

ORIGINAL ARTICLE

Factors that contribute to treatment defaulting amongst tuberculosis patients in Windhoek District, Namibia

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ABSTRACT

Objective: This study aimed to investigate the factors that contribute to treatment defaulting amongst Tuberculosis (TB) patients at a major health centre in Windhoek district, Namibia.

Methods: A descriptive and explorative qualitative study using in-depth interviews was conducted among ten TB defaulters. Key informant interviews were also conducted with the two TB nurses based at the health centre. Eligible participants were purposively selected. A thematic content analysis of transcribed data was conducted.

Results: The study results indicate that defaulting TB treatment is a big challenge to TB management. The reasons for defaulting given by respondents were complex and included patient factors such as medication related factors, lack of knowledge and information as well as alcohol abuse. The findings also revealed unemployment as a major socio-economic factor that contributes to defaulting. In addition, the study shows that community, family, religious and cultural factors such as poor family support, work-related factors and religious and cultural beliefs have an influence on defaulting.

Conclusions: The study concludes that no single factor contributed to treatment defaulting amongst TB patients in the selected health centre in Windhoek district and this concurred with the literature.

Key Words: Tuberculosis, Tuberculosis patients, Tuberculosis treatment, Treatment defaulter, Tuberculosis nurses, Adherence behavior, Poor adherence

1. INTRODUCTION

Adherence to treatment is defined as the extent to which the patients take prescribed medication according to the instructions given by health workers.^[1] Adherence requires the joint decision about treatment between the patient and the health

worker. Reassurance,^[2] define adherence as “the engaged and accurate participation of an informed patient in a plan of care”. In TB management, adherence includes continuing on a programme, attending scheduled visits, taking medicines as prescribed as well as lifestyle modification.

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Adherence to treatment among patients with TB is a major factor for the treatment success rate as poor adherence leads to higher relapse rates and increased drug resistance such as Multi Drug Resistance (MDR) and Extensive Drug Resistance (XDR). The World Health Organization (WHO) target of achieving 85% adherence has not been met by many countries worldwide despite a case detection of more than 70%.^[3] Evidence of poor TB treatment adherence still exist including treatment failure, development of MDR and XDR resistant strains as well as the spread of TB in communities.^[3] This can be very costly to a country and can have a negative impact on the health care system.

According to the TB guidelines,^[4] treatment defaulting is defined as failure or interruption to take the prescribed treatment for a period of two consecutive months or longer. TB defaulting has been reported in various countries worldwide. A study done in Chiapas, Mexico, found a defaulter rate of 5%.^[5] Another study reported a defaulter rate of 14% in Vietnam in 2004^[6] and 10% in 2014 in Lima, Peru.^[7] WHO^[8] reports that TB incidence has worsened in Africa especially sub-Saharan Africa where the epidemic is worsened by the HIV/AIDS pandemic. A low treatment success rate of 70% has been reported in Africa which has been blamed on treatment defaulting.^[8] A study conducted in Nigeria found a defaulter rate of 23% in 2005.^[9] In Uganda, an estimated 14% of smear positive TB patients defaulted from treatment in 2006.^[10] However, the defaulter rate has significantly dropped in Ethiopia from 38% in 1995 to 18% in 2004 after the introduction of the Directly Observed Treatment Short-Course (DOTS) strategy in 1996.^[11]

Defaulting has significantly worsened the problem of MDR TB treatment in South Africa. MDR cases were estimated at 1% among new TB cases and 4% among re-treatment cases in 2009 which increased to 1.8% among new cases and 6.7% among re-treatment cases in 2010.^[12] Overall, the defaulter rate for TB treatment in South Africa was 11.8% in 2005 which was higher than the 11.3% recorded in 2004.^[13] KwaZulu-Natal province of South Africa has the worst defaulting problem in the country with a defaulter rate of 16.5% or higher.^[13]

Although the national TB control programme (NTCP) in Namibia has adopted the DOT strategy to deal with the immense problem of TB, many patients stop taking their medication before they successfully completed treatment, die due to late diagnosis or develop MDR TB.^[14] According to the NTCP report, the country achieved a TB cure rate of 80% in 2012 which is still below the ratified target of 85%. The defaulter rate remained at 10% for new smear positive Pulmonary Tuberculosis (PTB) and 14% for smear positive re-treatment PTB.^[15]

Several strategies have been developed for the management of TB and are applicable to different therapies as their strength and weaknesses differ. These strategies are also used to monitor adherence. The strategies include the following: DOT strategy;^[16] Stop TB strategy; pill counts;^[17] self-report;^[18] Medication Event Monitoring System (MEMS);^[19] and Short Messaging Service (SMS).^[16]

1.1 Problem statement

Although TB control services have been decentralized to the thirteen DOT points in Khomas region, the Windhoek district still has high defaulter rates ranging from 15% in new sputum smear negative PTB patients to 19% in other forms of TB and smear-not-done PTB adults (these are patients whose sputum were not taken for diagnostic testing).^[16] This is compared to the national figures of 10%.^[20] A study done in Namibia on TB defaulting has identified some factors that influence defaulting behavior but such factors could not be explored in-depth as the study used quantitative method and only focused on patients who were on DOTS.^[21] The reasons for defaulting and variations between TB patients are however not known. This raises questions about TB treatment adherence as it can be assumed that poor adherence would perpetually be a precursor to defaulting behaviour.^[17] The researcher therefore felt that the reasons for patients defaulting on follow up needed to be investigated by describing patients' experiences with treatment within the local context.

1.2 Aim of the study

The purpose of the study was to describe and to explore the factors that contribute to treatment defaulting amongst TB patients at one health centre in Windhoek district, Namibia.

1.3 Research objectives

The objectives of the study were:

- To describe the treatment experiences of TB patients who are on TB treatment at the selected health centre.
- To describe patients related factors that influence defaulting.
- To investigate community related factors that influence defaulting.
- To describe health system factors that influence defaulting.
- To examine whether there is an interrelationship between these factors.

1.4 Significance of the study

The purpose of this study is to obtain an in-depth understanding of the factors that contribute to treatment defaulting amongst TB patients who are enrolled in the TB treatment

programme at one health centre in an urban area in the Windhoek district, Khomas region, Namibia. Researchers are of the opinion that the findings of this study could assist policy makers and authorities to develop innovative approaches to ensure treatment completion among TB patients.

2. RESEARCH METHOD AND DESIGN

A descriptive and exploratory qualitative study was conducted to describe and explore factors that influence TB treatment defaulting. A qualitative methodology was chosen for this study as it provides in-depth understanding about the problem and its usefulness in exploring people's knowledge, views and experiences.^[22]

2.1 Population

In this study, the study population includes all the adults' males and females aged above 18 years of age who are on TB treatment at the selected health centre and are regarded as defaulters to treatment (as described earlier) by the health care team. In this study, a defaulter is a patient who misses two consecutive visits for medical appointment at Katutura Health Centre and has not obtained any service from any other facility that offers TB services assuming that the patient does not take any TB medication during that period or later. The second study population was nurses working with TB patients (at least for two years) at the selected health center. The two populations were chosen to make a comparison of the views of the patients and the health care workers.

2.2 Sampling

The study used purposive sampling in selecting study participants. Purposive sampling is described as a method whereby the researcher decides which study units should be included in the study sample.^[23] This type of selective sampling allows for knowledgeable participants (who will be information rich cases) to be selected for the study.^[24]

2.3 Trustworthiness

In qualitative research, rigor is of utmost importance to ensure that results are reliable and valid.^[25] An interview guide was developed and followed to ensure that similar issues were discussed across the interviews. Interviews were transcribed verbatim to ensure that no data was lost in the process. The researcher listened to some recordings after transcribing, to check the accuracy of the transcriptions. The transcriptions summaries were sent to the expert in qualitative research for confirmation on the quality of the interviews conducted and for external verification. The researcher also presented the coding to aforementioned expert for confirmation. Triangulation was employed to ensure rigor by using different methods

of data collection,^[26] whereby the information from in-depth interviews was triangulated with key informant interviews.

2.4 Data collection

The study made use of two data collection methods namely: key informant interviews and individual in-depth interviews. The interviews were conducted between the periods of 23rd February to 23th March 2010. Key informants interviews were conducted in February, 2010 with the two TB nurses at the selected health centre before the in-depth interviews with the TB patients. Prior to the interviews, arrangements were made with the key informants regarding a convenient venue, date and time for the interview. The interviews were recorded on audiotape and transcribed verbatim. An interview guide was used whereby the respondents were asked to share their experiences of being on TB treatment, the kind of behaviour they receive from other people including their family members, their experience of coming to the clinic and the experience of taking medication while working work for those respondents that are employed. Prompts were used during the interviews.

2.5 Data analysis

Data analysis started concurrently with data collection to note new emerging issues that needed clarification for further interviews. Manual analysis of data through thematic analysis was done by the researcher. The researcher took field notes as well as reflective notes against which data could be validated. Firstly, after each interview, familiarization of data was done by listening to the recorded tapes, studying the field notes and reflective notes and reading the transcribed data to list the ideas. The main ideas that emerged were then recorded. Secondly the main issues, concepts, categories and sub-categories derived from the data were grouped together and then a code was assigned to each group category using a color highlighter. Thereafter, the main ideas that were identified were grouped into five major categories. Finally, the derived themes were grouped together, summarized and illustrated with quotes thereby giving meanings to the analyzed data.

2.6 Ethical consideration

Ethical approval for the study was obtained from the University of the Western Cape Research Ethics Committee. Permission to conduct the study was sought and granted from The Permanent Secretary of the Ministry of Health and Social Services (MOHSS) upon the recommendations by their Health Research Unit. Prior to the interviews, all participants were given participants' information sheets in the participant's preferred language explaining the purpose of the research. The purpose of the research was explained to

them verbally and in their preferred language. Written consent was obtained from all participants once they had agreed to participate. The participants were notified that participation in the study was voluntary and that they had the right to withdraw at any time during the study without any negative consequences. Confidentiality for the key informants was ensured but anonymity could not be ensured because they were the only two at the facility.

3. RESULTS

Major themes and sub-themes that emerged from the analysis of the study are presented and quotes used to illustrate the comments that were made by the participants. The findings of the interviews were clustered around the following four themes namely:

- Patient related factors
- Community, family, cultural and religious related factors
- Socio-economic factors
- Health service related factors

3.1 Demographic data

The key informants were one male (enrolled nurse) and one female (registered nurse) aged 27 and 35 years. Both key informants worked with TB patients for more than two years and were trained in TB treatment management and treatment adherence counselling for both TB and HIV. The characteristics of the participants of the in-depth interviews (TB defaulters) are shown in Table 1. These participants were aged between 24 and 65 years and a total of 9 in-depth interviews were conducted. The majority of the participants (five) spoke Oshiwambo; three spoke English; and two participants spoke Afrikaans. Moreover, the table indicates that the majority (six) of the participants were unemployed. Three of the participants interviewed have no formal education, four have basic education and the remaining three have above basic education. All the defaulters had defaulted treatment before they re-started treatment and one of them had not resumed treatment during the time of the interview.

3.2 Patient related factors

Various personal factors have emerged and have been indicated to have an influence on the defaulting behaviour of the TB defaulters in this study.

3.2.1 Medication-related factors

Many of the TB defaulters had a problem with the actual medication. They reported that the tablets were too many and too big to swallow.

Table 1. Characteristic of TB defaulters

Characteristic	Male	Female	Total
Age			
• 24-30	1	2	3
• 31-40	-	2	2
• 41-50	3	1	4
• 51-65	1	-	1
Language			
• English	1	2	3
• Afrikaans	1	1	2
• Oshiwambo	3	2	5
Employment status			
• employed	2	2	4
• Unemployed	3	3	6
Course of treatment that patients had been on			
• Six months	3	2	5
• Eight months	2	3	5

However, the key informants had a different view on the number of tablets that patients were taking as they felt that the number of tablets had been greatly reduced after the implementation of the new treatment guidelines. They maintain that before the implementation of the new treatment guidelines, the patients took many more tablets. One key informant however reported that despite the reduction in the number of tablets, some TB patients still think that the tablets are too many and these might be patients with co-infection.

This is also supported by one defaulter:

"I am taking ARVs, the tablets just become too much and looking at them is making me sick so much that I decided to stop them for a while just to rest my heart."

It appears that some defaulters who were on second line of treatment (where they are required to complete two months daily injections) were not happy with the injections as they reported that the injections were too painful and this resulted in them defaulting treatment:

"... who on earth can take those injections for two months sister, ah ah, no no, they are tiring and painful..."

One of the key informants supported the above statement:

"The injections are also a big problem to patients who are on second line treatment because many patients are complaining that they left treatment because of the injections, but what can you do, its part of the treatment, one can only emphasize the importance of completing the treatment..."

One key informant highlighted the fact that the long duration of the treatment was another contributing factor to treatment defaulting which was acknowledged by defaulters

themselves. The side effects of the TB drugs also seemed to have had an impact on TB treatment defaulting. Seven of the TB defaulters interviewed indicated that they defaulted treatment because of the side effects such as vomiting, weakness and making them sick and sleepy as confirmed by the defaulters themselves:

"... I decided to ignore the treatment because the tablets make me feel sick; I can't live like that sister."

One of the key informants supported this finding:

"Mmh, the patient will tell you that sister, the medication is killing me, I am always vomiting and it's now worse since I started the medication and in that way the patient will not come back for treatment."

However, despite the side-effects, some of the defaulters realized the importance of continuing with their treatment:

"The tablets were making me sleepy in the beginning but I ignored it because all the tablets have side effects."

It appears that little information was given to the patients regarding the possible side effects of treatment.

"... sometimes the nurses here do not explain the problems with tablets in the beginning, only when you go back and complain, its when they will tell you that its because of the tablets that you are taking..."

3.2.2 Lack of knowledge and information

It appears that some TB defaulters had little knowledge about TB treatment as is evident from some of the quotations below. One defaulter reported that she thought she was only supposed to go to the clinic when she was not feeling well. Six TB defaulters reported that they stopped the treatment because the treatment was not helping and their condition had not improved since they started the treatment.

On the other hand, some TB defaulters said that they felt better after starting taking the treatment and they therefore did not find the need to continue with the treatment:

"... when I felt better, I thought I was okay and I stopped taking the tablets until I started coughing again."

This statement was backed by the key informants:

"... sometimes these patients are defaulting treatment because after starting TB treatment for some few months, they become better and they just conclude that they are healed."

Some misconceptions also seemed to influence defaulting. For example, some TB defaulters believed that the tablets did not have the same effects as the injections. Another participant shared her experience of defaulting treatment during pregnancy:

"... and two months after I started taking the tablets, I realized that I am pregnant and I stopped the tablets immediately because I was afraid of harming my baby."

Surprisingly, when asked, this defaulter never sought professional help from the clinic for clarity on this issue.

Some TB defaulters were misled by their friends:

"... my friend told me that TB tablets will make me not to get children anymore and she knows of her aunty who took TB tablets for eight months and after that she could not get children anymore."

3.2.3 Alcohol abuse

The abuse of alcohol seems to be another factor for treatment defaulting. One defaulter reported that he defaulted treatment because he preferred to drink alcohol:

"Sister, this may sound funny but I was also drinking a lot sometimes, and then I decided to stop the tablets but alcohol use to help me to forget my problems."

Both key informants also supported the above statement that alcohol is a major contributor to treatment defaulting:

"Drinking and smoking is also a problem in TB patients, they drink and they forget to come to the clinic and when they are traced by Penuka group, they are found at the 'tombo' [a local term for 'alcohol'] houses and shebeens very drunk."

3.3 Socio-economic factors

The participants mentioned unemployment as a key factor that they felt contributed to treatment defaulting. The unaffordability of transport fare due to unemployment was reported to be contributing to treatment defaulting. This is illustrated by the following quote:

"... and I am unemployed and I was not having taxi money to come to the clinic..."

The above statement is further confirmed by key informants with these statements:

"yaah, the problem is also lack of job, most of these TB patients do not work and they will tell you that they do not have money to come to the clinic or they went to go and look for jobs, that's why they did not come for follow ups."

On the other hand, lack of transport money did not prevent other patients from coming for their treatment as one defaulter reported that she asked her neighbours for transport to the clinic when she did not have transport money.

The lack of food due to unemployment was also found to have an influence on treatment defaulting. One defaulter had this to say:

“... I don't work sister, so there is no enough food at home and the nurses told us that it's not good to take the tablets on the empty stomach. . .”

One key informant confirmed that not all the TB patients received food from Penduka programme as the programme could not cater for everyone. Only some patients who were on DOTS received a daily meal when they came for their treatment at the clinic.

3.4 Community, family, cultural and religious factors

The participants reported various factors such as poor family support, work-related factors as well as cultural and religious factors as factors that influence defaulting behaviour.

3.4.1 Poor family support

Communication breakdown in the family appears to have influenced the ability of the TB defaulters to inform their family that they had TB resulting in defaulting. One defaulter indicated that he did not see the need to tell people at home because he was not communicating well with other family members. Key informants confirmed that sometimes TB patients found it difficult to inform their family especially if there was poor communication already at home as well as fear of rejection and discrimination:

“... some patients are really afraid to be rejected by people in the community if they find out that they have TB and in the end they do not come back to the clinic to collect their treatment.”

An overwhelming majority of TB defaulters confirmed this sentiment that families and other members of the community were not supportive and some of the marital relationships were broken as a result of spouse's fear against the infection. This is clearly illustrated below:

“... when I told my husband that I have TB and HIV positive, he just said 'pusek' [a very derogatory term for 'leave'], out of my house [point with fingers], we don't want to be infected by you.”

Some of the defaulters did not inform their family that they were taking TB treatment because they feared rejection from their families and were afraid of what people at home would say if they told them that they had TB:

“I am afraid, my people can be difficult at times, especially my mother, I really don't know what she will say if I tell her that I have TB. She is very strict and she might even chase me out of her house, so I decided to keep it to myself.”

Both key informants confirmed that many defaulters had poor support from their families and community where they

lived and that they were experiencing stigma at the hands of their families and community. The key informants further reported that this was evident when the Penduka programme staff went to trace some of the defaulters at home. They found out that some families and neighbours of the defaulter were calling the patient names and showed little interest in the patient's treatment. Moreover, the key informants further stated that there was a belief in the community that when a patient is diagnosed with TB, then he/she is also HIV positive. This misconception has however contributed to stigma in the community according to the key informants.

On the other hand, these claims were contested by one defaulter who highlighted that his family was supportive:

“My mother support me well, I was very weak, so weak that I could not even walk and my mother was always there for me she always collecting my medication until I could walk again.”

Living alone was cited by some defaulters as one of the reasons contributing to defaulting. They indicated that they found it extremely difficult to take treatment because there was no one to support and encourage them to take their treatment. This finding is confirmed by one key informant:

“... You will find those patients who are living alone, sometimes there is no one to support or encourage them to drink their medication or sometimes the patient can be weak and no one to collect the medication for the patient or no one to cook for the patient.”

3.4.2 Work related factors

Discrimination was mentioned as a key work-related factor which contributed to treatment defaulting. The TB defaulters felt that disclosing their TB status to their employers and colleagues contributed to discrimination at the work place. Some defaulters reported that they defaulted treatment because of fear of losing their jobs. One defaulter said that telling her employer led to her dismissal from work:

“I am a domestic worker and when I told my boss that I have TB, I was shifted to work in the garden and when I refused, my boss fired me because she said she can not risk her family to get TB from an employee like me. . .”

Reports by the key informants on the support of employers were mixed. One key informant confirmed that some patients reported that their employers did not give them time off to collect their treatment. On the other hand, the second key informant experienced employers bringing TB patients, or at least sending someone to bring the patient with the company car during office hours.

3.4.3 Religious and cultural beliefs

Religious beliefs and culture were also found to be factors associated with TB treatment defaulting.

It appears that some of the TB defaulters left TB treatment because of religious reasons:

“I am a born again Christian and I believe that God is healing me from TB and I have seen the difference when I stopped the tablets.”

One key informant confirmed that some TB patients defaulted treatment because of their religion, especially the born again Christians who believed that God will cure them from TB.

The key informants were of the opinion that traditional healers were influencing certain TB patients (Oshiwambo speaking) who were on treatment. The traditional healers made them believe that they were bewitched and could only be cured with traditional medicine. The opinion of the key informants was confirmed by one defaulter:

“... the traditional healer told me that I am witched and I should stop the TB tablets and continue to take the herbs that she gave me.”

3.5 Health services factors

TB defaulters cited various challenges at the health facilities such as accessibility, overcrowding at the clinic, inflexible opening time of the TB clinic and nurses attitudes as factors that influenced treatment defaulting.

3.5.1 Accessibility to TB services

A few defaulters raised complaints about the distance to the health care facilities. They felt that the clinic was too far and this contributed to defaulting behaviors and the flowing statement was confirmed by the key informants:

“Oh sister, I stay very far, far away from here [pointing in the direction of the area], MIX location, mmh, [giggles] I even wonder if you know it; its outside Windhoek on your way to Okahandja maybe over 10 kms, you can't even walk there. When I don't have transport money I don't come here at all because this government does not want to build a clinic for us there. Its not my problem that I didn't come back for tablets...”

Most of the defaulters highlighted overcrowding at the clinic as another problem in defaulting treatment. They reported that the TB clinic was crowded with patients who were receiving TB and anti-retroviral (ARV) treatment and sometimes the TB patients could not find a seat while waiting for the service. Some TB patients also found it difficult at times to collect their treatment at the health facility because of

the inflexible opening times at the clinic. Some defaulters claimed that they wanted to collect their treatment at lunch time (between 13H00 and 14H00) but the clinic was closed. The following quote describe the defaulter's frustration:

“... and sometimes you want to come and get your tablets lunch time but the clinic is closed that time, it is very frustrating sister, the nurses here all goes for lunch at the same time, it's unfair.”

3.5.2 TB clinic location: Sharing the venue with ARV patients

The key informants were of the opinion that the location of the TB clinic plays a major role in TB treatment defaulting (TB and ARV departments are combined as one department which is situated separately and has separate entrance from the main health centre). The key informants said that many TB patients did not want to be seen at the clinic because of the ARV patients that were utilizing the same department. This was confirmed by the majority of the TB defaulters who were also against the location of the TB clinic:

“... the clinics is really a problem, to be seen here with HIV positive people, no [participant shakes his head and moves the right index finger around], If you have a small heart like me, you will not come back here anymore, especially Tuesdays, its chaos.”

3.5.3 Attitudes of health care providers

Reports by defaulters regarding the attitudes of health care providers were mixed. Some defaulters reported satisfaction with the nurses' attitudes, whilst others appear to be completely disgruntled with the nurses' attitudes. Some found them friendly while others not:

“Oh sister, us patients sometimes are the problem; sometimes we are not coming for the tablets and when we come back at the clinic, we don't want to be asked, the nurse are really, really doing their best, they are very friendly and helpful. You will find them even making jokes to us at least trying to put smiles on our faces. I don't have problems with them at all...”

“Nurses! Mmh, these nurses are rude and they do not have time for the patients (participant puts frown on face). You just come in the TB room and you get your tablets and go home. They could not even ask how you are or how the tablets are making you feel...”

In addition, the key informants reported that some defaulters were reluctant to come to the clinic when they learnt that there was a new nurse at the TB clinic as they preferred to be cared for by the nurses whom they knew. Therefore, once they saw new faces at the clinic, they stopped coming.

4. DISCUSSION

The lack of knowledge on TB treatment was a factor that influenced treatment defaulting. More than half of the defaulters interviewed in the current study reported that they defaulted treatment because they thought that they were cured when their health status improved. This is an indication that either the information with regard to the six months duration of treatment is not given or that the information given is not well absorbed. This finding clearly indicates that personal factors (e.g. lack of knowledge) are often influenced and reinforced by health service related factors (e.g. poor communication) as demonstrated in this study. If health workers do not communicate effectively with the patients during their visits at the health facility, the patients will not have adequate knowledge on the aspects that are related to TB treatment. In a study done by,^[27] the participants (defaulters) reported poor communication with the health care workers. This resulted in patient's defaulting treatment after their symptoms abated or when they saw no improvement in their health condition.^[27]

Several gaps in information with regard to TB treatment emerged during the study. Information about side effects is an issue where poor communication plays a role,^[10] point out that the patients often experience adverse effects from TB treatment due to the high toxicity of the drugs. Side effects from the tablets such as vomiting, sleeping disorder, erectile dysfunction and general body weakness were raised in the current study as having a negative impact on TB adherence as found in another study.^[28]

When health education is given to patients about treatment adherence, information on side effects are often overlooked or not discussed.^[29] This study found little and in some instances, no information was given to the patients regarding the possible side effects of treatment.

Moreover, pregnancy and breast feeding was also found to have an influence on TB treatment adherence in the current study as they were concerned with the effects that the treatment would have on their babies. However, it was interesting to note that none of them sought professional help from the clinic for clarity regarding their concerns. These findings are suggestive of lack of information among the TB defaulters. Similarly, a study by Reddy et al.^[30] found patients' beliefs about the efficacy of the treatment to have a negative impact on treatment adherence.

Trust is an important aspect of the relationship between health worker and patient. This study found that some defaulters preferred health workers that they were familiar with over new ones. This negatively influenced treatment adherence as these patients tended not to go for follow up treatment

whenever there was a new health worker at the clinic. This is suggestive of lack of trust between TB patients and health workers. A study by Sagbakken^[31] has found similar results whereby the TB patients defaulted because they did not have trust in the new health workers at the health facility.

Another critical issue that emerged from the study was the attitudes of the health workers towards the TB patients. In this study, there were positive and negative experiences by the participants. It emerged that some health workers were said to be rude and did not provide patients with enough time to ask questions during the visits to the clinic. These findings are in line with the findings of a review by Bulage et al.^[32] and a study by Hasker et al.^[27] that indicated some reasons associated with defaulting included the poor attitude of the health workers such as scolding the patients for missing appointments and refusing to give patients more medications.

The attitude of the TB patients has been found to have a negative influence on treatment defaulting.^[32] The current study found some TB patients (especially those that are being re-treated for TB) to have defaulted treatment because they were tired of taking the medication or it was making them more sick. This negative attitude confirms the relevance of the theory of planned behavior that indicates that the intention to perform a certain action (in this case adherence to TB treatment) is influenced by the attitude (e.g. tired of taking medication) toward the action.^[33]

In the current study, it has emerged that the long duration of treatment impacted on treatment defaulting. This finding is in line with the findings of two studies^[9,34] that the long duration of treatment was a heavy burden because it impacted negatively on the patients' duties to care for their children and provide income for their families. The patients spent a vast proportion of their time going to clinic thus reducing their productive time at work or at home.

Alcohol abuse is another factor in TB defaulting in the current study as some defaulters admitted to having defaulted treatment because of alcohol. Alcohol is considered a social problem which predisposes patients to malnutrition and increasing the chances of contracting TB.^[35] It was found that TB patients who have a problem with alcoholism do not collect their treatment regularly and were found to default treatment more than the non-alcoholic patients.^[7]

One health service related factor that can cause stigma is the integration of the TB and HIV departments as well as having this combined department separate from the main health centre. This situation was perceived by the TB patients in the current study as causing stigma because once they were seen entering the department, they feared they would be labelled

as HIV positive. This finding is similar to the findings of a study conducted in South Africa where the TB patients default treatment because they did not want to be seen in the same queue as the people who were collecting ARVs.^[36]

In the current study, it emerged that certain cultural influence such as strong beliefs in traditional medicine has contributed to defaulting behaviour. Some TB defaulters in the current study believed and were convinced that they were bewitched and admitted to having sought help from the traditional healers after visiting the clinic. A study conducted in a district hospital in KwaZulu-Natal found similar results.^[29] The majority of the defaulters from that study cited that they were cursed and could only be treated by traditional healers. Moreover, the current study also found some TB patients to have defaulted treatment because of religious reasons. However, no scientific evidence was found to support or disagree with this finding.

The socio-economic status of the TB patients is believed to have a great impact on their ability to complete treatment.^[37] According to two study results,^[38,39] a high unemployment rate reflects a relationship with low socio-economic conditions and may indicate that unemployed patients tend to default treatment more often. Similarly, most of TB defaulters in the current study were unemployed, which led to the patients not adhering to their treatment.

Long distances to the clinic remains a crucial factor for TB defaulting. A study in Alexandria, Egypt found that patients walked up to two hours to reach the nearest clinic for treatment.^[40] In the current study, similar concerns such as long distances to the clinic were raised. This demonstrates a link between health service factors and socio-economic factors as patients' defaulted treatment due to poor access to health facilities which is common in poor societies.^[41]

5. CONCLUSIONS

Based on the research findings, various interrelated factors have been found to contribute to TB treatment defaulting at the selected health centre in the Windhoek district. The study findings reveal lack of knowledge among TB patients on the treatment aspects as a major concern highlighting the link between personal factors and health services factors. This link has negative implications for the TB patients and in general the TB programme as it reflects on the quality of care provided to patients which promotes treatment defaulting. Furthermore, the link between socio-economic and health service factors impacts negatively on the ability of the patients to access care. Moreover, lack of integration of TB and HIV care into the normal health services has created an opportunity for stigma from the society. The situation

therefore requires a holistic approach in the management of TB to be taken in addressing all these factors to ensure a better success rate and a reduction in defaulting rate.

5.1 Limitations to the study

The findings of this study was limited to the Khomas region; adults TB treatment defaulters aged 18 years and older. In addition, this study was limited to 10 participants and patients who could speak English, Oshiwambo and Afrikaans since the researcher can only speak these languages. Therefore defaulters who did not speak these languages were excluded from the study, which could mean that valuable information that could have been derived from these people is lost. Selection bias might have occurred because participants were selected with the help of the TB nurses. This was however minimized as the researcher had the final say over the selection and the eligibility criteria were strictly adhered to when selecting the study participants.

The study focused on one health facility in the country which means that findings from the study cannot be generalized to all the TB defaulters in other regions as it is not full representative of this population. The recommendations may not be relevant to any other areas in Namibia apart from Khomas region where the study was conducted. However, the purpose of this study was not to generalize but rather to gain a deeper understanding of the issues relating to TB defaulting and the lessons learnt could be interpreted by others in their own context.

5.2 Recommendations

The following recommendations are made based on the findings of this study:

- The National TB programme should develop practical guidelines for implementing adherence strategies such as decentralizing of DOTS centers closer to the communities to reduce long distances travelled by patients.
- Integration of TB and HIV/AIDS into normal health care services to curb stigma and discrimination at health facilities and in the community.
- Emphasis should be placed on health education of TB patients as well as the general community on TB as a disease, how it's transmitted and prevention of the condition, treatment and curability thereof as well as side effects and the importance of compliance.
- Development of culturally appropriate information of information education communication (IEC) materials on TB for dissemination in the community e.g. pamphlets in local languages for the patients to take home.
- Involve TB patients in the planning and decision making process regarding treatment to meet the needs of

the patients.

- Provision should be made to conduct continuous in-service training to health workers on adherence, professionalism and customer care.
- Health workers must strive to create and maintain a therapeutic environment by being non-judgmental, respectful and empathetic toward patients in order to enhance the patient-provider relationship that is supportive of treatment adherence.
- The government should provide food parcels to all TB patients since many of them are unemployed and they need nutritious food to complete their treatment.
- The government should provide financial assistance in a form of social grant or incentives to all TB patients who are on treatment to assist in transport to health facilities and purchasing of basic needs such as food

to prevent treatment defaulting.

- To protect the rights of people at the workplace and to access treatment without fear of disclosure, the development of workplace policy and programmes as stipulated in the National Policy on TB and HIV/AIDS of 2007 should be encouraged.

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CONFLICTS OF INTEREST DISCLOSURE

The authors declare they have no conflict of interest.

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