Knowledge, Attitude and Practice of Tuberculosis Patients in Lunglei District

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CERTIFICATE

This is to certify that the research in '**Knowledge, Attitude and Practice of Tuberculosis Patients in Lunglei District'** submitted by Lalruatkimi for the partial fulfilment of the Bachelor of Social Work is carried out under my guidance and incorporates the student's bonafide research and this has not been submitted for any award for any degree in this or any other university or institution of learning.

Date: 27 October 2023

Place : Lunglei

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(LALRUATKIMI KHAWLHRING)

CONTENT

Chapter		Page no

LIST OF TABLES

List of Abbreviation

AIDS- Acquired Immuno Deficiency Syndrome

BCG- Bacillus Calmette–Guérin

BMCR- Black Methodist for Church Renewal

CTD- Central TB Division

CBNAAT-Cartridge Based Nucleic Acid Amplification Test

DOTS- Directly Observed Treatment Short Course

DANIDA- Danish International Development Agency

DFID-Department for International Development

DBT- Direct Benefit Transfer

DNA-Deoxyribonucleic acid

DTC- District Tuberculosis Centre

GFATM- Global Fund to Fight AIDS, Tuberculosis and Malaria

GDF- Global Drug Facility (GDF)

HIV- Human Immuno Deficiency Virus

ICMP- Internet Control Message Protocol

IDU- Injecting Drug User

KAP-Knowledge, Attitude and Practices

LSSP-PCR- Low-stringency single specific primer PCR

MDR-TB- Multi Drug Resistant TB

MTB- Mycobacterium tuberculosis (MTB)

NTI- National Tuberculosis Institute

NTCP- National Tobacco Control Programme

NTP- National Tuberculosis Programme

NTEP- National Tuberculosis Elimination Programme (NTEP).

PHC- Public Health Centre

PMDT- Programmatic Management of Drug Resistant TB

RNTCP- Reveised National Tuberculosis Control Programme

RIF- Reduction in force**.**

RR-TB- rifampicin resistant TB

RNA- ribonucleic acid

SIDA- Swedish International Development Cooperation Agency

SCC- Standard short-course chemotherapy

TB- Tuberculosis

TDR-TB - Totally drug-resistant tuberculosis

UNICEF- United Nations Children's Fund

USAID- United States Agency for International Development

WHIO- World Health Organization

XDR-TB- Xtreme Drug Resistant TB

CHAPTER – 1

1. Introduction

Tuberculosis is an infectious disease caused by Mycrobacterium tuberculosis, and rarely by other organisms of the "tuberculosis complex". Tuberculosis is an airborne infection and spreads through air from sputum positive person ,the primary locus of infection in an individual is in lungs and if this locus of infection is in active stage in lungs and spread to other parts of the body through lymphatic fluid where it may become active infection site then it is called Extra – Pulmonary tuberculosis . Tuberculosis (TB) remains a major public health problem in India . TB is one of the leading causes of mortality in India-killing-2 persons every three minute, nearly 1,000 every day. In India, two people become sputum-positive for TB every minute. One sputum-positive patient can infect 10-15 individuals a year. (CTD Annual status report TB India 2014).

Tuberculosis is called Koch disease because tuberculosis bacteria were discovered by German Scientist and Physician , Robert Koch on 23rd March 1882.Later Robert Koch was awarded Nobel Prize in medicine for his research work on tuberculosis Century later in 1992 WHO and international Union Against Tuberculosis and Lund Disease (INTALD) started the event of TB day on 23rd March. The event of TB day is organized to educate public about TB disease and create awareness among policy makers and general public about health and economic consequences of TB.

Tuberculosis had two challenge in the history and in present, which are its diagnosis and treatment. Diagnosis of Tuberculosis was challenge from Hippocrates time because the cause of the disease was not known till mycobacterium a bacterium was discovered in 1882 by scientist Robert Koch. Same was the case with treatment of disease, exact and specific treatment was not known in that time and treatment ranged from rest and health diet to isolation of patient in sanatorium, breakthrough came with discovery of antibiotic Streptomycin in 1940 but it again had setback because micro-organism developed resistance to streptomycin. In 1950"s another antibiotic Isoniazid was discovered which was used in combination with streptomycin and antibiotic resistance was reduced and then Rifampicin, Pyrizinamide and Ethambutol were discovered in the following years, these five drug became the first line treatment drugs for tuberculosis treatment. Treatment of tuberculosis is combination of drugs because with single drug these organisms develop resistance to antibiotic very easily.

If we consider the present scenario treatment of tuberculosis is again emerging as a challenge with increase in TB cases in HIV positive individuals and another challenge of increase in cases of MDR-TB, 3 XDR-TB and TDR-TB. The emergence of drug resistant TB is the biggest challenge for public health. Drug resistant TB is posing a threat of reversal to 1940"s when there was no treatment available for TB.

1.1 Global Scenario of TB

Global Scenario of TB Estimated 9 million people developed Tuberculosis in 2013; out of this 1.1 million were HIV positive. This translates into 13% of total TB cases. No of deaths due to TB in 2013 were 1.5 million, from total TB death 80,000 were children. Off the total cases and death because of TB disease, 40% were females while male counted for the larger chunk of 60

%. Incidence of Estimated TB case in India is 125-299 (Global TB Report-2014 WHO) Globally estimated 480 000 have developed MDR-TB out of which estimated 3% are new cases and 20% are previously treated TB cases. In this estimate of MDR-TB cases, estimated 9% had XDR-TB. More than half of the global TB burden is in India, China and Russian federation. (Global TB Report-2014 WHO) .

It is estimated that globally, approximately 9.9 million people were infected and reported TB during the year 2020. It is about 127 reported cases at the population of 1,00,000. In the year 2020, thirty countries contributed about 86% of the TB cases worldwide . Out of these thirty countries,eight countries are accountable for two-third number of TB cases including :India with 26% cases,China 8.5% cases,Indonesia have 8.4% cases,Philipines 6.0 cases, Pakistan 5.8%, Nigeria 4.6%, Bangladesh 3.6% and South Africa 3.3% cases.It is estimation that during the year 2019,there were approximately 1.2 million death due to HIV and about 1.3 million deaths during the year 2020. In India, there is about 34% of deaths due to TB, HIV-negative and HIV-positive infected person.

1.2 National Scenario of TB

In India, TB has been mentioned in the Vedas and the old Ayurvedic scriptures. Historically speaking, fight against TB in India can be broadly classified into three periods: early period, before the discoveries of x-ray and chemotherapy; post-independence period, during which nationwide TB control programs were initiated and implemented; and the current period, during which the ongoing WHO-assisted TB control program is in place.

1.2.1   Early period of TB:

It was marked with non-availability of any chemotherapeutic agents, absence of diagnostic x-ray facilities and lack of any TB control program. This period lasted around middle of the 20th century. During this period, as no drug or treatments with combinations of drugs were available/ effective against TB, a sanatorium movement originated in Europe and quickly spread worldwide. Popular rationale for sanatoria was that a regimen of rest, good nutrition, open fresh air and high altitude offered the best chance that the sufferer's immune system would "wall off" pockets of pulmonary tuberculosis (TB) infection. In 1863, for the treatment of tuberculosis, Hermann Brehmer opened the world's first sanatorium named Brehmerschen Heilanstalt für Lungenkranke in the city of Görbersdorf (Sokołowsko), Silesia (now Poland).

In India, the first open air sanatorium for treatment and isolation of TB patients was founded in 1906 in Tiluania, near Ajmer city of Rajasthan, followed by the first TB dispensary in Bombay in 1917. By 1925, chest radiology started playing diagnostic role in detecting deep-seated areas of TB consolidation. By 1945, the capability of this apparatus was enhanced to embody the MMR (mass miniature radiography) version. The first genuine success against TB was in immunizing against tuberculosis. Developed from attenuated bovine strain of tuberculosis by Albert Calmette and Camille Guerin in 1906 was BCG (bacillus of Calmette and Guerin); it was first used on humans in France on July 18, 1921. In 1948, with support from WHO and UNICEF, a BCG vaccine production center in Guindy, Madras (now Chennai), was set up. In 1951, India started a mass BCG campaign to control TB. This was the first nationwide campaign against TB ; and for the first time in the history of India, message of health and prevention of disease was taken to the remotest parts of the country.

1.2.2. Post-independence initial nationwide TB control programs :

This period can be conveniently subdivided into the following two phases:

District TB program: In 1961, District Tuberculosis Program was prepared by the Indian government, and Anantapur district in Andhra Pradesh state was the first model district TB center (DTC). This program was aimed at integration of TB control schemes with the existing government health services to reduce the TB problem in the community as economically as possiblen. Shortly after establishing the Anantapur DTC, it became evident that although case-finding could be done at any place without difficulty, the major problem in the fight against TB was that of keeping the patients on continuous treatment until cure was achieved. Using this district TB center model, in 1962, the Indian government launched the National TB Control Program (NTCP).

Era of short – course chemotherapy: In the middle of the 20th century, around the time India gained independence in 1947, effective drugs against TB started becoming available (Streptomycin: 1944, PAS: 1946, Thiacetazone: 1950, Isoniazid: 1952 and Rifampicin: 1966). In 1956, under the auspices of the Indian Council of Medical Research (ICMR), the government of Chennai state, the WHO and the British Medical Research Council (BMRC), the Indian government established the Tuberculosis Research Center (TRC) in Chennai. This center provided information on the mass domiciliary application of chemotherapy in the treatment of pulmonary TB. In 1959, National Tuberculosis Institute (NTI) was established at Bangalore to evolve, through research, a practicable TB program that could be applied in all parts of the country by training medical and paramedical workers to efficiently apply proven methods in rural and urban areas.Chemotherapy for TB underwent revolutionary changes in the seventies owing to the availability of two well-tolerated and highly effective drugs, Rifampicin and Pyrazinamide. These drugs allowed short-course chemotherapy (SCC) and made it possible to simplify treatment and reduce its duration. Discovery of Rifampicin in 1967 is considered to be one of the greatest achievements in the history of development of anti-TB drugs. Since its discovery, no new drug has been discovered yet that is as efficacious as Rifampicin against TB.

Current WHO-assigned ongoing program : In 1992, Government of India, together with the WHO and the Swedish International Development Agency (SIDA), reviewed the national program and concluded that it suffered from managerial weaknesses, inadequate funding, over-reliance on x-ray, nonstandard treatment regimens, low rates of treatment compliance and completion and lack of systematic information on treatment outcomes. Around the same time, in 1993, WHO declared TB to be a global emergency and devised the DOTS strategy and recommended that all countries adopt this strategy. This strategy was built on five pillars, viz., political commitment and continued funding for TB control programs, diagnosis by sputum smear examinations, uninterrupted supply of high-quality anti-TB drugs, drug intake under direct observation and accurate reporting and recording of all registered cases.

World Bank acknowledged that the DOTS strategy was the most economical health intervention and agreed to provide credit assistance for the NTCP, initially for the coverage of a population of 271 million persons, which was later revised to cover a population of 730 million persons. Presently, other bilateral and multilateral agencies, Danish International Development Agency (DANIDA), Department for International Development (DFID), US

Agency for International Development (USAID), Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria (GFATM), Global Drug Facility (GDF) and WHO are providing invaluable support to the program. The Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria is the single biggest source of external funding for TB control.

To give new thrust and to revitalize the NTCP, with assistance from the above-mentioned international agencies, in 1997, the Revised National TB Control Program (RNTCP) was launched. It formulated and adopted the internationally recommended DOTS strategy, as the most systematic and cost-effective approach to revitalize the TB control program in India. Political and administrative commitment to ensure the provision of organized and comprehensive TB control services; reliable and early diagnosis through smear microscopy; an uninterrupted supply of good-quality anti-TB drugs; effective and patient-friendly treatment with short-course chemotherapy (SCC) given under direct observation; and accountability through proper reporting and recording and through effective supervision was heavily emphasized. Today, India's DOTS program is the fastest-expanding and the largest program in the world in terms of patients initiated on treatment; and the second largest, in terms of population coverage.

1.3. Mizoram Status on TB

Mizoram is a small, hilly tribal state, situated in the northeastern region of India, sharing international borders with Myanmar and Bangladesh. It is the least populous state in India after Sikkim. The projected population for Mizoram in 2023 is 13.80 lakhs. As per India TB report, in 2021, as many as 1,749 TB cases had been notified from both public and private sector (82.7% new cases, 10.9% previously treated, 6.4% drug resistant TB). In 2003, Mizoram implemented RNTCP (Revised National Tuberculosis Control Program) and PMDT (Programmatic Management of Drug Resistant Tuberculosis) which is the former DOTS Plus in 2011. Currently, among the laboratory tests available for TB, smear microscopy along with Xpert MTB/RIF assays are the only diagnostic tools implemented in the state. Xpert MTB/RIF is being utilized by Mizoram since the end of 2014 and it is among the few states in the country where Universal Drug Susceptibility testing using Cartridge Based Nucleic Amplification Test (GeneXpert) was implemented from 2017. This is a nationwide programme to test every TB patient for signs of resistance to the first-line drugs, especially Rifampicin.

A few studies on TB were conducted under a project sponsored by DBT, New Delhi to help establish a baseline data as well as to explore the status of TB in Mizoram in terms of host and pathogen genomics along with epidemiological factors involved. Arguably, there are no scientific reports or evidence on host mitochondrial genetic factors linked to TB, though mitochondrial DNA (mtDNA) variations have been established for different diseases including different types of cancers. The entire mitochondrial genome from blood samples of Mizo TB patients and healthy controls were analyzed to understand the possible mtDNA variants. The potential impact of non-synonymous substitutions on protein functions were determined using prediction tools (Polyphen-2 and Provean). A total of 28 non-synonymous variants were found, of which 2 variants (MT-ND2 g. A>G4824 p.T119A and MT-ND6 g. T>C14180 p.Y165C) were found to be deleterious among the cases, significance of which is yet to be understood. Majority of the variants lies in the D-loop of the non-protein coding region of the mtDNA. We propose that mutations in the mitochondrial genome need to be validated further using functional studies to understand their association with TB.

Similarly, pertaining to epidemiological or demographic risk factors involved in TB, little information is available from the North-Eastern Region of India. Though various risk factors of TB have been studied across the globe, in view of the fact that they may be altered over time and may have geographic specificity, data collection from TB patients as well as healthy controls based on a structured questionnaire was done to analyze the presence of any less-established risk factors. Clinical presentations like fever, cough, weight loss, chest pain and night sweats were more common among the pulmonary TB patients. The most common mode of diagnosis among pulmonary and extrapulmonary TB were Xpert MTB/RIF and X-ray, respectively. TB was found to be significantly prevalent among people from lower socio-economic status, less educated, unemployed, and improper housing conditions. Other risk factors associated were alcohol consumption, neighbours with TB, travel history, no BCG vaccine uptake, mass gathering and non-ideal weight (under and overweight). **An interesting less-established risk factor that demands attention is the domestic source of water supply (river & spring water) which was found to be significantly associated with TB in our study.** Though TB is well known for its air borne transmission, other possible routes of transmission are in question or rather debatable. Water supply for domestic purpose is yet another important aspect that is often neglected in the recent studies pertaining to TB transmission. It is speculated that apart from all the well-established risk factors for TB, water supply might play a crucial role towards transmission of TB, since hospital liquid waste treatment is yet to be adopted in Mizoram. Our previous 16s rRNA metagenome study had also reported the pollution of soil and river ecosystems in Mizoram by the discharge of solid and liquid wastes from domestic, municipal, and hospital premises, where apart from other pathogenic bacterial communities, *Mycobacterium tuberculosis* was also found. From a public health standpoint, this is alarming and highlights the need for further research in this area.

As mentioned earlier, Xpert MTB/RIF being the mainstay of laboratory diagnosis within the Mizoram state, a retrospective study was conducted for Rifampicin Resistant TB (RR-TB) cases from archived results for all the specimens received during 2014 to 2021. Among these, the proportion of RR-TB diagnosed was 15.9%. The most affected age group observed was productive individuals between 25 and 34 years. Among the RR-TB cases, 57.8% were males and 42.2% were females. Higher DNA amount was observed in pulmonary cases (sputum) while low/very low amount of DNA was common among extrapulmonary cases. Rifampicin being a surrogate marker of multi-drug resistant TB, the *rpo*B gene of Rifampicin utilized by the Xpert system spans across five overlapping probes namely: Probe A (codons 507-511), Probe B (codons 511-518), Probe C (codons 518-523), Probe D (codons 523-529) and Probe E (codons 529-533). The *rpo*B gene mutations recorded in Mizoram were as follows: Probes A (25.9%) followed by E (23.5%), D (9.8%), B (2.6%) and C (0.2%). In addition, high prevalence (34.3%) of probe mutation combinations were also found: probes AB (0.4%), AD (32.8%), AE (0.4%), DE (0.2%) and ADE (0.4%). The frequency of probe mutation combinations also increased from 2014 to 2021. Through this study, it was also observed that the order of the probe mutation found in Mizoram varies from that of other similar studies conducted within and outside India.

Liquid culture using Mycobacteria Growth Indicator Tubes (MGIT) was also carried out which showed phenotypic drug susceptibility as: Streptomycin (57.1%), Isoniazid (51.8%), Rifampicin (64.3%), Ethambutol (57.1%), and Pyrazinamide (39.3%). Further molecular work was performed including Long Sequence Polymorphism (LSP-PCR) which showed the presence of four lineages in Mizoram: Lineage 1(Indo-Oceanic), Lineage 2 (Beijing), Lineage 3(East-African Indian) and Lineage 4 (Euro-American). Mixed lineage infection of Lineage 1 and Lineage 3 were also seen in two patients. Sanger Sequencing revealed the mutation in

Probe A region as L511P (CTG>CCG) and Probe D region as H526Q (CAC>CAG) and H526L (CAC>CTC). The L511P and H526Q mutations were seen in new and treated cases. Discrepancy was also observed between MGIT drug susceptibility and Xpert MTB/RIF.

2. DOTS and RNTCP

DOTS that is Direct Observed Treatment Short course an internationally accepted treatment for TB in which patients has to consume medicine in front of DOTS provider on every alternate days in intensive phase and then once a week in continues phase. DOTS was launched in India with Revision of National tuberculosis program called Revised National tuberculosis program (RNTCP). Earlier program called NTP was launched in 1960"s but situation has not changed after NTP and program was reviewed in 1990"s and NTP failed due to managerial weakness of program, too much reliance on x-rays for diagnosis, shortages of drugs etc… New program called RNTCP was launched in 1993 in phased manner by 2006 it covered all districts in the country. Maharashtra was first state to achieve complete coverage by RNTCP in 2003. Mumbai city achieved complete coverage by RNTCP in1999. The objectives of RNTCP are :
1. To achieve cure rate of 85% among new smear positive patents and
2. Detection rate of 70% among such cases. (CTD Annual status report TB India 2014).

3. Statement of the problem

This study mainly focuses on the knowledge, attitude and practices of TB patients and how they cope with it or the routine they made for themselves in taking medicines for their disease as it is observed that Tuberculosis is one of the foremost and transmissible disease of ailing health. TB is one of the primary causes of death not only in Mizoram or India but also in Mizoram. It remains a major public health problem in all parts of the world so knowing the reaction of the patients about their illness is important. The present study aims to examined the Tuberculosis patients reaction towards their illness and its association with their normal day to day lifestyle .

4. Objective of the study

1. To study the Knowledge of TB patients about TB disease.
2. To determine the Attitude of T.B. patients towards TB disease.
3. To examine the Practices adopted by TB patients for cure of TB disease.

5. Chapter Scheme

1. Introduction

2.Review of Literature

3.Methodology

4.Results and discussion

5.Conclusion

CHAPTER – 2
REVIEW OF LITERATURE

Review of literature acts as a guide for the researcher in order that he or she may not repeat the same mistakes or go beyond what others has done or reached. It also guides in the process of research and provides information on the issue undertaken. This chapter represent the literature review on the knowledge, attitude and practice of TB patients .

C Gilpin, P de Colombani,2011 At all as by the researcher their findings suggest that TB is a significant problem among Tajik migrant communities and improving their access to affordable diagnosis and treatment in both Russian Federation and Tajikistan is a priority.More awareness raising and education campaigns among migrant communities are needed. TB shows and spots on television should be considered first to increase awareness and deliver key health messages among population. However, other approaches can be also considered.It will be important to advocate with migrant groups on the importance of undergoing screening for TB and other infectious diseases prior to departure. Consideration should be given to develop improved and affordable diagnostic services for TB to migrants prior to departure or upon return to Tajikistan. TB screening to migrants would also provide a unique opportunity to educate migrants on the signs and symptoms of TB and on the availability of TB services.

OU Uchenna, CJ Ngozi 2014 At all as by the researcher the studied have revealed association between knowledge and gender, education, socioeconomic status and access to media. However, our findings revealed that being literate, better educational status of an individual or the spouse, and being a Christian were all associated with better knowledge of the tuberculosis. No association was demonstrated between knowledge and gender, in contrast to a similar studies. Also, better educated individuals were more likely to know where to access TB treatment and care in their communities. No association was demonstrated between treatment seeking behaviour and socio demographic characteristics; probably because the decision to seek for TB treatment is often influenced by attitudes or opinions of the family members or community. . Poor knowledge alone is not a good predictor of care seeking behaviour in general. Others factors such as risk perception, stigma, attitude to health services, distance and opinion of the family and the community are also known to influence care seeking pattern.

DG Datiko, D Habte 2019 At all the high community awareness, positive attitudes, and communities supportive of TB patients contribute to increased health care–seeking behavior. However, we found significant regional variations in the availability of adequate knowledge about the causative agent and means of transmission of TB, more so among underprivileged groups, the poor, those who are less educated, and women. These findings point to the need for targeted health education interventions to improve KAPs in the general population. The community generally has a positive attitude toward TB patients. However, people show limited interest in seeking care from community health workers. The NTP needs to address factors affecting the engagement of community health workers in TB prevention and control. Further studies are required to understand the reasons for the regional variations, to understand the extent of stigma and delay related to health care–seeking, and to improve the performance of the NTP.

JM Cramm, HJM Finkenflugen 2010 At all according to their research result shows that while TB "lay experts" knowledge seems fairly good, their perceptions suggest that stigma may play a significant role in case finding and case holding. Findings from this study are important in improving the societal supports to TB patients. It would seem, therefore, that community education should focus on improving attitudes and perceptions, thus potentially reducing stigma. It requires a patient centered approach, which starts with interventions targeting the intrapersonal level (empowerment, self help, advocacy and support group) to empower TB patients. The next step is involvement of TB patients in the development of stigma reduction programs at other levels. TB patients' experiences are helpful at organizational/institutional and community level in developing training programs and new interventions that should contribute to stigma reduction rather than unintentionally enhance stigmatization. A shift of power relation and an active role of TB patients in this process could lead to more patient centered programs, empowerment of TB patients and stigma reduction. Furthermore, studying the actual situation in TB suspects and patients is necessary to confirm our study findings.

C Napoli, S Tafuri 2014 At all the researchers have found sufficient TB knowledge in a sample of Italian health care students. Nevertheless, we consider it is necessary to improve knowledge about TB, especially among nursing students. TB knowledge among health care undergraduates is important, because these students could be exposed to the *Mycobacterium* strains during their training activities or when they are employed in private and public health care settings. Consequently, consistent with the conclusions of other authors , we suggest upgrading the current health care curricula. The training provided through courses of study should provide the scientific basis necessary to achieve an appropriate level of professional autonomy. Students' skills in this field can be developed by promoting an integrated, multidisciplinary study programme focused on problem-oriented learning and active learning strategies (e.g. seminars, computer simulations, etc.).

C Dewi, M Passey 2016 At all according to the researcher the research have showed most of the participants had limited knowledge and misunderstood causes and transmission of TB before the asset-based intervention occurred despite a decade of conventionally focussed TB programs. This lack of knowledge of the symptoms of TB appeared to influence health seeking behaviour. This small study however has shown that an asset-based intervention working with local leaders resulted in positive changes in relation to knowledge and awareness of TB, the community's behaviour as well as early case detection. A continued mentoring and support education process is required to improve the knowledge and awareness of a wider community and to maintain the behaviour changes. Engaging health care providers in this process is also important so they can improve early diagnosis.

NG Kigozi, JC Heunis 2017 At all as studied by the researcher the terms of knowledge, patients in this study demonstrated a good understanding of the contagiousness of and risk factors for TB, including HIV infection. However, some patients were unaware about the cause of TB and the key routes of its transmission. With respect to attitudes towards TB, most patients regarded TB to be serious and demonstrated positive attitudes towards treatment and care, as well as infection control at PHC facilities. Regarding infection control practices, most patients reported good infection control practices. Patients who had received information on TB infection control at PHC facilities were more likely to report good infection control practices. Socio-demographic factors also played a significant role in influencing good infection control practices. These findings highlight the need for health education efforts at PHC facilities and similar settings to address prevailing misconceptions about TB and to

correct misinformation that might encourage social isolation of TB patients. Health education efforts should capitalise on the positive finding of this study, that information dissemination at PHC facilities increases good infection control practices.

S Huddart, V Pons 2018 At all their findings provide useful insights for further research and policy. They indeed suggest that the lack of knowledge and adoption of prevention behaviors is concentrated in populations with low socio-economic status, which may inform efforts to better target counseling and follow-up efforts. Results also suggest that patients do learn about the disease and the mechanisms of infection from their interaction with health workers or DOTS providers. However, we show more limited effectiveness of communication around adequate actions to be taken. Reinforcing communication on vital information for TB patients is critical to improving quality of care, and additional research is needed to better understand how to effectively catalyze patients' behavioral change around contagion prevention. Finally, results point to the critical importance of social proximity between the patients and the health workers, as defined by a shared language and a small age difference. Public health systems may have greater impact by strategically recruiting health workers whose characteristics make them closer to the population they serve and therefore more likely to be welcomed and listened to.

X Yin, S Yan 2018 At all as their research, TB-related stigma was high among TB patients. Good doctor–patient communication, good knowledge about TB and good family function have a positive effect on alleviating TB patients' stigma. In this study, TB patients knew little about TB, and their family function was somewhat impaired while doctor–patient communication was relatively good, indicating that interventions aimed at reducing stigma among TB patients should focus on improving patients' family function and patients' knowledge about TB. More specifically, in view of the relatively good doctor–patient communication, the role of doctors in health education should be strengthened to improve patients' TB-related knowledge. Meanwhile, doctors should encourage the patient to communicate with their family members, which may enhance their family function and, ultimately, reduce TB patients' stigma.

G Abebe, L Apers 2012 At all according to their research there was little knowledge about TB in the Gilgel Gibe field research area. We observed inappropriate health care seeking behavior and stigma towards TB. TB control programs in Ethiopia should educate rural communities, particularly females and non-educated individuals, about the cause and the importance of early diagnosis and treatment of TB.

CHAPTER – 3

METHODOLOGY

I. Methodology and field settings

1. Universe of the study: This study is to determine the knowledge, attitude and practices adopted of TB patients towards the TB disease in Lunglei District.It was conducted in Lunglei District which is the largest town,situated in the south-central part of Mizoram, northeastern India.It is the largest town after the capital, Aizawl and the nickname of Lunglei is Leitlangpui. Total 20 respondents and their bio data have been collected at District TB Centre in Chanmari, Lunglei.(Pin code – 796701) .

2. Sampling: A convenience sampling technique was used among the patients of Lunglei District in order to conduct the research .

3. Research Design: Descriptive research design was used to quantitatively describe the main feature of the data collected.

4. Tools of the data collection: Interview schedule was adopted to collect data from the patients.

5. Data processing and analysis: Descriptive Analysis was used to quantitatively describe the main features of the data collected and SPSS was used for analysis the data.

6. Field settings:

Name of the Centre Visit: District Tuberculosis Centre, Lunglei

Year of establishment : Oct 1 2002

No. of workers : 9

No. of Active Cases : 75

NO. of DOTS receiver : 75

Mizoram implemented RNTCP (which was renamed into NTEP on Jan 2020) in 2003 and Programmatic Management of Drug Resistant Tuberculosis(PMDT) erstwhile DOTS plus in 2011. In basic RNTCP services, diagnosis is made by Sputum Microscopy. In Mizoram there are a total of 34 places where sputum can be examined. For PMDT services, diagnosis is made by a molecular method known as Cartridge Based Nucleic Acid Amplification Test (CBNAAT). At Lunglei District we have – DTC Lunglei, Hnahthial TU, Tlabung MC, Serkawn Hospital MC .

The DTC Lunglei was located on Chanmari where TB have been test for the one's who want to know their status of their health condition and it is also a place where multiples patients have been treated with DOTS which do not want to receive treatment at their community health / sub- center.

LUNGLEI ROAD MAP
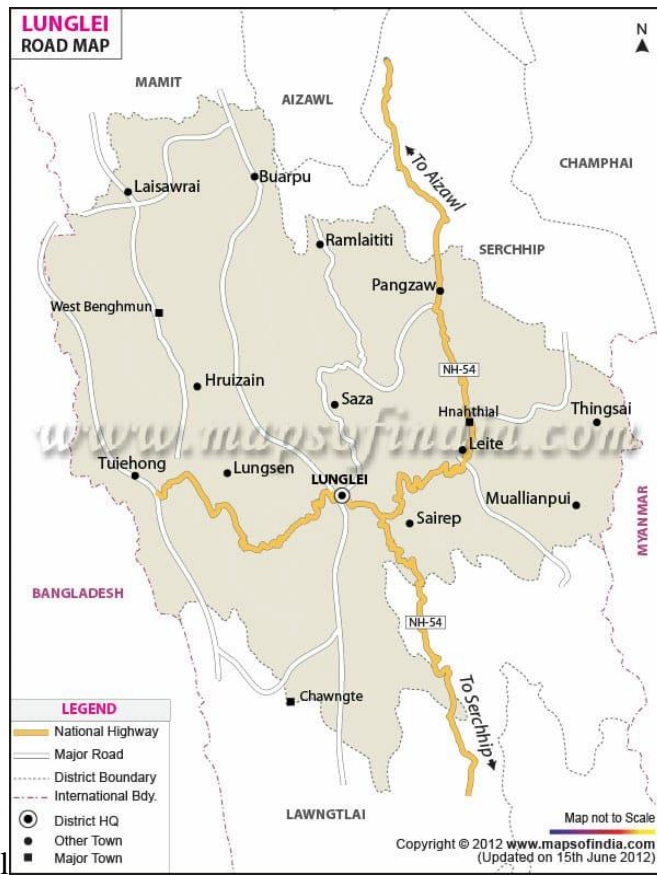
Lunglei District is located in the southern part of Mizoram. It is bounded by Siaha on the South – East, Lawngtlai District on the South-West, Serchhip District on North-East, Mamit District on the North- West and Hnahthial District on the East. It shares international border with Bangladesh on the West.Lunglei District occupies more or less the central part of Mizoram, the national Highwas 2 coming from Manipur via Seling and Serchhip passes through the town which links Aizawl the state capital of Mizoram at a distance of 235 kms. Another route named World Bank road originating from Aizawl via Thenzawl town also links Lunglei at a distance of 164 kms.

Lunglei Town is the second largest settlement of Mizoram and the district headquarters of Lunglei.It is located in the south – central part of Mizoram, between longitudes 920 42' 45" E – 92050'05" E and latitudes 22048' 18" N to 22056'55" N, falling within the Survey of India topographical maps No. 84B/09 and 84B/13. The total geographical area of Lunglei town, spanning from Thaizawl in the south to Kawmzawl in the north, and Hauruang in the west including Vanhne in the north-west to Zobawk in the east is 55.08 sq.km in terms of dimensions.

CHAPTER – 4

RESULTS AND DISCUSSI0N

1.PROFILE OF THE RESPONDENT:

1.1 Social demographic profile

This part of the section describes social and demography profile of the respondent like age ,educational qualification,family type and status,annual income,denomination,religion etc. 55% of the respondents are male and another 45% of the respondents are female.

1.1.1 Age distribution

If we consider age distribution, then considerably high proportion of the patients,45% were under the age of 18-30 years age group .In proportion this age group was followed by 31-40 years old which constituted 20% ,41-50 years old constituted 5%,51-60 constituted 20% and 61 -70 constituted 10% of the total distribution .It was evident that there are more TB patients in the age group of 18-30 years which was a productive year for a person effected by TB.

1.1.2. Educational status

The highest literacy rate was HSLC pass out in which there are 7 respondent and in converted to percentage they were 35% followed by 4 Graduated constituted 20% ,3 HSSLC and 3 below HSLC constituted 15%, 2 Post-Graduated and 1 Undergraduate constituted 10% and 5% of the total distribution. It was evident that all of the patients were literate.

1.1.3. Religion and denomination

100% of the respondent were Christian but each of them are in a different denomination. There are 11 respondent which are in the same religious group and in converted to percentage they were 55% followed by Presbyterian in which there are 4 respondent constituted 20%,Seventh day and Salvation Army 2 respondents constituted 10% each and 1 UPC(NE) respondent that make the conversion into 5% respectively.

1.1.4. Occupational status

The occupational status were divided into Government Jobs, Labour, Merchant and Others.

According to the respondent there are 6 government employer in converted to percentages they were 30% followed by Labourer which were 5 respondents constituted 25% and 3 Merchants constituted 15% and the respondent who chose the `other` option were 6 in conversion to 30% respectively.

1.1.5. Family income status

There are 10 respondents in conversion to 50% of the TB patients earn their family income as an employer in the Government settings followed by 3 respondents each of Labourer and Merchants constituted 15% each and 4 respondents who earn their family income in other way rather than the option given which become 20% in the conversion.

1.1.6 Type of Family

The highest family types were the Nuclear Family in which 11 respondent were in the nuclear family and 2 of the respondent were in the Joint Family followed by the 7 respondent who define themselves as living with their friends/brothers/sisters in which they chose the option ``others``.

1.1.7. Family status

More than half of the respondent were on BPL(Below Poverty Line) which make the percentage as 55% and 40% of the respondent were in the APL (Above Poverty Line) followed by 5% of the respondent who were in the AAY (Antyodaya Anna Yojana) respectively.

1.1.8. Family size

11 respondent were living with around 1-5 family members and the other 9 respondents were living with around 6-10 family members.

1.1.9. Room available in the house

There were 1-2 rooms available in 6 respondents houses followed by 3-4 rooms available on 12 respondents house and 5-6 rooms available for the 2 respondents house.

1.1.10 Annual income status

The highest respondents were 9 and their annual income were around 200000-250000 per year which make the percentage as 45% followed by 7 respondents and their income were around 300000-350000 per year constitute 35% , 1 each respondents in which their annual income are 400000-450000 and 600000-650000 per year and 2 respondent which their annual income are 100000-150000 per yearly.

Table 1. Profile of the respondents.

		Frequency	Percent
AGE GROUP	18-30	9	45.0
	31-40	4	20.0
	41-50	1	5.0
	51-60	4	20.0
	61-70	2	10.0
GENDER	Male	11	55.0
	Female	9	45.0
RELIGION	Christian	20	100.0
DENOMINATION	Baptist	11	55.0
	Presbyterian	4	20.0
	UPC(NE)	1	5.0
	Seventh_day	2	10.0
	Salvation_army	2	10.0

EDUCATION QUALIFICATION	Below_HSLC	3	15.0
	HSLC	7	35.0
	HSSLC	3	15.0
	Undergraduate	1	5.0
	Graduate	4	20.0
	Postgraduate	2	10.0
OCCUPATION	Government_Jobs	6	30.0
	Labour	5	25.0
	Merchant	3	15.0
	Others	6	30.0
FAMILY INCOME	Government_jobs	10	50.0
	Labour	3	15.0
	Merchants	3	15.0
	Others	4	20.0
TYPE OF FAMILY	Joint_Family	2	10.0
	Nuclear_Family	11	55.0
	Others	7	35.0
FAMILY STATUS	AAY	1	5.0
	BPL	11	55.0
	APL	8	40.0
Room available in the house	1-2	6	30.0
	3-4	12	60.0
	5-6	2	10.0
Annual income	100000-150000	2	10.0
	200000-250000	9	45.0
	300000-350000	7	35.0
	400000-450000	1	5.0
	600000-650000	1	5.0

(Source computed)

2.PLACES OF FIRST TREATMENT AND DIAGNOSIS:

2.1 Where you were first diagnosed with TB

According to the respondents 95% which means almost all the respondents where diagnosed in the public health center and 1 of the respondent which make it 5% was diagnosed in the private health center.

2.2 How far is your health post/hospital center situated from your residence

The highest conversion of the respondent is 55% which means 11 respondents have said that their health post/hospital center was situated to 0.5 – 1 kilometer followed by 6 respondent constituted 30 % in percentage who situated on below 0.5 kilometer and lastly there are 3 respondents which make the conversion into 15 % who situated their health post on 2.5 -3 kilometer.

2.3 Which place did you start the treatment for the first time

According to the respondent 90% which means 18 respondent had started their treatment for the first time at public health center and 10% of them that makes the respondent 2 had started their first treatment at private health center.

2.4 How far is your DOTS center situated from your residence

About 55% of the respondent stated that their DOTS center are situated in 0.5-1 kilometer and 25% of the respondents have stated their distance from the DOTS center were below o.5 kilometer,15% of them were on 1.5-2 kilometer and 5% were on 2.5-3 kilometer which make the conversion completed.

2.5 Family History of TB

It is shown that 30% of the respondent that means 6 respondents state that there has been TB patients among their family member`s in the past and 70% of the respondent that means 14 respondent had never experiences this illness from their family member.

2.6 Type of TB

There are two types of TB that are Pulmonary TB and Extra Pulmonary –TB (EP-TB) and according to the respondent there are 50% which means 10 of the respondents have Pulmonary TB and another 10 of the respondents which make the percentage 50% again have EP-TB.

2.7 Treatment category of the patients.

The treatment category have been divided into two category that are CAT-1 and CAT-2 .90% of the respondent which means 18 respondent have been treated with CAT-1 and 10% of the respondent which means 2 respondent have been treated with CAT-2.

Table no 2. Places of first treatment and diagnosed.

		Frequency	Percent
Where you were first diagnosed with TB	Public health Center	19	95.0
	Private health Center	1	5.0
how far is your health post/Hospital center situated from your residence	below 0.5	6	30.0
	0.5-1 km	11	55.0
	2.5-3 km	3	15.0
Which place did you start the treatment for the first time	Public health center	18	90.0
	Private health center	2	10.0
how far is DOTS center situated from your residence	below 0.5	5	25.0
	0.5-1 km	11	55.0
	1.5 -2 km	3	15.0
	2.5 -3 km	1	5.0
Family History of TB	Has	6	30
	Never	14	70
Type of TB	Pulmonary TB	10	50.0
	EPTB	10	50.0

 (Source computed)

3.KNOWLEDGE ABOUT TB

Table 3.Knowledge about TB

Criteria		Frequency	Percent
Which parts of Body can get affected by TB	Lungs	4	20.0
	Weak muscles	1	5.0
	weak bones	1	5.0
	Swelling	2	10.0
	Fatique	5	25.0
	Chest pain	1	5.0
	Dont know	6	30.0

(Source computed)

3.1 Which parts of Body can get affected by TB

TB disease can cause issues to the patients in different parts of the body and by the statement of the respondent of the TB patients it is shown that 20% of them are affected by TB in their Lungs and 5% each of the respondent have weak muscles and weak bones ,10% of the

respondent have swelling followed by 25% of the respondents who have fatigue and another 5% of the respondent have chest pain while 30% of the respondents did not have any problem and they did not even notice that if TB could cause such thing.

4.KNOWLEDGE ABOUT CAUSE OF TB

4.1 TB disease caused by Hereditary
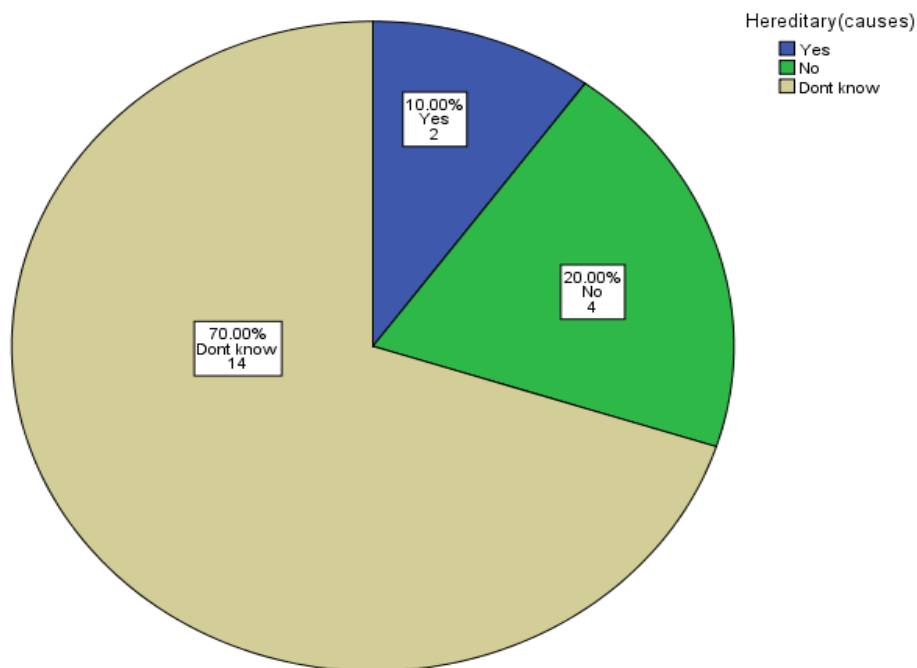
(Source computed)

From the above figure it is clear that 10% of the respondent have said that TB is caused by hereditary and 20% of the other respondents stated it has not been caused by hereditary while another 70% does not know.

4.2 TB caused by Curse
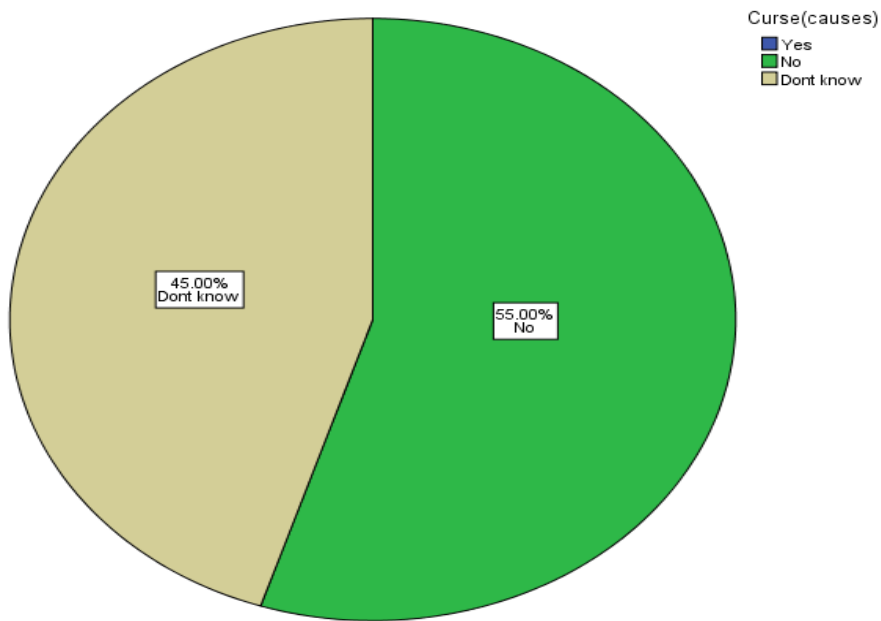
(Source computed)

From the above figure it is shown that TB has not been caused by a cursed as 55% of the respondent state that it is not and the other 45% stated that they did not know whether it is caused by a curse or not.

4.3 TB caused by smoking
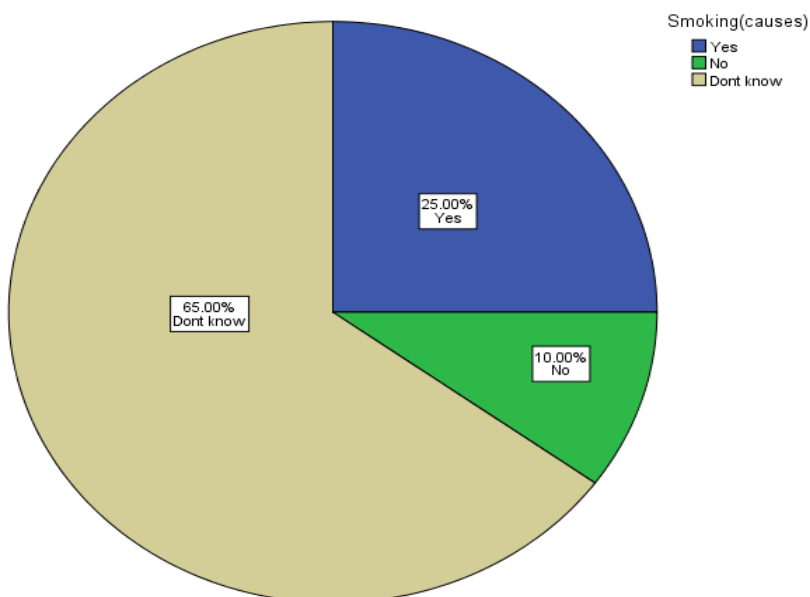
(Source of computed)

From the figure it is clear that almost all the respondent which is 65% did not know smoking can cause TB and 10% of the respondent say smoking cannot cause but 25% of the respondent agreed that smoking can cause TB.

4.4 TB caused by Alcohol
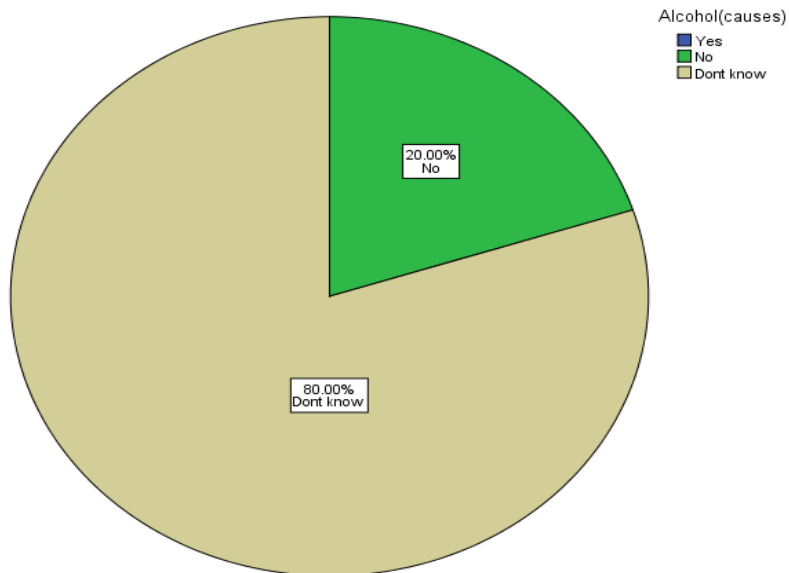
(Source computed)

 From the above figure 80% did not know TB could be cause by alcohol followed by 20% of the respondent that says alcohol do not cause TB and non of the respondent agreed that alcohol can cause TB.

4.5 TB caused by poor diet
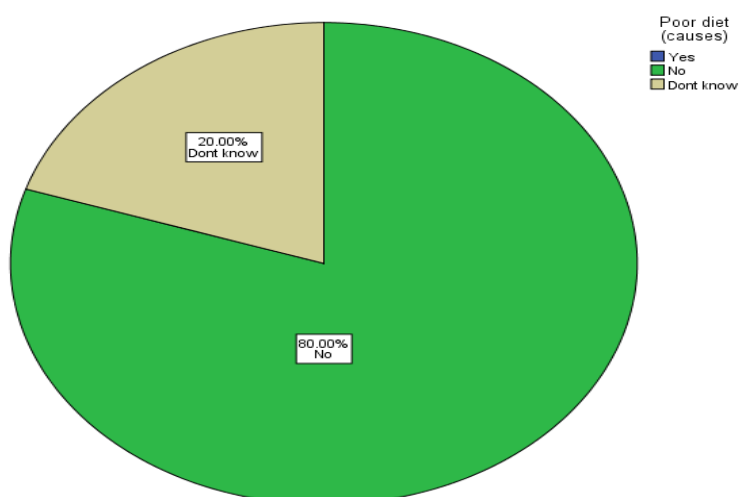
(Source computed)

From the figure it is shown that 80% do not agree that poor diet can cause TB and 20% did not know such thing can happen while no respondent say yes to the question.

4.6 TB caused by Germs
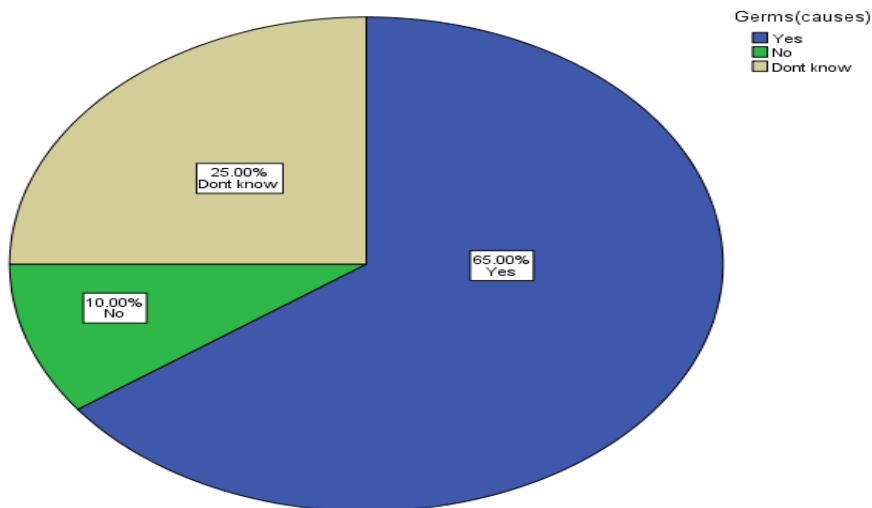
(Source computed)

Over 65% of the respondent had agreed that germs can cause Tb followed by 25% who did not know and 10% who do not agree.

4.7 Causes of TB by other
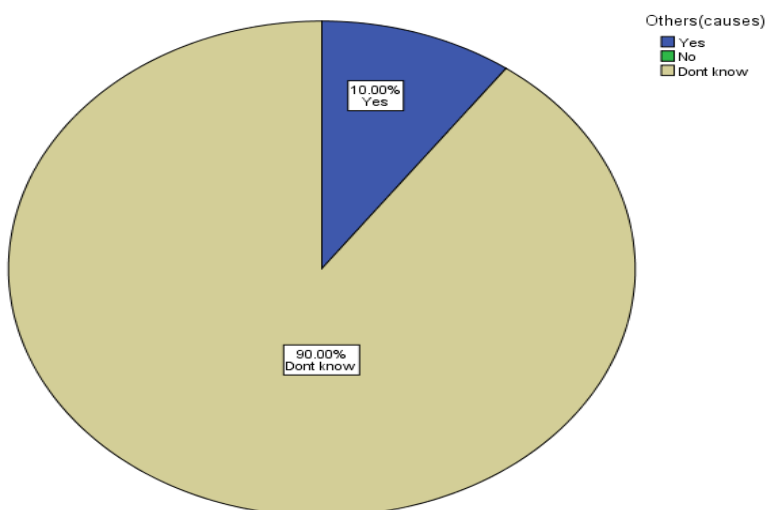
(Source of computed)

10% of the respondent think that other things which are out of the option can also cause TB while almost all of the respondent which is 90% did not know what will cause TB rather than the option

5. KNOWLEDGE ABOUT COMMUNICABLE NATURE OF TB DISEASE

5.1 Is TB a communicable disease
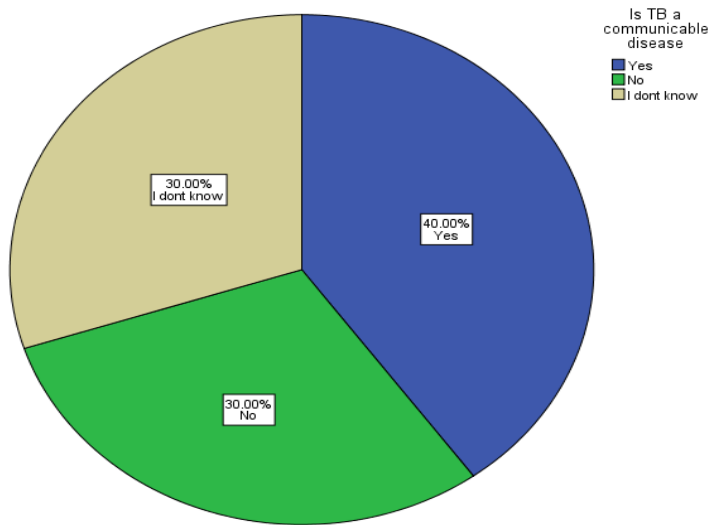
(Source computed)

40% of the respondents have agreed that TB is a communicable disease followed by 30% who does not agree and another 30% who did not know whether it is communicable disease or not.

5.2 Covering mouth and nose while coughing
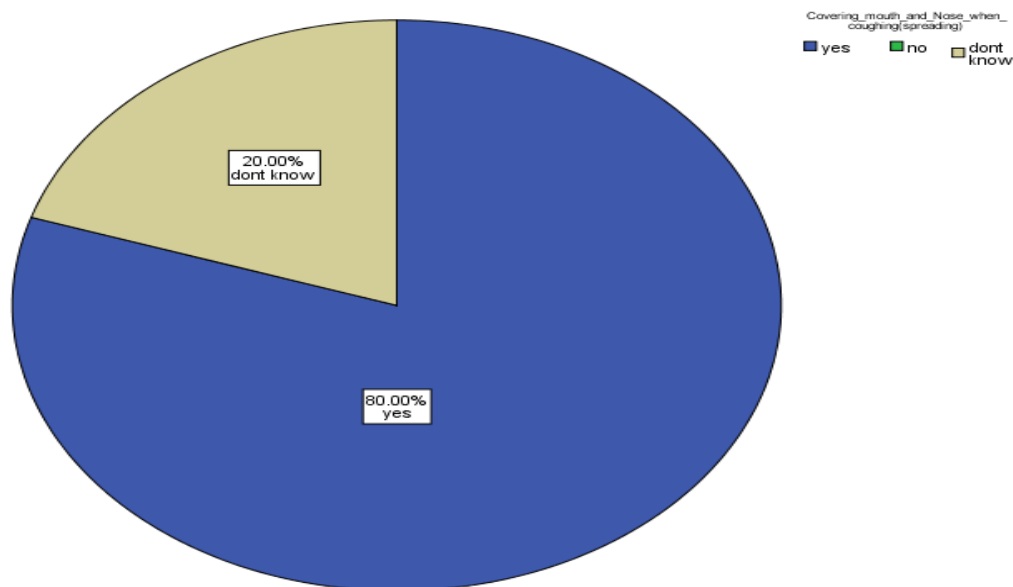
(Source computed

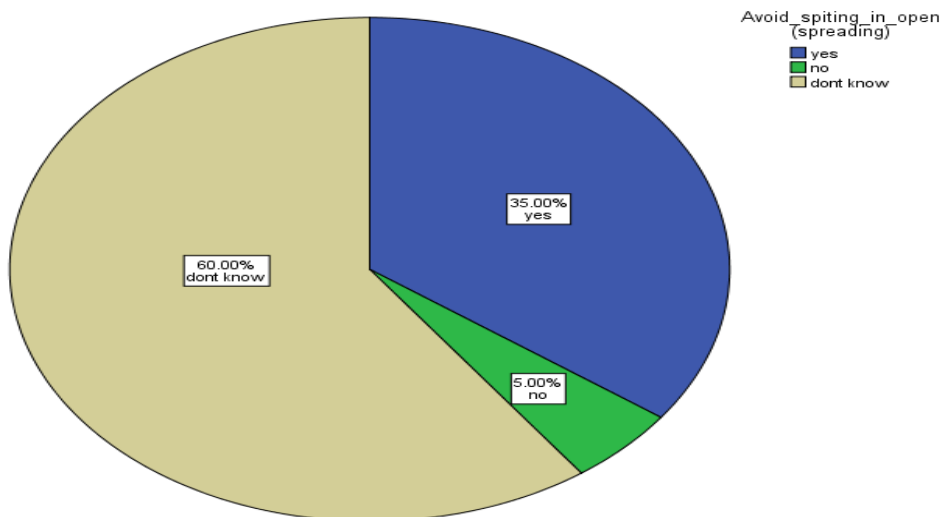Over 80% of the respondent agreed to the statement while 20% of the respondent has no knowledge about it and non of the respondent chose the option no.

5.3 Avoid sharing utensils
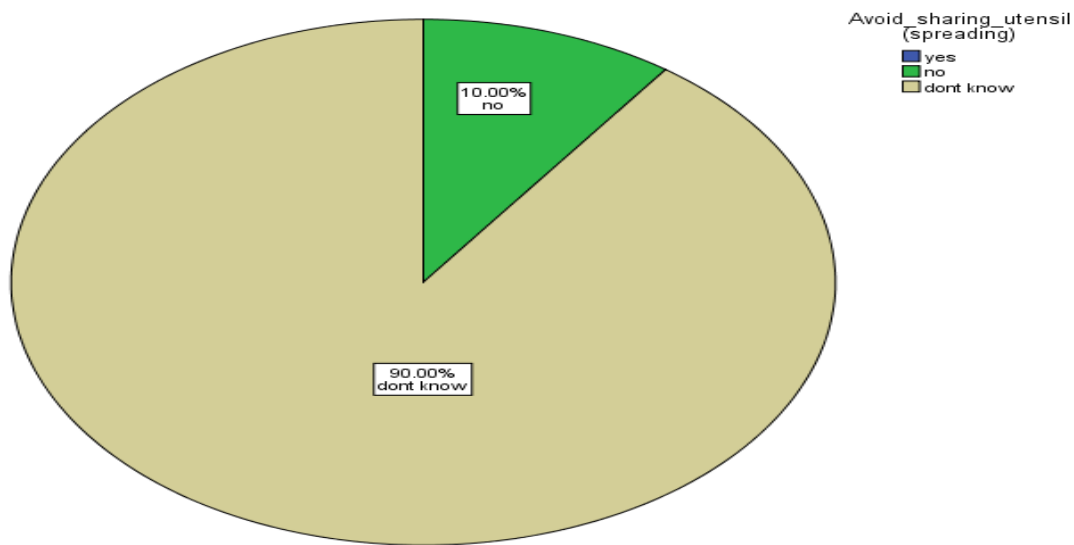
(Source computed)

 From the figure 90% of the respondent have no knowledge about the statement and 10% of the respondent disagree to it while non of the respondent agree to it either.
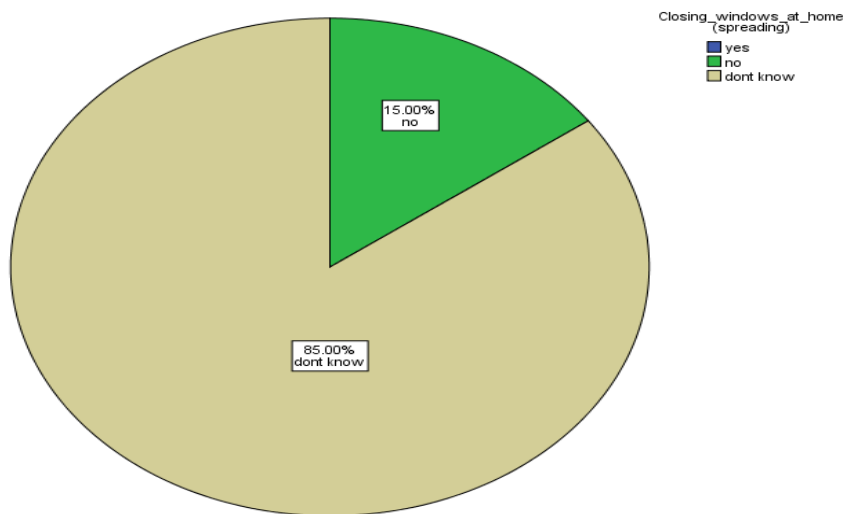

5.4 Avoid spitting in open areas

(Source computed)

 From the above figure 60% of the respondent does not have any knowledge about the statement while 35% agree to it and 5% of the respondent disagree to it.
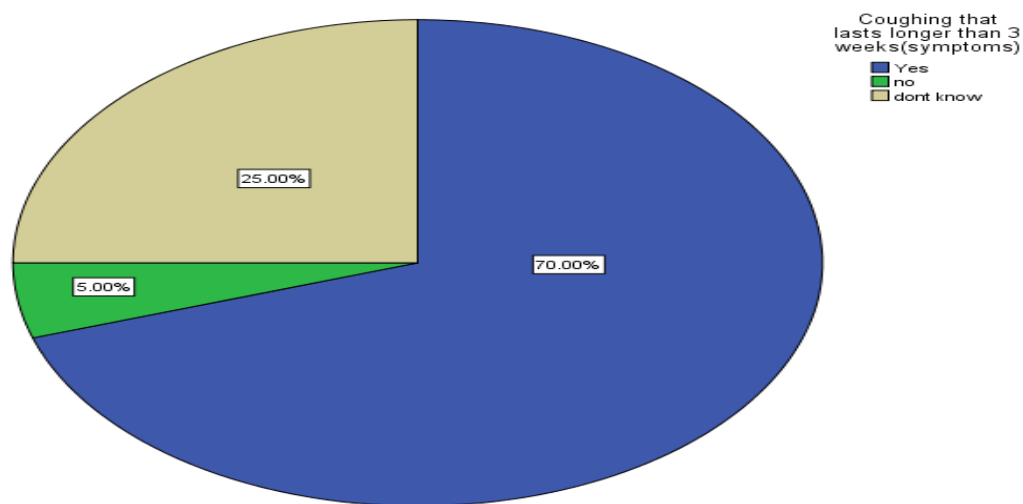
5.5 Closing windows at home

85% of the respondent do not have the knowledge about it while 15% of the respondent disagree to the statement and non of the respondent have agree to it.
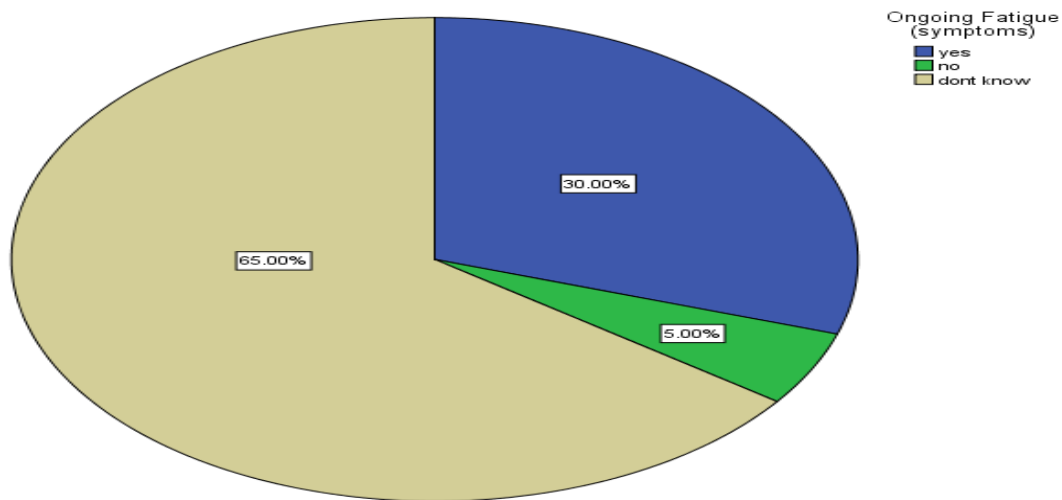
6. KNOWLEDGE ABOUT SYMPTOMS OF TB

6.1 COUGHING THAT LAST LONGER THAN 3 WEEKS

 Over 70% of the respondents have agreed to the statement while the other 5% does not agree and another 25% of the respondent did not know.
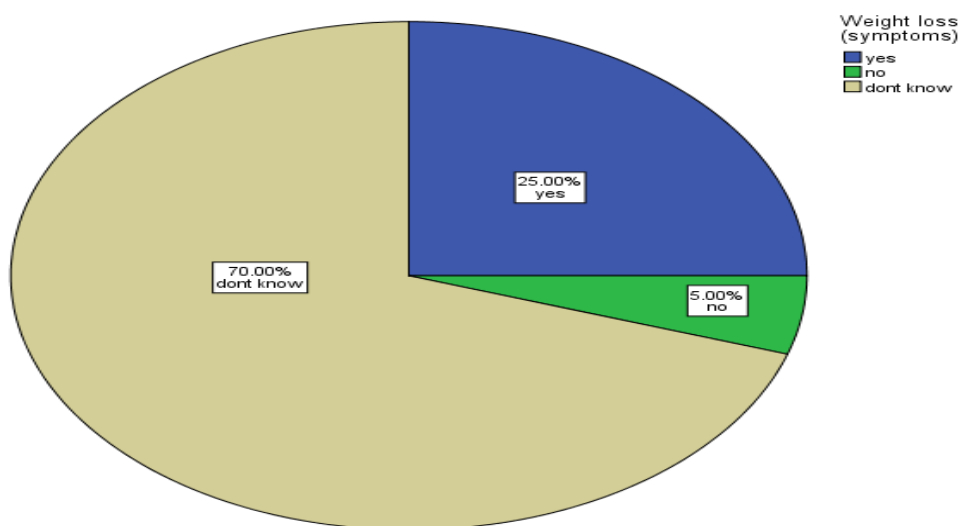
23

6.2 Ongoing Fatigue

Ongoing Fatigue
(symptoms)
- yes
- no
- dont know

30.00%

65.00%

5.00%

(Sources computed)

 30% of the respondents have agreed to the statement while 5% does not and more than half of the respondents did not have any knowledge about it.

6.3 Weight loss

Weight loss
(symptoms)
- yes
- no
- dont know

25.00%
yes

70.00%
dont know

5.00%
no

(Source computed)

25% of the respondent have face this symptoms followed by 5% of the respondent in which the symptoms does not effect their weight and more that half respondent which is 70% does not have any knowledge about it.
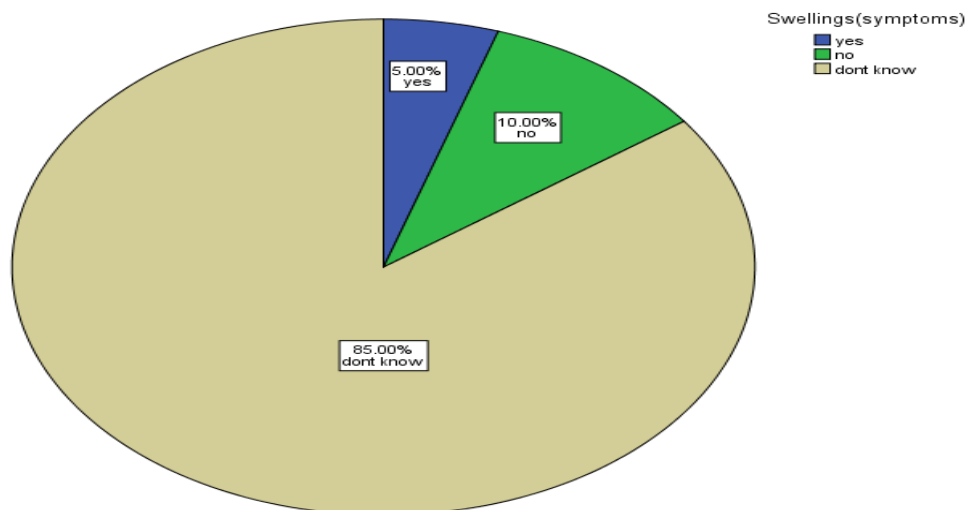
6.4 Fever

Fever(symptoms)
- yes
- no
- dont know

45.00%
yes

55.00%
dont know
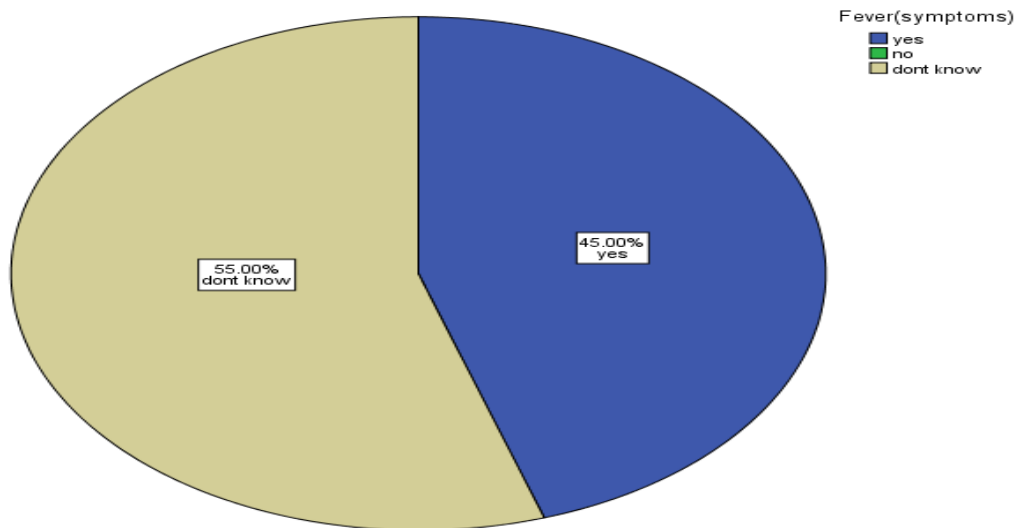
(Source computed)

 The above figure shows that 45% of the respondents have the fever symptoms while 55% of the respondent does not have any knowledge about it and there are no one who chose the option no for this statement.

6.5 Swelling

Swellings(symptoms)
- yes
- no
- dont know

5.00%
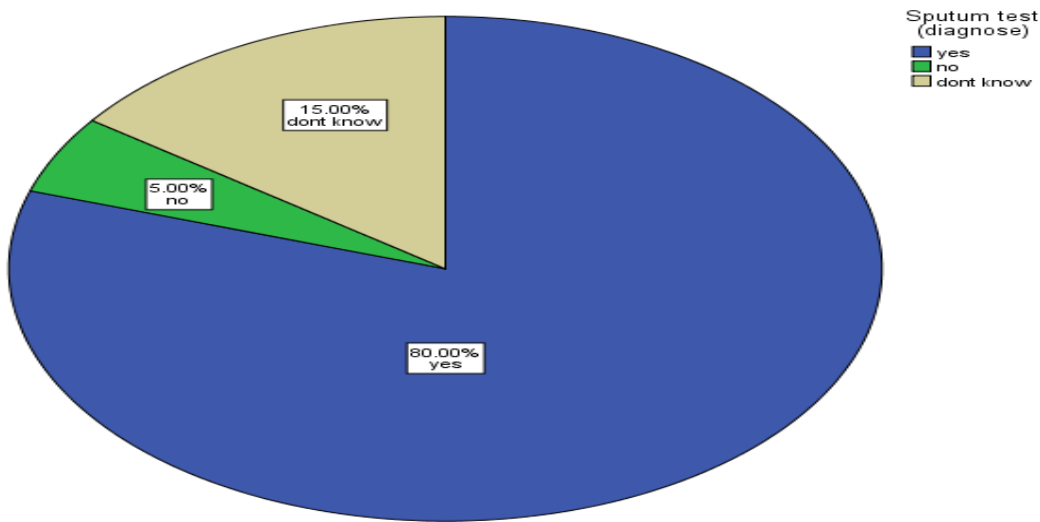yes

10.00%
no

85.00%
dont know

(Source computed)

 85% of the respondent do not have any knowledge as if swelling is the symptoms of TB while 10% says no and the other 5% say that swelling is the parts of TB symptoms.
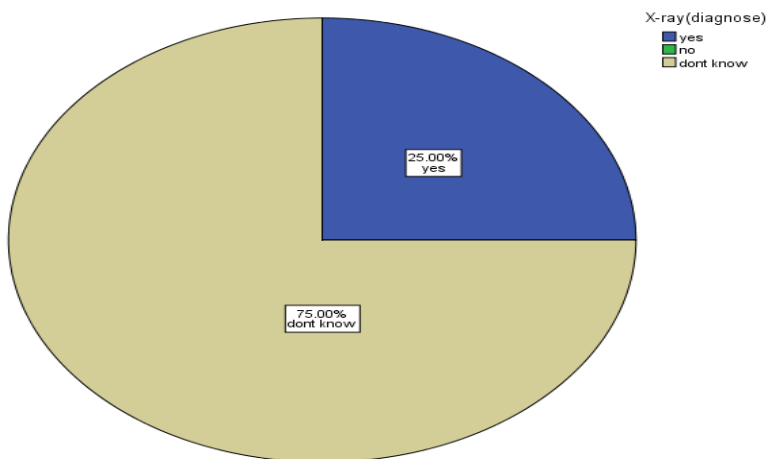
7. Knowledge about diagnostic of TB

7.1 Sputum Test

(Sources computed)

80% of the respondent were diagnosed with sputum test while 5% are not and the other 15% did not know TB can be diagnosed with sputum.
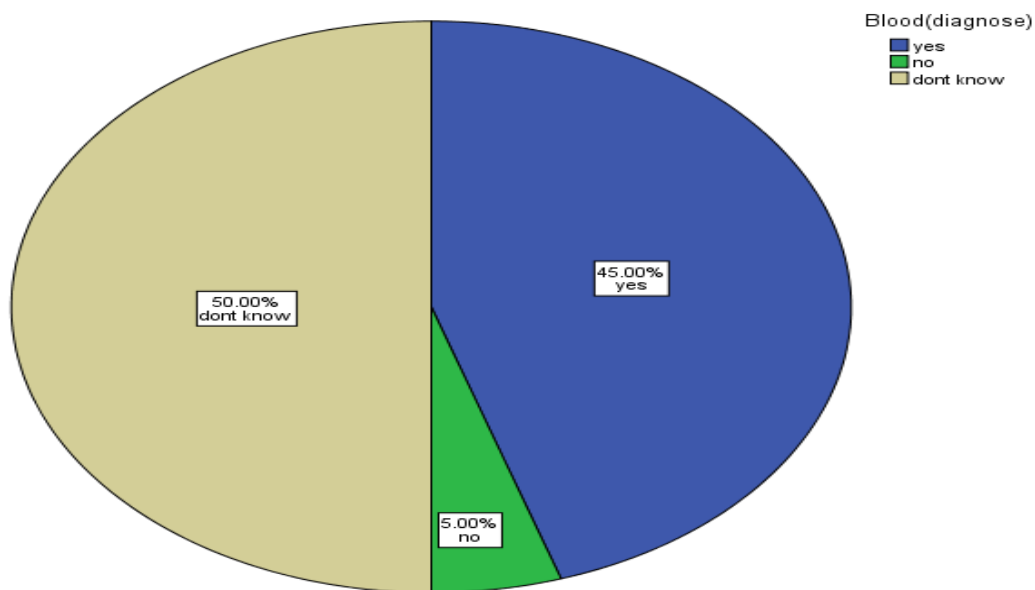
7.2 X-Ray.

(Source computed)

From X-Ray 25% of the respondent have diagnosed and 75% does not know anything about it while non of the respondent chose the option no.
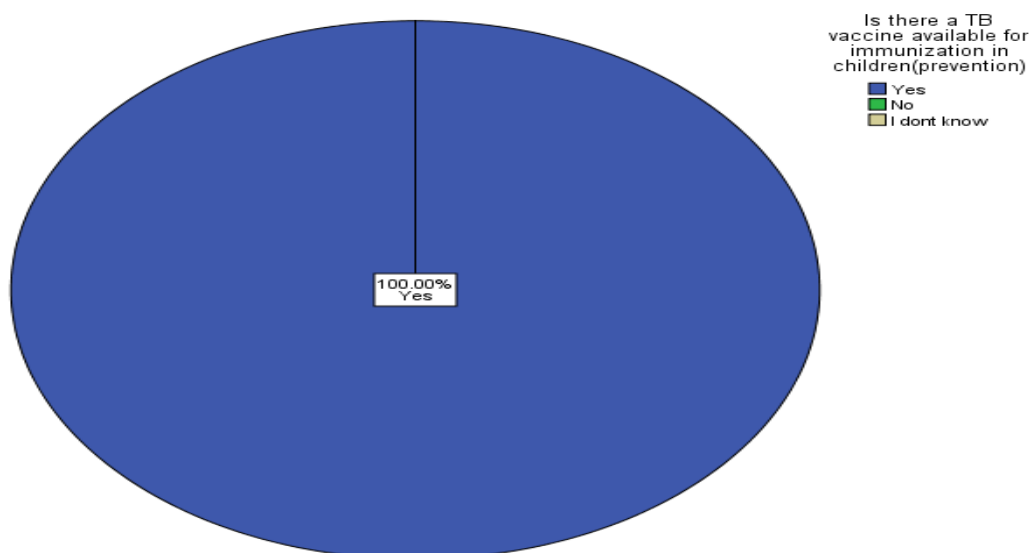
3 Blood

(Sources computed)

45% of the respondent are diagnosed by blood while 50% does not have the knowledge about it and 5% of the respondent chose the option no.

8.KNOWLEDGE ABOUT PREVENTION OF TB

8.1 Is there a TB vaccine for immunization for children
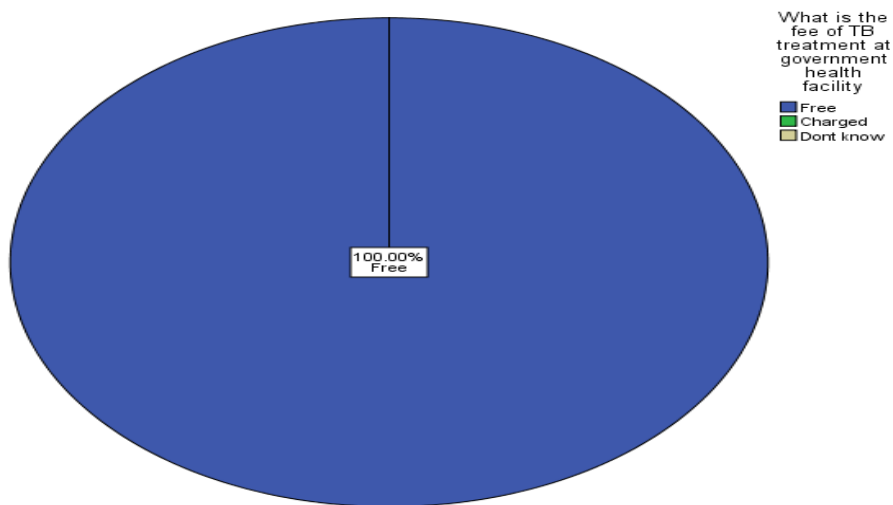

(Sources computed)

From the figure it is shown that 100% of the respondent support the statement while non of the respondent chose the option no or don't know as an answer.

9 KNOWLEDGE ABOUT FEE'S OF TB TREATMENT

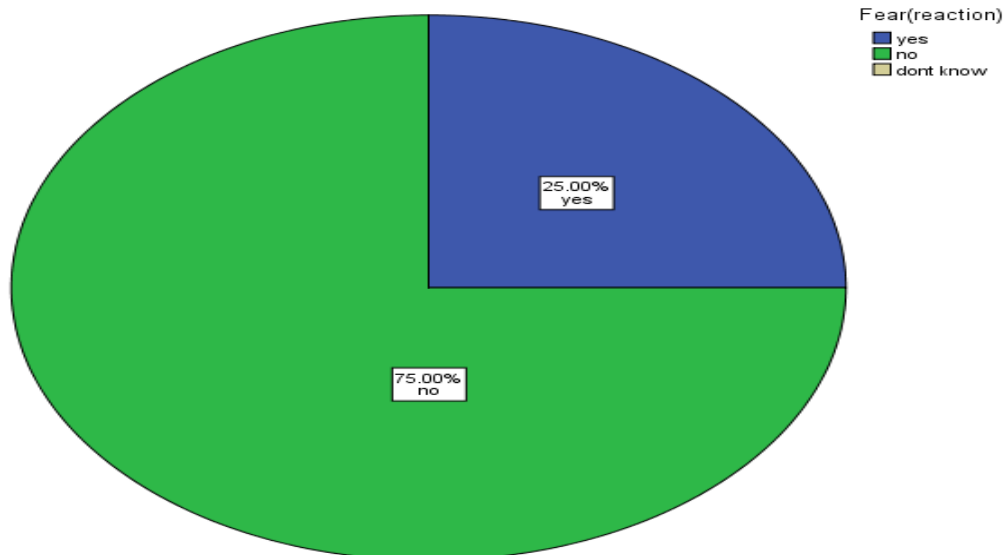## 9.1 What is the fee of TB treatment at Government

(Sources computed)

100% of the respondent stated that TB treatment is free of cost .

10 ATTITUDE OF TB PATIENTS- First feelings of the TB patients after knowing their status

10.1 Fear

(Source computed)

75% of the respondent disagree with the statement while 25% of the respondent agree to it and all the respondent have the knowledge about it.

10.2 Sadness

Sadness(reaction)
- yes
- no
- dont know

100.00%
no
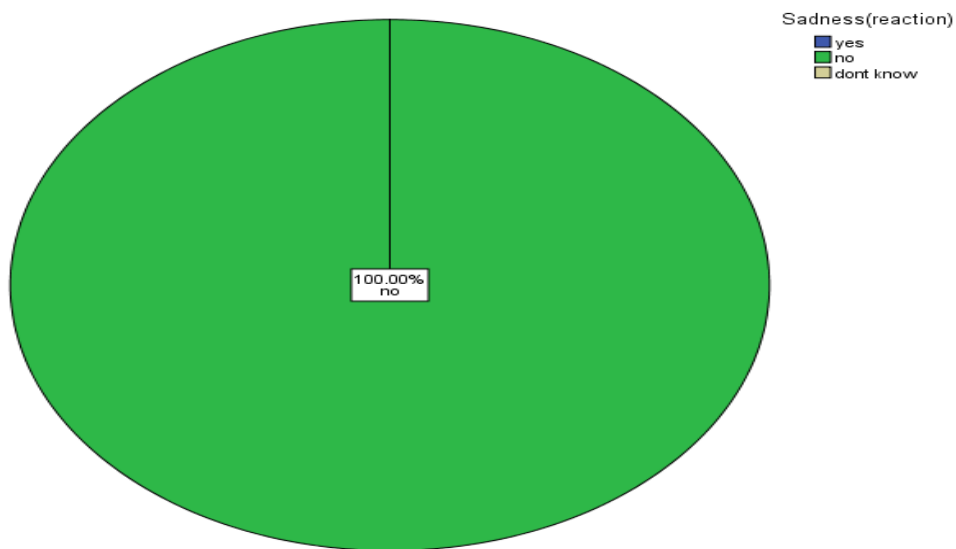
(Source computed)

100% of the respondent are disagree to the statement.

10.3 Denial

Denial(reaction)
- yes
- no
- dont know

30.00%
yes

70.00%
no
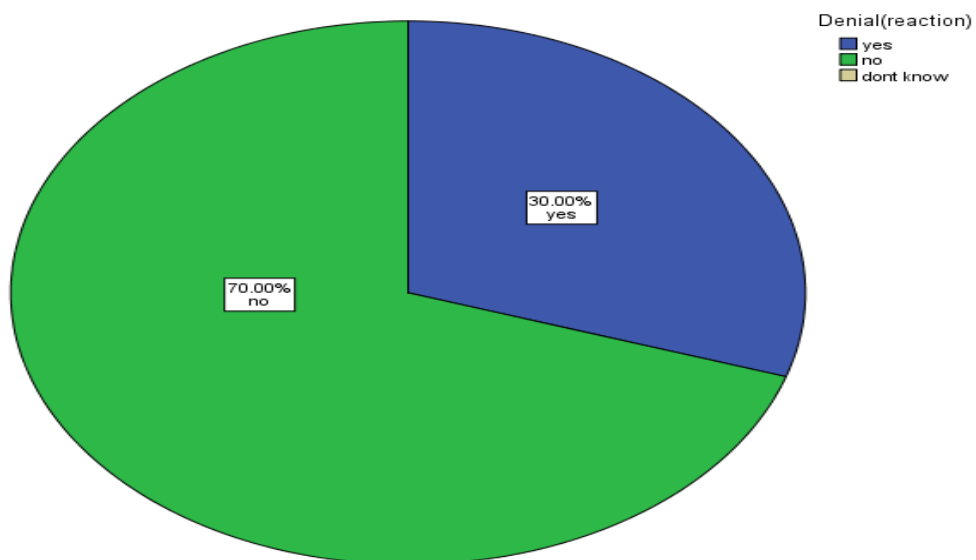
(Source computed)

70% of the respondent disagree to the statement and 30% of the respondent agree to it while non of the respondent chose the option "don't know".

10.4 Hopelessness

Hopelessness(reaction)
- yes
- no
- dont know

100.00%
no
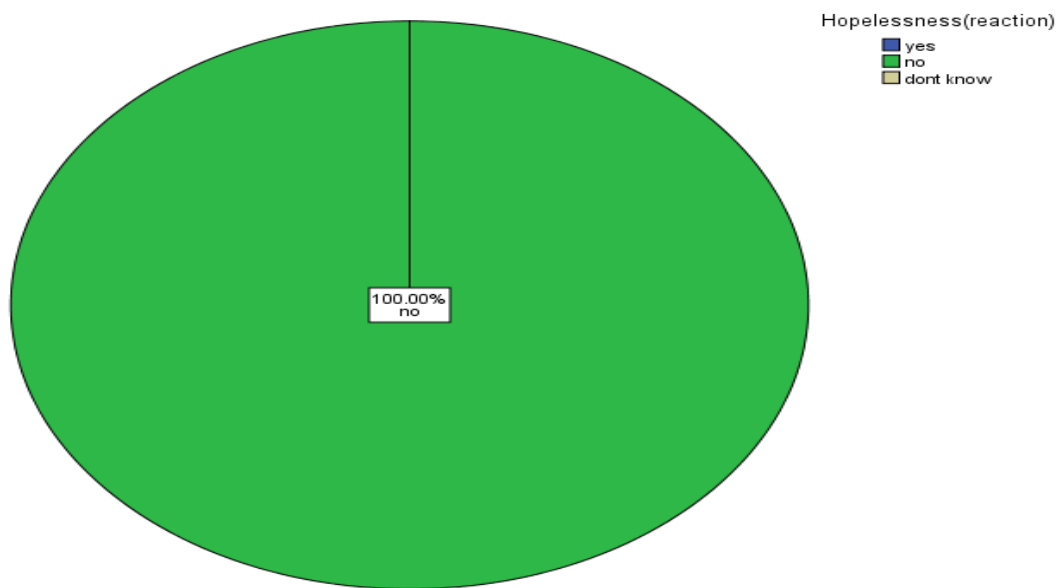
(Source computed)

100% of the respondent does not have the attitude of hopelessness .

10.5 Embarassment

Embarassment
(reaction)
- yes
- no
- dont know

10.00%
yes

90.00%
no

(Source computed)

Almost all the respondent which is 90% disagree to the statement while 10% of the respondent agree to the statement and non of them chose the option "don't know".

10.6 Indifferent

(Source computed)

 55% of the respondent disagree to the statement while 45% of the respondent agree to the statement and non of the respondent chose the option "don't know".
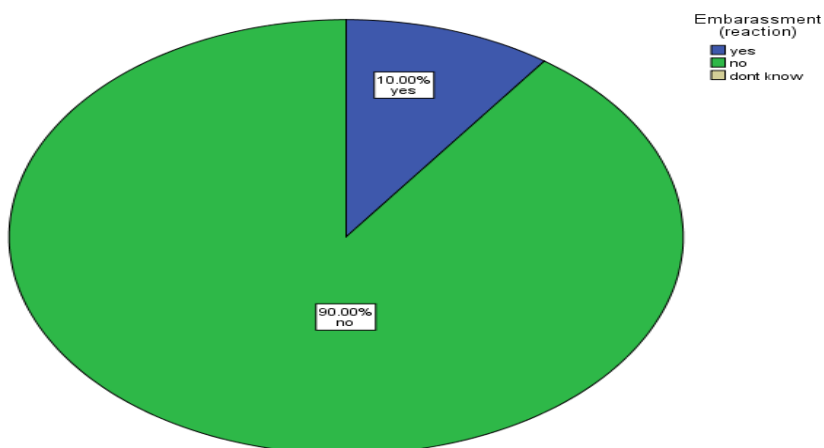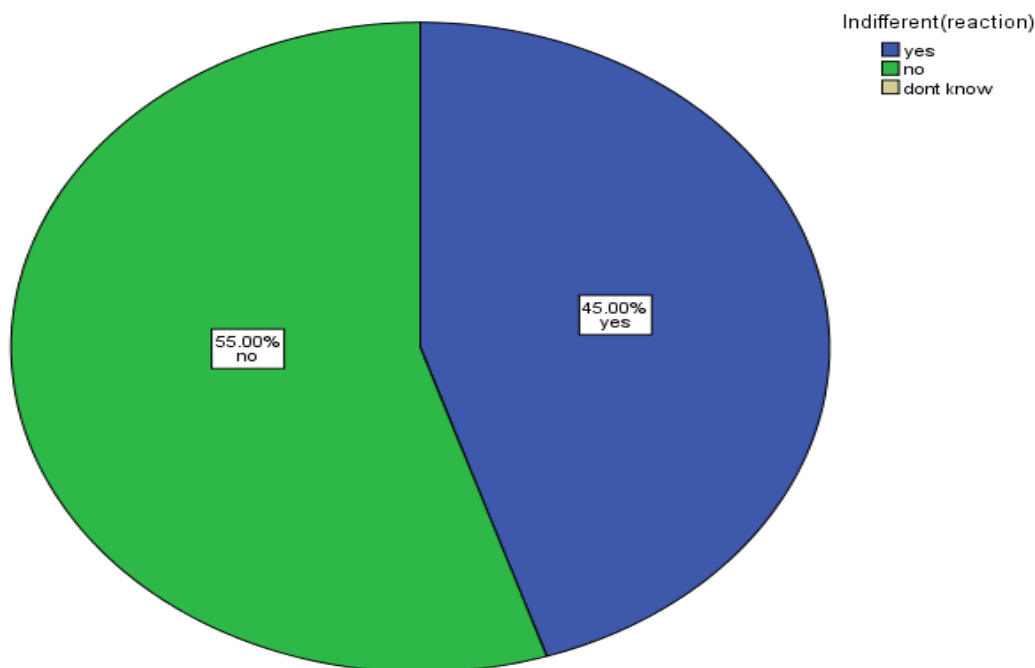

11. REACTION OF THE FAMILY,FRIENDS AND THE COMMUNITY AFTER KNOWING THE PATIENTS STATUS. (see table no 11).

11.1 After knowing status of your illness,what was the response of your family member

40% of the family member of the patients are supportive and 60% of the patients family act indifferent towards the patients.

11.2 After knowing your status of illness,what was the response of your friends

70% of the respondents friends have act indifferent towards the patients and 30% of the respondent friends are supportive.

11.3 How does your community/locality usually regard/treat person with TB?

The community of 90% of the patients act indifferent toward them while 10% of the patients community are supportive.

Table 11. Reaction of the family, friends and the community after knowing the patients status

After knowing status of your illness,what was the response of your family member		Frequency	Percent
criteria	supportive	8	40.0
	indifferent	12	60.0
After knowing your status of illness,what was response of your friends		Frequency	Percent
CRITERIA	Supportive	6	30.0
	Indifferent	14	70.0
How does your community/locality usually regard/treat person with TB?		Frequency	Percent
CRITERIA	supportive	2	10.0
	indifference	18	90.0

(Sources computed)

12. INFORMATION ABOUT TB

12.1 Do you feel the need to have more information about TB
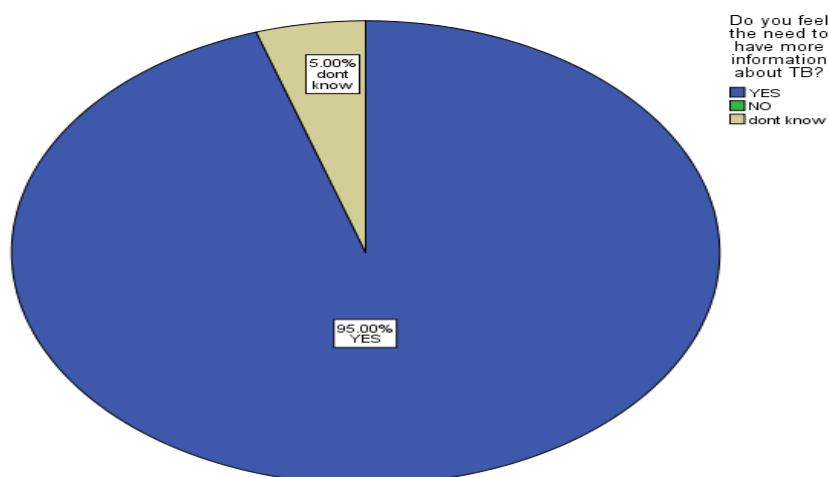
(Source computed)

From the figure 95% of the respondent have stated yes and 5% of the respondent does not have any knowledge and non of the respondent disagree to the statement.

12.2 What are/is the source of information that you think can mostly reach to you?

35% of the respondent reach out to the doctor while 5 % of the respondent reach out to the health care worker and 60% of the respondent reach out to both.

Table 12. Information about TB.

		Frequency	Percent
	Doctor	7	35.0
CRITERIA	Health care worker	1	5.0
	Both	12	60.0
	Total	20	100.0

(Source computed)

13. DIET PLAN OF TB PATIENTS

13.1 Do you think diet and nutrition is important for the cure of TB ?
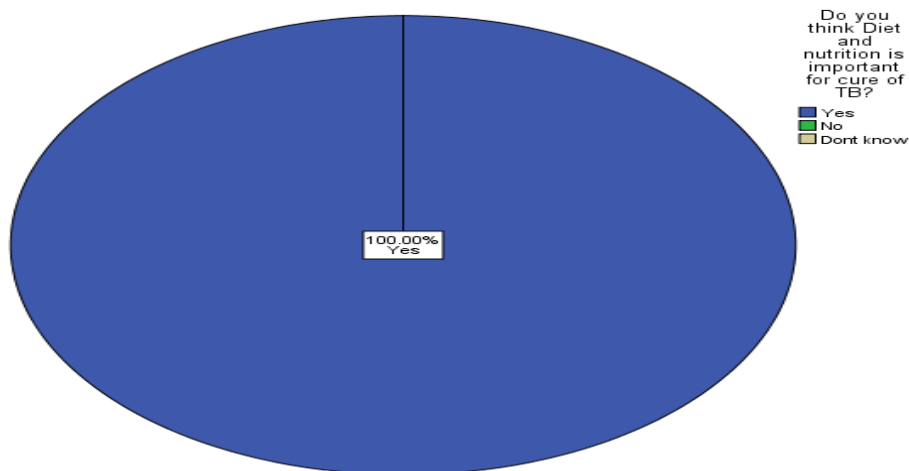
(Source computed)

 100 % of the respondent have agreed to the statement that diet and nutrition is important for cure of TB.

13.2 Do you think TB patients has right to work ?

Do you think TB patient has right to work?
- yes
- no
- dont know

100.00% yes
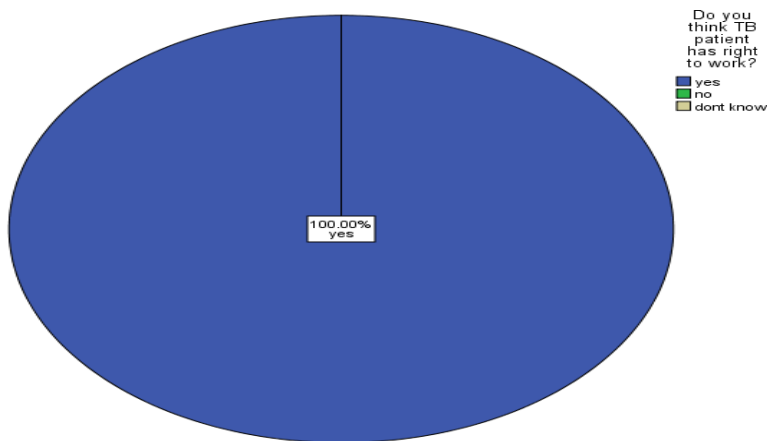
(Source computed)

100% of the respondents have agreed to the statement that TB patients has right to work.

13.4 Do you think TB patients has right to education?
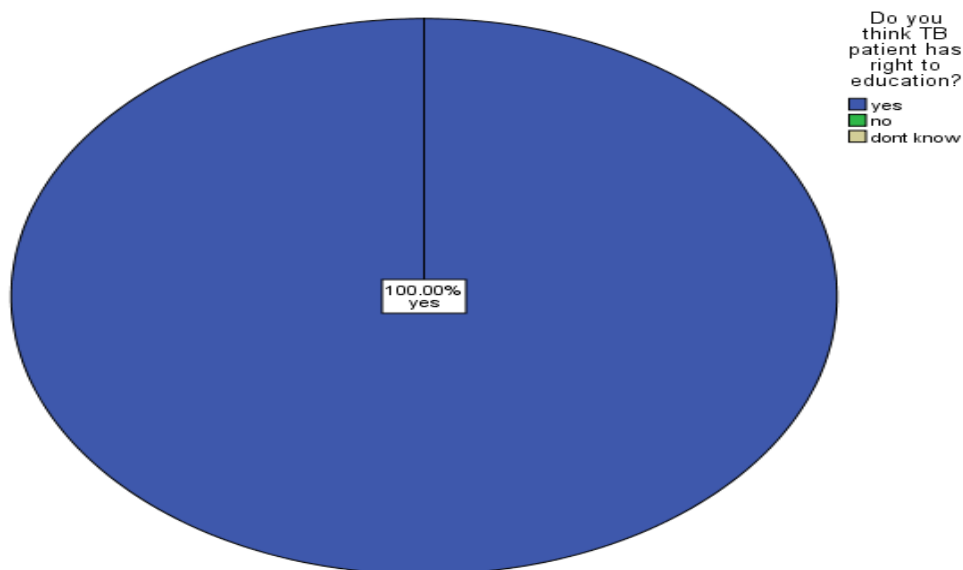
Do you think TB patient has right to education?
- yes
- no
- dont know

100.00% yes

(Source computed)

100% of the respondent have agreed to the statement that TB patients have the right to education.

13.5 Do you feel TB patient has right to nurture his/her child?

Do you feel TB patient has right to nurture his/her child
■ yes
■ no
□ dont know

100.00%
yes
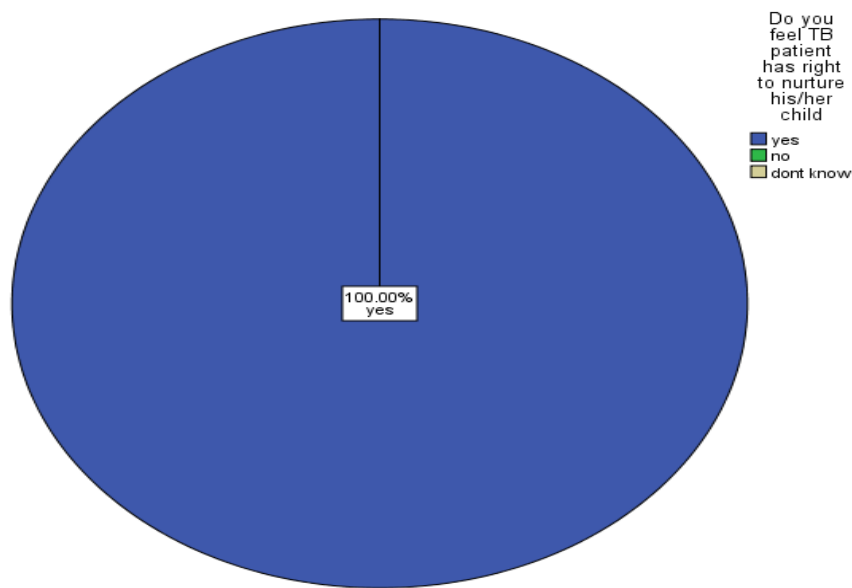
(Source computed)

From the figure shown above 100% of the respondent agreed that TB patients have the right to nurture his/her child.

14. KNOWLEDGE ABOUT TB TREATMENT

14.1 Treatment of TB

There are 95% who have been treated with patients treatment phase and 5% who have been treated with Intensive Phase. (see table no. 14)

14.2 When do you visit DOTS center

There are 80% respondent who have visited DOTS center once a week followed by 10% respondent who visited once in 15 days and 5% who visited three times a week and another 5% who have visited the center that were not on the optioin.

Table 14. Knowledge about TB treatment.

Treatment_of_TB			
		Frequency	Percent
CRITERIA	Patients treatment phase	19	95.0
	Intensive phase	1	5.0
When do you visit DOTS center?		Frequency	Percent
CRITERIA	three times	1	5.0

35

	aday a week		
	once a week	16	80.0
	once in 15 days	2	10.0
	others	1	5.0

(Source Computed)

14.3 Have you felt any side effects of TB drugs
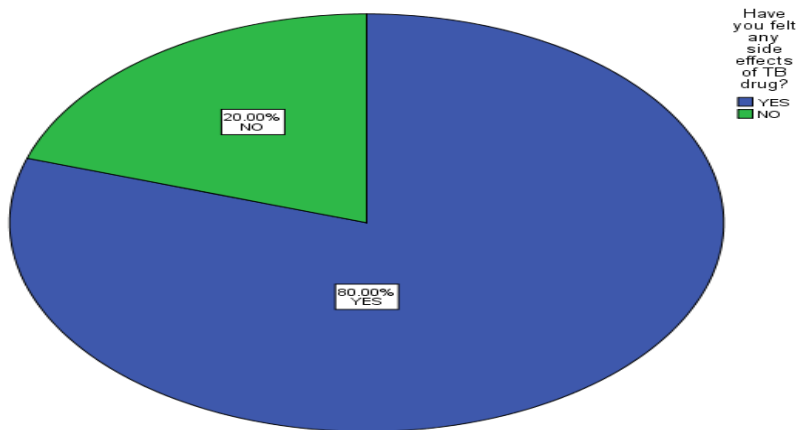
(Source computed)

80% of the respondent have faced TB side effect while 20% of the respondent does not.There are no respondent who chose the option "don't know".

15. FREQUENCY OF MEALS

15.1 Breakfast

60% of the respondent took their breakfast at 8 – 8 :30 followed by 35% respondent who took breakfast at 9 – 9:30 and 5% who took at 10 – 10:30 .

15.2 Lunch

50% of the respondent have their lunch at 1-1:30 followed by 45% who have their lunch at 12-12:30 and 5% who have their lunch at 2 – 2:30.

15.3 Evening snacks

50% of the respondent never take an evening snacks while 25% of the respondent have their evening snack at 3 – 3:30 with another 25% who had theirs at 4 – 4:30 .

15.4 Dinner

Over 60% of the respondent take their dinner at 6 – 6 :30 while 20 % of the respondent ate at 5 – 5:30 and another 20% at 7 – 7:30.

15.5 Breakfast (frequency of meals).

75% of the respondent took their daily meal while 25% of the respondent took on alternate days .

15.6 Lunch (frequency of meals).

85% of the respondent took their lunch daily and 15% took on alternate days.

15.7 Dinner (frequency of meals).

95% of the respondents took their daily dinner and 5% take it on alternate days.

Table 15 .Frequency of meals.

Criteria		Frequency	Percent
Breakfast	8-8:30	12	60.0
	9-9:30	7	35.0
	11-11:30	1	5.0
Lunch	12-12:30	9	45.0
	1-1:30	10	50.0
	2-2:30	1	5.0
Evening snacks	3-3:30	5	25.0
	4-4:30	5	25.0
	Never	10	50.0
Dinner	5-5:30	4	20.0
	6-6:30	12	60.0
	7-7:30	4	20.0
	Total	20	100.0

(Source computed)

16 FREQUENCY OF MEALS (daily/alternate days)

16.1 Breakfast (frequency of meals).

75% of the respondent took their daily meal while 25% of the respondent took on alternate days .

16.2 Lunch (frequency of meals).

85% of the respondent took their lunch daily and 15% took on alternate days.

16.3 Dinner (frequency of meals).

95% of the respondents took their daily dinner and 5% take it on alternate days.

Table 16 .Frequency of meals (daily/alternate days)

		Frequency	Percent
Breakfast	daily	15	75.0
	alternate days	5	25.0
Lunch	daily	17	85.0
	alternate days	3	15.0
Dinner	daily	19	95.0
	alternate days	1	5.0
	Total	20	100.0

CHAPTER – 6

CONCLUSION

The conclusion chapter includes the summary findings and conclusion of the findings. A suggestion for improvement and development is also highlighted in this chapter.

I. Major findings : The unit of the study focuses on the age of 18 – 70 years of age ,thereT are 45% which was the highest of them at the age of 18-30. There are 55% male which are more than female and majority of the respondent were Christian, Baptist denomination were the highest which is 55%.The education qualification are below HSLC, HSLC, HSSLC, Undergratuade, Graduate and post – graduate while majority of the respondent were qualified with HSSLC. The higest occupation was Government Jobs 30% and other 30% of the respondent have work other jobs which are out of the option, majority of the respondent intake family income with Government Jobs (50%).Nuclear family are the highest type of family (55%), 55% of the respondent were BPL.

Majority of the family size were 55% which is 1-5 members,3-4 rooms were the most occupied available rooms by the respondent which make the respondent 55%. The majority of the annual income was 200000-250000 response by the patients.

There are 95% respondents who were diagnosed at the public health center and 5% who were diagnosed at private health center.55% of the respondent health post/hospital center were situated 0.5 – 1 kilometre,30% of the respondents situated from their residence at below 0.5 while 15% situated their health post/hospital at 2.5-3 kilomotre .

According to the respondent 90% which means 18 respondent had started their treatment for the first time at public health center and 10% of them that makes the respondent 2 had started their first treatment at private health center. About 55% of the respondent stated that their DOTS center are situated in 0.5-1 kilometer and 25% of the respondents have stated their distance from the DOTS center were below o.5 kilometer,15% of them were on 1.5-2 kilometer and 5% were on 2.5-3 kilometer which make the conversion completed.

It is shown that 30% of the respondent that means 6 respondents state that there has been TB patients among their family member`s in the past and 70% of the respondent that means 14 respondent had never experiences this illness from their family member.

There are two types of TB that are Pulmonary TB and Extra Pulmonary –TB (EP-TB) and according to the respondent there are 50% which means 10 of the respondents have Pulmonary TB and another 10 of the respondents which make the percentage 50% again have EP-TB.

The treatment category have been divided into two category that are CAT-1 and CAT-2 .90% of the respondent which means 18 respondent have been treated with CAT-1 and 10% of the respondent which means 2 respondent have been treated with CAT-2.

TB disease can cause issues to the patients in different parts of the body and by the statement of the respondent of the TB patients it is shown that 20% of them are affected by TB in their Lungs and 5% each of the respondent have weak muscles and weak bones ,10% of the respondent have swelling followed by 25% of the respondents who have fatigue and another 5% of the respondent have chest pain while 30% of the respondents did not have any problem and they did not even notice that if TB could cause such thing.

After conducting survey their knowledge about the cause of TB were :

Heredity : 10% of the respondent have said that TB is caused by hereditary and 20% of the other respondents stated it has not been caused by hereditary while another 70% does not know.

Cursed : It is shown that TB has not been caused by a cursed as 55% of the respondent state that it is not and the other 45% stated that they did not know whether it is caused by a curse or not.

Smoking : It is clear that almost all the respondent which is 65% did not know smoking can cause TB and 10% of the respondent say smoking cannot cause but 25% of the respondent agreed that smoking can cause TB.

Alcohol : 80% did not know TB could be cause by alcohol followed by 20% of the respondent that says alcohol do not cause TB and non of the respondent agreed that alcohol can cause TB.

Poor diet : 80% do not agree that poor diet can cause TB and 20% did not know such thing can be happen while no respondent say yes to the question.

Germs/Bacteria : Over 65% of the respondent had agreed that germs can cause Tb followed by 25% who did not know and 10% who do not agree.

Others : 10% of the respondent think that other things which are out of the option can also cause TB while almost all of the respondent which is 90% did not know what will cause TB rather than the option .

The knowledge about communicable nature of TB disease is that 40% of the respondents have agreed that TB is a communicable disease followed by 30% who does not agree and another 30% who did not know whether it is communicable disease or not. Over 80% of the respondents agreed that covering mouth and nose while coughing can prevent others from infection while 20% of the respondent does not know anything about it.90% of the respondents does not know avoid sharing utensils can prevent others while 10% does not agree. 35% of the respondent agree that avoiding spitting in open areas have prevent others from getting infected while 60% does not have any knowledge and 5% does not agree . Non of the respondents have agree that closing windows at home can prevent others from infected while 85% does not have knowledge and 15 % does not agree.

The knowledge of the patients about their illness symptoms are coughing that last longer than a weeks and 70% of the respondents have agreed to it while 25% does not have a knowledge nd 5 % dies not agreed. Ongoing fatigue was agreed by 30% of the respondents while 5%did not and more than half of the respondents does not have any knowledge . 25% of the respondents have face the symptoms of weight loss while 70% does not have any knowledge and 5% of the respondent did not agreed.Fever symptoms were faced by 45% of the respondents while 55% of the respondent does not have any knowledge about it and there are no one who chose the option no for this statement. 5 % of the respondents agreed that

swelling is a part of the TB symptoms while 85% does not have a knowledge about it and 10 person does not agreed to it.

The knowledge about the diagnostic of TB as response by the patients/respondents were from X-Ray 25% of the respondent have diagnosed and 75% does not know anything about it while non of the respondent chose the option no.

80% of the respondents have agree that TB is diagnosed by sputum test while 15% does not have knowledge and 5% does not agree. 45% of the respondent are diagnosed by blood while 50% does not have the knowledge about it and 5% of the respondent chose the option no

The prevention for TB which is vaccination for immunazation of TB for children is free of cost as well as the treatment fees of the patients were also free of cost.

The attitude of the TB patients were classified as their first feelings after knowing their status such as 75% of the respondents does not have any fear feelings while 25% of the respondents have the feeling of fear ,100% of the respondents does not have any sad feelings at all, 70% of the respondents does not have the feelings of denial while 30% of them does, 90% of the respondents does not have the feelings of embarrassment while 10 % of the does,100% of the respondents does not have the feeling of hopelessness while 55% of the respondents does not feel indifferent but 45% of them does.

The reaction of the family of the patients are supportive and indifferent and the respondents friends responses are also supportive and indifferent as well as the community also does not shows any discrimination towards them but instead support them and act indifferent towards them.

About the information or knowledge about the disease itself 95% of the respondent find it importants to have knowledge about the disease while 5% of them does not know the importance and non of them disagree with it.

The source of information that is mostly reach is with both the doctors nad health worker which 60% while 35% reach out to the doctors and 5% reach out to the health worker.

100% of the respondents have find it importants to take proper diet and nutrition for the cure of TB. 100% of the respondents have response that TB patients have the right to go to work,education and nurture his/her child .

There are 2 phases at the treatment and 95% of the respondents are treated with patients treatment phase while 5% of the respondents are treated with intensive phase.The patients often visit the DOTS centre once a week which make the conversion into 80% ,10% have visited once in 15 days while 5% of the respondents have visited three times a week and another 5% visit on the other days which are not mention on the option.80% of the respondents have felt the side effect of the medicine while 20% of the respondents does not.

The frequency of the meals taken by the patients were :

Breakfast :60% of the respondents took their breakfast around 8-8:30 while 35% of the respondents ate around 9-9:30 and 5% of the response other.

Lunch :50% of the respondents have their luch at 1-1:30 while 45% of the respondents have theirs at 12-12:30 and 5% response other.

Evening snacks : 50% of the respondents have never take their evening snacks while 25% of the respondents have their evening snacks at 3-3:30 and another 25% have theirs at 4-4:30.

Dinner : 60% of the respondents ate their dinners at 6-6:30 while 20% of them take theirs at 5-5:30 and another 20% have it on 6-6:30 .

 The majority of the respondents 75% take their breakfast daily while 25% of the respondents have their breaskfast at alternate days.Luch have been taken by 85% of the respondents daily while 15% of the respondents have on alternate days.Dinners have been ate by 95% of the respondents daily while 5% have it on alternate days.

II. Conclusion :

The findings of the study is that the patients have no problem regarding their treatment while there are some patients which do not take any serious thought about their medication and treatment, those patients were mostly IDU and they have also been diagnosed with HIV/AIDS. Some other patients have lack of knowledge about the illness which took the survey very difficult because they are unable to work with. Majority of the patients does not want any face to face interactions so it has been conducted through telephonic interview while some of them hide their illness among other or even their family due to their figures in the community or in the society. The attitude they have towards their illness and the attitude of the family,friends and the community are all positive.

Tuberculosis : Affecting the working age group of population with mean age of 18-30. This causes huge economic burden on the family and society at large. People living in the present study are in the area of Lunglei district

Knowledge : Knowledge about etiology, communicable nature of disease, symptoms and diagnostic tests for tuberculosis is good. But with knowledge there are misconception also about etiology of disease like attributing alcohol, smoking, hereditary and curse as etiology of disease. Knowledge about MDR-TB (0.6%) and was very poor that clearly shows the important of more awareness on Tuberculosis.

Attitude of the TB patients : The patients were not very high on the knowledge of the disease and also among the IDU more awareness has to be organised,how can TB effect them if they are diagnosed with HIV/AIDS too.

The support of family, friends and the locality are positive towards the patients.Proper diet and nutrition are important by all the respondents for the cure of TB. There was felt need of information about TB disease among TB patients. Doctors were the most preferred source of information.

Suggestion :

The findings suggest that more and more awareness of Tuberculosis should be held among the TB patients and also it is really importants for the IDU to take good care of themselves and regularly take their medicines because most of them have also been diagnosed with HIV/AIDS.

    As The TB social worker can assist by locating patients, assisting them with permanent housing options, and helping with coordinating transportation to ensure patients get to their

needed TB appointments. Patients with active tuberculosis may need to be in respiratory isolation.

As a social worker, crucial roles can be played in helping tuberculosis patients.

1. Assist with treatment adherence: TB treatment is a long and arduous process that requires strict adherence to medication schedules. Patients can be helped by providing them with information about the importance of adhering to their treatment regimen, monitoring their progress, and addressing any concerns they may have.

2. Provide emotional support: A TB diagnosis can be overwhelming and stressful for patients. Emotional support can be provided by listening to their concerns, offering encouragement, and connecting them with support groups or other resources.

3. Advocate for patients: Advocator role can be played for patients by helping them navigate the healthcare system, connecting them with financial assistance programs, and arranging interpreters for healthcare appointments.

4. Educate the community: Awareness can be raised on TB by educating the community about the disease, its symptoms, and how it spreads. This can help reduce stigma and encourage people to seek treatment if they suspect they have TB.

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APPENDICES

Knowledge, attitude and practice of tuberculosis patients in Lunglei District

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Bachelor of Social Work	Department of Social Work
Higher and Technical Institute, Mizoram	Higher and Technical Institute, Mizoram

(The statements given below are **confidential** and it will be used for research purpose only)

Interview Schedule

DATE: ____/___/2014 A. PRELIMINARY DATA:

Name:_____Age_____ Sex_____

Address:

_____

Occupation: _____ Education: _____

z 1. What is your marital status?

1) Married 4) Separated 2) Widow/widower 5) Unmarried 3) Divorced

2. Ownership of house:

1) Self 2) Rented

3. How many rooms are there in your house?

1) 1 Room 2) 2 Room 3) 3 Room 4) More than 3 rooms

4. How many members reside in your House? _____

5. Where you were first diagnosed with TB?

1) Public health center 2) Private health center

6. Which place did you start the treatment for first time?

1) Public health center 2) Private health center

7. Since How Long you are undergoing Treatment for TB at this DOTS center?
_____

8. How far is your Health post/Hospital center situated from your residence?
_____

9. How far is DOTS center situated from your residence?
_____

10. Family History of TB(had/has) _____

11. Type of TB

1) Pulmonary TB 2) EPTB

12. Treatment Category of Patient

 1) Cat 1 2) Cat 2

 A. Questions on Knowledge of TB Type of TB

1. Which parts of Body can get affected by TB?
_____

Etiology of TB

 3. What is/are the causes for TB?

 1. Hereditary

 1. Yes 2. No 3. Don"t Know

2. Curse

1. Yes 2. No 3. Don"t Know

3. Smoking

 1. Yes 2. No 3. Don"t Know

 4. Alcohol

1. Yes 2. No 3. Don"t Know

5. Poor diet

1. Yes 2. No 3. Don"t Know

6. Germ

 1. Yes 2. No 3. Don"t Know

 7.Others

1.Yes 2.No 3.Don't Know

Mode of Transmission

 4. Is TB a communicable disease?

 1) Yes 2) No 3) Don"t Know 5.

 If yes then how TB is spread from one person to other?

1) Water 2) Air 3) Food 89) _____ 99) Don"t Know

Symptoms of TB

6. What is/are the symptoms of TB?

1) Cough that lasts longer than 3 weeks 1. Yes 2. No 3. Don"t Know

2) Weight loss 1. Yes 2. No 3. Don"t Know

3) Fever 1. Yes 2. No 3. Don"t Know

4) Swellings 1. Yes 2. No 3. Don"t Know

5) Ongoing fatigue 1. Yes 2. No 3. Don"t Know

99) Do not know

Diagnosis of TB

7. Which of the following test are used for Diagnosis of TB

1) Sputum Test

1. Yes 2. No 3. Don"t Know

2) X-ray

1. Yes 2. No 3. Don"t Know

3) Blood

1. Yes 2. No 3. Don"t Know

Prevention of TB

8. Is there a TB vaccine available for immunization in children?

1) Yes 2) No 99) Don"t know

9. How can a person prevent spreading TB?

1) Covering mouth and nose when coughing or sneezing 1. Yes 2. No 3. Don"t Know

2) Avoid sharing Utensils 1. Yes 2. No 3. Don"t Know

3) Avoiding spiting in open 1. Yes 2. No 3. Don"t Know

4) Closing windows at home 1. Yes 2. No 3. Don"t Know

99. Do not know

10. What is the fee of TB treatment at government Health facility? 1) Free 2) Charged
_____ 99) Don"t know

B. Attitude towards T.B.

Attitude on Being a TB patient

1. What was your reaction when you found out that you have TB?

1) Fear 1. Yes 2. No

2) Denial 1. Yes 2. No

3) Embarrassment 1. Yes 2. No

4) Sadness 1. Yes 2. No

5) Hopelessness 1. Yes 2. No

6) Indifferent 1. Yes 2. No

2. After Knowing status of your illness, what was response of your family Members?

1) Supportive 2) Indifferent 3) Unsupportive 4) other _____

3. After Knowing status of your illness, what was response of your friends?

1) Supportive 2) Indifferent 3) Unsupportive 4) other _____

4. How does your Community/locality usually regard/treat person with TB?

1) Supportive 2) indifference 3) Unsupportive 4) Others
_____ Information about TB

5. Do you feel the need to have more information about TB?

1) Yes 2) No 3) Don"t Know

6. What is/are the sources of information that you think can most effectively reach to you?

1) Doctor 2) Health care worker 3) Both 89) Other_____ Treatment of TB

7. Do you think Diet and Nutrition is important for cure of TB?

1) Yes 2) No 89) Don"t Know

Rights of TB patient

8. Do you feel TB patient has equal right to participate in family and community festival?

1) Yes 2) No 89) don"t know

9. Do you think TB patient has right to work?

1) Yes 2) No 89) don"t know

10. Do you think TB patient has right to Education?

1) Yes 2) No 89) don"t know

11. Do you feel TB patient has right to nurture his/her child?

1) Yes 2) No 89) don"t know

C. Practices of TB patient

Treatment of TB

1. Patient treatment phase 1) Intensive Phase 2) Continuous phase

2. When do you visit DOTS center?

1) Three day a week 2) Once a week 3) Once in 15 days 4) Daily 89) Others_____

3. When do you visit Doctor during course of Treatment?

1) Alternate days 2) Once a week 3) Once in 15 days 4) Daily 89) Others_____

4. Have you felt any side effects of TB Drugs? 1) Yes 2) No

5. If Yes, When you suffer any of side effects of drugs to whom do you consult?

1) Doctor 2) Health care worker 3) DOTS Provider 4) Chemist 5) Other

6. If Doctor then which Doctor? 1) Private Doctor 2) Health post/Hospital

7. How many times you have missed taking TB Drugs? 1) Never 2) Once 2) Twice 89) Other
_____

8. Have you been out of station during the course of treatment? Yes/No If yes, then how do you manage to continue the treatment?

_____

Dietary Practice

9. Time of Diet

	Time around which it is consumed
Breakfast	
Lunch	
Evening snacks	
Dinner	

10. Frequency of following Meals on an average in a week

Breakfast

1) Daily 2) Alternate Days 3) 3-4 times a week 4) Twice a week 5) Once a week 6) Never

Lunch

1) Daily 2) Alternate Days 3) 3-4 times a week 4) Twice a week 5) Once a week 6) Never

Dinner

1) Daily 2) Alternate Days 3) 3-4 times a week 4) Twice a week 5) Once a week 6) Never