

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE
DEPARTMENT OF POST BASIC NURSING

**A STUDY TO DETERMINE TB TREATMENT SUPPORTERS'
KNOWLEDGE ON TB TREATMENT AND PREVENTION IN
LUSAKA URBAN DISTRICT**

BY

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LIST OF ABBREVIATIONS

1. AIDS	-	Acquired Immune deficiency Syndrome
2. CBoH	-	Central Board of Health
3. CITC	-	Current Issues on tuberculosis Control
4. DHMT	-	District health management team
5. DOTS	-	Direct Observed Therapy Short course
6. HIV	-	Human Immune Deficiency Virus
7. ITG	-	Integrated Technical Guidelines
8. MDR-TB	-	Mult-drug Resistant Tuberculosis
9. MoH	-	Ministry of Health
10. NTLP	-	National Tuberculosis and Leprosy Programme
11. PTB	-	Pulmonary Tuberculosis
12. STI	-	Sexually Transmitted Infection
13. TB	-	Tuberculosis
14. WHO	-	World Health Organization
15. ZATULET	-	Zambia Tuberculosis and Leprosy Trust
16. ZDHS	-	Zambia Demographic and Health Survey
17. NGO	-	Non Governmental Organization

DECLARATION

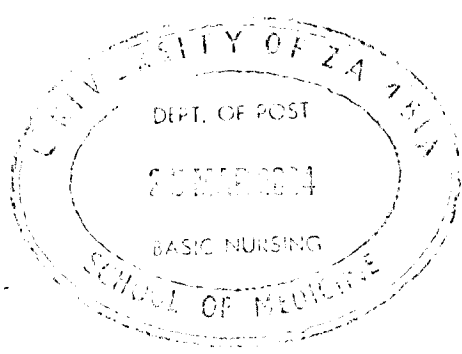
I hereby declare that the work presented in this study for the degree of Bachelor of Science in Nursing has not been presented either wholly or in part for any other degree and is not being currently submitted for any other degree.

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CANDIDATE

Date: 23rd M

Approved: Alrodo
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Date: 25/08/24

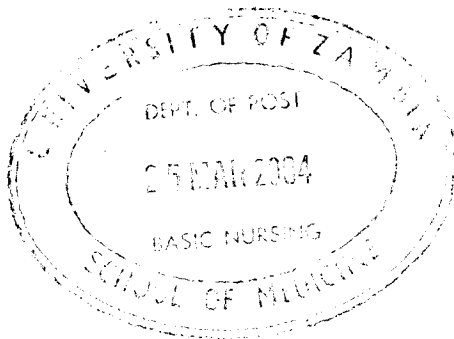


STATEMENT

I hereby certify that this study is entirely the result of my own independent investigations. The various sources which iam indebted to are clearly indicated in the text and in the references.

Signed: Akaya

Date: 23rd March 2004



DEDICATION

I dedicate this study to my beloved sister Josephine Inkaya who encouraged me to come to school and took the responsibility of taking care of my son while I was away.

To my son Joseph especially that I left him when he really needed my presence.

To my parents who have always wanted to see me graduate from the University.

ABSTRACT

The number of TB cases has been rising rapidly over the years. TB is among the top ten causes of morbidity and mortality in Lusaka and Zambia as a whole. Reasons for the rapid rise in TB cases include; high rates of HIV/AIDS in sexually active age groups, poverty, overcrowding, late identification of TB cases and failure to adhere to treatment by clients (among other reasons). Therefore, the prevalence of TB can be reduced by improvements in nutrition and housing as well as efforts to fight the spread of HIV/AIDS. Meanwhile, treatment of TB is the effective means of stopping the spread of germs.

DOTS was adopted by WHO as an effective TB control strategy in 1993. Most countries worldwide have adopted DOTS, though in most developing countries (Zambia inclusive), the coverage has been low. Implementation of DOTS in Zambia started in 1996. In spite of DOTS implementation, PTB incidence rate in Lusaka (and Zambia as a whole) continues to rise and to be a threat to the health of individuals in Zambia. Health workers are not effectively implementing DOTS because they observe clients at the health center and not in their homes, hence, the need to train TB Treatment Supporters. Lusaka DHMT in conjunction with NGOs trained TB Treatment Supporters who observe TB clients at home when taking drugs especially those critically ill and those who stay far from the health facility. Thus, it was necessary to undertake the study in order to determine their knowledge on TB treatment and prevention because the level of knowledge can either influence their work positively or negatively.

Literature was reviewed globally, regionally and nationally and generally revealed that compliance to TB treatment largely depends on DOTS implementation. TB Treatment Supporters help in the implementation of DOTS. However, of all the studies that were reviewed, no study looked at, "determining TB Treatment Supporters' knowledge on TB treatment and prevention". Therefore, it was necessary to undertake this study in order to fill the gap.

A descriptive, quantitative, cross-sectional study design was used. The study was conducted from June 2003 to January 2004 in Lusaka Urban District; the pilot study was done in Chawama compound while the main study was done in Kamanga, Chainta, Kalingalinga and Chipata compounds. A sample size of 50 respondents was selected (for the main study) using simple random sampling and rotary technique; meanwhile 5 respondents were selected for the pilot study. A structured interview schedule was used in the collection of data. The data was analyzed manually by use of spreadsheets and a scientific calculator and it was presented on frequency tables, pie chart and cross tabulations.

The study revealed that majority (76%) of the respondents were females. This could be attributed to the fact that there are more females than males in Zambia and also the fact that females are generally carers of the sick. Therefore, they are likely to join support groups that render care to the sick. The study also revealed that majority of the respondents were in the age-groups 30-39 years (36%) and 40-49 years (34%), maybe because people in these age-groups are normally active and independent. On the other hand, those who are below 30 years may still be at school (occupied with school work) and dependant, while those above 49 years may be inactive (their work involves following clients in their homes) and not manage to walk long distances. Majority (70%) of the respondents had medium level of knowledge. This could be attributed to the fact that respondents acquired knowledge from a variety of sources despite their educational level. They acquired knowledge from other support groups such as home based care since some of them were also members. In addition, they acquired knowledge from health personnel, the media as well as friends. The study also revealed that respondents with high level of education had high level of knowledge; 50% of respondents with college education had high level of knowledge. This could be attributed to the fact that people with high level of education can easily assimilate what they are taught and/or read on the subject.

The hypotheses; "the higher the level of education of the TB Treatment Supporters, the higher the level of knowledge on TB treatment and prevention" has been proven. Employment status positively affects the acquisition of knowledge; 33% of respondents with formal employment had high level of knowledge. The study also revealed that knowing alternative TB treatment has a negative effect on their level of knowledge. Ten percent (10%) of respondents who knew that herbs could be used to treat TB had low level of knowledge. The study findings also revealed that 82% of respondents suggested the need for remuneration. Remunerating TB Treatment Supporters is likely to motivate them to know more on TB treatment and prevention and also to put much effort in their work.

Major recommendations were:

- Need for MoH, Lusaka DHMT and other stakeholders to consider remunerating the TB Treatment Supporters because this can motivate them in their work thereby minimizing the issue of some members becoming inactive shortly after being trained.
- Need to train TB Treatment Supporters in other communities of Lusaka district so that their impact can be felt widely.
- Health workers to continuously update TB Treatment Supporters with knowledge on TB treatment and prevention.

CHAPTER ONE

1.0. INTRODUCTION

1.1. BACK GROUND INFORMATION

Zambia is a landlocked country located in the Sub-Sahara African Region with an average elevation of between 1,000 and 1,500 meters above sea level. It covers an area of 752,614 square kilometers and it has common borders with the following: Democratic Republic of Congo and Tanzania in the North. Malawi and Mozambique in the East, Zimbabwe and Botswana in the South, Namibia in the Southwest and Angola in the West. For administrative purpose, the country is divided into 9 provinces and 72 districts (Zambia Demographic and Health Survey, 2001-2002). According to the 2000 census, the population of Zambia was 10,285,631.

Copper mining was the backbone of the country's total export earnings. In the mid 1970s' following a sharp decline in copper prices, the country's economy deteriorated. Attempts were made to minimize dependency on copper exports by diversifying the economy through creation of import substitution parastatals. This effort did not achieve the desired results. The 1980s marked the start of the first phase of implementing the Structural Adjustment Programme (SAP) in a stagnating economy. However, SAP failed to alter the economy structurally and exacerbated poverty among the majority of Zambians.

Currently, around 73% of Zambians are classified as poor. Poverty is more prevalent in rural areas compared to urban areas (83% and 55%, respectively). Lusaka and Copper belt provinces have the largest unemployed population accounting for 27% of the labor force (ZDHS 2001- 2002). The high unemployment levels among the populace has affected the socio-economic status of the country. This has led to the poor buying power of the people and

consequent malnutrition and low immune levels leaving them prone to opportunistic infections. This has worsened during the HIV/AIDS pandemic. The worst of the opportunistic infections is Pulmonary Tuberculosis (PTB).

1.1.1 HISTORY, DEVELOPMENT AND ORGANISATION OF NATIONAL TB PROGRAMME

The National TB Control Programme was initially established in 1964 and later combined with the Leprosy Control Programme in 1980. It received support from the government of the Netherlands from 1988, mainly in the provision of Anti-TB drugs. In 1991, following a review of the programme by the governments, a five-year development plan was developed based on recommendations of the evaluation team which singled out the lack of management capacity and skills for TB control at all levels. In 1994, the government of Netherlands financed a two year action plan for TB control support to the district with the aim of improving the results of the programme through the training of staff and strengthening the system of supervision of all levels; in addition to the provision of anti-TB drugs. The two-year agreement was extended in 1996 and ended in 1997. In 1996, in line with the health reform policy, Ministry of Health integrated vertical programmes including the TB programme into one public health system run from the district level.

TB focus was lost and key activities of TB control such as reporting and recording; patient follow-up and treatment outcome monitoring were not being performed in the majority of districts. However, the vertical programme of TB control activities was discontinued in 1997. Later in 2000, TB/HIV/AIDS council was formed to control the spread of TB. TB programmes were merged with HIV/AIDS programmes in order to have equal funding because of the relationship between PTB and HIV. Programmes that are aimed at reducing PTB cases are funded through this council thereby contributing to reducing PTB cases (Central Board of Health, 2000).

1.1.2 TB, A HEALTH PRIORITY

TB is a contagious disease caused by mycobacterium Tuberculosis germs. It spreads through the air when infectious people cough, sneeze, talk or spit they propel TB germs into the atmosphere (World Health Organization, 2000).

1.1.3 TB SITUATION IN ZAMBIA

In Zambia, TB is a major and growing health problem. As many as 100,000 Zambians have active TB. The number of TB reported each year has more than tripled in the last 10 to 15 years largely as a result of the HIV epidemic. TB is still among the top ten killer diseases in Zambia. It accounts for about one out of every six adult deaths in Zambian hospitals (Integrated Technical Guidelines, 1997). Chanda, 2001, quoting Van Broeck, et al, 1999, revealed that Zambia is one of the countries with the highest number of TB cases in the world. TB is rated as the biggest killer of economically productive people who are infected with HIV/AIDS in Zambia. It accounts for two thirds of deaths each year. The number of TB cases has been rising rapidly over the years. Ministry of Health, 2001 reports that the rate of notified cases of all forms of TB remained at around an average 100 per 100,000 population between 1964 and 1984, indicating a steady increase situation. During the period 1985 to 1994, the absolute number of notified cases (all forms increased from about 8,000 in 1985 to over 38,000 in 1996), tripling the case-detection rate from about 100 to over 400 per 100,000 population.

Because of the increase in the prevalence of TB, Zambia has committed itself to the attainment of health for all by the year 2000 and beyond. The National Population and Development Programme and Health Reforms established the government commitment to improve health of the population by progressing towards the achievement of the following targets:

- To bring TB infection under control

- To reduce the incidence of STI/HIV/AIDS and Respiratory Tract Infections (National Health Policies and Strategies, 1992). Central Board of Health *has included TB as one of its priority thrusts in its strategic plan of 2001 to 2005* in order to achieve the above targets.

TB was included as one of the priority thrusts because of the increase in TB cases. The reasons for the increase include high rates of HIV in sexually active age groups, poverty and overcrowding in homes and compounds, failure to identify cases early by the health providers and failure to adhere to treatment by clients. This has led to the development of multi-drug resistant strains of TB (MoH, 2001). These growing problems associated with TB led to it being declared a "National Disaster" (Luo, 1999).

The key to preventing TB and the multi-drug resistant TB is to control its spread from people with chronic cough. The prevalence of TB will also be reduced by improvements in nutrition and housing and efforts to fight the spread of HIV/AIDS. Treatment of TB is the effective means of stopping the spread of TB germs (ITG, 1997). In 1993, WHO adopted Direct Observed Therapy Short course (DOTS) as an effective TB control in response to the global emergency. This is where a supervisor directly observes the patient swallow his/her drugs. This is especially critical during the first two months of treatment when the patient is seriously ill, and at risk of acquiring drug resistance and becomes an infectious threat to others. A TB programme brings treatment to patients wherever they live. A strategy has to be found of how to achieve this. Hence it was decided that for TB patients living close to a health facility, DOTS supervisor can be one of the health staff, while for TB patients living far from a health facility, the supervisor can be a trained local community member (WHO, 1999).

Since DOTS was introduced on a global scale, thousands of infectious patients have received effective DOTS treatment. By the end of 1998, all 22 of the high disease burden countries which bear 80% of the estimated incidence cases had

adopted DOTS, but many of these countries still have a low DOTS coverage. Forty-three percent (43%) of the global population had access to DOTS double the fraction reported in 1995. In the same year, 21% of estimated TB patients received treatment under DOTS. WHO targets are to detect 70% of new infectious TB cases and to cure 85% of those detected. Six countries had reached these targets. DOTS combines five elements for its successful outcome. These are the following:

- i. Political commitment
- ii. Laboratory services
- iii. Surveillance
- iv. Monitoring systems and use of highly efficacious regimes with direct observation treatment (WHO, 2000).

Once patients with infectious TB (bacilli visible in sputum smear) have been identified using microscopy services, health and community workers and trained volunteers observe and record patients swallowing the full course of the correct dosage of Anti- TB drugs (treatment lasts six to eight months). Sputum smear testing is repeated after two months, to check progress and again at the end of treatment. A recording and reporting system documents patients' progress throughout, and the final outcome of treatment (WHO, 2000). In most developing countries, despite the availability of highly effective treatment regimens for TB, cure rates remain unacceptably low mainly as a result of patients not taking the prescribed drugs regularly (WHO, 1999).

Implementation of DOTS in Zambia started in 1996, though coverage has been low. In government health centres, patients are required to go to the clinic everyday (morning) to take Anti-TB Drugs while being observed by the health worker. This is mostly applicable for patients staying near the health centre. Meanwhile, DOTS is being implemented by the Roman Catholic Church and NGOs' for instance Care International. These organisations have trained Home Based Care providers as well as other local community members who assist in

taking drugs to TB clients who are very ill (and unable to walk to the health centre) and also those who stay far from the health centre.

In Lusaka, there are Home Based Care Providers as well as NGOs implementing DOTS. TB Treatment Supporters have been trained by Lusaka DHMT in conjunction with NGOs. NGOs implementing DOTS include:

- Zambia TB and Leprosy Trust (ZATULET): this is situated in Kalingalinga and Chainda Compounds.
- Interfaith : situated in Chawama Compound
- Kamanga Centre in Chelstone
- Bwafwano center in Chipata Compound.

According to the District TB and Leprosy Coordinator, these TB Treatment Supporters are implementing DOTS in their communities. Therefore, there is need for them to have a sound knowledge on Anti-TB Treatment and prevention modalities. Meanwhile apart from giving drugs to patients, TB Treatment Supporters also give health education to patients and their families on TB treatment and prevention. They also help in defaulter-tracing, contact tracing and other activities.

1.2 PROBLEM STATEMENT

TB is a major public health problem in Zambia ranking among the top ten causes of morbidity and mortality especially in the young economically productive adults (CBoH, 2000). TB accounts for some 13% of all adult hospital deaths in Zambia (Ministry of Health, 2001).

As many as 100,000 Zambians have active TB. The number of TB reported each year has more than tripled in the last 10 to 15 years largely as a result of the HIV pandemic. It is believed that 80% of all HIV positive people in Zambia have PTB (ITG, 1997). HIV reduces a person's immunity leading to opportunistic

infections. TB is the commonest opportunistic infection in HIV infected people. This relationship between TB and HIV has brought difficulties in case finding, treatment and follow up due to dramatic increase in the number of cases (MoH, 2001).

There is a steady increase in the case detection rate of TB among the Zambian population which has increased from 400/100,000 in 1994 to 425/100,000 in 1996. Of the cases registered in recent years, about 40% are smear positive PTB patients, but considerable differences exist between the provinces, ranging from 20% to 50% (MoH, 2001). Notifications from Lusaka District Health Management Team (DHMT) for 2001 and 2002 indicate a 9% in new smear positive TB cases and 4% increase in new smear positive relapse cases (see table 1 and 2). 'This is a very serious situation as one infected TB client can infect 10 to 15 people (WHO, 2000).

DOTS strategy was adopted in Zambia in 1996 as an effective means of TB treatment and control. However, health center staff are not effectively implementing DOTS because they observe clients at the health center and not in their homes. Thus the need to involve relatives and trained community members in supervising TB clients. Lusaka district has trained TB Treatment Supporters who supervise TB clients as they take their drugs daily in their homes. Therefore, there is need to determine their knowledge on TB treatment and prevention since the level of knowledge can either affect their work positively or negatively.

TABLE 1: ANNUAL TB NOTIFICATION

YEAR	NEW SMEAR POSITIVE	SMEAR NEGATIVE	EXTRA PTB	SMEAR POSITIVE RELAPSE	SMEAR NEGATIVE RELAPSE	TREATMENT FAILURE	DEFAULTER	TOTAL
1999	3,083	7,309	3,310	734	0	0	0	14,445
2000	2,997	8,046	4,092	500	0	0	0	15,635
2001	3,008	8,371	4,006	456	609	71	58	16,579
2002	3,622	8,461	3,644	496	734	26	30	17,013
TOTAL	12,710	32,187	15,052	2195	1343	97	88	63,672

SOURCE Lusaka DHMT Annual notifications for 1999, 2000, 2001 and 20002.

TABLE 2: INCREASE RATES

YEAR	NEW SMEAR POSITIVE	SMEAR POSITIVE RELAPSE
2001	3,008	459
2002	3,622	496
TOTAL	6,630	955
INCREASE RATE	9%	4%

1.3 FACTORS CONTRIBUTING/INFLUENCING TB TREATMENT SUPPORTERS' KNOWLEDGE ON TB TREATMENT AND PREVENTION

With the introduction of TB Treatment Supporters, there is need to look at factors that may affect their knowledge acquisition and therefore affect their performance and competence. All of which will affect the outcome of their service provision.

Some of these factors are stated below:

1. SOCIO-CULTURAL AND ECONOMIC FACTORS

- **AGE** – Generally, elderly people find difficulties in assimilating information or learning as compared to young people. This is due to the fact that there is a decline in their mental ability. Child, 1986, stated that generally, mental ability increases with chronological age up to adolescence, it declines as someone advances in age. In this case, it means that elderly TB Treatment Supporters may encounter difficulties in assimilating information during training and thereafter. This is likely to affect their knowledge on TB treatment and prevention.

- **SEX** – Illiteracy levels in Zambia are more in women than in males. Illiteracy levels in Zambia stand at 51% for females and 49% for males (ZDHS 2001-2002). This means that more men are literate than women and are more likely to assimilate information easily. Therefore, even TB Treatment Supporters' knowledge can be affected according to the sex.
- **EDUCATION** – Knowledge is power; if the TB Treatment Supporters acquire knowledge they are likely to be very confident in their practice. Level of education may affect knowledge of the TB Treatment Supporters on TB treatment in that assimilation may be affected. Abraham, 1983 stated that there are different categories of people; one category is comprised of people who are educated (received formal learning) and can easily assimilate knowledge when taught. Another category is comprised of people who are not educated and find difficulties in assimilating knowledge when taught.
- **CONTENT OF TRAINING** – content of the curriculum used in training TB Treatment Supporters can affect the knowledge that they will acquire. If there is adequate information, then they are likely to acquire adequate knowledge. However, the reverse is the case if there is inadequate knowledge. Besides, if there is too much detailed information, this may confuse them and can affect their knowledge.
- **TRADITIONAL AND RELIGIOUS BELIEF** – traditional beliefs such as TB being caused by having sex with a woman who has just had an abortion can affect knowledge that TB Treatment Supporters have on TB treatment and prevention. Abraham, 1983, stated that "tradition conforms to and is controlled by traditional standards. The behavior of such people is influenced by their background. Therefore, if TB treatment Supporters believe in traditions that give negative information about TB, they are likely to give wrong information in their

health education to clients and other people. Besides, if people believe in alternative TB treatment such as herbal medicine, their knowledge is likely to be affected in that they can even encourage patients to take this especially that it has a short duration and fewer side effects.

2. SERVICE FACTORS

- **INCENTIVES** – TB treatment Supporters are expected to work on voluntary basis in an era of severe economic hardship in Zambia. Among the community-based agents, this enforced voluntarism is a sure way of them withdrawing their labour (Chanda, 2001). Incentives in the form of monetary and material rewards are potent sources of motivation for learning (child, 1986). If incentives are not forthcoming, the TB Treatment Supporters may be demotivated and even lose interest to learn and acquire more knowledge and may even withdraw their services since they have a string of orphans and other dependants to look after (Chanda, 2001).
- **AVAILABILITY OF LITERATURE ON TB TREATMENT AND PREVENTION** – If literature on TB treatment and prevention is available, then the TB Treatment Supporters are likely to acquire more knowledge. However, if literature is not readily available then less knowledge may be acquired.
- **PAST EXPERIENCE** – The TB Treatment Supporters' past experience can influence their knowledge on TB treatment and prevention. Child, 1986 stated that past experiences are important in our daily encounters because they influence the way we handle issues (for instance in problem solving) and also motivate us to know more. Therefore, the role of TB treatment Supporters is seen mostly as that of problem solving. Therefore, TB Treatment Supporters are expected to be experienced in dealing with TB clients. Their intellectual, motivational and temperaments are

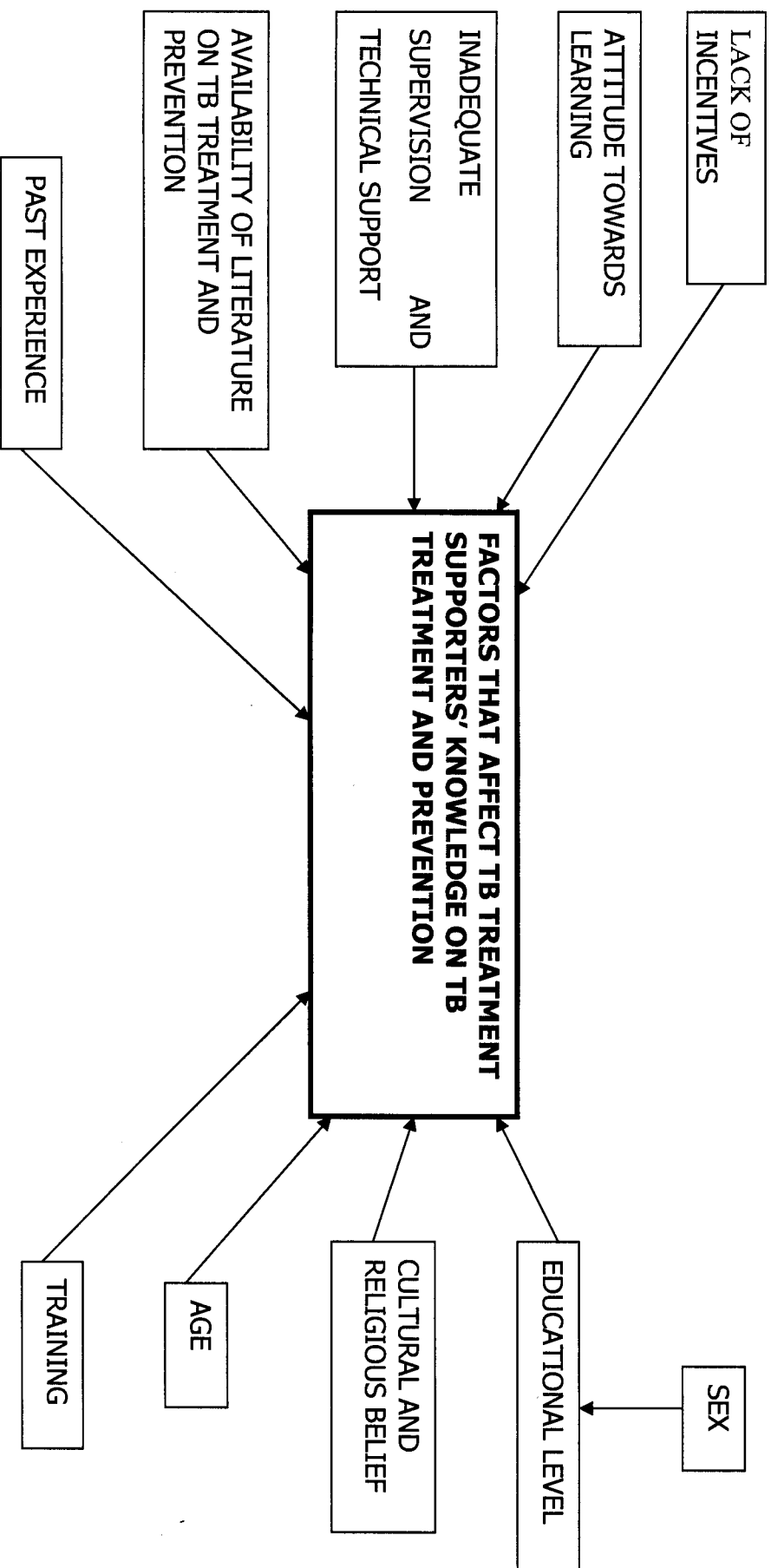
qualities that will impact greatly on encouraging the TB clients in taking their drugs according to prescription.

- **INSUFFICIENT SUPERVISION AND TECHNICAL SUPPORT –** shortages of health center staff (for example nurses) may affect knowledge in that there will be insufficient technical support and supervision given to TB Treatment Supporters. These are not health workers, but trained community members. Therefore, they need sufficient support and supervision for them to execute their duties efficiently. When this is insufficient, can affect knowledge and are likely going to make mistakes. According to Gillies, 1994, for quality performance there is need to supervise nursing personnel in the environment where nursing is taking place. This can also be true for TB Treatment Supporters who need supervision for them to execute *their duties effectively*.

1.4PROBLEM ANALYSIS DIAGRAM

SERVICE FACTORS

SOCIO-CULTURAL AND ECONOMICAL FACTORS



1.5 JUSTIFICATION

From the studies that have been carried out world wide (Zambia inclusive), no study has looked at the knowledge of TB Treatment Supporters. For instance, Kamanga, 1997 study proved that DOTS strategy was not observed. Clients were observed at the health center by health workers, but not in their homes by TB Treatment Supporters.

Besides, study by Kamanga project 2000 despite showing improvement in TB cure rate and defaulter rate still felt that the role of the TB Treatment Supporters is very crucial because their role will help to improve case finding, contact tracing thereby preventing the spread of TB in the community.

This study, therefore, hopes to fill in the gap, which is there by studying the knowledge of the TB Treatment Supporters on TB treatment and prevention. The level of knowledge of TB Treatment Supporters can either affect their work positively or negatively. For instance, if they have adequate knowledge, they are likely able to implement DOTS effectively, thus reducing on the morbidity and mortality caused by TB.

1.5 OBJECTIVES

1.5.1 GENERAL OBJECTIVE

To determine TB treatment Supporters' knowledge on TB treatment and prevention.

1.5.2 SPECIFIC OBJECTIVES

- To determine the knowledge of TB Treatment Supporters on TB treatment and prevention.
- To determine factors contributing to TB Treatment Supporters' knowledge on TB treatment and prevention.
- To identify areas of research.
- To make recommendations.

1.6 HYPOTHESIS

The higher the level of education of TB Treatment Supporters, the higher the level of knowledge.

1.7 OPERATIONAL DEFINITIONS OF TERMS

- **DOTS** – this is when patients are being observed when swallowing anti-TB drugs by a supervisor; who is either a health staff, a relative or a TB Treatment Supporter.
- **TB TREATMENT SUPPORTERS** – are local community members who have been trained to implement the DOTS modality.
- **DEFAULTER TRACING** – follow up of any TB patient who fails to attend 14 consecutive days in the intensive phase or who fails to attend 2 consecutive months during the continuation phase (ITG, 1997).
- **COMPLIANCE** – patient obeying and taking anti-TB drugs on a daily basis till the end of treatment.
- **KNOWLEDGE** – what the TB Treatment Supporters know about TB treatment and prevention.
- **INTENSIVE PHASE** – first two months of TB treatment (ITG, 1997).
- **CONTINUATION PHASE** – last six months of TB treatment after intensive phase (ITG, 1997).

1.8 VARIABLES, INDICATORS AND CUT OFF POINTS

VARIABLE	INDICATOR	CUT-OFF POINT
Knowledge	<ul style="list-style-type: none">▪ High knowledge▪ Medium knowledge▪ Low knowledge	<ul style="list-style-type: none">▪ If one scores between 13-18▪ If one scores between 7-12▪ If one scores 0-6

CHAPTER TWO

2.0. LITERATURE REVIEW

2.1 INTRODUCTION

The global TB epidemic is growing and becoming more dangerous. It is estimated that between 2000 and 2020, nearly one billion people will be newly infected, 200 million people will get sick and 35 million will die from TB – if control is not further strengthened. If left untreated, each person with active TB will infect an average of between 10 to 15 people every year. However, people infected with TB will not necessarily get sick with the disease. The immune system 'walls off' the TB bacilli which protected by a thick waxy coat, can lie dormant for years. When someone's immune system is weakened the chances of getting sick are greater (WHO, 2000). Some of the factors contributing to the rise in TB include:

- HIV/AIDS epidemic: someone who is HIV positive and infected with TB bacilli is many times more likely to become sick with TB than someone infected with TB who is HIV negative. TB is a leading cause of death among people who are HIV positive. It accounts for about 15% of AIDS deaths world wide. In Africa, HIV is the single most important factor determining the increased incidence of TB in the last ten years (WHO,2000).
- Poorly managed TB programmes are threatening to make TB incurable- strains of TB resistant to all major Anti-TB drugs have emerged. Drug resistant TB is caused by inconsistent or partial treatment when patients do not take all their drugs regularly for the required period for various reasons. A particularly dangerous form of drug resistant TB is multi-drug resistant TB (MDR-TB). This threatens global TB control efforts from a public health perspective, poorly supervised or incomplete treatment of TB is worse than no treatment at all (WHO, 2000).

- Movement of people and overcrowding – untreated TB spreads quickly in crowded places; for instance, refugee camps and shelters. As many as 50 percent of the world's refugees may be infected with TB, as they move, they may spread the disease (WHO, 2000).

WHO declared TB as a Global Emergency in 1993 (WHO, 1994). In the same year, WHO adopted DOTS as an effective TB control in response to this global emergency. DOTS treatment has shown marked improvements in curing the disease and in reducing the spread. Mass education of the population on the nature of TB and routine use of DOTS would assist in turning back this world wide epidemic (WHO, 1999).

Although DOTS has been widely accepted, during the past decade, many developing countries have been unable to expand coverage rapidly as needed and have failed to achieve global targets. These global targets were to detect 70% of infectious cases and to cure 85% of those detected by the year 2000 and beyond. Progress has been slow (WHO, 2000).

In DOTS strategy, the supervisor directly observes the patient swallow his/her drugs especially during the intensive phase which is an infectious phase. The supervisor can either be a health centre staff, a trained local community member or even a relative.

The literature reviewed focuses on the global, regional and local perspectives of TB, its treatment and prevention.

2.2 GLOBAL PERSPECTIVE

World wide, half of the population is infected with mycobacterium TB (WHO, 1998). DOTS strategy has shown marked improvements in curing the disease and reducing the spread globally.

A study was carried out in Malaysia in 1999 by Tang, B.G. et al on the attitude and knowledge of newly diagnosed TB patients, regarding the factors affecting compliance to treatment. The findings revealed that inadequate supervision of treatment, feeling of being cured due to resolution of symptoms even though treatment has not been completed and lack of motivation due to ignorance were some of the factors that contribute to defaulting.

From this study, we can say that inadequate supervision of patients on treatment (using DOTS strategy) is the main contributing factor to poor compliance to treatment. This may also apply to the situation in Zambia. Therefore, training of local community members to assist in the supervision of clients can play an important role in the successful treatment and prevention of TB.

The International News Letter on AIDS (Issue 31, 1996), states that the most important reasons contributing to patients' failure to complete TB treatment are distance to health facility, lack of awareness, powerlessness, contradictory advice and feeling better. Therefore clients need to be encouraged to complete TB treatment by using DOTS strategy as well as health education. A study was carried out in 1998 by Upleker et al on TB patients and practitioners in the private clinics in India. The findings revealed that poor health services provided by government contributed to patients' dropout from treatment. Default to TB treatment is also brought about by factors like quality of services provided.

WHO, 2001 made a presentation on DOTS implementation in China. This presentation highlighted the fact that more than 1 in 3 infectious cases are currently treated under DOTS. The reported success rate has remained over 90%. Meanwhile, in 1991, Peru occupied the last place in TB 80. When the trend in incidence reduced, it fell to 26th place during 2000. Peru has since been eliminated from the league of high burden countries. Still in the same country, a

recent analysis found that at least 3.6% of the 7.5% annual decline in the incidence rate of pulmonary TB can be attributed to the improved programme of DOTS launched in 1990. This elevated rate of decline implies that at least 16% of cases (78,000) and 70 % of deaths (77,000) were averted between 1991 and 1999. Going beyond DOTS, the National TB Programme is now investigating for instance the benefits of contact tracing and different approaches to the management of drug resistance, including studies of standardised and individualised regimes of multi-drug resistant TB (WHO, 2001).

World wide, TB control has been slow despite most countries implementing DOTS. However, some countries have shown success following DOTS implementation. For instance, Peru reduced in incidence while China reduced in prevalence.

2.3 REGIONAL PERSPECTIVE

In Sub-Saharan Africa, the incidence of TB is rising rapidly as a result of the HIV/AIDS pandemic. It is estimated that over 1.5 million TB cases occur per year in Sub-Saharan Africa such that hospital-based cure is no longer feasible (WHO, 2000).

A study was carried out in 1998 in Madagascar by Comolet et al on factors determining compliance. The findings revealed that DOTS strategy is a way of ensuring compliance. Other related findings include transportation costs, time, sex of patient, patient information and quality of communication between staff and patient. Ten percent (10%) of the defaulters said that they were not well informed about the disease, so considerable effort by health workers in terms of communication is paramount. A well-informed patient can have better chances of completing treatment than one who is not.

Zimbabwe reported that DOTS was implemented in just 5 districts and that plans existed to reach all the districts by 2002. Implausibly, the reported DOTS coverage dropped to 12% in 1999 (from 100% in 1998) while 55% of all estimated smear positives were notified under DOTS. Treatment success was 70% in the 1998 Cohort study (WHO, 2001, Report).

According to WHO 2001, Kenya has reported 100% DOTS coverage since 1996. However, the smear positive detection rate is low (53%) for 1999. In 2000, Kenya reached 77% cure rate, which is lower than WHO target of 85%. A pilot study was carried out by National TB and Leprosy Programme (NTLP) with WHO's assistance in Kibogo District in 1998. The study looked at rather than insisting that all patients be hospitalised during the intensive phase, patients were given the option of hospitalisation or ambulatory treatment (at health centre or in the community under the supervision of a volunteer. The findings revealed that using village volunteers has improved access to treatment, lowered costs incurred by patients and providers (the cost per cure of a patient was reduced by 63%), improved cure rates and lowered the frequency of treatment interruptions. Due to this, community based TB cure has been adopted as a policy by the Ministry of Health in Kenya.

According to WHO 2001 Report, Tanzania is implementing DOTS countrywide. Cure rate exceeds 70% and DOTS coverage is about 90%.

2.4 NATIONAL PERSPECTIVE

TB is among the top ten causes of morbidity and mortality in Zambia. It is the commonest opportunistic infection in HIV positive patients.

A study was carried out by Ketata in 1993 on the main factors that influence patients' defaulting from treatment. The findings revealed that patients did not know the importance of completing the prescribed course of treatment. In

addition, attitude of health workers was undesirable, as many of them did not have time to explain to patients on issues concerning treatment and review dates.

In a report to the Zambia National AIDS/TB Programme in Eastern Province, of the 463 patients enrolled on DOTS, 9% of the cases died, 9% defaulted and 11% were transferred. In Lusaka, of the 462 cases enrolled on DOTS 5% died, 35% defaulted and 4% were transferred (Bosman, 1996).

A study was carried out by Kamanga in 1997 to determine reasons for lack of adherence to TB Chemotherapy among patients attending George Health Centre. The findings revealed that DOTS treatment modality was not being observed. At the same time, he recommended that establishing TB Health posts and extending operating hours at the Health Centre would decongest the patient load and improve service.

A study was carried out in 2000 by a Community Based Organisation - Kamanga Project in Lusaka. The study was on DOTS implementation at a grass root level. The findings were that defaulter rate decreased from 20% in 1998 to 13% in 2000, cure rate improved from 40% in 1998 to 79.6% in 2000 and also an increased number of people attending the clinic at an early stage of the disease. The conclusion of the study was that TB Treatment Supporters can actively improve detection and early presentation of affected individuals through health education. With appropriate training, they can take drugs to patients thereby making it easier for patients to complete treatment.

Monze District Health Board carried out a study in 2000 on implementation of DOTS. The findings revealed that implementation of DOTS through families and

involvement of trained local community members is the only effective way of controlling TB in Zambia.

A study was carried out by Kaluba, et al in Ndola Urban in 2000. This study was on the implementation of DOTS in the community. Findings revealed that DOTS implementation has been accepted at community level, as it is very convenient both to the patients and the community. DOTS implementation has proven beyond doubt that TB treatment administered at community level could be a remedy to TB despite the HIV/AIDS pandemic.

2.5 CONCLUSION

From the above studies that have been done, it is evident that DOTS is a strategy, which is effective in TB control. However, it has been noted that DOTS implementation is low especially in developing countries (Zambia inclusive). This largely depends on the fact that DOTS implementation cannot be done by health workers alone, but needs consented efforts; for instance from government, health workers, NGOs, communities and families. It is for this reason that local community members are being trained in DOTS in order to assist with TB control. The literature reviewed focus mainly on TB treatment and prevention in general. It does not reflect the TB Treatment Supporters' knowledge on TB treatment and prevention.

It is most likely that when DOTS implementation is effectively done, there would be a reduction in morbidity and mortality caused by

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION

The purpose of this study is to determine the TB Treatment Supporters' knowledge on TB treatment and prevention. This chapter describes the research methodology that was used by the researcher in the study.

Methodology is the study of the manner of collecting data (Treece and Treece, 1986). This discusses the research design, research setting, study population, sample selection, sample size, data collection tool, data collection technique, validity and reliability, ethical and cultural consideration.

3.2 RESEARCH DESIGN

A research design is an overall plan for the study (Dempsey and Dempsey, 2000). According to Bless and Achola, a research design is defined as the planning of the scientific research from the first to the last step. In its wider sense, it is a programme or plan that guides the researcher in collecting, analysing and interpreting observed facts. It helps the researcher design tools to use in data collection, the sampling methods (probability or non probability sampling approach).

In this study, a descriptive, quantitative and cross sectional study was used. A descriptive study is a study in which the data is collected to define or describe some group or phenomenon (Treece and Treece, 1986). A descriptive design involves a systematic collection and presentation of data to give a clear picture of a situation. This was chosen because data was collected from the subjects and the data gave a

clear account on the knowledge that TB Treatment Supporters had on TB treatment and prevention. The method that was used for collecting data was the survey and in this type, data was collected by interviewing the subjects using a questionnaire.

A quantitative research study is a formal process of enquiry characterized by objectivity, tight controls over research situation, the precise measurement and quantification of data and the ability to generalize (Dempsey and Dempsey, 2000). It is a research method in which the study variables are pre-selected and defined by the investigator and the data is collected and quantified (that is translated into numbers), then statistically analyzed, often with a view of establishing the cause and relationship among variables. The subjects' responses were quantified and measured objectively.

A cross-sectional design was used. This is a study in which data is collected from subjects at one point in time (Dempsey and Dempsey, 2000). Data was collected from the subjects just once and analyzed. The study is aimed at quantifying certain variables, that is knowledge of TB Treatment Supporters on TB treatment and prevention at one point in time. This study design was found suitable because it was less costly and less time consuming considering the limited time in which the researcher needed to carryout the study.

3.3 RESEARCH SETTING

Research setting is the surrounding in which something is set (Pocket English Dictionary, 1989). It is the location or place where the study takes place. The study was conducted in Lusaka urban. Lusaka urban is one of the four districts in Lusaka province. It has an estimated

population of 2 million, according to the 2000 census (Central Statistical Office, 2000).

Lusaka urban consists of several residential areas/communities. There are five community TB centers with trained TB Treatment Supporters. These TB Treatment Supporters were trained by Lusaka DHMT in conjunction with NGOs.

3.4 STUDY POPULATION

Target population is the entire population in which the researcher is interested in and to which he or she would like to generalize the results of the study (Polit and Hungler, 1997). The target population consists of all the TB Treatment Supporters in the four TB centers in Lusaka. These include ZATULET (Chainda and Kalingalinga), Bwafwano and Kamanga.

The study population or accessible population of people available for a particular study, often a random subset of the target population (Polit and Hungler, 1997). The accessible population is a portion of the target population that the investigator can have contact with and sample was from the accessible population.

3.5 SAMPLE SELECTION

Sample selection is a process of selecting a portion of the population to represent the entire population (Polit, et al, 1995). To select the subjects, simple random sampling was used. This is the most basic type of probability sampling where a sampling frame is created by enumerating all members of a population of interest and then selecting sample from the sampling frame through completely random procedures (Polit and Hungler, 1997).

Four out of the five TB centers were used for the main study (while one was used for the pilot study). This is because Some TB centers had a smaller group of supporters and others had inactive supporters, so the researcher carried out the study in all the TB centers.

The researcher identified the number of respondents to be selected from each of the four centers using the sampling fraction because the number of supporters varied in each center. Therefore, to ensure that each person had an equal chance of being selected, it was necessary to use a sampling fraction. The sampling fraction was calculated by dividing the sample size (50) with the study population (110; Bwafwano had total 45, Chainda = 15, Kalingalinga = 15, Kamanga = 35). The researcher selected 20 respondents from Bwafwano, 16 from Kamanga, 7 from Kalingalinga and 7 from Chainda using simple random sampling and rotary technique for each center. The researcher wrote the names of all the TB Treatment Supporters on small pieces of paper which were folded and put in a box and shuffled. Using independent people, respondents were selected. This was done in each of the 4 TB centers so that a total of 50 respondents were sampled.

3.6 SAMPLE SIZE

Sample size is a smallest part of the population selected in such a way that the individuals in the sample represent (as nearly as possible) the characteristics of the population (Dempsey and Dempsey, 2000). A sample size of 50 respondents was selected. The sample size was small due to limited funds and time within which the research was conducted.

3.7 DATA COLLECTION TOOL

A data collection tool in research refers to an instrument or equipment used to collect data. It may take the form of a questionnaire, an

interview schedule, checklist, a projected device or some other type of a tool for eliciting information (Treece and Treece, 1996). For this study a questionnaire was the tool that was used. In this tool (the questionnaire), a set of predetermined questions using the same wording and order; open-ended questions and closed-ended questions were prepared. The questionnaire comprised of sections covering demographic data and knowledge. Section A had demographic information, and section B had questions on TB treatment and prevention.

3.7.1 VALIDITY

In a quantitative research, validity is the ability of the data gathering instrument to measure what it is intended to measure (Kumar, 1999). A questionnaire was used as a data collection tool, the researcher ensured validity by:

- Asking questions in relation to the objectives of the study.
- Asking questions in a logical sequence; that is from simple to complex and from general to specific.
- Asking clear questions which were easily understood by respondents.

3.7.2 RELIABILITY

Reliability refers to the ability of a measuring instrument to do consistently whatever it is designed to do in the same manner each time it is administered (Dempsey and Dempsey, 2000).

The researcher ensured reliability by conducting the study in the same natural setting. In addition, the interview was being done at the same time and duration for each respondent. Besides, the instrument (data collection tool) was tested by doing a pilot study.

3.8 DATA COLLECTION TECHNIQUE

Data collection technique is the process of gathering information needed to address a research problem. (Polit and Hungler, 1997). A structured schedule interview was used in the collection of data. This is where the researcher asked a number of predetermined specified questions. This was based on established questionnaire with predetermined closed and open-ended questions.

3.8.1 ADVANTAGES OF INTERVIEWS

- Interviews are suitable for both illiterates and literate people.
- If some questions have been misunderstood by the interviewee, they can be clarified.
- Verbal and non-verbal behavior can be observed.
- No items are over looked by this method since the interviewer is most likely to ensure that all questions are answered.
- Saves time for the interviewee because he/she does not have to go through the process of returning the instrument.
- There is high response rate.

3.8.2 DISADVANTAGES OF INTERVIEWS

- It is time consuming since interviews may require many hours of effort.
- Arrangements may be difficult to make with respondents in terms of place and time of interview.
- Since non-verbal behavior is observed, sometimes it maybe misinterpreted.

- Subjects may respond in a certain manner since they are aware that someone is listening and writing the information (Harwthon effect). Biased information may be given.
- Interviews may require a specially trained staff to conduct in getting started and proceeding with the interviews.

Before collecting data, the following needed to be done:-

- To be cleared by the supervising lecturer at the Department of Post Basic Nursing School to go ahead with the study.
- To get permission from the District Director of Health for Lusaka District to be allowed to carryout the study in his district.
- To get permission from the health center in-charges of the communities involved.
- To get verbal consent from the community leaders to conduct the study in their areas after explaining the purpose and benefits of the study to them.
- Finally, to get verbal consent from the TB Treatment Supporters after explaining the purpose and importance of the study.

The researcher reassured them that the information would be kept as a secret and would be used only for the purpose of the study. Privacy was also maintained throughout and the questionnaires were kept locked in a bag all the time, only the researcher had access to them.

3.9 PILOT STUDY

A pilot study is a small-scale study done before the main study (Treece and Treece, 1986). A pilot study was carried out at Chawama TB Center. This center was not used for the main study. A scheduled interview was used and 10% of the study sample (50 respondents), which was 5 respondents were interviewed.

The purpose of the pilot study was to find out how feasible the study was validity and reliability of the data collection tool was also tested in order to detect and solve any foreseen problems. Questions 2 and 9 were modified in order to make the instrument effective and relevant.

3.10 ETHICAL AND CULTURAL CONSIDERATIONS

Ethical consideration involves an understanding of ethical code and guidelines for protecting the rights of human subjects who participate in research (Dempsey and Dempsey, 2000). Before carrying out the study, it had to be cleared by necessary authorities; the researcher's supervisor at PBN.

In addition, the researcher got permission (written) from the District Director of Health for Lusaka District as well as the sisters-in-charge (verbal) for the areas involved in the study. The researcher also got verbal consent from the community leaders as well as from the subjects after explaining to them why the study was being carried out. The researcher reassured the respondents that the information provided would be treated as confidential. Names were not written on the questionnaires, instead numbers were used for confidentiality's sake.

CHAPTER FOUR

4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 INTRODUCTION

The purpose of this study was to determine TB Treatment Supporters' knowledge on TB treatment and prevention. The data collected was analyzed and presented on frequency tables, cross-tabulations and pie chart.

4.2 DATA ANALYSIS

Data analysis is the systematic organization and synthesis of research data, and the testing of research hypothesis using those data (Polit and Hungler, 1997). After data was collected, all the questionnaires were sorted out and checked for completeness and internal consistency and entered on a data master sheet. Data was analyzed manually.

4.3 PRESENTATION OF FINDINGS

Data was presented on frequency tables, pie chart and cross tabulations. These were found to be appropriate means of presenting the findings because they are easy to interpret.

FREQUENCY TABLES

TABLE 3: RESPONDENTS’ DEMOGRAPHIC DATA

n = 50

VARIABLE	FREQUENCY	RELATIVE FREQUENCY (%)
SEX		
Male	12	24%
Female	38	76%
TOTAL	50	100%
AGE		
Below 20 years	2	4%
20-29 years	6	12%
30-39 years	18	36%
40-49 years	17	34%
50-59 years	7	14%
TOTAL	50	100%
MARITAL STATUS		
Single	11	22%
Married	20	40%
Divorced	9	18%
Widowed	8	16%
Separated	2	4%
TOTAL	50	100%
RELIGION		
Hindu	0	0%
Christian	50	100%
Moslem	0	0%
TOTAL	50	100%
HIGHEST LEVEL OF EDUCATION		
None	2	4%
Primary	20	40%
Secondary	26	52%
College	2	4%
University	0	0%
TOTAL	50	100%
OCCUPATION		
Formal employment	3	6%
Self employed	21	42%
Unemployed	25	50%

At School	1	2%
TOTAL	50	100%
WHETHER TRAINED AS A TB TREATMENT SUPPORTER		
Yes	50	100%
No	0	0%
TOTAL	50	100%
LENGTH OF TRAINING		
Less than one week	8	16%
One week	6	12%
Two weeks	14	28%
Three weeks	5	10%
Four weeks	7	14%
Over four weeks	10	20%
TOTAL	50	100%

Majority of the respondents were females (76%). Most of them were in the age-groups 30-39 years (36%) and 40-49 years (34%). 40% of the respondents were married and all the respondents were Christians (100%). Fifty-two percent (52%) of the respondents had attained secondary education while 50% of the respondents were unemployed. All the respondents had been trained as TB Treatment Supporters and duration of training varied; most (28%) of the respondents were trained for 2 weeks.

**TABLE 4: RESPONDENTS’ KNOWLEDGE ON TB, ITS TREATMENT
AND PREVENTION**

n = 50

VARIABLE	FREQUENCY	RELATIVE FREQUENCY (%)
DEFINITION OF TB		
Infectious disease caused by TB germ	48	96%
Disease caused by sex with a woman who aborted	2	4%
Caused by being bewitched	0	0%
Eating with a person with TB	0	0%
TOTAL	50	100%
HOW DOES A PERSON GET INFECTED WITH TB?		
Eating with an infected person	1	2%
Through the air when an infected person coughs	45	90%
Caused by being bewitched	0	0%
Sex with a person who aborted	2	4%
Sex with a person with HIV/AIDS	2	4%
TOTAL	50	100%
WHETHER HAS NURSED A RELATIVE WITH TB		
Yes	27	54%
No	23	46%
TOTAL	50	100%
IF YES, HAS THIS MOTIVATED YOU TO JOIN?		
Yes	18	36%
No	9	18%
N/A	23	46%
TOTAL	50	100%
WHICH DRUGS ARE GIVEN IN TB TREATMENT		
Ethambutol	50	100%
Rifinah	49	98%
Pyrazinamide	50	100%
Streptomycin	41	82%
Thiazina	26	52%
Isoniazide	6	12%

DURATION OF TB TREATMENT (ADULTS)		
8 Months	43	86%
Less than 8 Months	7	14%
TOTAL	50	100%
ALTERNATIVE TB TREATMENT YOU KNOW		
None	40	80%
Herbal	10	20%
TOTAL	50	100%
DEFINITION OF DOTS		
Observing the patient swallow TB drugs	44	88%
Supplying drugs to patients	6	12%
TOTAL	50	100%
LENGTH OF CONTINUATION PHASE		
One Month	1	2%
Two Months	3	6%
Four Months	3	6%
Six Months	43	86%
TOTAL	50	100%
HOW IS TB PREVENTED		
Avoiding overcrowding	12	24%
Good ventilation	24	48%
Improving nutrition	10	20%
Preventing HIV/AIDS	4	8%
Effective treatment of TB using DOTS	14	28%
Starting TB treatment early	8	16%
By covering mouth when coughing, not spitting anyhow, but using sputum mug	26	52%
Avoiding smoking	1	2%
Patient to sunbath and drying his linen in the sun	4	8%
Clearing surroundings and patients' linen	12	24%
Keeping houses dry not damp	2	4%
No sex with someone with HIV/AIDS		

DO YOU HAVE ACCESS ON LITERATURE ON TB, ITS TREATMENT AND PREVENTION		
Yes	33	66%
No	17	34%
TOTAL	50	100%
IF YES, FROM WHERE?		
From within the TB Center	27	54%
From other sources	2	4%
Not applicable	21	42%
TOTAL	50	100%
HOW OFTEN ARE YOU SUPERVISED BY THE HEALTH CENTRE STAFF?		
Daily	3	6%
Weekly	14	28%
Every two weeks	9	18%
Monthly	6	12%
Quarterly	0	0%
Occasionally	11	22%
Not supervised	7	14%
TOTAL	50	100%
CONTENTS OF THE TRAINING		
Definition of TB	50	100%
Causes of TB	50	100%
Signs and symptoms of TB	50	100%
Transmission of TB	50	100%
TB treatment regime	33	66%
Importance of taking TB drugs regularly	48	96%
Results of irregular TB treatment	46	92%
Impact of TB on the Zambian economy	28	56%
Contact and defaulter tracing	5	10%
Counseling	4	8%

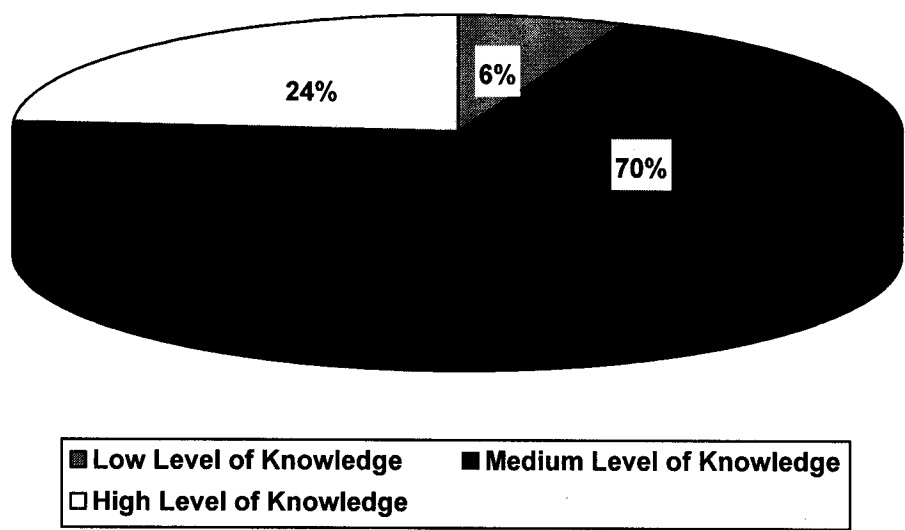
The majority of the respondents (96%) knew the definition of TB, but 4% did not know (they said it is a disease caused by sex with a woman who aborted).

90% knew how a person gets infected with TB. All the respondents (100%) knew that Ethambutol and Pyrazinamide are given in TB treatment. In addition, 98% and 82% knew that Rifinah and Streptomycin respectively are also given in TB treatment. Meanwhile 52% of respondents said that Thiazina is given in TB treatment.

86% of respondents knew the duration of TB treatment in adults and 88% knew that DOTS is observing TB patients swallow TB drugs daily. The majority of respondents (76%) knew the length of intensive phase while 86% knew the length of continuation phase. Respondents gave different ways of preventing TB. The majority (52%) said that TB is prevented by covering the mouth when coughing, not spitting anyhow, but using sputum mugs. 48% said TB can be prevented by avoiding overcrowding.

NOTE: Some variables do not have "total" because of having multiple responses.

PIE CHART 1: RESPONDENTS' LEVEL OF KNOWLEDGE ON TB, ITS TREATMENT AND PREVENTION



70% of respondents had medium level of knowledge.

CROSS TABULATION

TABLE 5: RESPONDENTS' LEVEL OF KNOWLEDGE IN RELATION TO SEX

n = 50

LEVEL OF KNOWLEDGE	SEX		TOTAL
	MALE	FEMALE	
Low	1 (8%)	2 (5%)	3 (6%)
Medium	9 (75%)	26 (69%)	35 (70%)
High	2 (17%)	10 (26%)	12 (24%)
TOTAL	12 (24%)	38 (76%)	50 (100%)

26% of female respondents had high level of knowledge while 8% of male respondents had low level of knowledge.

TABLE 6: RESPONDENTS' LEVEL OF KNOWLEDGE IN RELATION TO AGE

n = 50

LEVEL OF KNOWLEDGE	AGE RANGE					TOTAL
	BELOW 20 YRS	20-29	30-39	40-49	50-59	
Low	0	1 (17%)	0	2 (13%)	0	3 (6%)
Medium	2 (100%)	5 (83%)	11 (61%)	13 (76%)	4 (57%)	35 (70%)
High	0	0	7 (39%)	2 (12%)	3 (43%)	12 (24%)
TOTAL	2 (4%)	6 (12%)	18 (36%)	17 (34%)	7 (14%)	50 (100%)

Respondents aged 50-59 years had the highest level of knowledge (43%) and those in the age-group 20-29 years proved to be the least knowledgeable with a score of 17%.

TABLE 7: RESPONDENTS’ LEVEL OF KNOWLEDGE IN RELATION TO EDUCATION

n = 50

LEVEL OF KNOWLEDGE	HIGHEST LEVEL OF EDUCATION					TOTAL
	NONE	PRIMARY	SECONDARY	COLLEGE	UNIVERSITY	
Low	0	3 (15%)	0	0	0	3 (6%)
Medium	2 (100%)	17 (85%)	15 (58%)	1 (50%)	0	35 (70%)
High	0	0	11 (42%)	1 (50%)	0	12 (24%)
TOTAL	2(4%)	20 (40%)	26 (52%)	2 (4%)	0	50 (100%)

50% of the respondents with college education had high level of knowledge and those respondents who attained primary education had the lowest level of knowledge (75%).

TABLE 8: RESPONDENTS’ LEVEL OF KNOWLEDGE IN RELATION TO OCCUPATION

n = 50

LEVEL OF KNOWLEDGE	OCCUPATION				TOTAL
	FORMAL EMPLOYMENT	SELF EMPLOYED	UNEMPLOYED	AT SCHOOL	
Low	0 (0%)	2 (9%)	1 (4%)	0 (0%)	3 (6%)
Medium	2 (67%)	13 (62%)	19 (76%)	1 (100%)	35 (70%)
High	1 (33%)	6 (29%)	5 (20%)	0 (0%)	12 (24%)
TOTAL	3 (6%)	21 (42%)	25 (50%)	1 (2%)	50 (100%)

33% of respondents with formal employment had high level of knowledge while 9% of respondents who were self-employed had low level of knowledge.

TABLE 9: RESPONDENTS' LEVEL OF KNOWLEDGE IN RELATION TO ALTERNATIVE TB TREATMENT THEY KNOW

n = 50

LEVEL OF KNOWLEDGE	ALTERNATIVE TB TREATMENT		TOTAL
	NONE	HERBAL	
Low	2 (5%)	1 (10%)	3 (6%)
Medium	28 (70%)	7 (70%)	35 (70%)
High	10 (25%)	2 (20%)	12 (24%)
TOTAL	40 (80%)	10 (20%)	50 (100%)

25% of respondents who did not know any alternative TB treatment had high level of knowledge. Those respondents who knew that herbs could be used to treat TB had low level of knowledge (10%).

TABLE 10: RESPONDENTS' LEVEL OF KNOWLEDGE IN RELATION TO HAVING ACCESS TO LITERATURE ON TB, ITS TREATMENT AND PREVENTION

n = 50

LEVEL OF KNOWLEDGE	ACCESS TO LITERATURE ON TB, ITS TREATMENT AND PREVENTION		TOTAL
	YES	NO	
Low	1 (3%)	2 (12%)	3 (6%)
Medium	25 (76%)	10 (59%)	35 (70%)
High	7 (21%)	5 (29%)	12 (24%)
TOTAL	33 (66%)	17 (34%)	50 (100%)

29% of respondents who did not have access to literature had high level of knowledge while 12% who had no access to literature had low level of knowledge.

TABLE 11: RESPONDENTS' LEVEL OF KNOWLEDGE IN RELATION TO SUPERVISION BY HEALTH CENTRE STAFF

n = 50

LEVEL OF KNOWLEDGE	HOW OFTEN ARE RESPONDENTS SUPERVISED BY HEALTH CENTRE STAFF?							TOTAL
	DAILY	WEEKLY	EVERY TWO WEEKS	MONTHLY	QUARTERLY	OCCASSIONALLY	NOT SUPERVISED	
Low	0 (0%)	0 (0%)	1 (11%)	0 (0%)	0	1 (9%)	1 (14%)	3 (6%)
Medium	2 (67%)	9 (64%)	7 (78%)	6 (100%)	0	6 (55%)	5 (72%)	35 (70%)
High	1 (33%)	5 (36%)	1 (11%)	0 (0%)	0	4 (36%)	1 (14%)	12 (24%)
TOTAL	3 (6%)	14 (28%)	9 (18%)	6 (12%)	0	11 (22%)	7 (14%)	50 (100%)

Respondents (36%) who said that they are supervised weekly had high level of knowledge while those respondents not supervised had low level of knowledge.

TABLE 12: RESPONDENTS' LEVEL OF EDUCATION IN RELATION TO SEX

n = 50

HIGHEST LEVEL OF EDUCATION	SEX		TOTAL
	MALE	FEMALE	
None	0 (0%)	2 (5%)	2 (4%)
Primary	3 (25%)	17 (45%)	20 (40%)
Secondary	8 (67%)	18 (47%)	26 (52%)
College	1 (8%)	1 (3%)	2 (4%)
University	0 (0%)	0 (0%)	0 (0%)
TOTAL	12 (24%)	38 (76%)	50 (100%)

67% of males attained secondary education while 5% of females never attained any education.

**TABLE 13: RESPONDENTS' KNOWLEDGE ON DEFINITION OF TB IN
RELATION TO SEX**

n = 50

KNOWLEDGE ON DEFINITION OF TB IN RELATION TO SEX	SEX		TOTAL
	MALE	FEMALE	
Infectious disease caused by TB germ	12 (100%)	36 (95%)	48 (96%)
Disease caused by sex with a woman who aborted	0	2 (5%)	2 (4%)
Bewitched	0	0	0
Eating with a person with TB	0	0	0
TOTAL	12 (24%)	38 (76%)	50 (100%)

All (100%) of males knew the definition of TB while 5% of females did not know the definition.

**TABLE 14: RESPONDENTS’ KNOWLEDGE ON DEFINITION OF DOTS
IN RELATION TO SEX**

n = 50

KNOWLEDGE ON DEFINITION OF DOTS IN RELATION TO SEX	SEX		TOTAL
	MALE	FEMALE	
Observing patient swallow TB drugs daily	11 (92%)	33 (87%)	44 (88%)
Supplying Drugs	1 (8%)	5 (13%)	6 (12%)
TOTAL	12 (24%)	38 (76%)	50 (100%)

92% of males knew the definition of DOTS while 13% of females did not know the definition of DOTS.

TABLE 15: RESPONDENTS’ SUGGESTIONS

n=50

RESPONDENTS’ SUGGESTIONS	FREQUENCY	RELATIVE FREQUENCY (%)
Incentives (monetary or material)	41	82%
Transport (bicycles)	5	10%
Refresher courses	3	6%
To meet clients’ needs	9	18%

Majority (82%) of the respondents suggested that they needed to be given incentives.

CHAPTER 5

5.0 DISCUSSION OF FINDINGS AND IMPLICATIONS FOR THE HEALTH CARE SYSTEM

5.1 INTRODUCTION

The purpose of this study was to determine the TB Treatment Supporters' knowledge on TB treatment and prevention. This chapter discusses the results of the study. The sample size was 50. The questionnaire (see appendix1) had Section A with demographic questions and Section B with questions on knowledge.

5.2 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

The results revealed that majority (76%) of respondents were females and 24% were males. This is in line with ZDHS 2001-2002 report, which shows that there are more females (51%) than males (49%) in Zambia. Besides, females are naturally carers of the sick, so a large number may be prompted to become TB Treatment Supporters than males. This is in line with Sorensen and Luckmann, 1986 which states that "Nursing has traditionally been a woman's occupation," that is why many women have joined nursing as compared to men.

Majority of the respondents were in the age groups 30-39 years (36%) and 40-49 years (34%). This could be attributed to the fact that people in these age groups are naturally active and independent, so they may be prompted to join the support groups. Meanwhile, few respondents were below 30 years (4% below 20 years and 12% in the age- group 20-29 years); this could be because most of the people in these age groups were still at school and occupied with schoolwork, so may not find time

for this voluntary work. In addition, they may be dependants who may not be allowed by their parents/guardians to join the support group. Besides, few respondents (14%) were in the age-group 50-59 years. People in this age group may not have the strength to move around because their work involves attending to their clients in their (clients') homes.

All the respondents (100%) were Christians. The doctrine for Christians teaches its members to render a helping hand to those less fortunate than themselves. Hence, it is not surprising that all the TB Treatment Supporters volunteered to reach out to those afflicted with TB.

Fifty-two percent (52%) of the respondents attained secondary education. This could be attributed to the fact that TB Treatment Supporters are required to read and even write reports and other information about their activities.

Majority of respondents were unemployed (50%) and self employed (42%). These people had no permanent source of income; in this hard economic time, they could have volunteered to join for expected incentives in order to augment their income. Therefore, a strategy has to be found of how to remunerate them as a source of motivation.

5.3 DISCUSSION OF VARIABLES

5.3.1 DATA ON KNOWLEDGE LEVEL IN RELATION TO OTHER VARIABLES

The study revealed that majority of the respondents had acceptable medium level of knowledge (see pie chart number 1). This answers the objective number 1 that says 'to determine the TB Treatment Supporters' knowledge on TB treatment and prevention'. These findings could be attributed to the fact that all the respondents had undergone training

where they acquired knowledge. This is in line with Sullivan et al 1998, who defined training as acquisition of knowledge and skill for immediate use. The other reason may be that there is much sensitization on the disease such that even those without any formal education (100%) had medium level of knowledge. Sensitization could be from sources such as home-based care and neighborhood health committees (since some of them were also members), on TV, radio and from health workers. This confirms Mouli, et al, 1992, who states that there is increased awareness and concern about TB in the community after sensitizing the people.

The study also revealed that female respondents (26%) had higher level of knowledge than male respondents (17%). This answers objective number 2, which says "to determine factors contributing to TB Treatment Supporters' knowledge on TB treatment and prevention". According to the factor on 'sex'; it was stated that in Zambia, more men were literate than women, so were expected to be more knowledgeable. However, it was not true with the findings as already shown. This could be attributed to the fact that females are naturally carers who frequently get in touch with health personnel; for example when they take their children to the clinic for various reasons. Therefore, such times may be opportunities for them (females) to be given health education about the disease. Besides, since women are naturally carers, they may be prompted to join different support groups, which sensitize on the disease; for instance home based care. The other reason may be that since females are at home most of the time, they can be able to listen to the radio and TV where information is also disseminated.

The study also revealed that respondents aged 50-59 years had the highest level of knowledge (43%). This could be due to the fact that experience is the best teacher and can influence their knowledge on TB

treatment and prevention. This is in line with Child 1986 who stated that past experiences are important in our daily encounters because they influence the way we handle issues and also motivate us to know more. Besides, respondents in the age group 20-29 years had the lowest level of knowledge. This could be attributed to the fact that respondents in this age group may not have had past experience, which can motivate them to learn more about the disease. These findings answer objective number 2. However, the findings were contrary to what was stated on age. Elderly people were expected to be less knowledgeable than younger people because of difficulties in assimilating information or learning. This study has shown that acquisition of knowledge is not dependent on age, but on others factors such as past experience.

The study also revealed that 50% of respondents with college education had high level of knowledge and those who had attained primary education (15%) were the only ones with low level of knowledge. This shows that there is a relationship between education and knowledge. For people who have attained high level of education, may easily assimilate what they are taught (as compared to those who have not) and this could increase their level of knowledge. This is similar to what was stated by Abraham, 1983. He stated that there are different categories of people; one category is composed of people who are educated (received formal learning) and can easily assimilate information when taught. Another category is composed of people who are not educated and find difficulties in assimilating knowledge when taught. In addition, people who attain high level of education are most likely able to read and understand material (on TB) that they come across. The hypothesis; "the higher the level of education of the TB Treatment Supporters, the higher the level of knowledge on TB treatment and prevention" is proven.

The study also revealed that 33% of respondents with formal employment had highest level of knowledge while 9% of respondents who were self-employed had low level of knowledge. The high percentage of knowledge in respondents with formal employment can be attributed to the fact that the formally employed have reliable source of income and are most likely able to buy items such as radios and TV sets where information is also disseminated. In addition, most government departments and private organizations are provided with literature on TB by the stakeholders (such as International organizations; for example WHO) aimed at sensitizing workers because TB is a public health concern. The formally employed may have joined with no intentions of having incentives, so they may be motivated to know more about TB. Meanwhile, those who are self-employed may not have reliable source of income, so may not afford to buy items such as radios and TV sets. Since this is voluntary work, those self-employed may not be motivated to learn more about the disease, instead may spend most of their time trying to make ends meet.

The study findings revealed that 25% of the respondents who did not know any alternative TB treatment had high level of knowledge. Meanwhile, those respondents who knew that herbs could be used to treat TB had low level of knowledge (10%). This can be attributed to the fact that the minds of those who did not know of any alternative treatment is not influenced by any other information on TB. Knowing alternative TB treatment can influence the level of knowledge in a negative manner. This answers objective number 2, which states "to determine factors that contribute to TB Treatment Supporters' knowledge on TB treatment and prevention".

The study also revealed that 29% of respondents who did not have access to literature had high level of knowledge and 12% of respondents who

had no access to literature had low level of knowledge. This answers objective number 2 though it is contrary to what was stated; that if TB Treatment Supporters had access to literature on TB treatment and prevention, they were likely to be more knowledgeable than those with access. The high level of knowledge in respondents who did not have access to literature could be attributed to the fact that there could be other factors involved; for instance, respondents can have knowledge through other sources such as the media and even friends. Meanwhile, the low level of knowledge in respondents without access to literature may be due to lack of update on TB treatment and prevention. The TB Treatment Supporters are just trained local community members (not health workers) who are prone to forgetting if not continuously updated.

The study also revealed that 82% of the respondents suggested the need for remuneration though they knew that they were doing a voluntary work. Remunerating TB Treatment Supporters can motivate them to know more about TB treatment and prevention as well as put in much effort in their work. Meanwhile, lack of remuneration may demotivate the TB Treatment Supporters and lead to some of them becoming inactive.

5.2.1 SUMMARY OF FINDINGS

The major findings of this study are as follows:

- Majority of the TB Treatment Supporters were females (70%).
- The active and dependable age group who opt to be TB Treatment Supporters fell between 30-40 years of age. 70% of the study respondents fell in this age group.
- 100% of the study respondents were Christians.
- The study discovered that the respondents acquired knowledge on TB treatment and prevention from a variety of sources despite their education level. 70% of respondents had medium level of knowledge.

- Employment status positively affects the acquisition of knowledge. 33% of respondents with formal education had high level of knowledge.
- Knowing alternative TB treatment (for example herbs) had a negative effect on the level of knowledge. 10% of respondent who knew that herbs could be used to treat TB had low level of knowledge.
- The study also revealed that 82% of the respondents suggested the need for remuneration though they knew that they were doing a voluntary work. Remuneration can motivate them in their work.

5.1 IMPLICATIONS TO THE HEALTH CARE SYSTEM

The health care system should look for TB Treatment Supporters who are females and in the age-group 30-49 years for training. This is because this age group is likely to be active and independent and can contribute positively to DOTS implementation.

Since the majority of TB Treatment Supporters suggested the need for remuneration. It is, therefore, necessary for stakeholders (Lusaka DHMT, MoH, NGOs, international organizations and the communities) to workout modalities of remunerating these TB Treatment Supporters in order to motivate them in their work. Remuneration can be in form of monetary, material or paying in kind by communities served by the TB Treatment Supporters. Hence, the Neighborhood Health Committee chairperson should be sensitized to organize meetings during which the community can agree on the amount or kind of remuneration.

The success of DOTS in Lusaka District depends on the availability of TB Treatment Supporters in each community. Therefore, it is

necessary to train TB Treatment Supporters in all the communities of Lusaka.

TB Treatment Supporters are local community members who are prone to forgetting what they are taught during training. Thus, it is important to update their knowledge; health workers should continuously prepare programs on TB treatment and prevention, which they should teach these supporters.

5.2 CONCLUSION

The purpose of this study was to determine TB Treatment Supporters' knowledge on TB treatment and prevention in Lusaka Urban District. DOTS strategy is an effective means of TB treatment and control. Therefore the knowledge on TB treatment and prevention can help the TB Treatment Supporters in the implementation of DOTS.

The study findings revealed that generally, the majority of TB Treatment Supporters had medium level of knowledge (70%), a few had high level of knowledge (24%) and low level of knowledge (6%). Source of knowledge on TB treatment and prevention-included training, the media, friends and teaching from other support groups such as home based care since some of the TB Treatment Supporters are also members of such groups. The study findings also revealed that females had higher level of knowledge (26%) than males. This could be attributed to the fact that females are naturally carers who frequently get in touch with health personnel. The study findings also revealed that respondents who attained high level of education had high level of knowledge. Respondents with college education had high level of knowledge (50%). Therefore, the hypothesis "the higher the level of education of TB Treatment Supporters, the higher the level of knowledge" was proven.

5.3 RECOMMENDATIONS

- There is need for MOH, Lusaka DHMT, NGOs and other stakeholders to consider motivating TB Treatment Supporters (though it is voluntary work) in form of incentives. This is because they are likely to be motivated to learn more and to continue doing their work. If this is not considered, may end up training many people, but at the end of the day, some lose interest and become inactive.
- There is also need for Lusaka DHMT and other stakeholders to train TB Treatment Supporters in other communities of Lusaka (because very few communities have trained TB Treatment Supporters) who can help in DOTS implementation. This is because the impact of TB Treatment Supporters can be well felt when they are widespread in Lusaka district.
- Health workers in catchment areas with TB Treatment Supporters should continuously supervise and update the TB Treatment Supporters.

5.4 DISSEMINATION OF FINDINGS

After data analysis, the researcher wrote a report. A copy was given to Post Basic Nursing Department, Sponsors (MOH), Medical Library and a copy for the researcher.

Executive summaries were sent to Lusaka DHMT as well as TB Centers.

5.5 LIMITATIONS OF FINDINGS

It was not possible to conduct the study on a large scale with a larger sample size due to limited time in which the study was to be completed and submitted to the University of Zambia. This means that findings cannot be generalized to a larger population.

In addition, from the literature reviewed, there was no literature on 'TB Treatment Supporters' knowledge on TB treatment and prevention'. Thus, this was a limitation.

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APPENDIX 1

THE UNIVERSITY OF ZAMBIA SCHOOL OF MEDICINE DEPARTMENT OF POST BASIC NURSING

QUESTIONNAIRE

**TOPIC: A STUDY TO DETERMINE THE TB TREATMENT
SUPPORTERS' KNOWLEDGE ON TB TREATMENT AND
PREVENTION**

DATE:

TIME:

INSTRUCTIONS TO THE INTERVIEWER

1. No name should be written on this questionnaire.
2. Information given should be kept strictly confidential.
3. Tick appropriate answer in the box provided.
4. For questions without alternative responses write the responses on the spaces provided.
5. Ask questions as phrased, clarify only where necessary without changing the meaning of the question.
6. Ask all questions.
7. Thank the respondent at the end of each interview.

SECTION A: DEMOGRAPHIC DATA

FOR OFFICIAL
USE ONLY

1. Sex

- (a)

Male
- (b)

Female

2. Age at last birthday

3. What is your marital status?

- (a)

Single
- (b)

Married
- (c)

Divorced
- (d)

Widowed
- (e)

Separated

4. What is your religion?

- (a)

Hindu
- (b)

Christian
- (c)

Moslem
- (d)

Any other (specify)

5. What is your highest level of education?

- (a)

None
- (b)

Primary
- (c)

Secondary
- (d)

College
- (e)

University

6. What is your occupation?

- (a)

Formal employment
- (b)

Self employed
- (c)

Unemployed
- (d)

Others (specify)

**SECTION: KNOWLEDGE ON TB, ITS TREATMENT
AND PREVENTION**

7. Have you been trained as a TB Treatment Supporter?

- (a) Yes ☐
- (b) No ☐

☐

8. How long was your training?

- (a) One week ☐
- (b) Two weeks ☐
- (c) Three weeks ☐
- (d) Four weeks ☐
- (e) Over four weeks ☐
- (f) Others (specify)

☐

9. What do you understand by the disease, TB?

.....

.....

☐

10. How does a person get infected with TB?

.....

.....

☐

11. Have you ever nursed a relative with TB?

- (a) Yes ☐
- (b) No ☐

☐

12. If your answer to the above is yes, has this motivated
You to know more about TB?

- (a) Yes ☐
- (b) No ☐

☐

13. Which drugs are given in TB treatment?

- (a) Ethambutol

(b) Rifinah

(c) Pyrazinamide

(d) Thiazinia

(e) Others (specify)
-

14. How long is TB treatment?

.....

15. Which alternative treatment do you know?

- (a) None

(b) Herbal

(c) Others (specify)
-

16. What is DOTS?

.....
.....

17. How long is the Intensive Phase?

- (a) One month

(b) Two months

(c) Four months

(d) Six months

(e) Others (specify)
-

18. How long is the continuation phase?

- (a) One month

(b) Two months

(c) Four months

(d) Six months

(e) Others (specify)
-

19. How it TB prevented?

.....

.....

.....

.....

20. Do you have access to literature on TB, its treatment and prevention?

(a) Yes

--

(b) No

--

--

21. If answer to the above is yes, from where?

.....

.....

.....

--

22. How often are you supervised by the health centre staff?

(a) Weekly

--

(b) Every two weeks

--

(c) Monthly

--

(d) Quarterly

--

(e) Others, (specify)

--

23. What was covered in your training?

(a) What TB is

--

(b) Causes of TB

--

(c) Signs and symptoms of TB

--

(d) Transmission of TB to others

--

(e) TB treatment regime

--

(f) Importance of taking TB drugs regularly

--

(g) Results of irregular TB treatment

--

(h) The impact of TB on the Zambian economy

--

(i) Others, (specify)

.....

--

24. Suggestions

APPENDIX 2

WORK SCHEDULE

TASK TO BE PERFORMED	RESPONSIBLE OFFICER	DATES
Literature Review	Researcher	Continuous
Finalize Research Proposal	Researcher	2 nd June to 22 nd August, 2003
Clearance from relevant authorities	Researcher	25 th to 27 th August, 2003
Pilot Study	Researcher	1 st to 3 rd September 2003
Data Collection Tool amendment	Researcher	8 th to 12 th September, 2003
Data Collection	Researcher	16 th to 30 th September, 2003
Data Analysis	Researcher	13 th to 27 th October, 2003
Report Writing	Researcher	28 th October to 18 th November, 2003
Draft Report to PBN	Researcher	19 th to 28 th November, 2003
Finalized Report	Researcher	1 st to 22 nd December, 2003
Dissemination of Findings	Researcher	10 th to 20 th January, 2004
Monitoring Project	Researcher	Continuous

APPENDIX 3 GANTT CHART

	TASKS TO BE PERFORMED	RESPONSIBLE PERSON	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN
1.	Literature Review	Researcher								
2.	Finalize Research Proposal	Researcher								
3.	Clearance from relevant authorities	Researcher								
4.	Pilot Study	Researcher								
5.	Data collection tool amendment	Researcher								
6.	Data Collection	Researcher								
7.	Data Analysis	Researcher								
8.	Report Writing	Researcher								
9.	Draft report to PBN	Researcher								
10.	Finalized Report	Researcher								
11.	Dissemination of findings	Researcher								
12.	Monitoring Project	Researcher								

APPENDIX 4

BUDGET

	ITEM	UNIT COST	QUANTITY	TOTAL COST
1.	STATIONERY			
	Bond Typing Paper	K27,000 x 1 Ream	4	K108,000
	Flip Charts	K30,000	1	K30,000
	Folders	K2,000	5	K10,000
	Pens	K800	10	K8,000
	Pencils	K300	4	K1,200
	Rubbers	K1,500	2	K3,000
	Tippex (correction ink)	K12,000	3	K36,000
	Stapler	K28,000	1	K28,000
	Staples	K6,000	1 Box	K6,000
	calculator	K35,000	1	K35,000
	SUB TOTAL			K265,200
2.	PERSONAL			
	Lunch Allowance	K35,000	3 days for	K408,000
	Transport	K1,000 x 2	pilot and 14 days for data collection	
	SUB TOTAL			K898,000
3.	TYPING SERVICE			
	Typing and printing questionnaire	K2,500	5 pages	K12,500
	Photocopying questionnaire	K200	3 pages x 55 copies	K55,000
	Typing and printing research proposal and report	K2,500	30 pages RP & 70 pgs report	K250,000
	Binding report	K15,000	3 copies	K45,000
	SUB TOTAL			K362,500
4.	OTHER			
	Diskettes	K4,000	3	K12,000
	Bag for questionnaires	K50,000	1	K50,000
	Padlock	K8,000	1	K8,000

	SUB TOTAL			K70,000
	Aggregate Totals			K1,595,700
	Add 10% contingency of total amount			K159,570
	GRAND TOTAL			K1,755,270

BUDGET JUSTIFICATION

STATIONERY

I need stationery so that I can be able to carryout the research. I need reams of paper for writing and typing, pens and pencils for writing, flip chart for analysis. Also tippex for correction of mistakes, stapler, staples and folders for putting the work together in an orderly manner. A bag will be needed for carrying research work as well as keeping questionnaires.

PERSONAL

Since I will be working the whole day, I will need lunch allowance to enable me finish my work.

TYPING SERVICES

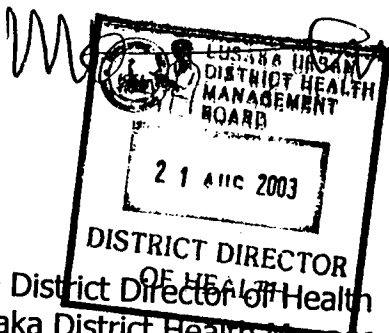
Typing services will be needed to enable the researcher type, print, and photocopy the questionnaires and reports as well as binding.

TRANSPORT

I will need transport money for carrying out my study to meet the respondents.

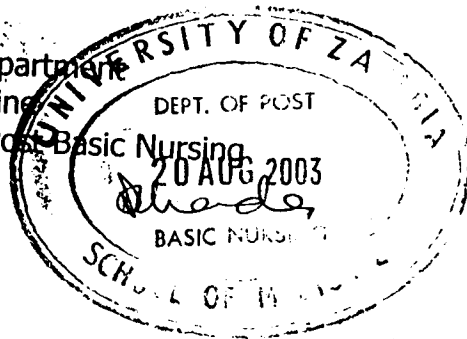
Mr Samungole

No objection



The District Director of Health
Lusaka District Health Management Board
P.O. Box
LUSAKA

U.F.S.: The Head of Department
School of Medicine
Department of Post Basic Nursing
P.O. Box 50110
LUSAKA



University of Zambia
School of Medicine
Department of Post Basic Nursing
P.O. Box 50110
LUSAKA

[Signature] 12th August, 2003
No objection.

Dear Sir/Madam,

RE: PERMISSION TO UNDERTAKE A RESEARCH STUDY

I am a fourth year student in the School of Medicine, Department of Post Basic Nursing of the University of Zambia pursuing a bachelor of science degree in nursing.

As part of requirement of this programme, I am required to carryout a Research study for me to graduate. My study topic is **"To Determine Tuberculosis Treatment Supporters' Knowledge on Tuberculosis Treatment and Prevention in Lusaka District"**. I intend to start the exercise on 22nd August, 2003.

Thanking you in advance.

Yours faithfully,

[Signature]

Alice Inkaya