

CHAPTER 4

Data analysis and interpretation

4.1 INTRODUCTION

This chapter presents the data analysis and interpretation in answer to the research questions, namely:

- do clients on TB treatment have adequate knowledge regarding their medical condition and their treatment regimen?
- how do registered nurses contribute to the knowledge levels of clients on TB treatment?

The results included demographic data, the clients' knowledge about TB and how registered nurses contribute to the knowledge levels of clients on TB treatment.

The study was conducted at Kwekwe General Hospital in the Midlands Province, Zimbabwe during November and December, 2004.

Information in section 4.2 reflects data obtained from the clients and section 4.3 reflects data obtained from the registered nurses. The researcher's interpretations are described in view of the findings and the information from the literature review.

4.2 DATA OBTAINED FROM CLIENTS TREATED FOR TB

To determine what the respondents know about TB and its treatment, 60 clients on TB treatment completed a questionnaire. The data obtained fulfilled the first objective of this study, namely to assess the knowledge levels of clients on TB treatment regarding the medical condition and treatment regimen

The sample consisted of clients who met the inclusion criteria, namely all clients who were in the continuation phase of their treatment and could speak Shona, Ndebele or English, languages the investigator is well conversant with.

4.2.1 Respondents' demographic details

Item 1 Age distribution of respondents (N=60)

Table 4.1 represents the age distribution of the respondents who participated in the study.

Table 4.1 Respondents' ages (N=60)

AGE OF RESPONDENTS	FREQUENCY	PERCENTAGE
18-22	4	6,7
23-27	2	3,3
28-32	18	30,0
33-37	11	18,3
38-42	7	11,7
Above 42 years	18	30,0
TOTAL	60	100,0

A total of 100,0% (N=60) respondents participated in the study. Of the respondents, 30,0% (N=18) were above 42, 30,0% (N=18) were 28-32, 18,3% (N=11) were 33-37, 11,7% (N=7) were 38-42, 6,7% (N=4) were 18-22 and 3,3% (N=2) were 23-27 years old.

Most of the respondents were aged between 23 and 37. This is the period during which people build a career and raise a family and optimum health is important. Efficient health education should be given to ensure that treatment regimes are followed diligently and to minimise the spread of the disease. The age group of the majority of respondents makes it easy to trace contacts within the family.

Item 2 Respondents' gender (N=60)

Figure 4.1 indicates the respondents' gender.

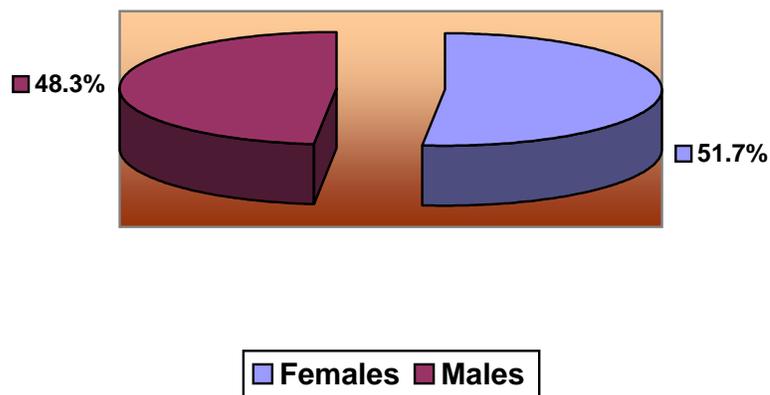


Figure 4.1
Respondents' Gender (N=60)

Of the 60 respondents, 51,7% (N=31) were females and 48,3% (N=29) males.

It can be concluded that information from the other sections of the questionnaire represents the viewpoints of males and females equally well.

Item 3 Respondents' residence (N=60)

Table 4.2 illustrates the respondents' place of residence.

Table 4.2 Respondents' residence (N=60)

RESPONDENTS' RESIDENCE	FREQUENCY	PERCENTAGE
High density	45	75,0
Low density	4	6,7
Farm	3	3,3
Resettlement	3	3,3
Rural area	7	11,7
TOTAL	60	100,0

Of the respondents, 81,7% (N=49) came from an urban setting. Of these, 91,8% (N=45) came from high-density and only 8,2% (N=4) from low-density suburbs.

The majority of the respondents, 75,0% (N=45) came from high-density residential areas, where most residents are socio-economically underprivileged. Overcrowding and poor sanitary conditions are also prevalent in these communities. TB is a communicable disease and hence spreads very quickly were there is overcrowding and unsanitary conditions which are associated with depressed socio-economic conditions (Jaramillo 1993:393; Kumar & Clark 1999:802; WHO 1998:15).

Only 18,3% (N=11) of the respondents came from a country environment where there is more fresh air and less pollution compared to the urban areas. Pollution deranges the normal protective mechanism of the airways, causing partial paralysis of the cilia and inhibition of alveolar macrophages such that they become less effective in combating infection and hence can predispose a person to getting TB (Smelter & Bare 2000:451).

Item 1.4 Level of education (N=60)

The respondents' level of education is presented in table 4.3 below.

According to Jaramillo (1999:393) and the WHO (1998:19), the risk of infection is high in the case of prolonged close proximity to an infected person. The fact that the majority of the respondents live in high-density areas may have an impact on the spreading of TB if treatment is not followed carefully.

Table 4.3 Respondents' level of education (N=60)

LEVEL OF EDUCATION	FREQUENCY	PERCENTAGE
No education	6	10,0
Primary education	19	31,7
Secondary education	32	53,3
Tertiary level	3	5,0
TOTAL	60	100,0

Only 10,0% (N=6) of the respondents had no formal education; 53,3% (N=32) had secondary level; 31,7% (N=19) had primary level and 5,0% (N=3) had tertiary level education. Hence 90,0% (N=54) of the respondents were literate. Clients who are literate are more likely to understand health education and according to Clark (1996:127) and Stanhope and Lancaster (1996:263), health education is a vital component for behavioural change. Literate clients can be given pamphlets or written

information about TB to take home. They will be able to read the information again, and repetition enhances learning and retention (Clark 1996:129).

Item 5 Respondents' occupation (N=60)

Of the respondents, 31,6% (N=19) were employed in some capacity, while 41 (68.3%) were not employed at all. Only 10 percent were either skilled or professional, with the professionals out numbering the skilled. The high rate of TB in the unemployed could be due to a lack of adequate nourishing food and poor standards of living (Berkow 1999:886) and WHO 1996:124).

4.2.2 Respondents' knowledge about TB and the treatment

This section explored the respondents' knowledge about TB in order to determine how knowledge might influence treatment. This data was meant to achieve the study's first objective, namely to assess the knowledge levels of patients on TB treatment regarding the condition and treatment regimen.

Item 1 Cause of TB (N=60)

The respondents were asked to indicate what they thought caused TB. Figure 4.2 represents the respondents' ideas on the cause.

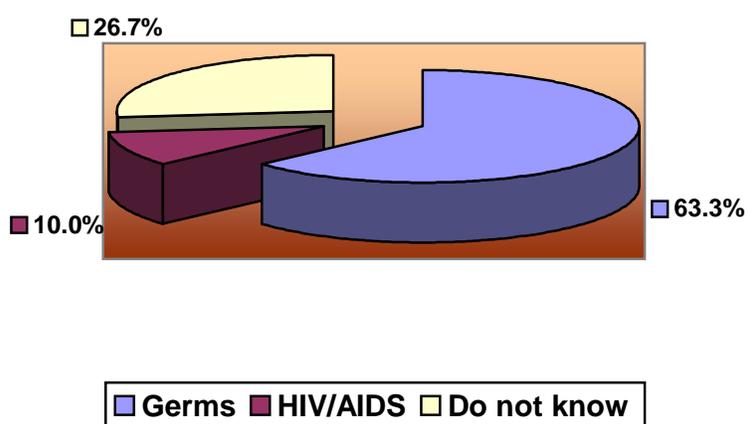


Figure 4.2
Cause of TB (N=60)

Of the respondents, 26,7% (N=16) confessed their lack of knowledge of the cause of TB, 63,3% (N=38) said it was an infectious disease caused by germs while 10,0% (N=6) said it was caused by HIV/AIDS. None associated TB with witchcraft, clearly indicating that it is not considered a superstitious disease.

Although the majority of the respondents knew the cause of TB, the 36,7% who did not know is too high, considering that the respondents are on TB treatment and should have received information.

Health education on the cause of TB should not only be directed to clients, but also to the general public. Hospitals and clinics can reach large numbers of the community, for example through posters.

Item 2 Spread of TB (N=60)

The respondents were asked how TB is spread (see table 4.4 below).

Table 4.4 How TB is spread (N=60)

HOW TB IS SPREAD	FREQUENCY	PERCENTAGE
Through breathing in infected air	44	73,4
Through sharing utensils	8	13,3
Through witchcraft	0	0,0
Do not know	8	13,3
TOTAL	60	100,0

Of the respondents, 73,4% (N=44) knew that TB is spread through breathing in infected air; 13,3% (N=8) thought it was spread through sharing utensils, and 13,3% (N=8) acknowledged their lack of knowledge on its spread. Jaramillo (1999:393) and Stanhope and Lancaster (1996:775) state that TB is an infectious bacterial disease spread through aerosolisation. If clients are not aware of this, they might not take precautionary measures to prevent the spread of the disease, such as proper disposal of sputum and covering the mouth when coughing (WHO 1996:124). The number of respondents who did not know how TB is spread, or with a wrong perception of how it is spread are a bad reflection on the health education given to these clients. Health education should teach clients explicitly how to take precautions and hence develop healthy habits in order not to spread the disease.

Item 3 Body parts affected by TB (N=60)

Of the respondents, 53,3% (N=32) believed that TB attacks the lungs only; 41,7% (N=25) said any part of the body is vulnerable, and 5,0% (N=3) did not know which body parts are affected by TB.

Item 4 Curing of TB (N=60)

On whether TB can be cured, 91,7% (N=55) of the respondents were positive that it could be cured; 3,3% (N=2) regarded it as incurable, and 5,0% (N=3) did not know. The high percentage of respondents who knew that the disease can be cured does not correspond well with their knowledge of completing of treatment and MDR TB (see section 4.2.2, items 6 and 7). Health education to clients should not only give facts, but also explain the relation between facts.

Item 5 Length of time to cure TB (N=60)

Of the respondents, 83,3% (N=50) knew that if a client took drugs as prescribed, it would take 6 to 8 months to be cured of TB; 5,0% (N=3) thought that as soon as one felt better, TB had already been cured. This may have been confused with the fact that taking treatment stops the spread of TB. Of the respondents, 11,7% (N=7) did not know how long it takes to be cured of TB if one takes drugs as prescribed. This group of respondents may well be the future defaulters of treatment (Naing et al 2001:379).

In a study in Malawi, Kruyt et al (1999:388) attributed defaulting to ignorance about duration of treatment. Concerning the 11,7% of respondents in this study who did not know how long it takes to cure TB, health education to clients and their family should deal with this issue.

Item 6 Importance of completing treatment (N=60)

The responses to the importance of completing treatment are presented in table 4.5 below.

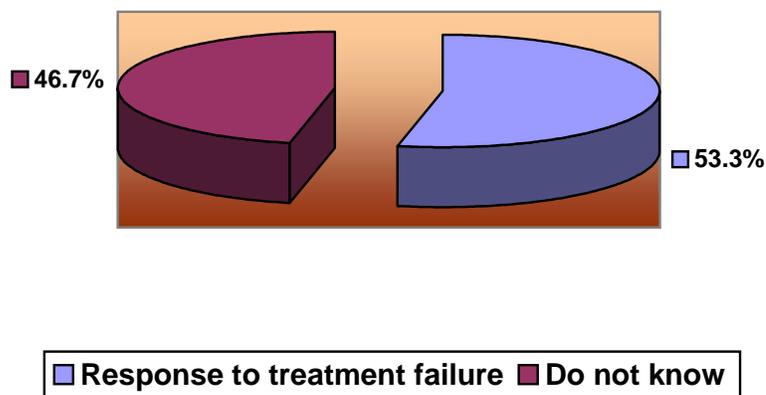
Table 4.5 Importance of completing treatment (N=60)

IMPORTANCE OF COMPLETING TREATMENT	FREQUENCY	PERCENTAGE
Do not spread the disease to others	32	53,3
Do not develop MDR TB	17	28,3
Registered nurses say they must complete treatment	1	1,7
Do not know	10	16,7
TOTAL	60	100,0

Of the respondents, 53,3% (N=32) believed not spreading the disease to others was an important reason to complete treatment; 28,3% (N=17) gave the development of MDR TB as their reason for completing treatment; 1,7% (N=1) indicated obedience to registered nurses, and 16,7% (N=10) were not aware of why it is important to complete the treatment.

Item 7 What MDR TB means (N=60)

Figure 4.3 indicates the respondents' knowledge of what MDR TB is.



**Figure 4.3
Meaning of MDR TB (N=60)**

On what MDR TB is, 53,3% (N=32) of the clients correctly identified it and 46,7% (N=28) did not know what it is.

Item 8 Development of MDR TB (N=60)

Of the respondents, 45,0% (N=27) were aware of how MDR TB develops, namely when treatment is interrupted; 3,3% (N=2) thought completion of treatment was the cause and 51,7% (N=31) did not know.

Item 9 Information on dangers of interrupting treatment (N=60)

Of the respondents, 56,7% (N=4) had been informed of the dangers of interrupting treatment, while 43,3% (N=26) had not.

Concerning items 7-9, health education should emphasise the importance of completion of treatment and explain the possible side effects, MDR TB and the advantages of following the treatment regime. Restoring health and preventing complications should be used as motivation to complete treatment. Learning by example can be achieved by having motivational sessions, led by persons cured of TB.

Item 10 Why clients interrupt treatment (N=60)

The respondents were asked to indicate why they interrupt their treatment. Various reasons were given for interrupting treatment. Of the respondents, 21,7% (N=13) stated that the drugs made them feel sick. However, when the respondents were asked whether the problems they had with drugs would affect the way they took treatment, 60,0% said the problems would not (see table 4.9). These findings agree with Haynes et al (1979) (cited in Naing et al 2001:378) who dispute factors such as side effects contributing to defaulting. Of the respondents, 16,6% (N=10) felt that once one felt better, there was no need to continue treatment; 15,0% (N=9) indicated that there were too many drugs and they also experienced side effects, 11,6% (N=7) said interrupting could be due to ignorance on the importance of completing treatment; 11,6% (N=7) did not know why clients would interrupt their treatment; 5,0% (N=3) felt it was due to laziness and 5,0% (N=3) also felt lack of food could be a contributory factor. Lack of information was another reason given by 3,3% (N=2) and only 1,7% (N=1) indicated carelessness, distance from the health centre, lack of change in the condition, too long a course, and a desire to go back to drinking alcohol and smoking.

Item 11 Spreading the disease when on treatment (N=60)

Of the respondents, 50,0% (N=30) stated that it was possible for a client on treatment to spread the disease to others, 35,0% (N=21) denied the possibility, and 15,0% (N=9) did not know.

Item 12 Resumption of work while on treatment (N=60)

On whether a TB sufferer on treatment can go back to work, 66,7% (N=40) indicated they could, 23,3% (N=14) thought they could not, and 15,0% (N=6) did not know.

Item 13 Reasons for continuation of treatment (N=60)

Respondents were asked why a person who is on treatment should continue with it, even if they feel better.

The majority of the respondents, 95,0% (N=57) acknowledged that TB takes a long time to be treated, while 5,0% (N=3) did not know.

Items 11-13 indicate a lack of knowledge about spreading of the disease, continuation of every day activities and continuation of treatment. These aspects should be addressed during health education.

Item 14 Completion of treatment (N=60)

To the question of when TB treatment should be stopped, 96,7% (N=58) were of the correct opinion that TB treatment can only be stopped after being advised to do so by registered nurses; 1,7% (N=1) indicated stopping treatment when there was either no improvement or when feeling better, respectively.

Item 15 Sources of knowledge about TB (N=60)

The respondents were allowed to indicate more than one response but all gave one source, namely that their knowledge of TB was obtained from friends, registered nurses, relatives or the media. Of the respondents, 78,3% (N=47) were informed by registered nurses, 11,7% (N=7) by either friends or relatives, and 5,0% (N=3) gave credit to the media. Only 5,0% (N=3) of the respondents mysteriously claimed to just knowing the

information from no one. This could be attributed to passive information read from posters in public areas.

4.2.3 Section C: Respondents' opinion of the DOTS

According to Akkslip et al (1999:1064), Bastian et al (2000:239) and Nachegea and Chaisson (2000:33), the DOTS strategy is a method that ensures high levels of adherence and completion of treatment. In Zimbabwe, DOTS is part of the national strategy in the treatment of TB. Hence knowledge of the items in the following discussion indicate the success of the DOTS strategy at Kwekwe General Hospital.

Item 1 Awareness of DOTS (N=60)

Participants' knowledge about DOTS was explored. Figure 4.4 indicates the figures of those who had heard of DOTS and those who had not.

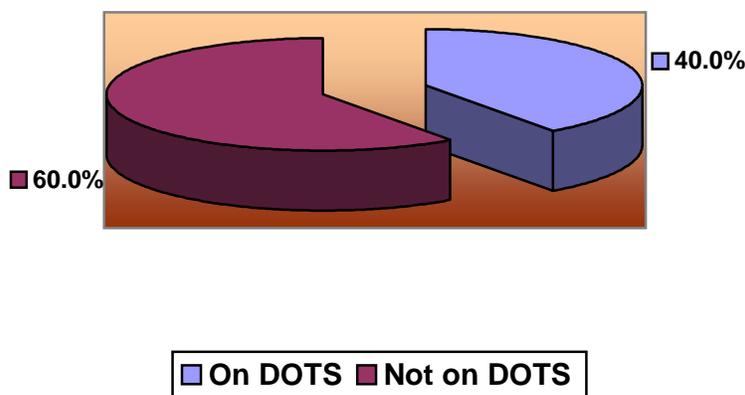


Figure 4.4
Awareness of DOTS (N=60)

Of the respondents, 40,0% (N=24) had heard about DOTS while 60,0% (N=36) had not. This means that at Kwekwe General Hospital more than half of the patients treated for TB do not have a person to support them and monitor the taking of treatment. A number of these respondents could thus possibly default at some stage.

According to Bastian et al (2000: 243-244), DOTS is a strategy to ensure high levels of adherence and completion of treatment. This was confirmed by the respondents who were on DOTS, who agreed they had a role to play in the strategy through taking tablets and that as a result of being supervised they had not interrupted their treatment.

Items 2 and 3 What DOTS means (N=40)

All the respondents (100,0%; N=24) who had heard about DOTS knew exactly what the strategy is about and were also on the DOTS programme. This implies that they had been educated about it before being involved. Hence this group of respondents will probably successfully complete the treatment.

Item 4 Supervisor (N=60)

Figure 4.5 indicates how many clients on the DOTS programme were supervised.

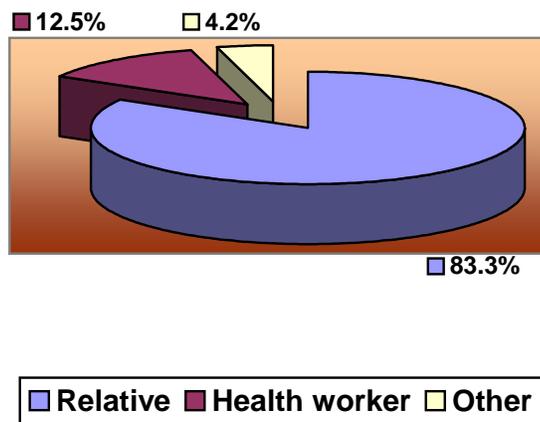


Figure 4.5
Supervisor (N=60)

Of the respondents on the DOTS programme, 83,3% (N=20) were supervised by relatives; 12,5% (N=3) were under the supervision of registered nurses and 4,2% (N=1) indicated others as supervisors.

Professional nurses and registered nurses must take note of and realise that it is convenient and feasible to involve relatives in the DOTS programme. Health education

of the client should provide for a session with a suitable relative. Akkslip et al (1999:1064) describe a high cure rate when family members supervise the taking of TB treatment.

Item 4 Clients' role in the DOTS strategy (N=24)

The respondents were asked to explain their role in DOTS.

All the respondents (100,0%; N=24) accepted they had a role to play and 83,3% (N=20) viewed their role as taking the tablets. Only 4,2% (N=1) of the respondents viewed their role as encouraging others on the DOTS programme to continue taking the drugs, while 8,3% (N=2) felt their role was to make sure they went to the health centre and take their drugs and 4,2% (N=1) felt it was to remind relatives to give them their tablets.

Items 6, 7 and 8 Effect of DOTS on respondents' health

All the respondents on the DOTS programme (100,0%; N=24) acknowledged the DOTS strategy had, indeed, affected their health in a positive way. The majority (95,8%; N=23) said they were feeling better because they had not missed treatment and only 4,2% (N=1) had experienced quick recovery on DOTS.

Items 9 and 10 Suggestions to improve DOTS

Of the respondents, 95,8% (N=23) were satisfied with the status quo of the strategy but 4,2% (N=1) felt it could be improved by combining the tablets to reduce the quantity. The last comment does not relate to the question, as the DOTS strategy is concerned with the taking and not the prescription of tablets.

4.2.4 Section D: Respondents' attitude towards TB treatment

This section was included in this study because the literature review revealed that clients default treatment because of the wrong attitude towards their diagnosis and treatment (Kruyt et al 1999:388, Mukherjee et al 2003:17 & Naing et al 2001:378).

Item 1 Feelings about the amount of TB tablets taken (N=60)

Table 4.6 indicates the respondents' feelings about the amount of TB tablets taken.

Table 4.6 Respondents' feeling about the amount of TB tablets taken (N=60)

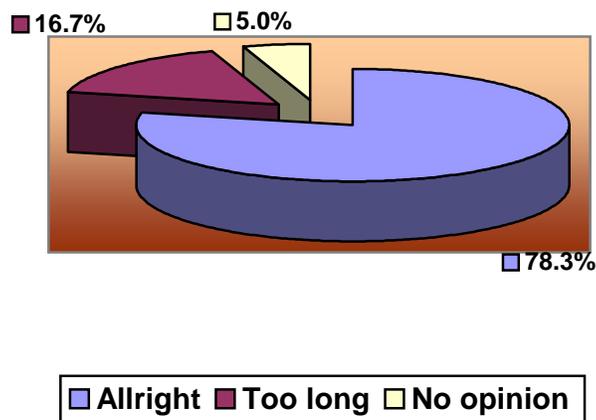
FEELING ABOUT THE AMOUNT OF TB TABLETS TAKEN	FREQUENCY	PERCENTAGE
Too many	17	28,3
Okay	41	68,4
Unsure	2	3,3
TOTAL	60	100,0

The respondents were asked how they felt about the number of tablets they were taking. Of the respondents, 28,3% (N=17) felt there were too many tablets, 68,4% (N=41) felt the number was okay and only 3,3% (N=2) were unsure of how they felt.

The many respondents who are happy with the number of tablets taken are in contrast to Haynes et al (1979) cited in Naing et al's (2001:378) findings.

Item 2 Opinion on duration of treatment (N=60)

Figure 4.6 shows the respondents' opinion on the duration of treatment.



**Figure 4.6
Opinion on duration of treatment (N=60)**

With reference to the duration of treatment, 78,3% (N=47) felt it was all right, 16,7% (N=10) thought it was too long and 5,0% (N=3) had no opinion. Harpel et al (1979) (cited in Naing et al 2001:378) found long treatment duration and complex medical regimes associated with defaulting. In this study, the clients' attitude towards their treatment regimen was positive and thus not the main reason why clients default.

Follow-up on this study, using the same respondents, to see how many of those who are happy with the amount of tablets and the duration of treatment indeed follow the treatment diligently, could be interesting.

Item 3 Employer informed of TB treatment (N=14)

Of the 14 respondents who were employed, 78,6% (N=11) informed their employer that they were on TB treatment and 21,4% (N=3) did not consider it the employer's business to know about their TB status. The reasons for the latter were not explored.

Item 4 Relatives and friends informed of TB treatment (N=60)

Table 4.7 indicates whether respondents revealed their diagnosis to relatives and/or friends. They were also asked to give reasons for not telling relatives and/or friends about their diagnosis and to explain the assistance, if any, they received from relatives and/or friends.

Table 4.7 Relatives and friends informed of TB treatment (N=60)

RELATIVES AWARE OF TREATMENT	FREQUENCY	PERCENTAGE
Yes	59	98,3
No	1	1,7
TOTAL	60	100.0
FRIENDS AWARE OF TREATMENT	FREQUENCY	PERCENTAGE
Yes	52	86,7
No	8	13,3
TOTAL	60	100.0

The majority of the respondents (98,3%; N=59) had informed their relatives that they were on TB treatment. Only 1,7% (N=1) did not inform them, thinking it would alarm them. Of the respondents, 88,8% (N=53) of those whose relatives knew they were on TB treatment assisted them in some way. The respondents were asked to explain the type of assistance they received. The main type of assistance was with provision of food, followed by motivation to complete treatment. Despite having informed their relatives, six of the respondents (11,3%) did not receive any form of assistance.

Of the respondents, 86,7% (N=52) had informed their friends they were on TB treatment, while 13,3% (N=8) had not told their friends (see table 4.7). The reasons cited for not doing so were that they were afraid their friends would think they were HIV-

positive, felt embarrassed and feared being shunned and some did not see the need to tell them. Of those who informed friends, relatives or colleagues, 73,3% (N=44) were not treated any differently, while 21,7% (N=13) were treated differently. They said people avoided them saying they would spread TB to them. Only 5,0% (N=3) said they were shown more love and understanding.

Of the 17 respondents who were employed, 82.4% (N=14) informed their employer they were on TB treatment, and of all the 60 respondents, 98,3% (N=59) informed their relatives. These findings imply support from relatives and employers and therefore dispute Proudfoot et al's (1996:65) finding that lack of support from relatives and employers contributed to defaulting.

Item 9 Feeling about being observed taking treatment (N=60)

All the clients on TB treatment, including those on DOTS, were asked how they felt about being observed taking treatment. The majority of the respondents (98,3%; N=59) did not mind, while 1,7% (N=1) felt embarrassed.

4.2.5 Section E: Other factors that may influence treatment of TB

Other factors that could influence the treatment of TB were explored. The factors were included in the study because in the literature review Mukherjee et al (2003: 17-21), Naing et al (2001:378) and Proudfoot et al (1996:65) indicate that these factors influence the treatment of TB.

Item 1 Reception from health workers (N=60)

On reception from nurses and health workers, all the respondents (100,0%; N=60) acknowledged the helpful reception they received from this cadre when they came for follow-up visits to the clinic.

Item 2 Distance from health centre (N=60)

Table 4.8 indicates the distance respondents have to travel for treatment.

Table 4.8 Distance from health centre (N= 60)

DISTANCE FROM HEALTH CENTRE	FREQUENCY	PERCENTAGE
5 km	23	38,3
6-10 km	18	30,0
11-15 km	2	3,3
16-20 km	11	18,4
More than 20 km	6	10,0
TOTAL	60	100,0

With respect to distance, 38,3% (N=23) of the respondents were within a radius of 5 kilometres from a health centre, while 28,3% (N=17) travelled more than 15 kilometres (see table 4.8).

This corresponds to Naing et al's (2001:378) findings in Malaysia that distance had no significant effect on defaulting. Mukherjee et al (2003:17) and Proudfoot et al (1999:388) though found that distance from health facilities and costs incurred contributed towards defaulting.

Items 3, 4 and 5 Means of transport and costs incurred (N=60)

The most common mode of transport was public transport catering for 76,7% (N=46) of the clients, while 23,3% (N=14) travelled on foot to health centres. There were mixed feelings on the costs incurred when visiting health centres. The frequencies were 33,3% (N=20), 31,7% (N=19) and 35,0% (N=21) for cheap, expensive and reasonable costs, respectively.

Nearly one third of the respondents felt transport is expensive. This matter should be considered as it may lead to defaulting of treatment (Haynes et al (1979) in Naing et al 2001:378).

It was, however, encouraging that all the respondents (100,0%; N=60) indicated that each time they visited the health centre they got all their prescribed drugs.

Items 6 and 7 Problems encountered with drugs (N=60)

Table 4.9 summarises the side effects of drugs experienced by the respondents. The respondents were also asked to explain the effect of the side effects on their taking of treatment.

Table 4.9 Problems encountered with drugs (N=60)

PROBLEMS ENCOUNTERED WITH DRUGS	FREQUENCY	PERCENTAGE
Vomiting	2	3,3
Dizziness	1	1,7
Tablets make one feel ill	7	11,7
No problems	45	75,0
Other	5	8,3
TOTAL	60	100,0

On any problems encountered when taking drugs, 75,0% (N=45) did not have any problems while the other 25,0% (N=15) had the following negative effects: 46,7% (N=7) expressed that the drugs made them feel ill and 33,3% (N=5) had negative effects that were not indicated. Of the remaining respondents 20,0% (N=3), 33,3% (N=1) felt dizzy, while 66,7% (N=2) vomited from taking the drugs. Of those who experienced negative effects from taking the tablets, none gave up. They continued taking their treatment. This is contrary to Mukherjee et al's (2003:21) finding that clients default treatment as a result of side effects.

Item 8 Visits by a health worker at home (N=60)

Figure 4.7 indicates the visits by health workers at home.

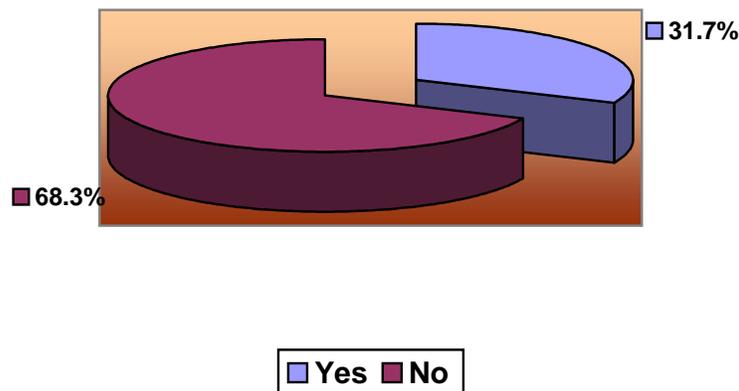


Figure 4.7

Visits by the health workers at home (N=60)

The respondents were asked if they had ever been visited by a health worker at home. Of the respondents, 31,7% (N=19) had been visited, while 68,3% (N=41) had not. Approximately one in every three clients had been visited by a registered nurse.

Although Barker, Millard and Nthangeni (2002:292-294), Bayer and Desvarieux (1996:605), Kochi (1997:229) and Westway et al (1991:141) describe the success of DOTS, the influence of a visit by a registered nurse is not described explicitly.

This item could have been expanded in the questionnaire to investigate the importance of a visit by a health worker. That could be indicative of possible risks for completing treatment with the two-thirds of respondents who did not receive a visit by a registered nurse.

Community health nurses and environmental health technicians are supposed to do follow-ups. The importance of support visits by registered nurses is outlined in the NTP (Zimbabwe, Ministry of Health & Child Welfare 1999a: 6). The manual emphasises emotional support by registered nurses for clients on TB treatment as well as support for the family. Failure to visit clients at home is a product of programme problems or failure (Jaiswal et al 2003:628). Jaiswal et al (2003:628) found that defaulting is not always a client problem but health workers also contribute. Clients on long-term TB

treatment need support and motivation to see them through this long period of their illness. This finding could be one of the reasons why clients default treatment.

Item 9 Opinion on relation between TB and HIV/AIDS (N=60)

Of the respondents, 58,3% (N=35) did not see any relationship between TB and HIV/AIDS while the remaining 41,7% (N=25) were of the opinion that the two are related.

According to the WHO (1996:87), 70,0% of persons co-infected with HIV/AIDS and TB live in Sub-Saharan Africa. HIV/AIDS increases individuals' susceptibility to TB and it impacts negatively on the course of TB. Clients should be aware of the relation between these two diseases.

4.3 REGISTERED NURSES' CONTRIBUTION TO THE KNOWLEDGE LEVELS OF CLIENTS ON TB TREATMENT

To find out how registered nurses contribute to the knowledge levels of clients, a questionnaire was distributed to ten nurses using convenience sampling. The data obtained achieved the study's second objective, namely to determine how registered nurses contribute to the knowledge levels of clients on long-term TB treatment.

The sample consisted only of registered nurses who met the inclusion criteria of having worked in the medical wards and TB clinic for more than six months.

4.3.1 Section A: Demographic data

Item 1 Nurses' age distribution (N=10)

The ages of the respondents are displayed in table 4.10 below.

Table 4.10 Nurses' age distribution (N=10)

NURSES' AGE DISTRIBUTION	FREQUENCY	PERCENTAGE
24 years or younger	1	10,0
25-34	5	50,0
35-44	3	30,0
45-54	1	10,0
55 and older	0	0,0
TOTAL	10	100,0

Of the registered nurses, 90,0% (N=9) were under 44 and only 10,0% (N=1) above 45 but under 55. All of the respondents were female.

Items 3 and 4 Nurses' qualifications and experience (N=10)

Table 4.11 summarises the respondents' qualifications and experience.

Table 4.11 Nurses' qualifications and experience (N=10)

QUALIFICATION	FREQUENCY	PERCENTAGE
Basic nursing diploma	9	90,0
Basic nursing degree	0	0,0
Other	1	10,0
TOTAL	10	100,0
EXPERIENCE	FREQUENCY	PERCENTAGE
1-2 years	3	30,0
3-4 years	2	20,0
5-6 years	0	0,0
7-8 years	0	0,0
9-10 years	1	10,0
Over 10 years	4	40,0
TOTAL	10	100,0

Of the respondents, 90,0% (N=9) had a basic nursing diploma, and 10,0% (N=1) was a state certified nurse. None had a basic nursing degree and 50,0% (N=5) had more than 9 years of experience in the nursing field while the other 50,0% (N=5) had between 1 and 4 years' experience.

These are qualified nurses with experience and therefore expected to be competent in their delivery of comprehensive health care. Only 50,0% (N=5) of the respondents provided all the required information on TB (see item 5). This finding means that many clients are left without any information on TB. This agrees with the findings from the clients' responses, which confirmed clients have no information on important aspects such as MDR TB and DOTS.

Items 5 and 6 Information given to clients and constraints to health education (N=10)

Table 4.12 indicates the topics that the registered nurses include in their health education and the constraints to health education as seen by the respondents.

Table 4.12 Information given to clients (N=10)

INFORMATION GIVEN TO CLIENTS	FREQUENCY	PERCENTAGE
TB as a disease	7	70,0
Causes of TB	6	60,0
Signs and symptoms of TB	8	80,0
Treatment of TB	8	80,0
Side effects of treatment	8	80,0
MDR TB	7	70,0
DOTS	9	90,0
CONSTRAINTS TO HEALTH EDUCATION	FREQUENCY	PERCENTAGE
Time	4	40,0
Clients' educational level	1	10,0
Workload	8	80,0
Clients' attitudes	2	20,0

The number of responses to this question was not limited. The respondents were asked to give as many responses as they wished on the information they give to clients. Of the respondents, 70% (N=7) provided the clients with information on TB as a disease, 60,0% (N=6) on causes, 80,0% (N=8) on signs and symptoms, 80,0% (N=8) on treatment of TB, 70,0% (N=7) on MDR TB and 90,0% (N=9) on DOTS. Only 50,0% (N=5) of the respondents gave information on the whole package and 10% (N=1) indicated giving health education on the signs and symptoms only.

Considering that most of the client respondents (78,3%) receive their information from registered nurses (see section 4.2.2 item 15), it is very important that health education be well planned and presented. Information should be correct and complete. The 50,0% of nurse respondents who do not teach all aspects of TB may cause a gap in knowledge which could influence the course and treatment of TB negatively.

The major constraint with regard to health education was given as shortage of human resources (80,0%; N=8) resulting in overloading the available nurses and squeezing all their time, leaving them with little, if any, time to attend to educating the clients.

This shows that one of the core businesses of registered nurses is not being met. Stanhope and Lancaster (1996:263) emphasise the importance of health education as a tool in the empowerment of clients. While lack of time may be an issue, it may be productive to invest the limited time in empowering patients with information in order to contain this disease, which is now out of control (WHO 1996:33). Preparing written information for the clients to take home can make up for the limited time.

Item 6 Instructional methods used (N=10)

Figure 4.8 indicates the instructional methods used by the respondents when giving health education to TB clients.

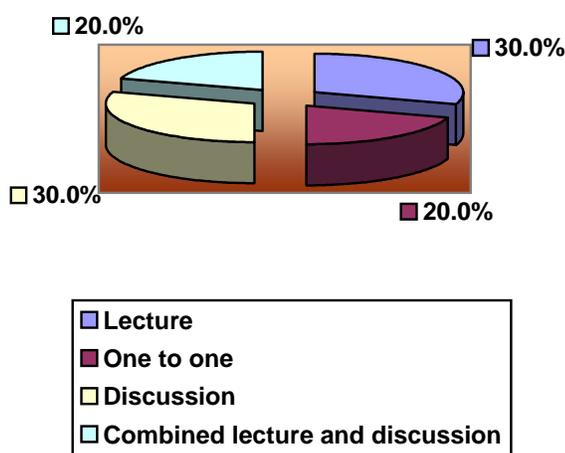


Figure 4.8
Instructional methods (N=10)

The most popular instructional methods of health education utilised by the respondents were discussion and the lecture (30,0%; N=3), respectively. These are given formally to a group of clients. The one-to-one method was used by 20,0% (N=2) and refers to on the spot teaching to individual clients. Another 20,0% (N=2) combined the lecture and discussion methods.

The instructional method commonly used by the registered nurses was a discussion (30,0%; N=3). According to the principles of adult learning, whenever new content is given, the lecture method is the best option (Fry et al 1999:84). As the clients understand more, discussion is incorporated. According to Clark (1996:129), active participation facilitates learning. Studies have shown that patients' lack of knowledge about the nature of their disease contributes significantly to defaulting. Mukherjee et al

(2003: 20) and Khan et al (2000:247) attribute patients' lack of knowledge about the nature of their disease to registered nurses. In this study, the registered nurses do not contribute as expected to the knowledge levels of clients. The registered nurses themselves concurred with this finding when they indicated their opinions on why patients default treatment. They cited lack of knowledge as the reason for defaulting and recommended adequate health education.

Having limited time because of heavy workloads, nurses should explore ways in which health education can be presented that do not need a lot of time with each client.

Item 8 When health education is given (N=10)

Thirty percent (N=3) of the nurses gave health education as soon as the client was diagnosed, while 40,0% (N=4) gave it on discharge and 20,0% (N=2) gave the education when the client comes for sputum collection, which is done over a period of three days.

Item 9 Opinion on why clients default treatment (N=10)

The respondents were asked to describe what they thought made clients default treatment. The most common reasons were too many drugs and lack of food, which were contradicted by the clients' responses (see section 4.2.4, item 1). The other reasons were:

- lack of knowledge
- seeking opinion from traditional healers and private clinics
- feeling better during the course of treatment and fear of side effects
- stigmatisation and isolation
- not being aware of the importance of drug compliancy especially if illiterate

4.4 CONCLUSION

This chapter discussed the data analysis and interpretation of findings. The findings indicate that the clients lack adequate knowledge on their condition, do not all use the DOTS strategy and there is lack of support from registered nurses after they have been

discharged. Chapter 5 concludes the study and presents a summary, conclusions and recommendations.