2	1	1	3	2	65	28.9	NA	EP(CI)	NA	NA	NA	1	NS	2	3	2	3	2	2	1	2	66	29.3	NA	NA	Successful		NA	NA
46	21	Female	Unemployed	Hindu	Literate	Nuclear	5500	5	II	Pucca	No	Yes	Absent	Present	Decreased	Decreased	Absent	7	3	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	No	Done	Not done	3	LE 4	3	150	41	18.2	normal	NA	NR	3	NA	1	NS	2	2	2	1	1	1	1	2	45	20	NA	EP(CI)	NA	NA	normal	1	NS	2	4	2	3	2	2	3	3	46	20.4	NA	NA	Successful		NA	normal
47	55	Male	Unemployed	Muslim	Literate	Nuclear	5800	5	II	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Present	1	1	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Not done	Not done	2	LE 4	2	159	68	26.2	normal	NA	NR	4	positive	1	NS	1	1	1	2	1	2	3	2	69	27.3	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	3	2	2	3	2	70	27.7	NA	NA	Successful		NA	normal
48	53	Male	Employed	Muslim	Literate	Nuclear	7200	4	II	Semi-pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	1	1	2	Absent	Absent	Pulmonary positive	1	Not intiated	Absent	> 5km	No	Done	Not done	2	LE 4	2	170	52	18	diabetic	positive	NR	1	NA	1	NS	1	1	3	1	2	2	3	2	54	18.7	NA	negative	NA	NA	NA	1	NS	5	3	1	3	2	2	2	2	56	19.4	NA	positive	Unsucessfull		NA	NA
49	59	Male	Employed	Hindu	Literate	Nuclear	5600	4	I	Pucca	Yes	No	Present	Absent	Decreased	No change	Present	1	1	1	Present	Present	Pulmonary positive	1	Not intiated	Absent	> 5km	Yes	Done	Not done	4	LE 4	2	179	56	17.5	normal	NA	NR	3	positive	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	EP(CI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	NA	Unsucessfull		NA	NA
50	35	Male	Employed	Hindu	Literate	Nuclear	6600	4	II	Pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	1	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	3	148	32	14.6	normal	NA	NR	1	NA	1	NS	2	3	2	2	1	2	2	2	35	16	NA	negative	NA	NA	NA	1	NS	3	2	2	2	2	2	1	3	38	17.3	NA	negative	Successful		NA	NA
51	20	Male	Unemployed	Hindu	Literate	Joint	6000	5	II	Semi-pucca	Yes	Yes	Present	Absent	Decreased	Decreased	Present	7	1	2	Absent	Absent	Pulmonary positive	1	Not intiated	Absent	> 5km	No	Done	Not done	2	LE 4	2	150	38	16.9	normal	NA	NR	1	NA	1	NS	2	2	2	1	1	2	3	2	40	17.8	NA	negative	NA	NA	NA	1	NS	4	3	2	3	2	2	2	2	42	18.7	NA	positive	Unsucessfull		NA	NA
52	30	Male	Employed	Hindu	Literate	Joint	4800	5	II	Pucca	No	Yes	Present	Present	Decreased	No change	Absent	7	1	2	Absent	Present	Extra-Pulmonary	1	Intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	160	43	16.8	normal	NA	reactive	3	positive	1	NS	2	2	3	2	1	2	3	2	44	17.2	NA	EP(CI)	NA	NA	normal	1	NS	3	4	3	3	2	2	3	3	47	18.4	NA	NA	Successful		NA	normal
53	58	Male	Employed	Hindu	Literate	Nuclear	6100	5	II	Semi-pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	1	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	170	42	14.5	normal	positive	NR	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
54	22	Female	Unemployed	Hindu	Literate	Joint	5200	4	II	Semi-pucca	Yes	No	Present	Absent	Decreased	No change	Present	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	< 5km	No	Done	Not done	4	LE 4	2	160	32	12.5	normal	NA	NR	1	NA	1	NS	2	3	2	2	2	2	3	2	35	13.7	NA	negative	NA	NA	NA	1	NS	3	2	1	2	1	1	1	3	37	14.5	NA	negative	Successful		NA	NA
55	55	Male	Employed	Hindu	Literate	Nuclear	7100	5	II	Pucca	No	Yes	Absent	Present	No change	Decreased	Present	1,3	1,2	1	Present	Absent	Extra-Pulmonary	1	Intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	160	53	20.7	diabetic	NA	reactive	3	positive	1	NS	2	3	1	3	1	2	1	2	54	21.1	NA	EP(CI)	NA	NA	normal	1	NS	3	1	1	2	2	2	1	3	55	21.5	NA	NA	Successful		NA	normal
56	32	Female	Unemployed	Hindu	Literate	Nuclear	5900	5	II	Pucca	Yes	Yes	Present	Absent	Decreased	No change	Present	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	165	42	15.4	normal	positive	NR	1	NA	1	NS	1	4	2	2	2	2	3	2	43	15.8	NA	negative	NA	NA	NA	1	NS	3	2	1	3	2	2	1	3	44	16.2	NA	negative	Successful		NA	NA
57	26	Male	Unemployed	Hindu	Literate	Nuclear	7200	5	II	Pucca	Yes	No	Absent	Present	Decreased	No change	Present	7	1	2	Absent	Absent	Extra-Pulmonary	1	Not intiated	Absent	> 5km	No	Done	Not done	3	LE 4	2	161	40	15.4	normal	NA	NR	1	positive	1	NS	1	2	2	2	2	2	3	2	42	16.2	NA	negative	NA	NA	NA	1	NS	4	2	1	3	2	2	2	2	44	17	NA	positive	Unsucessfull		NA	NA
58	24	Male	Unemployed	Hindu	Literate	Nuclear	5900	5	II	Semi-pucca	No	Yes	Absent	Present	No change	Decreased	Present	7	1,2	2	Absent	Present	Extra-Pulmonary	1	Intiated	Present	> 5km	No	Done	Not done	2	LE 4	1	175	53	17.3	normal	NA	reactive	1	positive	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
59	76	Female	Unemployed	Hindu	Literate	Joint	4800	4	II	Semi-pucca	Yes	No	Absent	Present	No change	Decreased	Present	1,2	1	2		Present	Pulmonary positive	3	Intiated	Absent	< 5km	No	Done	Done	1	LE 4	2	158	49	19.6	diabetic	NA	NR	4	positive	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	EP(CI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	NA	Unsucessfull		NA	NA
60	49	Male	Employed	Hindu	Literate	Joint	5500	4	I	Semi-pucca	Yes	No	Present	Absent	Decreased	Decreased	Present	1	1	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	172	52	17.6	diabetic	positive	reactive	1	NA	1	NS	2	3	3	2	2	2	2	2	53	17.9	NA	negative	NA	NA	NA	1	NS	3	2	3	3	2	2	1	3	55	18.6	NA	negative	Successful		NA	NA
61	19	Male	Unemployed	Hindu	Literate	Nuclear	6200	5	II	Pucca	Yes	Yes	Present	Absent	Decreased	Decreased	Absent	7	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	167	40	14.3	normal	positive	NR	1	NA	1	NS	2	2	1	3	2	2	3	2	42	15.1	NA	negative	NA	NA	NA	1	NS	2	2	2	2	1	1	1	3	44	15.8	NA	negative	Successful		NA	NA
62	40	Male	Employed	Christian	Literate	Nuclear	7600	5	II	Pucca	No	Yes	Absent	Present	No change	Decreased	Present	1	1	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	177	80	25.5	diabetic	NA	NR	1	positive	1	NS	1	1	3	2	2	2	3	2	81	25.9	NA	EP(CI)	NA	NA	normal	1	NS	3	3	3	3	2	2	3	3	80	25.5	NA	NA	Successful		NA	normal
63	45	Male	Employed	Muslim	Literate	Joint	5900	4	II	Semi-pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	3	1,2	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	169	46	16.1	normal	NA	NR	1	NA	1	NS	3	1	3	2	2	1	3	2	47	16.5	NA	negative	NA	NA	NA	1	NS	3	3	3	3	2	2	1	3	48	16.8	NA	negative	Successful		NA	NA
64	70	Male	Unemployed	Hindu	Literate	Joint	4900	6	II	Semi-pucca	No	Yes	Present	Present	No change	Decreased	Present	5	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	1	161	42	16.2	normal	NA	NR	1	NA	1	NS	2	3	2	2	1	2	2	2	43	16.6	NA	negative	NA	NA	NA	1	NS	4	2	2	3	2	2	3	2	44	17	NA	negative	Successful		NA	NA
65	44	Female	Unemployed	Hindu	Literate	Joint	8000	5	II	Pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	5,6	1	2	Present	Absent	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	1	158	40	16	normal	positive	reactive	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
66	40	Male	Employed	Hindu	Literate	Joint	5800	4	II	Kacha	No	Yes	Present	Present	No change	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	1	176	44	14.2	normal	positive	NR	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
67	39	Male	Employed	Hindu	Literate	Joint	7700	4	II	Semi-pucca	Yes	No	Present	Present	No change	No change	Present	7	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	169	52	18.2	diabetic	positive	NR	1	NA	1	NS	1	1	3	3	2	2	3	2	54	18.9	NA	negative	NA	NA	NA	1	NS	3	3	3	3	1	2	3	3	56	19.6	NA	negative	Successful		NA	NA
68	40	Male	Unemployed	Hindu	Literate	Joint	4800	3	II	Semi-pucca	Yes	No	Present	Absent	Decreased	No change	Present	4	1	1	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	159	45	17.8	diabetic	positive	reactive	1	NA	1	NS	1	2	2	3	2	2	3	2	46	18.2	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	2	3	2	48	19	NA	negative	Successful		NA	NA
69	60	Male	Employed	Hindu	Literate	Nuclear	7100	4	II	Pucca	No	No	Absent	Present	No change	Decreased	Present	7	1	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	No	Done	Not done	5	M 4	2	174	49	16.2	normal	NA	NR	3	positive	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	EP(CI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	NA	Successful		NA	NA
70	35	Female	Unemployed	Muslim	Literate	Joint	4200	4	II	Semi-pucca	Yes	Yes	Absent	Present	Decreased	No change	Present	7	3	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	No	Not done	Not done	3	LE 4	2	155	60	25	normal	NA	NR	1	positive	1	NS	3	1	2	1	1	2	3	2	62	25.8	NA	negative	NA	NA	NA	1	NS	2	3	2	2	2	2	3	3	64	26.6	NA	negative	Successful		NA	NA
71	19	Female	Unemployed	Muslim	Literate	Joint	3700	5	III	Semi-pucca	No	Yes	Present	Absent	Decreased	No change	Present	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	< 5km	No	Done	Done	4	LE 4	2	160	44	17.2	normal	positive	NR	1	NA	1	NS	1	2	2	3	2	2	3	2	45	17.6	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	2	1	2	46	18	NA	negative	Successful		NA	NA
72	44	Male	Employed	Hindu	Literate	Nuclear	6100	5	II	Pucca	Yes	No	Present	Present	No change	Decreased	Present	7	1	2	Absent	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	159	59	23.3	normal	NA	NR	1	positive	1	NS	1	2	3	1	2	2	3	2	60	23.7	NA	negative	NA	NA	NA	1	NS	3	3	3	3	2	3	3	2	62	24.5	NA	negative	Successful		NA	NA
73	42	Male	Unemployed	Muslim	Literate	Joint	3700	5	III	Semi-pucca	Yes	Yes	Absent	Present	Decreased	No change	Present	4	1	2	Absent	Present	Extra-Pulmonary	1	Intiated	Present	< 5km	Yes	Done	Not done	3	LE 4	2	179	49	15.3	normal	NA	reactive	3	positive	1	NS	2	3	2	3	2	2	3	2	50	15.6	NA	EP(CI)	NA	NA	normal	1	NS	3	2	2	3	1	2	1	2	51	15.9	NA	NA	Successful		NA	normal
74	40	Male	Employed	Muslim	Literate	Nuclear	6700	5	II	Pucca	Yes	No	Absent	Present	No change	Decreased	Present	1	3	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	179	50	15.6	diabetic	NA	NR	3	positive	1	NS	2	2	3	1	2	2	3	2	51	15.9	NA	EP(CI)	NA	NA	normal	1	NS	3	3	3	3	1	2	3	3	53	16.5	NA	NA	Successful		NA	normal

75	45	Female	Employed	Muslim	Literate	Joint	6900	4	II	Pucca	Yes	Yes	Absent	Present	No change	Decreased	Present	1	1	2	Absent	Absent	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	2	148	53	24.2	diabetic	NA	NR	4	positive	1	NS	1	1	2	2	2	2	2	2	54	24.7	NA	EP(CI)	NA	NA	normal	1	NS	3	3	3	3	1	1	3	3	55	25.1	NA	NA	Successful		NA	normal
76	31	Male	Employed	Hindu	Literate	Nuclear	6600	5	II	Pucca	Yes	Yes	Absent	Present	No change	Decreased	Present	7	1	2	Present	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	No	Done	Done	4	LE 4	2	170	79	27.3	normal	NA	NR	3	positive	1	NS	2	2	2	2	1	3	3	2	79	27.3	NA	EP(CI)	NA	NA	normal	1	NS	3	1	3	3	2	1	1	2	80	27.7	NA	NA	Successful		NA	normal
77	44	Female	Unemployed	Hindu	Literate	Nuclear	4900	4	II	Semi-pucca	Yes	Yes	Absent	Present	Decreased	Decreased	Absent	7	3	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	160	42	16.4	normal	NA	NR	4	positive	1	NS	1	2	2	1	1	2	1	1	43	16.8	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	3	2	3	3	2	45	17.6	NA	NA	Successful		NA	normal
78	45	Female	Unemployed	Hindu	Literate	Nuclear	7100	4	II	Semi-pucca	Yes	Yes	Present	Absent	No change	Decreased	Present	1	3	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	< 5km	Yes	Done	Not done	3	LE 4	2	142	39	19.3	diabetic	NA	NR	1	positive	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	EP(CI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	NA	Unsucessfull		NA	NA
79	22	Male	Unemployed	Hindu	Literate	Joint	6900	4	II	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Present	4	1	1	Present	Absent	Pulmonary positive	1	Intiated	Present	> 5km	No	Done	Done	2	LE 4	1	167	45	16.1	normal	NA	reactive	1	NA	1	NS	1	3	2	3	2	2	3	2	46	16.5	NA	negative	NA	NA	NA	1	NS	3	2	2	2	1	2	3	2	47	16.9	NA	negative	Successful		NA	NA
80	33	Female	Employed	Muslim	Literate	Joint	4800	5	II	Pucca	No	Yes	Absent	Present	No change	Decreased	Present	7	3	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	No	Done	Done	3	LE 4	2	160	58	22.7	normal	NA	NR	4	positive	1	NS	1	2	3	1	2	2	3	2	59	23	NA	EP(CI)	NA	NA	normal	1	NS	3	3	3	3	1	3	1	3	60	23.4	NA	NA	Successful		NA	normal
81	25	Male	Unemployed	Hindu	Literate	Joint	3700	4	III	Semi-pucca	No	Yes	Absent	Present	No change	Decreased	Present	7	3	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	157	68	27.6	normal	NA	NR	4	positive	1	NS	2	1	1	2	1	2	3	2	69	28	NA	EP(CI)	NA	NA	normal	1	NS	3	2	2	3	2	2	3	3	69	28	NA	NA	Successful		NA	normal
82	24	Male	Employed	Hindu	Literate	Joint	3700	6	III	Kacha	No	Yes	Present	Absent	Decreased	No change	Present	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	1	LE 4	2	167	45	16.1	normal	NA	NR	1	NA	1	NS	1	2	3	3	2	2	3	2	45	16.1	NA	negative	NA	NA	NA	1	NS	2	3	3	3	2	2	3	3	46	16.5	NA	negative	Successful		NA	NA
83	46	Female	Unemployed	Hindu	Literate	Nuclear	6900	5	II	Semi-pucca	No	No	Absent	Present	Decreased	Decreased	Absent	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	No	Done	Done	4	LE 4	2	170	80	27.7	normal	NA	NR	3	positive	1	NS	2	2	2	2	2	1	3	2	80	27.7	NA	EP(CI)	NA	NA	normal	1	NS	3	2	1	1	1	1	3	3	81	28	NA	NA	Successful		NA	normal
84	20	Female	Unemployed	Hindu	Literate	Nuclear	5100	2	II	Semi-pucca	No	Yes	Present	Present	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	4	LE 4	2	165	55	20.2	normal	NA	NR	1	positive	1	NS	1	4	2	1	1	2	3	2	56	20.6	NA	negative	NA	NA	NA	1	NS	3	3	2	1	2	2	1	2	57	20.9	NA	negative	Successful		NA	NA
85	16	Female	Unemployed	Hindu	Literate	Nuclear	3700	3	III	Semi-pucca	No	No	Present	Present	No change	Decreased	Absent	7	3	1	Present	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	159	32	12.7	normal	positive	NR	1	NA	1	NS	1	2	2	3	2	2	3	2	36	14.2	NA	negative	NA	NA	NA	1	NS	3	3	2	3	1	2	3	3	38	15	NA	negative	Successful		NA	NA
86	80	Male	Unemployed	Hindu	Illiterate	Joint	3600	5	III	Kacha	No	Yes	Present	Absent	Decreased	Decreased	Present	1,2	1	1	Absent	Absent	Pulmonary positive	1	Not intiated	Absent	> 5km	No	Done	Not done	1	LE 4	1	150	30	13.3	diabetic	positive	NR	1	NA	1	NS	3	2	2	3	2	2	3	2	34	15.1	NA	negative	NA	NA	NA	1	NS	5	3	2	3	2	2	2	2	35	15.6	NA	positive	Unsucessfull		NA	NA
87	32	Male	Employed	Muslim	Literate	Joint	3600	5	III	Semi-pucca	No	Yes	Present	Absent	Decreased	Decreased	Absent	4	1	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	172	45	15.2	normal	NA	reactive	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
88	35	Male	Employed	Hindu	Literate	Nuclear	6100	4	II	Semi-pucca	Yes	No	Present	Absent	Decreased	No change	Present	1	1	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	1	168	44	15.6	diabetic	positive	reactive	1	NA	1	NS	1	3	3	3	1	2	2	2	45	15.9	NA	negative	NA	NA	NA	1	NS	3	3	3	3	2	2	1	2	47	16.7	NA	negative	Successful		NA	NA
89	67	Female	Employed	Muslim	Literate	Joint	5100	5	II	Semi-pucca	No	Yes	Absent	Present	Decreased	Decreased	Absent	3	3	2	Present	Absent	Extra-Pulmonary	1	Not intiated	Present	> 5km	No	Not done	Not done	1	LE 4	1	160	46	18	normal	NA	NR	3	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
90	27	Male	Employed	Hindu	Literate	Nuclear	3700	5	III	Pucca	Yes	Yes	Present	Absent	Decreased	No change	Present	7	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	167	50	17.9	normal	NA	NR	1	positive	1	NS	1	1	3	3	2	2	3	2	51	18.3	NA	negative	NA	NA	NA	1	NS	3	2	3	3	1	2	1	2	52	18.6	NA	negative	Successful		NA	NA
91	55	Male	Unemployed	Christian	Literate	Joint	6400	4	II	Kacha	Yes	No	Present	Absent	Decreased	Decreased	Present	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	< 5km	Yes	Done	Not done	4	LE 4	2	159	44	17.4	normal	positive	NR	1	NA	1	NS	1	2	2	1	2	2	3	2	45	17.8	NA	negative	NA	NA	NA	1	NS	3	4	2	3	1	1	3	3	46	18.2	NA	negative	Successful		NA	NA
92	36	Male	Employed	Hindu	Literate	Nuclear	7000	5	II	Pucca	Yes	Yes	Present	Absent	No change	Decreased	Present	1	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	5	M 4	2	170	46	15.9	diabetic	NA	NR	1	NA	1	NS	4	2	3	2	1	2	3	2	47	16.3	NA	negative	NA	NA	NA	1	NS	2	3	3	3	2	1	3	2	48	16.6	NA	negative	Successful		NA	NA
93	43	Male	Employed	Hindu	Literate	Nuclear	5100	5	II	Kacha	No	Yes	Present	Absent	Decreased	Decreased	Absent	7	3	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	< 5km	No	Done	Done	4	LE 4	1	164	42	15.6	normal	positive	NR	1	NA	1	NS	2	3	3	3	2	2	2	2	43	16	NA	negative	NA	NA	NA	1	NS	3	2	3	3	1	3	3	3	45	16.7	NA	negative	Successful		NA	NA
94	33	Female	Unemployed	Muslim	Literate	Nuclear	5500	4	II	Semi-pucca	No	No	Present	Absent	Decreased	No change	Present	7	3	1	Absent	Absent	Pulmonary positive	1	Not intiated	Absent	> 5km	No	Done	Not done	3	LE 4	1	166	42	15.2	normal	positive	NR	1	NA	1	NS	2	2	2	3	2	2	3	2	43	15.6	NA	negative	NA	NA	NA	1	NS	5	3	2	3	2	2	2	2	44	16	NA	positive	Unsucessfull		NA	NA
95	30	Male	Employed	Hindu	Literate	Joint	3300	5	III	Kacha	Yes	Yes	Absent	Present	Decreased	No change	Absent	1	1	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	No	Done	Done	4	LE 4	1	176	40	12.9	diabetic	NA	NR	1	positive	1	NS	2	1	3	1	2	2	3	2	41	13.2	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	2	1	3	2	2	43	13.9	NA	NA	Successful		NA	normal
96	21	Male	Unemployed	Muslim	Literate	Joint	3500	5	III	Semi-pucca	Yes	Yes	Present	Absent	No change	Decreased	Present	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Done	Not done	4	LE 4	1	167	39	14	normal	positive	NR	1	NA	1	NS	2	4	2	3	1	2	3	2	41	14.7	NA	negative	NA	NA	NA	1	NS	3	2	2	3	1	1	2	2	43	15.4	NA	negative	Successful		NA	NA
97	60	Male	Unemployed	Hindu	Literate	Joint	4900	4	II	Semi-pucca	No	Yes	Present	Absent	Decreased	Decreased	Absent	3	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	< 5km	Yes	Done	Not done	3	LE 4	1	172	46	15.5	normal	positive	NR	1	NA	1	NS	3	2	2	3	1	2	2	2	47	15.9	NA	negative	NA	NA	NA	1	NS	3	3	2	1	2	2	1	3	48	16.2	NA	negative	Successful		NA	NA
98	29	Female	Unemployed	Hindu	Literate	Nuclear	3700	5	III	Pucca	Yes	Yes	Absent	Present	Decreased	Decreased	Absent	7	3	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Done	4	LE 4	2	156	39	16	normal	NA	NR	1	positive	1	NS	2	2	2	3	2	2	2	2	40	16.4	NA	negative	NA	NA	NA	1	NS	3	2	1	2	1	3	3	2	42	17.3	NA	negative	Successful		NA	NA
99	27	Male	Employed	Hindu	Literate	Nuclear	7800	4	II	Pucca	Yes	No	Absent	Present	No change	Decreased	Present	7	1	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	No	Not done	Not done	4	LE 4	1	170	40	13.8	normal	NA	NR	4	positive	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	EP(CI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	NA	Successful		NA	NA
100	20	Male	Unemployed	Christian	Literate	Joint	5600	4	II	Semi-pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	4	LE 4	2	165	42	15.4	normal	positive	NR	1	NA	1	NS	1	2	2	1	1	1	2	2	43	15.8	NA	negative	NA	NA	NA	1	NS	3	3	2	2	1	3	2	2	44	16.2	NA	negative	Successful		NA	NA
101	47	Male	Employed	Muslim	Literate	Joint	4100	4	II	Semi-pucca	Yes	No	Present	Absent	Decreased	No change	Present	1	1	1	Absent	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	4	LE 4	2	158	45	16.8	diabetic	positive	NR	1	NA	1	NS	3	1	3	1	2	3	3	2	46	18.4	NA	negative	NA	NA	NA	1	NS	3	3	3	2	1	2	2	2	47	18.8	NA	negative	Successful		NA	NA
102	65	Male	Unemployed	Hindu	Literate	Joint	3500	4	III	Kacha	No	Yes	Present	Absent	Decreased	No change	Present	3	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Not done	Not done	1	LE 4	1	162	39	14.9	normal	NA	NR	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0		0	0	0	0	0			0	0	Unsucessfull		0	0
103	20	Female	Unemployed	Muslim	Literate	Joint	4100	4	II	Pucca	Yes	Yes	Absent	Present	Decreased	No change	Present	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	160	40	15.6	normal	NA	NR	4	positive	1	NS	2	2	2	1	2	2	3	2	42	16.4	NA	EP(CI)	NA	NA	normal	1	NS	3	2	1	2	1	3	3	3	44	17.2	NA	NA	Successful		NA	normal
104	40	Male	Employed	Hindu	Literate	Joint	5100	4	II	Semi-pucca	No	No	Present	Absent	Decreased	No change	Present	4	1	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	177	42	13.4	normal	positive	reactive	1	NA	1	NS	1	3	3	3	1	2	2	2	43	13.7	NA	negative	NA	NA	NA	1	NS	4	2	3	3	2	2	2	2	44	14	NA	negative	Successful		NA	NA
105	51	Male	Unemployed	Hindu	Literate	Nuclear	5000	3	II	Pucca	Yes	No	Present	Absent	Decreased	No change	Present	1,3	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Done	Done	3	LE 4	2	145	49	23.3	diabetic	positive	NR	1	NA	1	NS	1	2	2	1	2	2	3	2	49	23.3	NA	negative	NA	NA	NA	1	NS	4	2	2	1	1	2	1	3	49	23.3	NA	NA	Unsucessfull		NA	NA
106	55	Male	Employed	Hindu	Literate	Nuclear	6500	4	II	Pucca	Yes	Yes	Present	Present	No change	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	161	48	18.5	normal	positive	NR	1	NA	1	NS	1	4	3	1	1	2	2	2	49	18.9	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	2	2	2	50	19.3	NA	negative	Successful		NA	NA
107	65	Male	Unemployed	Muslim	Literate	Joint	3500	5	III	Semi-pucca	No	Yes	Absent	Present	No change	Decreased	Present	3	1	2	Absent	Absent	Extra-Pulmonary	1	Not intiated	Absent	< 5km	Yes	Not done	Not done	3	LE 4	2	172	62	21	normal	NA	NR	4	positive	1	NS	3	2	2	3	2	2	2	2	62	21	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	3	1	3	1	2	63	21.3	NA	NA	Successful		NA	normal
108	39	Male	Employed	Hindu	Literate	Nuclear	7100	4	II	Pucca	Yes	No	Absent	Present	Decreased	Decreased	Absent	7	2	2	Present	Absent	Extra-Pulmonary	1	Not intiated	Absent	> 5km	No	Not done	Not done	4	LE 4	2	179	49	15.3	normal	NA	NR	3	positive	1	NS	2	1	3	3	1	2	2	2	50	15.6	NA	EP(CI)	NA	NA	normal	1	NS	2	4	3	1	2	2	2	2	51	15.9	NA	NA	Successful		NA	normal
109	35	Male	Employed	Christian	Literate	Nuclear	4700	5	II	Semi-pucca	Yes	Yes	Present	Absent	Decreased	Decreased	Present	4	1	2	Present	Absent	Pulmonary positive	1	Intiated	Present	> 5km	No	Done	Not done	2	LE 4	1	158	35	14	normal	NA	reactive	3	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
110	33	Female	Unemployed	Hindu	Literate	Nuclear	4100	4	II	Semi-pucca	Yes	No	Absent	Present	Decreased	Decreased	Present	7	3	1	Absent	Absent	Extra-Pulmonary	1	Not intiated	Absent	> 5km	No	Done	Done	4	LE 4	2	150	49	21.8	normal	NA	NR	3	positive	1	NS	3	1	2	3	1	2	3	2	50	22.2	NA	negative	NA	NA	NA	1	NS	5	3	2	3	2	2	2	2	51	22.7	NA	positive	Unsucessfull		NA	NA
111	40	Female	Unemployed	Hindu	Literate	Joint	6700	5	II	Kacha	No	Yes	Present	Absent	Decreased	Decreased	Absent	4	1	2	Present	Absent	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Not done	Not done	3	LE 4	1	152	39	16.9	normal	NA	reactive	3	positive	1	NS	1	3	2	3	1	2	2	2	40	17.3	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	2	2	2	42	18.2	NA	negative	Successful		NA	NA
112	56	Female	Unemployed	Muslim	Literate	Nuclear	4100	4	II	Semi-pucca	Yes	Yes	Absent	Present	Decreased	No change	Present	3	3	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	No	Done	Not done	5	M 4	2	149	44	19.8	normal	NA	NR	3	positive	1	NS	1	2	2	3	2	2	2	2	45	20.3	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	2	1	2	2	2	46	20.7	NA	NA	Successful		NA	normal
113	45	Female	Unemployed	Hindu	Literate	Nuclear	3900	4	II	Pucca	Yes	Yes	Absent	Present	No change	Decreased	Present	6	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	No	Not done	Not done	4	LE 4	1	160	40	15.6	normal	NA	NR	4	positive	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	EP(CI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	NA	Successful		NA	NA
114	42	Male	Employed	Hindu	Literate	Joint	7000	5	II	Pucca	No	Yes	Present	Absent	No change	Decreased	Present	7	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	1	169	33	11.6	normal	positive	NR	1	NA	1	NS	1	4	3	3	1	2	1	2	35	12.3	NA	negative	NA	NA	NA	1	NS	3	2	3	3	2	2	1	3	37	13	NA	negative	Successful		NA	NA

115	45	Male	Employed	Muslim	Literate	Nuclear	6000	4	II	Semi-pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	4	2	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	No	Done	Not done	3	LE 4	2	159	64	25.3	normal	positive	reactive	3	NA	1	NS	2	2	2	2	1	3	1	2	65	25.7	NA	negative	NA	NA	NA	1	NS	3	3	3	3	2	2	2	3	67	26.5	NA	negative	Successful		NA	NA
116	42	Male	Employed	Hindu	Literate	Joint	5100	5	II	Semi-pucca	No	Yes	Present	Present	No change	No change	Present	3	1	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	175	47	15.3	normal	NA	NR	4	positive	1	NS	1	2	3	1	1	2	1	2	48	15.7	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	2	1	3	2	2	49	16	NA	NA	Successful		NA	normal
117	50	Male	Unemployed	Hindu	Literate	Joint	3500	4	III	Kacha	No	Yes	Absent	Present	Decreased	Decreased	Absent	4	1	2	Absent	Present	Extra-Pulmonary	1	Intiated	Present	> 5km	No	Not done	Not done	3	LE 4	1	161	45	17.4	normal	NA	reactive	3	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
118	52	Female	Unemployed	Hindu	Literate	Joint	3600	4	III	Semi-pucca	Yes	No	Present	Present	No change	Decreased	Present	7	3	1	Absent	Absent	Pulmonary positive	1	Not intiated	Absent	> 5km	No	Done	Not done	3	LE 4	2	159	44	17.4	normal	positive	NR	1	NA	1	NS	1	2	2	3	2	2	1	2	45	17.8	NA	negative	NA	NA	NA	1	NS	5	2	2	3	2	2	2	2	46	18.2	NA	positive	Unsucessfull		NA	NA
119	30	Male	Employed	Hindu	Literate	Joint	4100	5	II	Pucca	Yes	Yes	Present	Absent	No change	Decreased	Present	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Not done	Not done	4	LE 4	2	170	42	14.5	normal	positive	NR	1	NA	1	NS	4	2	3	3	2	2	1	1	43	14.9	NA	negative	NA	NA	NA	1	NS	3	3	3	3	2	2	3	3	44	15.2	NA	negative	Successful		NA	NA
120	15	Male	Unemployed	Hindu	Literate	Joint	4900	4	II	Semi-pucca	No	No	Absent	Present	Decreased	Decreased	Absent	4	3	2	Absent	Present	Extra-Pulmonary	1	Intiated	Present	> 5km	Yes	Done	Done	3	LE 4	1	140	15	7.7	normal	NA	reactive	3	positive	1	NS	1	2	2	3	1	2	1	2	17	8.7	NA	negative	NA	NA	NA	1	NS	4	4	2	3	1	2	1	2	19	9.7	NA	negative	Successful		NA	NA
121	56	Male	Unemployed	Muslim	Literate	Joint	3400	4	III	Semi-pucca	No	Yes	Present	Absent	No change	Decreased	Present	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Not done	Done	4	LE 4	1	159	31	12.3	normal	positive	NR	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
122	50	Male	Employed	Hindu	Literate	Nuclear	5300	5	II	Kacha	Yes	No	Present	Present	No change	Decreased	Absent	4	2	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	No	Done	Done	4	LE 4	2	179	36	11.2	normal	NA	reactive	3	positive	1	NS	3	4	3	2	1	3	2	2	37	11.5	NA	negative	NA	NA	NA	1	NS	2	2	3	3	2	3	1	2	39	12.2	NA	negative	Successful		NA	NA
123	38	Male	Employed	Hindu	Literate	Nuclear	7800	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Present	4	1	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	No	Done	Not done	4	LE 4	1	161	38	14.7	normal	positive	reactive	1	NA	1	NS	1	1	3	1	1	2	2	2	39	15	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	2	1	3	41	15.8	NA	negative	Successful		NA	NA
124	18	Male	Unemployed	Hindu	Literate	Nuclear	3500	4	II	Kacha	Yes	No	Present	Absent	Decreased	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	5	M 4	2	160	44	17.2	normal	NA	NR	1	NA	1	NS	1	2	2	3	2	2	1	2	45	17.6	NA	negative	NA	NA	NA	1	NS	2	3	2	2	1	3	1	2	46	18	NA	negative	Successful		NA	NA
125	50	Male	Employed	Hindu	Literate	Joint	5100	5	II	Semi-pucca	Yes	Yes	Present	Absent	No change	Decreased	Present	4	1	2	Present	Absent	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Done	3	LE 4	1	172	48	16.2	normal	positive	reactive	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
126	65	Male	Unemployed	Muslim	Literate	Joint	3600	6	II	Semi-pucca	No	Yes	Present	Absent	No change	Decreased	Present	3	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	< 5km	No	Done	Not done	2	LE 4	1	165	51	18.7	normal	positive	NR	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
127	25	Male	Unemployed	Hindu	Literate	Joint	4800	5	II	Pucca	Yes	Yes	Absent	Absent	Decreased	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	4	LE 4	1	176	36	11.6	normal	positive	NR	1	NA	1	NS	1	1	2	2	1	2	1	2	37	11.9	NA	negative	NA	NA	NA	1	NS	2	3	1	3	2	3	2	2	39	12.6	NA	negative	Successful		NA	NA
128	76	Female	Unemployed	Hindu	Illiterate	Joint	2100	5	IV	Kacha	No	Yes	Absent	Present	No change	Decreased	Present	1	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	0	LE 4	2	159	49	19.4	diabetic	NA	NR	4	positive	1	NS	3	2	2	3	2	3	1	2	50	19.8	NA	EP(CI)	NA	NA	normal	1	NS	4	2	2	3	1	1	3	2	51	20.2	NA	NA	Successful		NA	normal
129	36	Male	Employed	Hindu	Literate	Nuclear	5200	3	II	Pucca	Yes	No	Absent	Present	No change	Decreased	Present	7	1	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Done	4	LE 4	2	158	64	25.6	normal	NA	NR	1	positive	1	NS	1	1	3	1	1	3	1	2	64	25.6	NA	negative	NA	NA	NA	1	NS	4	3	3	3	2	2	2	2	66	26.4	NA	negative	Successful		NA	NA
130	42	Male	Employed	Hindu	Literate	Joint	4100	4	II	Pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	5	M 4	1	169	40	14	normal	NA	NR	1	NA	1	NS	1	2	3	3	2	2	1	2	41	14.4	NA	negative	NA	NA	NA	1	NS	3	2	3	2	1	2	1	3	43	15.1	NA	negative	Successful		NA	NA
131	18	Female	Unemployed	Hindu	Literate	Nuclear	7000	4	II	Pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Done	Done	4	LE 4	2	150	39	17.3	normal	NA	NR	1	positive	1	NS	1	3	2	3	2	3	2	2	40	17.8	NA	negative	NA	NA	NA	1	NS	3	2	2	3	1	3	1	2	42	18.7	NA	negative	Successful		NA	NA
132	32	Male	Employed	Hindu	Literate	Joint	3600	4	III	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Present	7	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Absent	> 5km	Yes	Done	Not done	3	LE 4	2	179	44	13.7	normal	positive	NR	1	NA	1	NS	2	1	3	1	2	3	1	2	45	14	NA	negative	NA	NA	NA	1	NS	3	4	3	3	1	2	1	3	46	14.4	NA	negative	Successful		NA	NA
133	30	Male	Employed	Hindu	Literate	Joint	5100	5	II	Semi-pucca	No	Yes	Present	Absent	Decreased	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	1	160	40	15.6	normal	NA	NR	1	NA	1	NS	2	2	3	3	2	1	1	2	42	16.4	NA	negative	NA	NA	NA	1	NS	3	3	3	3	2	2	1	2	44	17.2	NA	negative	Successful		NA	NA
134	60	Male	Unemployed	Hindu	Literate	Joint	3600	4	III	Kacha	Yes	No	Absent	Absent	No change	Decreased	Present	3	3	1	Present	Present	Pulmonary negative	1	Intiated	Absent	< 5km	No	Done	Done	1	LE 4	1	169	42	14.7	normal	NA	NR	1	NA	1	NS	2	2	2	3	1	2	1	2	43	15.1	NA	negative	NA	NA	NA	1	NS	4	3	2	3	1	3	2	2	44	15.4	NA	negative	Successful		NA	NA
135	60	Male	Employed	Hindu	Literate	Joint	5100	3	II	Semi-pucca	Yes	No	Absent	Absent	No change	Decreased	Absent	7	3	1	Present	Absent	Pulmonary positive	1	Intiated	Absent	< 5km	No	Not done	Done	4	LE 4	2	161	41	15.8	normal	positive	NR	1	NA	1	NS	2	2	3	3	1	2	3	2	42	16.2	NA	negative	NA	NA	NA	1	NS	3	2	2	3	2	2	1	3	44	17	NA	negative	Successful		NA	NA
136	35	Female	Unemployed	Muslim	Literate	Joint	3100	4	III	Semi-pucca	No	No	Absent	Present	No change	Decreased	Absent	7	3	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	1	LE 4	2	154	50	21.1	normal	NA	NR	3	positive	1	NS	1	2	2	3	2	2	1	2	51	21.5	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	3	2	2	1	2	52	21.9	NA	NA	Successful		NA	normal
137	26	Female	Unemployed	Hindu	Literate	Nuclear	4500	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Absent	> 5km	Yes	Done	Done	3	LE 4	2	160	52	20.3	normal	positive	NR	1	NA	1	NS	4	1	2	3	1	3	1	2	53	20.7	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	2	2	3	55	21.5	NA	negative	Successful		NA	NA
138	14	Female	Unemployed	Hindu	Literate	Joint	4500	5	II	Kacha	No	Yes	Present	Absent	Decreased	Decreased	Absent	7	3	1	Absent	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	No	Not done	Not done	1	LE 4	1	150	18	8	normal	NA	NR	3	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
139	75	Male	Unemployed	Hindu	Literate	Joint	2900	4	III	Kacha	Yes	No	Present	Absent	Decreased	Decreased	Absent	1	1	1	Present	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	1	LE 4	1	165	48	17.6	diabetic	NA	NR	1	NA	1	NS	2	2	2	3	1	2	1	2	49	18	NA	negative	NA	NA	NA	1	NS	3	2	2	3	2	2	1	3	21	18.7	NA	negative	Successful		NA	NA
140	29	Male	Employed	Muslim	Literate	Nuclear	3900	4	II	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	159	55	21.8	normal	positive	NR	1	NA	1	NS	2	1	3	1	1	3	1	2	56	22.2	NA	positive	NA	NA	NA	1	NS	3	3	3	3	2	2	1	2	57	22.5	NA	negative	Unsucessfull		NA	NA
141	25	Female	Unemployed	Hindu	Literate	Joint	5200	5	II	Semi-pucca	Yes	Yes	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Not done	Not done	5	M 4	1	150	42	18.7	normal	positive	NR	1	NA	1	NS	2	1	2	3	1	3	1	2	43	19.1	NA	negative	NA	NA	NA	1	NS	3	4	2	3	2	2	1	2	45	20	NA	negative	Successful		NA	NA
142	68	Male	Unemployed	Hindu	Illiterate	Joint	2100	4	IV	Kacha	Yes	Yes	Present	Absent	Decreased	Decreased	Absent	3	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Done	Not done	2	LE 4	1	170	39	13.5	normal	positive	NR	1	NA	1	NS	2	2	2	3	1	2	1	2	40	13.8	NA	negative	NA	NA	NA	1	NS	3	2	2	3	2	2	1	2	42	14.5	NA	negative	Successful		NA	NA
143	40	Male	Employed	Hindu	Literate	Nuclear	4400	4	II	Pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	7	3	1	Present	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	166	39	14.2	normal	NA	NR	1	NA	1	NS	1	1	3	2	1	1	1	2	40	14.5	NA	negative	NA	NA	NA	1	NS	3	2	3	3	2	2	1	2	42	15.2	NA	negative	Successful		NA	NA
144	35	Female	Unemployed	Hindu	Literate	Joint	3600	4	III	Semi-pucca	No	Yes	Present	Absent	No change	Decreased	Absent	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Done	Not done	4	LE 4	2	160	40	15.6	normal	NA	NR	1	NA	1	NS	1	3	2	3	1	2	1	2	41	16	NA	negative	NA	NA	NA	1	NS	3	4	2	3	2	2	1	2	42	16.4	NA	negative	Successful		NA	NA
145	50	Male	Employed	Hindu	Literate	Nuclear	3900	4	II	Pucca	Yes	No	Present	Present	Decreased	No change	Absent	7	2	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	179	39	12.2	normal	NA	NR	1	NA	1	NS	1	2	2	1	1	2	1	2	41	12.8	NA	negative	NA	NA	NA	1	NS	3	4	3	3	1	3	1	3	43	13.4	NA	negative	Successful		NA	NA
146	63	Male	Unemployed	Hindu	Literate	Joint	2500	5	III	Kacha	Yes	Yes	Present	Absent	No change	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	2	LE 4	2	156	40	16.4	normal	NA	NR	1	NA	1	NS	2	4	2	3	1	2	2	2	41	16.8	NA	negative	NA	NA	NA	1	NS	3	4	2	3	2	2	1	3	42	17.3	NA	negative	Successful		NA	NA
147	70	Male	Unemployed	Hindu	Illiterate	Joint	2000	4	IV	Kacha	Yes	No	Present	Absent	Decreased	Decreased	Absent	3	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Done	Done	1	LE 4	1	160	38	14.8	normal	NA	NR	3	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
148	15	Male	Unemployed	Hindu	Literate	Joint	2900	6	III	Semi-pucca	No	Yes	Present	Absent	No change	Decreased	Present	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	1	LE 4	2	140	20	10.2	normal	NA	NR	1	NA	1	NS	1	4	2	3	1	2	1	2	22	11.2	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	3	1	3	24	12.2	NA	negative	Successful		NA	NA
149	40	Male	Employed	Hindu	Literate	Nuclear	6100	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	5	M 4	2	170	41	14.2	normal	positive	NR	1	NA	1	NS	3	2	3	2	1	3	1	2	42	14.5	NA	negative	NA	NA	NA	1	NS	3	3	2	3	1	2	1	2	43	14.9	NA	negative	Successful		NA	NA
150	25	Female	Unemployed	Hindu	Literate	Nuclear	3800	4	II	Pucca	Yes	No	Absent	Present	No change	Decreased	Absent	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	148	36	16.4	normal	NA	NR	3	positive	1	NS	1	1	1	1	1	1	1	2	38	17.3	NA	EP(CI)	NA	NA	normal	1	NS	2	2	1	3	2	2	1	2	40	18.3	NA	NA	Successful		NA	normal
151	55	Male	Employed	Hindu	Literate	Joint	5500	5	III	Semi-pucca	No	Yes	Present	Absent	No change	Decreased	Absent	7	1,2	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	175	48	15.7	normal	NA	NR	1	positive	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	EP(CI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	NA	Unsucessfull		NA	NA
152	80	Male	Unemployed	Hindu	Illiterate	Joint	4100	5	II	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Present	3	1	1	Present	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Not done	Not done	1	LE 4	1	180	36	11.1	normal	NA	NR	1	positive	1	NS	2	2	1	3	1	2	1	2	37	11.4	NA	negative	NA	NA	NA	1	NS	3	2	2	3	2	2	1	2	39	12	NA	negative	Successful		NA	NA
153	55	Male	Employed	Hindu	Literate	Nuclear	6500	4	II	Pucca	Yes	No	Absent	Present	No change	Decreased	Present	7	3	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Absent	> 5km	Yes	Done	Done	6	M 4	2	161	50	19.3	normal	NA	NR	4	positive	1	NS	1	1	3	3	1	3	1	2	51	19.7	NA	EP(CI)	NA	NA	normal	1	NS	3	4	3	3	2	2	1	3	53	20.4	NA	NA	Successful		NA	normal
154	19	Male	Unemployed	Hindu	Literate	Joint	3100	4	II	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	160	39	15.2	normal	NA	NR	3	positive	1	NS	1	2	2	3	1	2	1	2	41	16	NA	EP(CI)	NA	NA	normal	1	NS	2	3	2	3	2	2	1	3	43	16.8	NA	NA	Unsucessfull		NA	normal
155	28	Male	Employed	Hindu	Literate	Nuclear	5100	5	II	Semi-pucca	Yes	Yes	Absent	Present	Decreased	Decreased	Absent	7	2	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	172	50	16.9	normal	NA	NR	3	positive	1	NS	1	3	3	1	2	2	1	2	51	17.2	NA	EP(CI)	NA	NA	normal	1	NS	3	2	3	3	1	3	1	3	53	17.9	NA	NA	Successful		NA	normal
156	55	Female	Unemployed	Hindu	Literate	Joint	6000	6	II	Kacha	No	Yes	Present	Absent	No change	Decreased	Present	7	3	1	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	No	Done	Done	3	LE 4	2	158	40	16	normal	NA	NR	3	positive	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	EP(CI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	NA	Unsucessfull		NA	NA
157	19	Male	Unemployed	Hindu	Literate	Joint	4200	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	164	42	15.6	normal	positive	NR	1	NA	1	NS	1	4	1	1	1	3	1	2	43	16	NA	negative	NA	NA	NA	1	NS	3	2	1	3	2	3	1	3	45	16.7	NA	negative	Successful		NA	NA

158	18	Female	Unemployed	Hindu	Literate	Nuclear	5100	5	II	Semi-pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	7	3	1	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	No	Done	Not done	4	LE 4	2	159	36	14.2	normal	NA	NR	1	NA	1	NS	3	2	2	1	1	2	1	2	37	14.6	NA	positive	NA	NA	NA	1	NS	3	4	2	3	2	2	1	3	39	15.4	NA	negative	Unsucessfull		NA	NA
159	38	Male	Employed	Hindu	Literate	Nuclear	6200	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Present	7	1	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Done	4	LE 4	2	166	43	15.6	normal	NA	reactive	1	NA	1	NS	2	1	3	3	1	3	1	2	44	16	NA	negative	NA	NA	NA	1	NS	3	4	3	3	1	2	1	3	45	16.3	NA	negative	Successful		NA	NA
160	45	Male	Employed	Hindu	Literate	Joint	4500	5	II	Kacha	No	Yes	Present	Absent	Decreased	Decreased	Absent	4	1	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Done	4	LE 4	1	170	35	12.1	normal	NA	reactive	1	NA	1	NS	2	2	3	2	1	2	1	2	36	12.5	NA	negative	NA	NA	NA	1	NS	3	5	3	3	1	2	1	3	38	13.1	NA	negative	Successful		NA	NA
161	21	Male	Unemployed	Hindu	Literate	Joint	3600	4	III	Kacha	Yes	No	Present	Absent	No change	Decreased	Present	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Done	Not done	4	LE 4	2	169	44	15.4	normal	positive	NR	1	NA	1	NS	2	1	1	3	1	2	1	2	45	15.8	NA	negative	NA	NA	NA	1	NS	3	2	3	2	1	2	1	2	46	16.1	NA	negative	Successful		NA	NA
162	37	Male	Unemployed	Hindu	Literate	Joint	4400	5	II	Kacha	Yes	Yes	Present	Absent	No change	Decreased	Present	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	167	40	14.3	normal	positive	NR	1	NA	1	NS	3	2	2	3	1	2	2	2	41	14.7	NA	negative	NA	NA	NA	1	NS	3	2	2	3	2	2	1	3	43	15.4	NA	negative	Successful		NA	NA
163	63	Male	Employed	Hindu	Literate	Joint	4200	5	II	Semi-pucca	Yes	Yes	Present	Absent	Decreased	Decreased	Absent	7	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	1	LE 4	2	169	43	15.1	normal	positive	NR	1	NA	1	NS	4	2	3	1	2	2	1	2	44	15.4	NA	negative	NA	NA	NA	1	NS	4	2,4	3	3	2	2	1	1	46	16.1	NA	negative	Successful		NA	NA
164	15	Male	Unemployed	Hindu	Literate	Nuclear	3900	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	4	3	1	Absent	Present	Pulmonary positive	1	Intiated	Absent	> 5km	Yes	Done	Done	2	LE 4	1	150	32	14.2	normal	NA	reactive	1	NA	1	NS	2	2	2	3	1	2	1	2	35	15.6	NA	negative	NA	NA	NA	1	NS	3	2	2	3	2	2	1	3	37	16.4	NA	negative	Successful		NA	NA
165	36	Male	Employed	Hindu	Literate	Nuclear	5000	5	II	Semi-pucca	Yes	Yes	Present	Absent	No change	Decreased	Present	4	1	2	Present	Absent	Pulmonary positive	1	Intiated	Absent	> 5km	Yes	Done	Not done	3	LE 4	1	165	36	13.2	normal	NA	reactive	3	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull			0
166	50	Male	Employed	Hindu	Literate	Joint	3600	5	III	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Present	3	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	< 5km	No	Not done	Not done	4	LE 4	2	163	46	17.3	normal	positive	NR	1	NA	1	NS	1	2	3	1	2	3	1	2	47	17.7	NA	positive	NA	NA	NA	1	NS	3	3	3	3	1	3	1	3	49	18.4	NA	negative	Unsucessfull		NA	NA
167	40	Male	Employed	Hindu	Literate	Joint	3600	5	III	Kacha	Yes	No	Present	Absent	No change	Decreased	Present	4	1,2	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	1	168	35	12.4	normal	NA	NR	3	positive	1	NS	2	2	3	1	2	2	1	2	37	13.1	NA	negative	NA	NA	NA	1	NS	3	2	3	3	1	3	1	3	39	13.8	NA	negative	Successful		NA	NA
168	17	Male	Unemployed	Hindu	Literate	Nuclear	3900	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	4	3	1	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	1	160	32	12.5	normal	NA	reactive	1	NA	1	NS	2	2	1	3	2	2	1	2	34	13.3	NA	negative	NA	NA	NA	1	NS	3	3	2	3	1	2	1	3	36	14.1	NA	negative	Successful		NA	NA
169	55	Female	Unemployed	Hindu	Literate	Joint	5000	5	IV	Pucca	Yes	Yes	Present	Absent	Decreased	No change	Present	3	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	< 5km	No	Not done	Not done	2	LE 4	2	158	40	16	normal	NA	NR	1	NA	1	NS	1	2	2	3	1	2	1	2	42	16.8	NA	negative	NA	NA	NA	1	NS	3	3	2	1	1	3	1	3	44	17.6	NA	negative	Successful		NA	NA
170	60	Male	Unemployed	Hindu	Literate	Joint	3600	4	III	Kacha	Yes	No	Present	Absent	No change	Decreased	Present	1	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	2	LE 4	1	175	40	13.1	diabetic	NA	NR	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
171	40	Male	Employed	Hindu	Literate	Joint	3800	5	II	Semi-pucca	No	Yes	Present	Absent	No change	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	160	50	19.5	normal	positive	NR	1	NA	1	NS	2	2	3	1	2	2	1	2	51	19.9	NA	negative	NA	NA	NA	1	NS	3	3	3	3	1	2	1	3	52	20.3	NA	negative	Successful		NA	NA
172	39	Male	Employed	Hindu	Literate	Nuclear	4500	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	4	1	2	Absent	Present	Pulmonary positive	1	Intiated	Present	< 5km	No	Done	Not done	3	LE 4	1	168	35	12.4	normal	NA	reactive	1	NA	1	NS	1	4	3	3	1	3	1	2	37	13.1	NA	negative	NA	NA	NA	1	NS	3	2	2	2	1	2	1	3	39	13.8	NA	negative	Successful		NA	NA
173	25	Male	Unemployed	Hindu	Literate	Joint	5100	4	II	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Present	7	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	< 5km	Yes	Done	Done	3	LE 4	2	170	42	14.5	normal	positive	NR	1	NA	1	NS	2	1	2	2	1	3	1	2	44	15.2	NA	positive	NA	NA	NA	1	NS	3	3	2	3	2	2	1	3	46	15.9	NA	negative	Unsucessfull		NA	NA
174	55	Male	Employed	Hindu	Literate	Joint	3900	5	II	Pucca	No	Yes	Present	Absent	No change	Decreased	Present	3	2	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	167	50	17.9	normal	NA	NR	1	positive	1	NS	2	2	3	3	1	2	1	2	52	18.6	NA	negative	NA	NA	NA	1	NS	3	3	2	2	2	3	1	3	54	19.4	NA	negative	Successful		NA	NA
175	40	Male	Unemployed	Hindu	Literate	Joint	3900	4	II	Kacha	Yes	No	Absent	Absent	Decreased	Decreased	Present	4	1,2	2	Absent	Absent	Pulmonary positive	1	Intiated	Present	> 5km	No	Not done	Not done	1	LE 4	1	165	35	12.9	normal	NA	reactive	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
176	55	Male	Employed	Hindu	Literate	Nuclear	4500	4	II	Semi-pucca	Yes	No	Absent	Absent	Decreased	Decreased	Absent	3	3	1	Absent	Absent	Pulmonary positive	1	Not intiated	Absent	> 5km	Yes	Done	Done	4	LE 4	2	169	49	17.2	normal	NA	NR	4	positive	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
177	47	Male	Employed	Hindu	Literate	Nuclear	5000	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Present	4	1	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Done	4	LE 4	1	172	40	13.5	normal	NA	reactive	3	positive	1	NS	2	2	3	3	1	2	1	2	41	13.9	NA	negative	NA	NA	NA	1	NS	3	3	3	3	1	2	1	3	43	14.5	NA	negative	Successful		NA	NA
178	78	Female	Unemployed	Hindu	Illiterate	Joint	2900	6	III	Kacha	No	Yes	Present	Absent	No change	Decreased	Present	1	1	1	Present	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	1	LE 4	2	160	39	15.2	diabetic	NA	NR	1	NA	1	NS	4	2	1	3	1	2	1	2	40	15.6	NA	negative	NA	NA	NA	1	NS	3	2	1	3	2	2	1	3	42	16.4	NA	negative	Successful		NA	NA
179	42	Female	Unemployed	Hindu	Literate	Joint	4000	5	II	Semi-pucca	Yes	Yes	Absent	Absent	Decreased	Decreased	Absent	4	3	1	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Done	2	LE 4	1	158	36	14.4	normal	NA	reactive	3	positive	1	NS	2	4	2	3	1	2	1	2	38	15.2	NA	negative	NA	NA	NA	1	NS	3	2	2	3	2	2	1	3	40	16	NA	negative	Successful		NA	NA
180	22	Male	Unemployed	Muslim	Literate	Joint	3200	4	III	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Not done	Not done	4	LE 4	2	161	40	15.4	normal	positive	NR	1	NA	1	NS	2	3	2	3	2	2	1	2	41	15.8	NA	negative	NA	NA	NA	1	NS	3	3	2	2	1	3	1	3	43	16.6	NA	negative	Successful		NA	NA
181	50	Male	Employed	Muslim	Literate	Nuclear	3900	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Present	5	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Absent	> 5km	Yes	Done	Not done	3	LE 4	2	159	47	17.4	normal	NA	NR	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
182	55	Male	Employed	Hindu	Literate	Joint	4900	5	II	Semi-pucca	Yes	Yes	Present	Absent	No change	Decreased	Absent	7	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	4	LE 4	2	160	44	17.2	normal	NA	NR	1	NA	1	NS	2	4	3	1	2	2	1	2	45	17.6	NA	negative	NA	NA	NA	1	NS	2	3	3	3	2	2	1	2	46	18	NA	negative	Successful		NA	NA
183	6	Male	Unemployed	Hindu	Literate	Nuclear	5000	4	II	Pucca	Yes	No	Absent	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Done	5	M 4	2	100	15	15	normal	NA	NR	4	positive	1	NS	1	4	1	3	1	3	1	2	16	16	NA	EP(CI)	NA	NA	normal	1	NS	2	2	1	2	1	3	1	3	17	17	NA	NA	Successful		NA	normal
184	24	Male	Unemployed	Hindu	Literate	Nuclear	3900	4	II	Pucca	Yes	No	Absent	Absent	Decreased	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	157	40	16.2	normal	NA	NR	3	positive	1	NS	2	3	2	3	1	2	1	2	41	16.6	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	2	1	3	43	17.4	NA	negative	Successful		NA	NA
185	60	Male	Unemployed	Hindu	Literate	Joint	3700	4	III	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Present	7	2	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	1	164	42	15.6	normal	NA	NR	1	NA	1	NS	1	3	2	3	1	3	1	2	43	16	NA	positive	NA	NA	NA	1	NS	2	3	1	3	1	3	1	2	45	16.7	NA	negative	Unsucessfull		NA	NA
186	55	Female	Unemployed	Hindu	Literate	Joint	4100	5	II	Pucca	No	Yes	Absent	Present	Decreased	Decreased	Absent	7	3	1	Absent	Present	Extra-Pulmonary	1	Intiated	Present	> 5km	Yes	Done	Not done	1	LE 4	1	154	37	15.6	normal	NA	reactive	3	positive	1	NS	1	2	2	3	1	3	1	2	38	16	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	3	2	2	1	3	40	16.9	NA	NA	Successful		NA	normal
187	58	Female	Unemployed	Hindu	Literate	Joint	3700	4	III	Kacha	Yes	No	Present	Absent	Decreased	Decreased	Absent	3	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	1	LE 4	2	150	42	18.7	normal	NA	NR	3	positive	1	NS	2	2	2	3	1	2	1	2	43	19.1	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	1	1	3	45	20	NA	negative	Successful		NA	NA
188	38	Female	Unemployed	Hindu	Literate	Nuclear	3900	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	1	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	2	LE 4	2	159	49	19.4	diabetic	positive	NR	1	NA	1	NS	1	2	2	3	1	2	1	2	50	19.8	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	2	1	3	52	20.6	NA	negative	Successful		NA	NA
189	35	Male	Employed	Hindu	Literate	Joint	4100	5	II	Semi-pucca	No	Yes	Present	Absent	No change	Decreased	Present	1,4	1	1	Absent	Absent	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	170	75	26	diabetic	NA	positive	3	positive	1	NS	1	4	3	2	1	3	1	3	76	26.3	NA	negative	NA	NA	NA	1	NS	3	4	3	3	2	2	1	3	76	26.3	NA	negative	Successful		NA	NA
190	26	Female	Unemployed	Hindu	Literate	Joint	5100	5	II	Pucca	Yes	Yes	Absent	Present	No change	Decreased	Absent	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	157	47	19.1	normal	NA	NR	1	NA	1	NS	2	3	2	1	1	2	1	2	48	19.5	NA	EP(CI)	NA	NA	normal	1	NS	2	2	2	1	1	3	1	2	49	19.9	NA	NA	Successful		NA	normal
191	56	Male	Employed	Hindu	Literate	Nuclear	2900	4	III	Kacha	Yes	No	Absent	Present	Decreased	No change	Absent	4	1,2	2	Absent	Present	Extra-Pulmonary	1	Intiated	Present	< 5km	No	Done	Done	4	LE 4	2	169	46	16.1	normal	NA	reactive	3	positive	1	NS	1	2	3	2	2	2	1	2	47	16.5	NA	negative	NA	NA	NA	1	NS	3	2	3	3	1	2	1	3	49	17.2	NA	negative	Successful		NA	NA
192	46	Male	Unemployed	Muslim	Literate	Joint	3900	4	II	Kacha	Yes	No	Absent	Present	Decreased	No change	Present	7	1	2	Present	Absent	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	165	69	25.3	normal	NA	NR	3	positive	1	NS	2	3	1	1	1	3	1	2	70	25.3	NA	EP(CI)	NA	NA	normal	1	NS	2	3	1	3	1	3	1	3	71	26.1	NA	NA	Successful		NA	normal
193	38	Female	Unemployed	Hindu	Literate	Nuclear	5000	5	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	4	3	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	2	149	40	18	normal	positive	reactive	1	NA	1	NS	1	1	2	2	1	2	1	2	41	18.5	NA	negative	NA	NA	NA	1	NS	2	2	1	1	1	3	1	3	42	18.9	NA	negative	Successful		NA	NA
194	42	Female	Employed	Hindu	Literate	Joint	6000	4	II	Pucca	Yes	No	Absent	Present	No change	Decreased	Present	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Absent	< 5km	No	Not done	Not done	4	LE 4	2	158	47	18.8	normal	NA	NR	3	positive	1	NS	1	1	3	3	1	3	1	2	48	19.2	NA	negative	NA	NA	NA	1	NS	3	3	3	2	1	3	1	3	49	19.6	NA	negative	Successful		NA	NA
195	72	Male	Unemployed	Hindu	Illiterate	Joint	3500	5	III	Pucca	Yes	Yes	Absent	Present	Decreased	No change	Present	1	1	2	Present	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	Yes	Done	Done	1	LE 4	2	175	69	22.5	diabetic	NA	NR	3	positive	1	NS	1	2	2	3	1	2	1	2	69	22.5	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	3	1	2	1	3	70	22.9	NA	NA	Successful		NA	normal
196	70	Male	Unemployed	Muslim	Literate	Joint	3900	4	II	Semi-pucca	Yes	No	Absent	Present	No change	Decreased	Absent	3	1	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	No	Not done	Not done	2	LE 4	1	160	38	14.8	normal	NA	NR	3	positive	1	NS	3	3	2	3	1	3	1	2	39	15.2	NA	EP(CI)	NA	NA	normal	1	NS	3	2	2	3	2	2	1	3	40	15.6	NA	NA	Successful		NA	normal
197	34	Male	Employed	Hindu	Literate	Nuclear	5900	4	II	Pucca	Yes	No	Absent	Absent	Decreased	Decreased	Absent	7	1	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Absent	> 5km	Yes	Done	Done	5	M 4	2	164	54	20.1	normal	NA	NR	3	positive	1	NS	2	1	3	2	1	3	1	2	55	20.4	NA	EP(CI)	NA	NA	normal	1	NS	3	2	3	3	1	3	1	3	57	21.2	NA	NA	Successful		NA	normal
198	22	Male	Unemployed	Muslim	Literate	Nuclear	6000	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	161	48	18.5	normal	NA	NR	3	positive	1	NS	1	1	2	1	1	3	1	2	49	18.9	NA	negative	NA	NA	NA	1	NS	3	2	2	3	1	2	1	3	51	19.7	NA	negative	Successful		NA	NA
199	35	Female	Unemployed	Hindu	Literate	Joint	4100	5	II	Kacha	No	Yes	Absent	Present	No change	Decreased	Absent	4	3	1	Absent	Absent	Extra-Pulmonary	1	Intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	2	145	45	21.4	normal	NA	reactive	3	positive	1	NS	2	4	2	1	2	2	1	2	46	21.9	NA	negative	NA	NA	NA	1	NS	3	3	2	2	1	2	1	3	48	22.8	NA	negative	Successful		NA	NA
200	37	Female	Unemployed	Hindu	Literate	Nuclear	5100	4	II	Pucca	Yes	No	Absent	Present	No change	Decreased	Present	7	1	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	1	160	42	16.4	normal	NA	NR	1	positive	1	NS	3	1	1	3	1	2	1	2	43	16.8	NA	negative	NA	NA	NA	1	NS	2	2	2	3	2	2	1	3	45	17.6	NA	negative	Successful		NA	NA

201	45	Male	Employed	Hindu	Literate	Joint	4500	4	II	Semi-pucca	Yes	No	Absent	Present	No change	Decreased	Present	7	1	1	Absent	Absent	Extra-Pulmonary	1	Not intiated	Present	> 5km	No	Done	Not done	4	LE 4	2	173	48	16	diabetic	NA	NR	3	positive	1	NS	1	4	3	1	1	3	1	2	49	16.4	NA	EP(CI)	NA	NA	normal	1	NS	2	2	2	2	1	3	1	3	51	17	NA	NA	Successful		NA	normal
202	20	Female	Unemployed	Hindu	Literate	Nuclear	3900	4	II	Semi-pucca	Yes	No	Present	Absent	Decreased	No change	Present	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	162	49	18.7	normal	positive	NR	1	NA	1	NS	2	1	2	3	2	2	1	2	50	19.1	NA	negative	NA	NA	NA	1	NS	3	2	2	3	2	2	1	3	51	19.4	NA	negative	Successful		NA	NA
203	23	Female	Unemployed	Muslim	Literate	Nuclear	4000	4	II	Pucca	Yes	No	Absent	Present	No change	Decreased	Absent	7	3	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	152	55	23.8	normal	NA	NR	3	positive	1	NS	2	2	2	3	2	2	1	2	56	24.2	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	3	2	2	1	3	57	24.7	NA	NA	Successful		NA	normal
204	49	Male	Employed	Hindu	Literate	Nuclear	7600	4	I	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	1,4	2	2	Absent	Present	Pulmonary positive	1	Intiated	Present	< 5km	No	Done	Not done	6	M 4	2	158	45	18	diabetic	NA	reactive	1	NA	1	NS	1	2	3	2	1	3	1	2	46	18.7	NA	negative	NA	NA	NA	1	NS	2	4	3	3	1	3	1	3	47	18.8	NA	negative	Successful		NA	NA
205	48	Female	Unemployed	Hindu	Literate	Nuclear	3900	4	II	Semi-pucca	No	No	Absent	Present	Decreased	Decreased	Absent	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Done	2	LE 4	2	160	54	21.1	normal	NA	NR	3	positive	1	NS	2	2	2	3	2	2	1	2	55	21.5	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	2	1	3	57	22.3	NA	negative	Successful		NA	NA
206	63	Female	Unemployed	Hindu	Illiterate	Nuclear	4000	4	II	Kacha	Yes	No	Present	Absent	Decreased	Decreased	Absent	4	1	1	Present	Absent	Pulmonary positive	1	Intiated	Present	< 5km	No	Not done	Not done	1	LE 4	2	155	30	12.5	normal	positive	reactive	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
207	40	Male	Employed	Hindu	Literate	Joint	5200	5	II	Semi-pucca	No	Yes	Present	Absent	No change	Decreased	Present	4	1,2	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Done	4	LE 4	2	166	42	15.2	normal	positive	reactive	1	NA	1	NS	1	2	3	3	1	3	2	2	43	15.6	NA	negative	NA	NA	NA	1	NS	3	4	3	2	1	3	1	3	45	16.3	NA	negative	Successful		NA	NA
208	15	Male	Unemployed	Hindu	Literate	Nuclear	3900	4	II	Semi-pucca	Yes	No	Absent	Present	Decreased	No change	Absent	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Done	2	LE 4	2	150	47	20.9	normal	NA	NR	3	positive	1	NS	3	1	2	2	1	3	2	2	48	21.3	NA	negative	NA	NA	NA	1	NS	3	2	2	2	1	3	1	3	50	22.2	NA	negative	Successful		NA	NA
209	33	Male	Employed	Hindu	Literate	Joint	6500	5	II	Pucca	Yes	Yes	Absent	Present	No change	Decreased	Present	7	1	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	No	Done	Not done	4	LE 4	2	167	39	14	normal	NA	NR	3	positive	1	NS	1	2	3	1	1	3	1	2	40	14.3	NA	EP(CI)	NA	NA	normal	1	NS	3	4	3	2	1	3	1	3	42	15.1	NA	NA	Successful		NA	normal
210	33	Male	Employed	Muslim	Literate	Nuclear	4500	4	II	Pucca	Yes	No	Absent	Present	No change	Decreased	Absent	7	2	2	Absent	Present	Extra-Pulmonary	1	Not intiated	Absent	< 5km	No	Done	Not done	3	LE 4	2	162	40	15.2	normal	NA	NR	1	positive	1	NS	2	3	3	1	2	3	2	2	40	15.2	NA	EP(CI)	NA	NA	normal	1	NS	3	2	3	2	1	3	1	3	44	16.8	NA	NA	Successful		NA	normal
211	38	Male	Employed	Hindu	Literate	Joint	4900	5	II	Pucca	Yes	Yes	Present	Absent	No change	Decreased	Absent	4	1,2	2	Absent	Present	Pulmonary positive	1	Intiated	Present	> 5km	Yes	Done	Done	3	LE 4	1	168	39	13.8	normal	positive	reactive	1	NA	1	NS	1	4	3	3	1	3	1	2	41	14.5	NA	negative	NA	NA	NA	1	NS	3	4	3	3	2	3	1	3	43	15.2	NA	negative	Successful		NA	NA
212	32	Male	Employed	Hindu	Literate	Joint	5000	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	5	M 4	2	165	44	16.2	normal	positive	NR	1	NA	1	NS	1	3	3	2	1	2	1	2	45	16.5	NA	negative	NA	NA	NA	1	NS	3	3	3	3	2	2	1	2	46	16.9	NA	negative	Successful		NA	NA
213	40	Male	Unemployed	Hindu	Literate	Nuclear	4100	4	II	Semi-pucca	Yes	Yes	Present	Absent	Decreased	Decreased	Absent	7	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Absent	< 5km	Yes	Done	Done	3	LE 4	1	150	35	15.6	normal	positive	NR	1	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
214	45	Male	Unemployed	Hindu	Literate	Nuclear	3600	3	II	Pucca	Yes	No	Present	Absent	Decreased	No change	Absent	3	2	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	159	58	22.9	normal	NA	NR	1	NA	1	NS	2	2	2	3	2	2	1	2	59	23.3	NA	negative	NA	NA	NA	1	NS	2	3	2	3	2	2	1	3	60	23.7	NA	negative	Successful		NA	NA
215	42	Male	Employed	Hindu	Literate	Joint	5900	5	II	Semi-pucca	Yes	Yes	Present	Absent	No change	Decreased	Absent	4	1,2	2	Present	Absent	Pulmonary positive	1	Intiated	Present	> 5km	No	Done	Done	4	LE 4	1	176	43	13.9	normal	positive	reactive	1	NA	1	NS	2	2	3	1	1	3	1	2	44	14.2	NA	negative	NA	NA	NA	1	NS	2	4	3	2	1	3	1	3	46	14.9	NA	negative	Successful		NA	NA
216	27	Female	Unemployed	Hindu	Literate	Nuclear	4200	4	II	Pucca	Yes	No	Present	Absent	Decreased	Decreased	Absent	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	2	150	37	16.4	normal	NA	NR	1	NA	1	NS	2	2	2	3	1	2	1	2	38	16.9	NA	negative	NA	NA	NA	1	NS	3	3	2	2	1	2	1	3	40	17.8	NA	negative	Successful		NA	NA
217	19	Male	Unemployed	Hindu	Literate	Nuclear	3900	4	II	Kacha	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Done	Done	4	LE 4	2	161	60	23.1	normal	NA	NR	1	NA	1	NS	1	3	2	2	1	2	1	2	60	23.1	NA	negative	NA	NA	NA	1	NS	2	2	1	3	1	3	1	3	62	23.9	NA	negative	Successful		NA	NA
218	32	Male	Unemployed	Hindu	Literate	Joint	3900	5	II	Kacha	No	Yes	Present	Absent	No change	Decreased	Absent	7	2	2	Absent	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	165	40	14.7	normal	positive	NR	1	NA	1	NS	2	2	2	3	1	3	1	2	41	15.1	NA	negative	NA	NA	NA	1	NS	3	3	1	1	2	1	1	3	43	15.8	NA	negative	Successful		NA	NA
219	57	Male	Employed	Hindu	Literate	Nuclear	5600	4	II	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Present	3	1	1	Present	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Not done	Not done	5	M 4	2	169	45	15.8	normal	NA	NR	1	NA	1	NS	2	1	3	3	1	3	1	2	46	16.1	NA	negative	NA	NA	NA	1	NS	3	2	3	3	2	3	1	3	48	16.8	NA	negative	Successful		NA	NA
220	55	Male	Employed	Hindu	Literate	Joint	6900	4	II	Pucca	Yes	No	Absent	Absent	Decreased	Decreased	Absent	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	4	LE 4	2	172	45	15.2	normal	NA	NR	4	positive	1	NS	2	1	3	1	1	2	1	2	46	15.5	NA	EP(CI)	NA	NA	normal	1	NS	2	3	3	3	2	2	2	2	48	16.2	NA	NA	Unsucessfull		NA	normal
221	21	Female	Unemployed	Hindu	Literate	Joint	4900	5	II	Semi-pucca	Yes	Yes	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Not done	Not done	3	LE 4	2	150	35	15.6	normal	NA	NR	3	positive	1	NS	1	1	2	2	1	1	1	2	36	16	NA	EP(CI)	NA	NA	normal	1	NS	3	2	2	3	2	2	1	3	38	16.9	NA	NA	Unsucessfull		NA	normal
222	39	Female	Unemployed	Hindu	Literate	Nuclear	4100	4	II	Pucca	Yes	No	Present	Absent	Decreased	No change	Absent	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	1	LE 4	2	158	49	19.6	normal	NA	NR	3	positive	1	NS	2	2	1	1	1	1	1	2	50	20	NA	negative	NA	NA	NA	1	NS	3	2	2	3	1	2	1	2	52	20.8	NA	negative	Successful		NA	NA
223	55	Female	Unemployed	Hindu	Literate	Joint	5900	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	2	LE 4	2	165	40	14.7	normal	NA	NR	4	positive	1	NS	1	3	2	3	1	2	2	2	40	14.7	NA	EP(CI)	NA	NA	normal	1	NS	4	2	1	3	1	2	1	3	42	15.4	NA	NA	Unsucessfull		NA	normal
224	35	Male	Employed	Hindu	Literate	Nuclear	4900	4	II	Semi-pucca	Yes	No	Present	Absent	Decreased	No change	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	5	M 4	2	163	45	16.9	normal	NA	NR	4	positive	1	NS	3	4	3	3	1	3	1	2	46	17.3	NA	EP(CI)	NA	NA	normal	1	NS	3	2	3	1	2	1	1	3	48	18.1	NA	NA	Unsucessfull		NA	normal
225	27	Female	Unemployed	Hindu	Literate	Nuclear	5000	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	1	150	35	15.6	normal	NA	NR	4	positive	1	NS	3	4	2	1	2	2	1	2	36	16	NA	EP(CI)	NA	NA	normal	1	NS	2	3	2	2	2	2	1	3	38	16.9	NA	NA	Unsucessfull		NA	normal
226	34	Male	Employed	Hindu	Literate	Joint	6000	5	II	Kacha	No	Yes	Present	Absent	No change	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	176	60	19.4	normal	positive	NR	1	NA	1	NS	1	2	3	1	1	3	1	2	61	19.7	NA	negative	NA	NA	NA	1	NS	2	4	3	3	1	3	1	3	63	20.3	NA	negative	Successful		NA	NA
227	28	Male	Unemployed	Hindu	Literate	Joint	3900	4	II	Kacha	Yes	No	Present	Absent	Decreased	No change	Present	7	2	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	2	162	64	24.4	normal	positive	NR	1	NA	1	NS	2	1	1	1	2	2	1	2	65	24.8	NA	negative	NA	NA	NA	1	NS	1	3	2	3	2	2	2	3	66	25.1	NA	negative	Successful		NA	NA
228	17	Female	Unemployed	Hindu	Literate	Nuclear	4900	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	5	M 4	2	155	45	18.7	normal	NA	NR	4	positive	1	NS	2	2	2	2	1	2	1	2	46	19.1	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	3	2	2	1	3	47	19.6	NA	NA	Unsucessfull		NA	normal
229	78	Male	Unemployed	Hindu	Illiterate	Joint	2100	4	IV	Kacha	Yes	No	Present	Absent	No change	Decreased	Absent	3	1	1	Present	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Done	Not done	1	LE 4	2	160	38	14.8	normal	NA	NR	4	positive	1	NS	2	2	2	1	2	2	1	2	39	15.2	NA	EP(CI)	NA	NA	normal	1	NS	3	3	1	3	1	2	1	2	41	16	NA	NA	Unsucessfull		NA	normal
230	66	Male	Unemployed	Hindu	Literate	Nuclear	3900	3	II	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Present	3	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	2	LE 4	2	166	40	14.5	normal	positive	NR	1	NA	1	NS	4	3	2	1	2	2	2	2	41	14.9	NA	negative	NA	NA	NA	1	NS	5	2	2	2	1	1	1	3	43	15.6	NA	negative	Successful		NA	NA
231	65	Female	Unemployed	Hindu	Illiterate	Joint	3800	5	II	Kacha	No	Yes	Present	Absent	No change	Decreased	Absent	3	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	1	LE 4	2	158	44	17.6	normal	NA	NR	1	positive	1	NS	5	4	2	3	1	2	1	2	45	18	NA	negative	NA	NA	NA	1	NS	3	3	2	3	2	2	1	3	47	18.8	NA	negative	Successful		NA	NA
232	35	Male	Employed	Hindu	Literate	Nuclear	4500	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Present	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	2	LE 4	2	178	60	18.9	normal	NA	NR	1	positive	1	NS	1	2	3	1	1	3	1	2	60	18.9	NA	negative	NA	NA	NA	1	NS	3	2	3	2	1	3	1	3	61	19.3	NA	negative	Successful		NA	NA
233	19	Male	Unemployed	Hindu	Literate	Nuclear	4400	1	IV	Semi-pucca	3	No	Present	Absent	No change	Increased	Absent	7	2	2	Present	Absent	Pulmonary positive	1	Not intiated	Absent	> 5km	Yes	Done	Not done	4	LE 4	2	164	59	21.9	normal	positive	NR	1	NA	1	NS	1	1	1	3	1	3	1	2	60	22.3	NA	negative	NA	NA	NA	1	NS	2	2	2	3	2	2	1	2	61	22.7	NA	negative	Successful		NA	NA
234	50	Female	Unemployed	Hindu	Literate	Joint	3900	5	II	Kacha	No	Yes	Absent	Absent	Decreased	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	1	LE 4	1	150	34	15.1	normal	NA	NR	1	positive	1	NS	2	2	2	1	2	2	1	2	36	16	NA	EP(CI)	NA	NA	normal	1	NS	3	2	2	3	1	1	1	3	38	16.9	NA	NA	Unsucessfull		NA	normal
235	21	Male	Unemployed	Hindu	Literate	Nuclear	5900	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Not done	Not done	6	M 4	2	169	50	17.5	normal	NA	NR	3	positive	1	NS	2	2	1	3	1	3	1	2	51	17.9	NA	negative	NA	NA	NA	1	NS	3	2	2	3	1	3	1	3	53	18.6	NA	negative	Successful		NA	NA
236	18	Female	Unemployed	Hindu	Literate	Joint	3500	4	III	Kacha	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	< 5km	Yes	Done	Not done	2	LE 4	1	160	36	14.1	normal	positive	NR	1	NA	1	NS	2	2	2	3	1	2	1	1	37	14.5	NA	negative	NA	NA	NA	1	NS	4	2	2	3	2	2	1	3	39	15.2	NA	negative	Successful		NA	NA
237	22	Female	Unemployed	Hindu	Literate	Nuclear	4500	4	II	Semi-pucca	Yes	No	Absent	Present	Decreased	No change	Absent	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	< 5km	No	Done	Not done	4	LE 4	2	158	42	16.8	normal	NA	NR	1	NA	1	NS	3	2	1	3	2	2	1	2	43	17.2	NA	negative	NA	NA	NA	1	NS	2	3	1	3	2	2	2	2	44	17.6	NA	negative	Successful		NA	NA
238	40	Male	Employed	Hindu	Literate	Nuclear	6000	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	1	1	Present	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	4	LE 4	2	170	48	16.6	normal	NA	NR	1	NA	1	NS	2	1	3	1	1	3	1	2	48	16.6	NA	negative	NA	NA	NA	1	NS	2	2	3	2	1	3	1	2	49	17	NA	negative	Successful		NA	NA
239	28	Male	Employed	Hindu	Literate	Nuclear	5900	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	1	Present	Absent	Pulmonary positive	1	Not intiated	Absent	> 5km	Yes	Done	Done	4	LE 4	2	169	46	16.1	normal	positive	NR	1	NA	1	NS	1	4	3	1	1	3	1	2	47	16.5	NA	negative	NA	NA	NA	1	NS	3	2	3	1	1	1	1	3	48	16.8	NA	negative	Successful		NA	NA
240	65	Male	Unemployed	Hindu	Illiterate	Joint	3800	5	II	Semi-pucca	No	Yes	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	< 5km	Yes	Done	Not done	2	LE 4	2	180	40	12.3	normal	NA	NR	3	positive	1	NS	5	2	2	3	2	2	1	2	41	12.7	NA	negative	NA	NA	NA	1	NS	5	2	2	1	2	2	1	3	43	13.3	NA	negative	Successful		NA	NA
241	85	Female	Unemployed	Hindu	Illiterate	Joint	5100	6	II	Kacha	No	Yes	Absent	Absent	Decreased	Decreased	Absent	7	1	1	Present	Absent	Pulmonary positive	1	Not intiated	Present	< 5km	Yes	Done	Not done	1	LE 4	1	156	39	16	normal	NA	NR	3	positive	1	NS	5	2	2	3	2	2	1	2	40	16.4	NA	negative	NA	NA	NA	1	NS	5	2	2	3	2	2	1	3	41	16.8	NA	negative	Successful		NA	NA
242	74	Male	Unemployed	Hindu	Illiterate	Nuclear	3800	3	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	162	41	15.6	normal	NA	NR	3	positive	1	NS	4	3	2	1	1	1	2	2	41	15.6	NA	negative	NA	NA	NA	1	NS	4	2	2	1	1	2	1	3	43	16.4	NA	negative	Successful		NA	NA
243	55	Male	Employed	Hindu	Literate	Nuclear	7600	4	I	Pucca	Yes	No	Present	Absent	Decreased	No change	Absent	7	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	6	M 4	2	169	69	24.2	normal	NA	NR	3	positive	1	NS	2	1	3	2	1	3	1	2	69	24.2	NA	EP(CI)	NA	NA	normal	1	NS	2	3	3	2	1	3	1	3	70	24.5	NA	NA	Unsucessfull		NA	normal
244	24	Female	Unemployed	Hindu	Literate	Joint	5500	4	II	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	150	40	17.8	normal	NA	NR	4	positive	1	NS	1	1	2	3	2	2	1	2	41	18.2	NA	EP(CI)	NA	NA	normal	1	NS	2	2	1	3	2	2	1	3	43	19.1	NA	NA	Unsucessfull		NA	normal

245	34	Female	Unemployed	Hindu	Literate	Nuclear	4900	4	II	Kacha	Yes	No	Absent	Absent	No change	No change	Absent	7	3	1	Present	Absent	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	3	LE 4	1	158	39	15.6	normal	NA	NR	1	NA	1	NS	1	1	2	1	1	1	1	2	40	16	NA	negative	NA	NA	NA	1	NS	2	2	2	3	2	1	1	3	42	16.8	NA	negative	Successful		NA	NA
246	41	Male	Employed	Hindu	Literate	Joint	5100	5	II	Kacha	No	Yes	Present	Absent	No change	Decreased	Absent	7	1	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	170	59	20.4	normal	NA	NR	3	positive	1	NS	2	1	3	3	1	3	1	2	60	20.8	NA	negative	NA	NA	NA	1	NS	3	4	3	1	1	3	1	3	62	21.5	NA	negative	Successful		NA	NA
247	46	Male	Unemployed	Hindu	Literate	Joint	3900	4	II	Semi-pucca	Yes	No	Absent	Absent	Decreased	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	2	LE 4	1	160	41	16	normal	NA	NR	1	NA	1	NS	1	4	2	2	1	1	1	2	42	16.4	NA	negative	NA	NA	NA	1	NS	3	2	2	3	2	1	1	3	44	17.2	NA	negative	Successful		NA	NA
248	28	Female	Unemployed	Hindu	Literate	Nuclear	5100	4	II	Pucca	Yes	No	Present	Absent	Decreased	No change	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	No	Not done	Not done	2	LE 4	2	154	42	17.7	normal	positive	NR	1	NA	1	NS	1	1	2	1	2	1	1	2	43	18.1	NA	negative	NA	NA	NA	1	NS	2	2	2	1	2	2	1	3	45	19	NA	negative	Successful		NA	NA
249	85	Male	Unemployed	Hindu	Illiterate	Joint	5000	5	II	Semi-pucca	Yes	Yes	Present	Absent	Decreased	Decreased	Absent	1,3	1	1	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	1	LE 4	1	175	39	12.7	diabetic	NA	NR	3	positive	1	NS	5	2	2	3	1	2	1	2	40	13.1	NA	negative	NA	NA	NA	1	NS	4	3	2	1	2	2	2	3	42	13.7	NA	negative	Successful		NA	NA
250	48	Female	Unemployed	Hindu	Literate	Nuclear	6100	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Absent	> 5km	Yes	Done	Done	4	LE 4	2	160	49	19.1	normal	NA	NR	3	positive	1	NS	2	1	2	2	1	1	1	2	49	19.1	NA	negative	NA	NA	NA	1	NS	3	4	2	3	2	1	1	3	50	19.5	NA	negative	Successful		NA	NA
251	63	Male	Unemployed	Muslim	Literate	Joint	4700	4	II	Kacha	Yes	No	Absent	Absent	Decreased	Decreased	Absent	3	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	1	LE 4	2	161	40	15.4	normal	NA	NR	4	positive	1	NS	1	2	2	1	1	1	1	2	41	15.8	NA	EP(CI)	NA	NA	normal	1	NS	3	1	1	1	2	1	1	3	43	16.6	NA	NA	Unsucessfull		NA	normal
252	25	Male	Employed	Hindu	Literate	Nuclear	4900	4	II	Pucca	Yes	No	Present	Absent	No change	No change	Present	7	1	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	5	M 4	2	163	46	17.3	normal	positive	NR	1	NA	1	NS	2	2	3	3	1	3	1	2	47	17.7	NA	negative	NA	NA	NA	1	NS	3	2	3	3	1	3	1	3	49	18.4	NA	negative	Successful		NA	NA
253	50	Female	Unemployed	Hindu	Literate	Joint	5800	5	II	Semi-pucca	Yes	Yes	Absent	Present	No change	No change	Present	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Absent	> 5km	Yes	Done	Done	2	LE 4	2	146	46	21.6	normal	NA	NR	4	positive	1	NS	1	2	2	1	1	1	1	2	46	21.6	NA	EP(CI)	NA	NA	normal	1	NS	3	3	2	3	2	2	1	3	48	22.5	NA	NA	Successful		NA	normal
254	17	Female	Unemployed	Hindu	Literate	Nuclear	3900	4	II	Pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	4	LE 4	2	155	35	14.6	normal	NA	NR	3	positive	1	NS	1	1	2	2	1	1	1	2	36	15	NA	negative	NA	NA	NA	1	NS	3	2	2	3	2	2	1	2	38	15.8	NA	negative	Successful		NA	NA
255	70	Male	Unemployed	Muslim	Illiterate	Joint	3900	5	II	Kacha	No	Yes	Present	Absent	No change	Decreased	Absent	3	1	2	Present	Absent	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	2	150	35	15.6	normal	NA	NR	3	0	0	0	0	0	0	0	0	0	0	0			0	Lost to follow up	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
256	30	Male	Employed	Hindu	Literate	Nuclear	3000	4	III	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	2	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Done	3	LE 4	2	169	45	15.8	normal	NA	NR	3	positive	1	NS	3	1	3	3	1	3	1	2	46	16.1	NA	negative	NA	NA	NA	1	NS	3	2	3	3	1	3	1	3	48	16.8	NA	negative	Successful		NA	NA
257	29	Female	Unemployed	Hindu	Literate	Joint	4100	5	II	Pucca	Yes	Yes	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	2	LE 4	2	148	39	17.8	normal	NA	NR	1	positive	1	NS	2	4	1	1	1	1	1	2	40	18.3	NA	negative	NA	NA	NA	1	NS	3	2	2	3	1	1	1	2	42	19.2	NA	negative	Successful		NA	NA
258	70	Female	Unemployed	Hindu	Illiterate	Joint	3900	5	II	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Absent	3	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Present	> 5km	Yes	Done	Not done	1	LE 4	1	160	39	15.2	normal	NA	NR	1	NA	1	NS	5	2	2	1	1	2	1	2	40	15.6	NA	negative	NA	NA	NA	1	NS	5	2	2	1	2	2	1	3	42	16.4	NA	negative	Successful		NA	NA
259	16	Female	Unemployed	Hindu	Literate	Nuclear	4900	4	II	Pucca	Yes	No	Absent	Present	No change	No change	Absent	7	3	2	Present	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Done	6	M 4	2	150	39	17.3	normal	NA	NR	3	positive	1	NS	1	4	1	1	1	1	1	2	40	17.3	NA	EP(CI)	NA	NA	normal	1	NS	1	2	2	1	1	1	1	3	41	18.2	NA	NA	Successful		NA	normal
260	80	Female	Employed	Hindu	Illiterate	Joint	2800	4	II	Kacha	Yes	No	Absent	Present	No change	No change	Present	7	3	1	Absent	Present	Extra-Pulmonary	1	Not intiated	Present	> 5km	Yes	Done	Not done	1	LE 4	1	152	35	15.1	normal	NA	NR	4	positive	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0
261	62	Male	Unemployed	Hindu	Literate	Nuclear	5000	3	IV	Semi-pucca	Yes	No	Present	Absent	No change	Decreased	Absent	7	3	1	Absent	Present	Pulmonary positive	1	Not intiated	Absent	> 5km	Yes	Done	Done	2	LE 4	1	144	40	19.3	normal	NA	NR	4	positive	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Unsucessfull		0	0

Introduction

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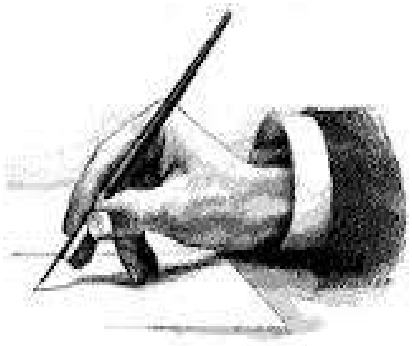
Bibliography



Annexures