

Community knowledge, attitudes and practices towards tuberculosis and its treatment in Mpwapwa District, central Tanzania

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Abstract: Tuberculosis (TB) is one of the leading causes of adult mortality with 32% of the global population infected with *Mycobacterium tuberculosis*. The current control of TB depends mainly on case management using the Direct-Observed Treatment, Short-course (DOTs) regimen. Despite the measures taken, the disease burden is still on increase especially in the developing countries including Tanzania. Correct knowledge and positive perception of the community towards TB and its management is a prerequisite to early treatment seeking. This study was carried out in Mpwapwa district, central Tanzania, to assess the knowledge, attitudes and practice as regards to TB and its treatment. Focus group discussions involving men and women were conducted in six villages. Results show that TB was an important public health problem. However, community knowledge on its cause was poor. Symptoms of TB as mentioned by the community included persistent cough and weight loss. TB was reported to be transmitted mainly through air. Self medication was the first most preferred option, whereas health care facility consultation was the last one. Focus group discussants knew that TB cure requires a 8-month period of treatment. Friends and relatives were the main source of TB information in the community. In conclusion, rural communities of Mpwapwa District have a low knowledge on the causes and the transmission of tuberculosis which is a likely cause of the delay in seeking treatment. An intensive appropriate community health education is required for a positive behavioural change in tuberculosis control.

Introduction

Pulmonary tuberculosis (TB) is one of the leading causes of adult mortality and is estimated that over 33% of the global population is infected with *Mycobacterium tuberculosis* (WHO, 2005). The control of TB depends mainly on case management using the Direct-Observed Treatment, Short-course (DOTS) regimen (WHO, 2002). Despite the measures taken, the burden of the disease is still high especially in developing countries (WHO, 2005) including Tanzania (Kilale *et al.*, 1998). In recent year, the TB situation has been complicated with the HIV/AIDS co-morbidity. HIV/AIDS contributes to the increase in TB cases due to immuno suppression rendering the patients susceptible to new or reactivation of the latent infections (Elizinga *et al.*, 2004). It is estimated that by 2020, there will be over 1 billion new TB infection and, 200 million people will succumb to clinical disease and about 35 million will die if TB control is not further strengthened (WHO, 2005).

In Tanzania, treatment guidelines for TB have been circulated to all health facilities (MoH, 2003) and DOTS is the strategy instituted to increasing compliance among TB patients. During the early 1980s, African countries had embraced and implemented the WHO recommended DOTS strategy, which was meant to standardize methods for case

detection, case management and monitoring. DOTS as a strategy, entails that medication is taken in the presence of the the care provider (WHO, 2002). Providing TB patients with drugs at distanced health facilities and later sending them to continue taking their treatment at home under supervision, poses serious challenges on compliance (Kaona *et al.*, 2004).

Health seeking behaviour and the perceived knowledge on causes of TB among community members is very critical and may reduce or increase the transmission of the disease. Certain local practices and beliefs and failure to recognize symptoms early may delay diagnosis hence increasing the spread of the disease in the community (Auer *et al.*, 2000). Like HIV/AIDS, TB is often associated with stigmatization and thus may create resistance among patients to seek proper diagnosis and treatment (Oduanya & Babafemi, 2004). Thus, it is important for community members to know and realize the symptoms of the disease in order to seek treatment promptly (Rubel & Garro, 1992). Since TB treatment in Tanzania is provided free of charge, having adequate knowledge and positive perceptions toward it might encourage community members to seek medical care timely. This study was therefore, conducted to determine the knowledge, attitudes and practices as regards to TB and its treatment in Mpwapwa District, in Central Tanzania.

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Materials and Methods

Study area

The study was conducted in Mpwapwa District, central Tanzania (6°45'S, 36°20'E). The district is made up of three divisions, 18 wards and 92 villages. The main economic activity of Mpwapwa inhabitants is livestock and crop production. A proportion of the population is involved in fishing in Lake Mtera. The district is served by a total of 39 health facilities; one district hospital, two health centres and 36 dispensaries.

Mpwapwa District was selected conveniently due to moderate number of TB cases and accessibility. The district had a total of 235 TB cases in 2004 (MoH, 2004). For a period of five years from 1998 to 2002, TB accounted for over 5% of diagnoses among inpatients and more than 6% of all deaths among inpatients ≥ 5 years of age (Mpwapwa District Health Report, 2002). The moderate level of TB burden in Mpwapwa was an important criterion to avoid over- or under- estimation of the TB situation when extrapolating the results to other parts of the country.

Study design

This was a cross-sectional study conducted in six randomly selected villages from three divisions (Kibakwe, Rudi and Mpwapwa). Selection was made in order to obtain two villages from each division. The selected villages included Msagali, Mbori, Pwaga, Kitati, Chipogoro and Mtera. Six focus group discussions (FGD) involving both men and women were conducted, one in each village. Each FGD had at least seven discussants and took about 60-90 minutes to complete. The discussions were moderated by a researcher using a developed guide and another researcher recorded the discussions using a pen and a note book. During the discussions, comments, views and opinions that signified general community knowledge, beliefs and practices had to be qualified by the rest of the group members before they were noted down.

Data analysis

The written discussions were translated from Kiswahili to English and then back translated for accuracy. Before interpretation was made the information collected was entered in tables created in Microsoft Excel, which were divided according to the study themes and the corresponding village. Selected statements that expressed specific views and opinions were then put into the tables. The statements from each study theme were then compared with results

from each group discussion for similarities or differences. Those items that most featured in the group discussion were considered the groups' main opinion. Results were written and presented in exemplar quotes so as to emphasize striking results.

Results

Focus group discussants were 21-72 years old. Ethnically, the group members included Wagogo, Wakaguru, Wasangu, Watiriko, Waluguru, Wazigua and Wachagga. Others included, Wabena, Wahehe, Wanyamwezi, Wasagala and Wanyakyusa. Most of them were married. The main economic activity of most of the participants was small-scale crop production and fishing. Few of them were civil servants (teachers) and business women and men. Most of the discussants had at least primary school education.

According to all group discussants, TB was one of the most important public health problems in the community. Others included malaria, diarrhoea, eye infections, skin diseases and HIV/AIDS. There was a strong perception on the association between TB and HIV/AIDS, to the extent that most discussant believed having TB was synonymous to having HIV/AIDS. This situation was said to contribute to stigma and its related discrimination. This situation was exemplified by the following statements: *"Households members tend to discriminate and segregate the TB patients. They do not care to make sure that one receives proper treatment thinking that the patient must also be suffering from AIDS. Since the disease (AIDS) is morally sanctioned, patients are left alone"* Female, Pwaga village. Another female discussant from Mtera had these to say: *"....people will say a lot of bad words about the sick person. They would not even share food or a drink with such a person"*.

In five of the six groups, smoking cigarette or tobacco was mentioned as the most important cause of TB infections. Drinking of milk contaminated with cow hair (whether boiled or not) was believed to be the source of infection in four groups as justified by the following statement from a female discussant at Mtera: *"TB comes from raw milk. During the milking process, hair from the cow falls into the milking pot. So Consumption of such milk would results into tuberculosis"*

Drinking local brew, witchcraft, cold weather, dust, heavy duties, HIV/AIDS and inheritance (transmitted from generation to generation) were also mentioned as causes of TB (Table 1). Inheritance was particularly emphasized in Mtera and Kitati villages. One discussant had this to say: *"If infected persons*

marry each other, the offspring will inherit the disease. Tuberculosis is always a family disease, passed from one generation to another””Female discussant, Mtera village. Poor ventilation was associated with tuberculosis by discussants in Mbori and Chipogoro only.

Sharing of domestic utensils, breathing the same air and close contacts with an infected person were the commonest modes of TB transmission as mentioned by almost all group discussants. The following quote by a female discussant from Mbori attest to this: *“TB is transmitted through air, that is, if there is a TB patient who has not received proper treatment, the disease spreads. However, I do not know exactly how the transmission mechanism works”*. Interestingly, sexual intercourse with TB infected

difficult to differentiate a person with AIDS from the one with TB. In Mbori village, participants were of the view that the community will generally regard such a patient to have HIV even if she or he is diagnosed with TB alone.

Most groups (5/6) preferred hierarchal resort by opting one treatment option to another. Discussants from Kitati preferred simultaneous resort, mixing spiritual healing and modern treatment. Self medications using cough suppressant syrups, lemon and sugar, and local herbs (*mifuku, mtunduru, onions mixed with bicarbonates*) were mostly preferred as the first option of treatment. A male discussant in Pwaga had this comment: *“If it’s a normal chest pain most of them will first opt for normal cough suppressant syrup and if it does not work then a traditional healer becomes the next resort”*. Modern health facilities were the last option sought in all

Table 1: Responses of the discussants as regards to TB causes, mode of transmission and symptoms

Village	Cause of infection	Transmission	Symptoms
Pwaga	Smoking; drinking alcohol; dust	Sharing domestic utensils; kissing an infected person; air	Persistent coughing; body malaise; curly hair; vomiting; ulcers; loss of weight
Mtera	Smoke; dust; stress; drinking milk mixed with cow’s hair; inheritance	Air; sharing cigarette; sharing utensils; sharing of food with an infected person	Coughing; Loss of weight; curly hair
Mbori	Heavy duties; poor ventilation; dust; smoking; drinking local brew	Air; sharing local brew drinking cups; eating TB infected meat;	Sweating; recurrent fevers; persistent coughing; vomiting; body malaise; chest pain
Chipogoro	Smoking; cold weather; heavy duties; poor ventilation; overcrowding; drinking milk with cow’s hair	Sharing utensils; breathing contaminated air;	Persistent coughing; curly hair; ulcers around the mouth
Kitati	Smoking; drinking local brew; inheritance; heavy duties; drinking unboiled milk; HIV/AIDS	Sharing cigarettes; sharing domestic utensils; air; sexual intercourse	Body malaise; curly hair; persistent coughing; loss of appetite; diarrhoea; difficult breathing; excessive sweating
Msagali	Smoking; drinking raw milk	Air; change of weather; sexual intercourse; sharing utensils	Weight loss; persistent coughing; curly hair; sore throat; swelling of feet and cheeks

individual was perceived to speed up the transmission process as mentioned in two groups.

Persistent cough was the main symptom mentioned by all FGD discussants. Others included difficult breathing/chest tightening, weakness, weight loss and loss of appetite (Table 1). Loss of hair lustre was mentioned in five groups as an important indicator of TB. A male discussant had these to say: *“What we normally see here in Pwaga is that a person will frequently vomit; slowly becomes weak and then his/her hair loses its lustre. The person will also be vomiting every time after eating”*.

However, in all villages, discussants emphasized that in most cases the TB symptoms are similar to those of AIDS. They were also of the view that it was very

groups. Traditional healers were consulted after self medication. If no recovery referral to the health facility was done. A male discussant in Kitati had these to say: *“Some people tend to believe that they have been bewitched and so before visiting the health facility, they would first consult traditional healers”*.

All discussants were of the opinion that TB can be treated. However, there were strong contrary views in two villages (Chipogoro and Mbori) that once a person contracts TB will later turn into HIV infection if he/she doesn’t receive proper treatment. It was also believed that for a person co-infected with both TB and HIV/AIDS, TB cannot be cured.

Most groups (4/6) mentioned 8 to 9 months as the timing period for administering TB drugs. The first

two-three months, patients are hospitalized and given drugs under supervision. The remaining five to six months, patients are given drugs to administer themselves while at home. Both injectable drugs and tablets were mentioned to be used in the treatment of tuberculosis. TB drug administration at the health facility was seen as a good approach as it ensures consistent uptake of the drugs.

Health facility was the least source of information as mentioned by most discussants while relatives and friends who had suffered from TB or lived with TB patients were the most important sources. Few IEC materials were available at health facilities but were reported by most of the focus group discussants as incomprehensible since they were either small or written in English.

Although discussants said to be aware of the TB treatment regimen they complained that there was no clear guidance and follow up on the use of the drugs when patients administer drugs at home. Long distance to a health facility where TB services are available as well as cost of transport and food were the major obstacles in accessing TB treatment timely.

Discussion

The findings showed that TB is among the most important public health problem in Mpwapwa. Smoking cigarette, witchcraft, inheritance and drinking of unboiled milk or milk contaminated with cow's hair were the commonest perceived causes of TB. This implies that the community has little knowledge as regards to TB causes. Tuberculosis is caused by a bacterium of the genus *Mycobacterium*. The knowledge that drinking of raw milk might put them at risk of acquiring the disease could provide a basis for initiating control measures based on consumption of safe milk and the need for keeping milking environment clean. Such health promotion information could be provided through the Maternal and Child clinics (Mfinanga *et al.*, 2003a). Cow's hair as the cause of tuberculosis is likely to have been a misconception and might have been associated with messages from unreliable sources (as revealed by the participants) and poor milking techniques. There is need to strengthen appropriate health education as regards to tuberculosis and other zoonoses in order to provide the community with knowledge that can be used in disease control.

The perception that TB is inherited from one generation to the other might imply both negative and positive outcomes. On one side, it accelerates stigma and discrimination since the infected person and close

family members may be segregated by the community. On the other hand, it limits the spread of the infections to the wider community by paying attention to those infected. This calls for the promotion of health education that stresses on the correct causes of TB, and ways to reduce stigma and discrimination. Stigma and discrimination of TB patients was also found to influence delay in the seeking of treatment in Nigeria (Odusanya & Babafemi, 2004). Studies from elsewhere have shown that relatives and neighbours mistreated TB patients in fear of catching the disease (Somerville & Orkin, 1989; Steen & Mazonde, 1999). TB was said to be transmitted through sharing of drinking utensils and breathing the same air with an infected person. This indicates that participants had some knowledge that tuberculosis is a communicable disease and may be transmitted by either direct or indirect contact. Similar findings have been reported by Mfinanga *et al.* (2003b) in northern Tanzania. In this study, contracting TB through sexual acts is likely to have been associated with the similarity of the disease and HIV/AIDS, which is widely known to be contracted through unprotected sexual acts. Similar findings regarding belief in TB transmission through sexual acts have been observed in a study in Zambia (Kaona *et al.*, 2004).

Persistence cough, difficult breathing, chest tightening, weight loss and hair turning 'curly' were the main symptoms associated with tuberculosis among communities of Mpwapwa District. In a way, these findings imply high knowledge among the community members as regards to the clinical manifestations. Despite the high level of knowledge of TB symptoms, health seeking behaviour for treatment put less value on health facilities. Communities would consult a health facility as the last option. Self medication and traditional healers were given high priority. This means that there is delay in seeking care from health facility which is likely to cause delays in diagnosis that may increase the risk of death and enhance TB transmission in the community. Late seeking of care has been observed in similar studies elsewhere. In Mwanza, Tanzania 15% of the patients were found to report to a health facility within 30 days of the onset of symptoms (Wandwalo & Morkve, 2000). In Nigeria, Enwuru *et al.* (2002) observed that 81% of patients delayed for more than one month before reporting to a health facility and had visited local private medical facilities and traditional healers. In a way this revelation point to either inadequate knowledge on the part of the community or showing strong faith to traditionalism and disregarding conventional medicine as the first

priority. By and large, there is an interplay of many factors particularly insufficient resources, patient beliefs, which hinders people from seeking modern health care and adherence to the requirements of TB treatment as indicated in this study. Interestingly, lack of adequate food and other factors have been reported to bar TB patients to seek treatment timely in Zambia and South Africa (Needham *et al.*, 1998; Westaway & Wolmarans, 1994).

The failure by most of the discussants to differentiate between TB and HIV is likely to contribute to the delay in seeking care (diagnosis and treatment) from health facilities. This is because patients are likely to take for granted that they are infected with HIV, which has no cure. However, the probability that tuberculosis patients are likely to be infected with HIV is high as perceived by the community in our study area. In Tanzania, statistics indicate that between 32-44% of TB patients are also HIV infected (Range, *et al.* 2001).

In general, our study community seems to have moderate to low awareness on different aspects of tuberculosis. Most of the discussants were conversant of the pulmonary tuberculosis. This is probably associated by the fact that tuberculosis is locally known to be a chest problem. However, their knowledge of other forms of the disease such as extra pulmonary TB could not be established because it did not feature in the discussions. More research is thus needed to ascertain what people know with regards to other forms of TB that affect organs other than lungs. Moreover, since most symptoms of TB were associated with HIV/AIDS and hence sustained stigmatization acts towards TB patients, there is a need therefore to sensitize and educate the general public on the TB, specifically, on symptoms, causes, transmission and treatment regime. Such informative approaches will to a great extent facilitate early treatment seeking and assist in stigma reduction. The fact that most information on TB were obtained from relatives and TB-patients is similar to findings reported by other investigators in Tanzania (Mboera *et al.*, 2005; Rumisha *et al.*, 2006). The authors have reported that relatives play a significant role in health education communication in Tanzania.

This study is primarily based on qualitative data collection and therefore might be considered a limitation in its own self. However, our findings have showed that, if undertaken carefully, FGD as a method can yield very useful information for future action, particularly, for disease specific programmes that are tailored to educate people residing in specific geographical areas. Despite the limitations, the information obtained in this study will possibly be useful when designing education and awareness strategies aiming at reducing the burden of TB in the country. Long term research applying rigorous anthropological methods are thus essential to

investigate how community members use their culture to understand TB symptoms, its causes, decide when to seek treatment and how long they stay on treatment.

Acknowledgements

We wish to thank the District Executive Director, Mpwapwa District Council for giving us permission to conduct this study in the district. Special thanks are to the members of the Council Health Management Team for their support and participation. We are grateful to the staff of Mpwapwa District Hospital and other health facilities for supporting the study team during the fieldwork. We also wish to thank the study participants for providing the research team with all the necessary cooperation and support. This study was funded by the Ministry of Health and Social Welfare of the United Republic of Tanzania.

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