

# Primary Healthcare

## 'Ghosts stories': Socio-cultural factors influencing Tuberculosis(TB) treatment adherence in Ghana --Manuscript Draft--

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<b>Abstract:</b>	<p><b>Introduction:</b> One difficult problem of Tuberculosis control is non-adherence to anti-Tuberculosis medications. This leads to adverse treatment outcomes, increased morbidity and mortality, and contributes greatly to antibiotics resistance. Understanding the factors that lead to Tuberculosis treatment non adherence from the perspective of the patients has not received enough attention in the Ghanaian context, hence the relevance of this study. This study explored and described socio-cultural factors influencing Tuberculosis treatment adherence as perceived by patients with Tuberculosis at a culturally diverse district in Ashanti region, Ghana.</p> <p><b>Methods:</b> A qualitative interpretive descriptive design was used to illuminate findings. Ten (10) semi-structured individual interviews were conducted until data reached saturation. Content analysis approach with concurrent data collection and analysis allowed emerging issues to guide selection of subsequent participants.</p> <p><b>Findings:</b> Patients who had good family support, were 'policed' and reminded to take their drugs at home were likely to adhere to treatment. The traditional meaning of TB as "Nsaman wa", belief of "being well" and social stigma also affected adherence adversely.</p> <p><b>Conclusions:</b> To address the issues above, the study recommends an educational and practical supportive intervention from health care staffs that incorporate good support systems, and adherence counselling to improve adherence and the prevention of TB</p>
<b>Keywords:</b>	Socio-cultural; non-adherence; Tuberculosis; Patients; Commitment; qualitative; stigma; family support
<b>Additional Information:</b>	
<b>Question</b>	<b>Response</b>
Please confirm that you have read and agree to our Publisher's Agreement that is available <a href="#">here</a>	Yes
Have you submitted this manuscript elsewhere?	No
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<b>Author Comments:</b>	<p>I have addressed the issues by the editor</p> <ol style="list-style-type: none"><li>1. I have included the prevalence of TB in Ghana and access to Bacillus Calmette-Guérin (BCG) vaccine</li><li>2. Information on the interview guide has been added, the places where the interviews were conducted, the dates the literature review covered, how the Munro's model guided the study</li><li>3. I have corrected the discrepancy that existed with the observation data. The observation has been deleted since it targeted another objective that is not reported in this paper.</li><li>4. The typographical errors has been corrected</li><li>5. The prevention aspect has been added to both the abstract and the main work</li></ol>

## INTRODUCTION AND BACKGROUND

Tuberculosis (TB) is almost always the problem of the poor and vulnerable people especially in low income countries (Lönnroth et al., 2010; World Health Organisation [WHO], 2011). It affects over 30% of the world population (WHO, 2012). Every year, more than 9 million people get infected with TB, and close to 2 million die from TB (Lönnroth et al., 2010). TB is a bacterial infection caused by the inhalation of droplet *Mycobacterium tuberculi* (Smelter& Bare, 2008). Non-adherence to TB treatment is a major problem to TB control and leads to adverse treatment outcomes, increased morbidity and mortality, and contributes greatly to antibiotic resistance (Sabawoon, Sato, & Kobayashi, 2012; Sagbakken, Frich, & Bjune, 2008).

All children in Ghana are required to have a single dose of *Bacillus Calmette–Guérin* (BCG) injection at birth or at first contact to prevent childhood TB (MoH, 2010); however, due to some practical challenges of mothers and cultural beliefs some children may not be immunised especially among parents with poor socio-economic status (Topuzoğlu, Ay et al. 2007). Such problems include poor access to services, unfriendly attitudes and practices of some health staff, parental beliefs and misconceptions about the relevance of vaccination, fear of side effects of BCG immunization such as fever and sore on the injection site (Salifu, 2013).

In Ghana, it is estimated that in every 100,000 population there is 123 smear positive pulmonary TB cases and 281 of all types of TB cases per 100,000 populations per year (NTP, 2006). There are government policies in place to address TB infection in general and adherence to TB medications in particular. Among the strategies to eradicate TB is the introduction of Directly Observed Therapy (DOT), provision of enabler's package to TB patients among others (NTP, 2006). The National TB Control Programme (NTP) recommends a fixed-dose combination therapy for treatment, using DOT approach. This approach allows TB patients to be observed and ensures that the drug is swallowed in the presence of a health worker or a nominated other person (treatment supporter), usually a close family member (NTP, 2013). There are TB units available in every district in the Ghana to ensure the implementation of DOT. Despite these interventions, non-adherence is still a challenge in Ghana (Dordor, 2005). In the context of this study treatment adherence refers to taking the anti-TB drugs at the required dose and duration prescribed.

Although the W.H.O. recommends a target of 85% of patients to successfully complete treatment, Sekyere South District has TB non-adherence rate of 25% (WHO, 2012; DHA, 2011) and this figure could even be more due to poor records on patients who have defaulted. There is however, a dearth of qualitative research exploring the factors influencing treatment non-adherence among TB patients. This research presents beliefs and factors that affect the taking of anti-TB drugs from the patients' view point and the intervention for improving treatment adherence and prevention of TB.

Studies from four data bases CIHNAL, MEDLINE, EMBASE, and WEB of SCIENCE from 1994 to 2014 was used to search for recent information. These data bases were used since they have nursing and allied research focus and catalogue world-wide literature. Available grey literature, for example NTCP Guidelines (2006), was also used.

Munro's model (2007)<sup>1</sup> was used to guide the study because of the global nature of the studies they included in their systematic review and the majority of those studies were conducted in Africa. The model was used in organising the literature review and the analysis process; however, it was not inflexibly used since that would have truncated opportunity to capture new ideas. This current study sought to explore experiences and perspectives of TB patients who were currently taking anti-TB drugs in an ethnic diverse district in Ghana in order to recommend effective interventions to improve adherence and prevention of TB.

## METHODOLOGY

With a constructivist ontological view and interpretivist epistemology, the study used a qualitative method to explore experiences and perspectives of TB patients who were currently taking their anti-TB drugs (Creswell, 2013).

### **Study Setting**

The study was conducted at Sekyere South District in the Ashanti Region of Ghana; with a population of 94,009 according to the 2010 population census (Ghana Statistical Service, GSS, 2010). There are 10 health facilities in the District. These include five Hospitals (4 Mission Hospitals and 1 Government Hospital), four Health Centres (3 Government owned and 1 owned by a mission church), and 1 Government Maternity Home. Almost all the health facilities have a TB coordinator responsible for ensuring that the TB patients get their drugs and coordinates all activities concerning TB and report to the district TB coordinator.

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<sup>1</sup> It included studies in Africa (14), North America (9), South Asia (8) and East Asia (8), Latin America (2), and Europe (2).

**Inclusion criteria**

Patients at least 18 years of age, with Pulmonary TB, Category I and Category II patients<sup>2</sup> who have at least completed the intensive phase of their treatment (2 or 3 months after the commencement of their drugs).

**Exclusion criteria**

The study exempted patients on category III treatment, all TB patients on admission and extra pulmonary TB patients. This is because extra pulmonary TB (TB affecting any other part of the body other than the lungs) manifests differently from Pulmonary TB and TB patients on admission were supervised by nurses to take their drugs. Also, children with TB will have to be interviewed through a guardian which the researchers believed might affect responses in the interview.

**Sampling**

Purposive sampling was used to select (through the Institutional TB coordinators) patients who met the inclusion criteria, consented to participate in the study and those capable of providing adequate information to meet the research objectives (Burns & Grove, 2011). A sample size of ten (10) consisting of 7 Category I and, 3 category II patients was determined by data saturation- a point where data was rich in depth and breadth- to fully explore the phenomenon (Mayan, 2012).

**Study Design: Qualitative interpretive descriptive design**

In this study, an interpretive descriptive approach was used to explore, describe, and report experiences of the participants in a contextual manner (Thorne, 2008). The method was appropriate and capable of generating new insights to produce results that are academically credible, imaginative, and clinically practical (Thorne, 2008). This design ensured that the purpose and research questions reflected the perspective of the researcher to ensure methodological congruence (Mayan, 2012). This offered opportunity to understand meanings underlying social-cultural factors that affect adherence since nurses often need more than a mere description of phenomenon (Mayan, 2012).

In-depth individual face-to-face interviews were used for data generation using a semi-structured interview guide. The interview guide was developed based on the research aim. The semi-structured nature of the tool allowed participants to talk about their experiences but

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<sup>2</sup> Category I patients are those taking the drugs for the first time while Category II patients are patients who had either earlier defaulted or completed treatment but the TB was not cured or has relapsed. Category III patients are children 12 years and below.

not for researchers predict the responses of participants (Creswell, 2013). Topics explored are shown in Table 1.

**Table 1: Interview guide**

1. Tell me more about your anti-TB drugs taking experience
2. Could you please walk me through some cultural and social factors associated with TB and its treatment?
3. How do these factors influence your adherence?
4. Can you please tell me specific factors that make adherence difficult for you?
5. What supports systems help you to take your anti-TB drugs? Where do you get such support and how helpful is the support?
6. In your own opinion, how can the issues be addressed?

All participants were first contacted by the district TB coordinator whether they will want to take part in the study. Patients who were willing to participate were given information sheet to read and where necessary the information sheet was read and explained to the participants.

Prior to the interview each participant signed or thumb printed a consent form to participate in the study and also for the discussion to be audio recorded. The interviews took place at where participant preferred; 3 participants were interviewed at their homes, 6 at an office at the district health administration, and 1 at his work place. Participants were interviewed on their own without the presence on a family member and each interview lasted between 60 to 90 minutes.

### **Data collection and Analysis**

Concurrent data collection and analysis allowed developing ideas to be explored during subsequent interviews. Also the Munro, et al (2007) model only guided but was not used prescriptively in the analysis because it could have truncated any opportunity for new ideas from the study (Mayan, 2012). Data was analyzed using content analysis procedure proposed by Miles and Huberman (1994) using inductive content analysis. That is, researchers (YS and CE) read through transcripts several times to be familiar with the data, then codes were developed from the data, codes were clustered into categories where similar codes were clubbed together. Then the categories generated three overarching themes.

## **Rigour**

Trustworthiness of findings was ensured by first following the laid down principles of conducting qualitative research to ensure congruence of the emerging ideas with the research aim. Secondly, the data was re-coded by a second reviewer (CE) and areas of disparities between the coding were resolved in a discussion. The emerging findings were then reviewed by (GM), a TB expert and Public Health specialist to ‘establish the base of evidence and experience’ (Thorne, 2008). This is an integral part of interpretive descriptive design.

All ethical issues such as informed consent, voluntary participation, confidentiality and privacy were ensured to safeguard the participants. Pseudonyms have been used. Also, representative quotes of participants were used to substantiate the findings in the report. Again, permission to carry out the study was sought and the study got ethical approval from two ethics review board: Noguchi Memorial Institute of Medical Research, University of Ghana and the Ethics Review Committee, Ghana Health Service.

According to Lincoln and Guba (1985), the worth of a qualitative research is determined by its credibility, dependability, confirmability and transferability. The credibility of the study was ensured by conducting member checking with 3 participants, and informal discussion with Institutional TB Coordinators. This ensured that the developing themes reflected the issues they highlighted during the interview and some observations made by the TB coordinators through their work experience with the patients. Data from participants were triangulated with information discussed with Institutional TB coordinators. Additionally, all procedures used for the data collection and analysis were documented clearly to allow the review done by (GM). This guaranteed the study’s dependability. Finally, sufficient description about the participants and the context were provided for readers to determine to what extent the findings are applicable in their situation (transferability of findings) and appropriate quotes from participants gave assurance of the study’s confirmability. Main author (YS) has worked at as a nurse at the district for over 5 years and might have had encounter with the patients, but authors CE and GM have not.

## **FINDINGS**

### **Description of the sample**

Ten (10) participants consisting of 5 females and 5 males took part in the study. The youngest participant was 20 years and the oldest participant was 73 years with an average age of 36 years (details on the participants on Table 2). Three main themes emerged from the data:

family/social support, TB related stigma, and personal belief and misconception about TB (see Table 3).

### **Theme 1: Family Support**

The participants indicated that support they received during the treatment is very important for adherence and lack of support makes adherence to treatment more difficult. The support was usually from close relatives such as daughter, brother, sister, mother, wife, or husband. According to participants, the family support offered them a feeling of belongingness. The family support was in the form of financial assistance, collecting medication on behalf of the patient when they are unable to do so themselves, and showing affection to them. Family support had 3 sub-themes: material support, emotional support and support for activities of daily living.

#### ***Material/practical support***

This support was in the form of giving money to patient for transportation (to collect drugs), accompanying participant to the facility for review or collecting drugs from the facility on the patient's behalf, reminding patients to take their drugs, "policing" the patient to take the drugs, and ensuring recording of the daily intake of the drugs on a TB treatment card.

Ewura, a teacher and who was not married had this to say:

*My sister normally reminds me about my next appointment.....if not I easily forget. She also ensures that I really go for the drugs. I remember a time that I went to the hospital for my drugs and it was raining so I was unable to get a car back home and she has to arrange for a taxi to pick me up. I think she is doing well.*

#### ***Emotional support***

This support centred on the affection that the patient receives from others especially their family. This unconditional love and concern for the participants gave participants the sense of belonging, trust, and faith. A 26 year old, described her emotional support she received from her husband that made her calm and relaxed. She stated

*My husband encourages me to take my drugs so that I will be cured of the TB. .... When I am worried and in the bedroom alone, he comes to me, sits closer to me and engages in a conversation with me. He did not 'get away from me'. This is what he told me that made me calm and relaxed.... It really gave me the strength to continue taking the drugs (Obaa).*



### ***Support for Activities of Daily Living (ADLs)***

Taking anti-TB drugs could lead to dizziness and fatigue especially when taking the drugs on an empty stomach. Most participants therefore found the support they received for the Activities of Daily Living (ADLs) very helpful especially during the first 2 months when the weakness and fatigue seemed to be intolerable. A 41 year old widow, who was on both anti-TB drugs and anti-Retroviral drugs, had this to say:

*She (daughter) has been helpful to me especially when I could not do anything for myself. This help from my daughter was really essential to me because I was very weak and I could hardly do some basic activities for myself. If not for her support I would have stopped taking the drugs or reduced the dose.... Because I believe the plenty drugs make me weak. I know that for sure (Anna).*

Contrary to the above mentioned support systems that help participants to adhere to their treatment, other participants complained of lack of support from family members. Suku narrated his bad encounters with his family members that started after the doctor diagnosed him as having TB. Suku is a widower, a second time defaulter, and a single parent and he said he was neglected by the family:

*Since they (family members) know I am a worker, they thought I can take care of myself financially. When I was bed ridden, it was only my father's elder brother who came to my room and asked me to go to the hospital for drugs and he gave me GHC5.00 to buy some food. Since then I have not received any financial support from any one, none of them come to me anymore. You know, my wife is dead and I have a son too to cater for. I have been helping myself financially up to now. At times I stop the treatment. This is the third time I have been put on this drug.*

Most of the participants (n=7) complained of financial difficulty because they are not working or were single parents who had to care for their children's financial needs as well. According to the participants, the six months treatment requires several visits to the health facility for drugs (the drugs are usually issued in batches), for laboratory test, and for other test such as a chest X-ray.

### **Theme 2: Stigma associated with Tuberculosis**

One important factor that affected adherence, which came out during the study, was social stigma. This was either perceived, self-stigma, or stigma from others. Participants recounted

various forms of stigma they experienced ever since they were diagnosed with TB. However, in this study few participants reported stigma from close family members.

### ***Perceived Stigma***

Participants' perception about stigma made them to avoid social gatherings, did not share their worries with others which could prevent any potential help from others and serve as barrier to treatment adherence. One participant recounted:

*I made a decision not to tell any of my co-workers because I will be excluded from some activities such as chatting, group eating and others. I did not even inform my head teacher about it.....I may be excluded from many things there [school] (Obaa).*

### ***Self-Stigma***

Most participants (6) felt guilty and ashamed about their TB. They therefore, preferred to conceal their diagnosis of TB. This self-stigma had negative repercussion on adherent behaviour. Describing his story, a 63-year-old male participant, named Kofo, had this to say:

*I have stopped going to church because of the cough as some people may begin to suspect that I have TB. Due to that, I do not usually go anywhere; I am always in the house. I blame myself for all this.*

### ***Stigma from others***

Stigma from others was among the findings participants reported. The findings suggest that the stigma was from distant family members, neighbours, friends, and some health workers. The stigma, as outlined by the participants, included gossiping about them, making terrifying comments to the patients, negative comments, and discrimination, pointing fingers at patients.

Having TB affected their social life, as well as their married life. Sixty-three year old Kofo expressed the stigma he was going through to the extent that his wife denies him sex and she does not let him near her. Kofo narrated his story:

*Hmmm! (Long pause); my wife currently refuses to sleep with me. I mean she refuses to have sex with me and she does not even sleep on the same bed with me. This is all because I have TB; she accuses me I have been cursed and that I will infect her with my cough.*

Few participants (2) expressed stigma from staff at the health facilities that nearly made them stop going to the facility for their drugs. To the participants, the attitude amounted to

discrimination and stigmatization. Yawa, who was taking the anti-TB drugs for the second time, described her story:

*One day I went to the Hospital for my drugs and I met one of the staff standing on the walkway with two others. When I got closer to them, I greeted them and all of a sudden all of them burst into uncontrollable laughter. I was really hurt and disturbed about it; and I know it is because I have TB. .... no no, his behaviour tells it all. Even up to date I think about it a lot and I feel shy anytime I see him at the Hospital. His presence makes me uncomfortable going for my drugs.*

### **Theme 3: Beliefs and misconception about TB**

The culture and the beliefs about people shape their thinking and influence their behaviour including the kind of treatment they believe is effective for a particular disease. This was evident through the deep seated long-established meanings attached to TB that is still upheld by the participants. The myth about the cause of TB such as TB resulting from a curse, or as a punishment for offending the elderly or the ancestors had a negative impact on the treatment adherence. The belief that TB is a spiritual disease was evidenced in statements made by these participants.

*My father had quarrelled with his sibling during my marriage rites because they accused my father that he 'sold me off' to someone without his consent though he was the one whom I stayed with... turning to me, he (uncle) told me: "You shall see something".... About a year on I started coughing up blood. .... he definitely has something to do with my TB. ....yes I stopped the first treatment because my father sent me to my hometown for uncle to perform some rituals (Yawa).*

Additionally, it was found out that some participant attributed the cause of TB to witchcraft and as a result many resorted to other modalities of treatment that may have led to treatment non-adherence. Suku, who was severely wasted and very weak because he had both TB and HIV/AIDs infection, had this to share:

*Some bad people in the family may contract to others TB through witchcraft. As a result I used to visit some churches from time to time for prayers. I did that for some time but I did not see much improvement. Honestly, that time I was not concentrating on taking my anti-TB drug.*

### ***“Ghosts Cough” (“Nsaman wa”)***

The local name for tuberculosis was in itself stigmatizing. In the Akan speaking language, TB is known as “Nsaman wa” and participants were frightened because the disease was associated with the spirit of the dead. In the Twi language, “Saman” means “Ghost” and the “Wa” means “Cough” Thus, literally, TB means ghost cough. Therefore, TB is considered as the disease of the dying. Participants believed that, the “Ghost cough” will continue without ceasing and will lead them to their graves soon. Because of that belief some participants think that they are taking the drugs just to suppress their symptoms and perhaps allow them to live for some few days. Some participants thought they are dying; is just a matter of time because they see themselves as “living dead”. This was captured as demonstrated below:

*You know immediately someone gets TB, he or she will eventually die and then becomes a “ghost”. In other words the person has now become “a living dead”. It is just a matter of few months to die. That is why it is called “Nsamanwa” because you will soon become “saman” (ghost) (Agya).*

Another participant, Kofo, 63 years, also had this to say regarding why he thinks TB is untreatable disease, hence “Ghost cough”. He remarked:

*TB kills. If you get TB, „you will cough till the cough sends you to the grave”. It is known that once someone gets the TB, then he /she is embarking on a death journey. In other words the person will soon become a ghost. Yes, once you get the TB, then death is imminent so there may not be any need for drugs to cure it....isn't it?.*

### ***The ‘feeling better euphoria’***

Some patients left the treatment when their conditions improved and they have no or reduced symptoms. They believed that absence of symptoms means cure.

*Drugs are for sick and weak people. If I feel ok then there no need to take the drugs.....that is why stopped the other one [treatment] (Suku).*

However, this feeling better rather encouraged others to continue to treatment because they realized that the drugs are effective and capable of treating the disease (though not sure if it could cure it). *I was determined and **made up my mind** that no matter what I have to complete the drugs because it was improving (Kiki).*

### ***Belief in herbal medicine as a treatment of TB***

The belief in alternative option for treating TB, such as herbal medicine, influenced participants' adherence to the anti-TB drugs. Some patients either switched completely to other treatment options or combined that treatment option with the anti-TB drugs. The decision to take the herbal drugs was either by the patient alone or influenced by others especially family members.

A 22 year-old Senior High student believed fervently in the possibility of a cure through herbal drugs. He narrated:

*Honestly when I take the herbal drugs, I feel well than when I take the anti-TB drugs from the Hospital. The herbal drugs give me appetite. So from time to time I take the herbal drugs instead of the anti-TB drugs from the hospital (Panin).*

Kiki, a 20 year old teenager and a student expressed the ordeals he encountered when he was forced to take herbal preparation. He echoed:

*My mother bought some herbal drugs for me to take and you know I cannot refuse to take the drug. I had to take it.*

## **DISCUSSION**

Socio-cultural factors such as family support systems in the form of material support, emotional encouragement, “policing” participants to take their drugs, and helping the participants in their daily lives helped them to adhere to treatment. However, stigma, cultural beliefs such as “becoming a ghost” and lack of family support affected adherence to treatment. The findings are discussed with reference to available literature to determine areas of congruence or divergence using the model of Munro et al. (2007) as a guide.

Some of the participants had other chronic diseases such as HIV/AIDS and Diabetes Mellitus which they were treating with anti-retroviral drugs and anti-diabetic drugs respectively. Those who were on other drugs mostly complained of the drug load and the aggregated side effects of the anti-TB drugs and the anti-retroviral drugs or the anti-diabetic drugs. This may suggest why patients with other co-morbidities may be more likely to be non-adherent as indicated by some studies (Monedero & Caminero, 2010; & Shin et al., 2008).

Participants who had adequate family support during treatment were very confident of completing treatment and affirmed that family support was important for adherence. Good support received by patients during treatment made the patients feel loved and it promoted adherence to treatment and this is confirmed by Gebremariam et al. (2010). Their study indicated that good family support affected adherence to treatment positively. Other studies have indicated that support for TB patients reduces stigma (Van Rie, 2008) and encourages adherence (Widjanark, Gompelman, Dijkers, & van der Werf, 2009). Supporting the role of family support in TB treatment adherence, Arcêncio et al. (2008) indicates that the support is not only needed from family members but neighbours in the community as well as health care professionals, a position further supported by Zolowere et al. (2008).

In this present study, family supports were manifested through reminding the patients to take their drugs, accompanying them to the health facility, offering financial assistance, and giving the patient meals since taking the drugs without adequate food increases weakness. This corroborates the works of others that reveals that support patients receive at home from relatives facilitates successful treatment (Mafigiri, McGrath, & Whalen, 2012; Punga et al., 2006; Sengupta, et al., 2006; Shin et al., 2008; Smerdin, 2008). Some of the support patients received, for example “policing” by family members to take their drugs and reminding and ensuring that the drugs are taken were beneficial for patient’s adherence behaviour. This has been confirmed by the study of Kgatlwane and colleagues (2005) that indicates supervision from family members helped with adherence to anti-retroviral drugs. This finding further reaffirms the need for the Directly Observed Therapy (DOT) to be enforced through the community health staff and committed treatment supporters close to the patient.

Conversely, lack of family support or inadequate support makes adherence to treatment even more difficult. This present study found that those participants who demonstrated lack of family support had either defaulted previous treatment or missed taking some of the tablets in their current treatment. This problem of inadequate support for patients on TB drugs has been cited by some qualitative researchers as one of the problems that made patients to discontinue their treatment (Ayisi et al., 2011; Castelnovo, 2010; Dodor & Afenyadu, 2005; Kulkarni et al., 2013; Zuñiga, 2012). Although this study did not aim to explore in-depth the economic status of patients (because the treatment of TB is free, and distance to nearby health facility was approximately close), it was found that most of the participants who were non-adherent in one point in time attributed it to financial difficulty. The poor financial situation affected their ability to get money for transportation for their drugs and at times go for Chest X-ray.

This substantiates the work of Dodor and Afenyadu (2005) who conducted a study at Effia-Nkwanta Regional Hospital and found out that financial difficulty was the main reason for TB treatment default. So if the patients do not have the support of the family to assist financially, patients become increasingly demoralised, and with feelings of resentment as family support weakened (Khan et al., 2010; Munro et al., 2007).

Stigma causes significant disruption of the patient's social life. For example, one participant complained of his wife denying him sex because he had TB. The issue of stigma affecting negatively TB treatment adherence has been raised by numerous studies (Abioye, Omotayo, & Alakija, 2011; Dodor, 2012; Dodor, Neal, & Kelly, 2008; Dodor & Kelly, 2009; Dodor, Neal, & Kelly, 2010; Gebremanriam et al., 2010). However, patients were willing to disclose their TB statuses to their very close relations whom they trust such as spouse, mother, father, brother, sister, and children. This finding substantiates that of (Zolowere, Manda, Panulo, & Muula, 2008). And this might highlight that educational interventions targeted at this group of people may be very helpful in helping patients' adherence to their treatment. It might also be beneficial if the identified treatment supporters are involved much more right from the adherence counselling of the patient.

Though stigma seems to be a very strong factor that influences treatment adherence in the context where this study was conducted, however, one study reported that stigma was not an important issue in TB treatment non-adherence (Gerrish et al. 2013). The study by Gerrish and colleagues was a qualitative, just like this study, the potential variation in the beliefs and social system between United Kingdom (where their study was carried out) and Ghana, might account for the difference in findings. Unlike the United Kingdom, the Ghanaian society still adores the extended family system and the communal way of doing things. Therefore, when patients are abandoned by the family, it might affect all aspects of their life including adherence to treatment. Again, the resources in place in UK that support the TB patients besides family support could account for this (Tanimura, et al; 2014).

Beliefs affect health seeking behaviour, and the choice of treatment for patients. Where the choice is made, the adherence to treatment could also be affected by the belief held by patients and society (Annan, 2014; Orr, 2011). TB has its own culturally embedded meaning that affect participants' decision to go for anti-TB drugs from the health facilities, and adhere to the treatment given to them. This is even more important because of the belief held about TB as evil incurable deadly disease. Even the name "Nsaman wa" made most participants to

believe that they were embarking on a death journey and the relevance of the drugs in most cases was not considered. This made some patients think that they are usually managing TB but not curing it. This substantiated the negative effect that the local name “Nsaman wa” seems to hinder the progress towards TB control in Ghana (Ahorlu & Bonsu, 2013).

The belief that the absence of symptoms of TB means cure also influenced treatment adherence negatively. This is because some patients defaulted when their conditions improved and experienced “feeling better” euphoria. This supports the findings of Widjanark, Gompelman, Dijkers, and van der Werf (2009). This was particularly reported by participants who had defaulted earlier, and now on re-treatment. Other studies report that patients are likely to default after the intensive phase of the drugs which is, 2-3 months (Ananthakrishnan et al., 2012; Atkins 2010; Dodor & Kelly, 2010; Gebremariam et al., 2010).

## LIMITATION

The views of family care givers were not considered. That information could have helped to triangulate the findings from the TB patients.

Though, the practical relevance of qualitative research has been contested by others in terms of applicability of a study with small sample size (in this study 10 participants participated). However, the applicability of this study appears useful since the study sought to mainly explore “how” and “why” the social and cultural factors affect TB treatment adherence. And this is absolutely in line with the epistemological stance that warranted the qualitative study. Therefore, it is the meaning and the understanding from this study that apply to other context with similar characteristics, hence the provision of sufficient contextual information. Consequently, the onus lies with the readers to determine whether or not the findings are applicable to their situation.

No attempt is made to make generalisation due to the philosophical stance but the findings might significantly lead to improvement to TB treatment adherence and improvement in quality of life of TB patients. It may also be useful for other patients taking treatment for other chronic conditions such as HIV/AIDs, hypertension, diabetes, just to mention a few.

## IMPLICATIONS FOR PRIMARY HEALTH CARE, MANAGEMENT AND POLICY

Information on the need for patients to complete all their drugs even if they feel better soon after commencement of treatment seems very necessary. Nursing administration should re-



activate the activities of the Public Health Nurses and the Community Health Nurses to monitor periodically the TB patients at home till treatment is completed. There is also strong need to emphasise adherence counselling since patients who make up their mind to complete treatment aim to do so.

Our findings indicate that efforts to reduce stigma, in whatever form; and promotion of social support will enhance treatment adherence of TB patients in the Ashanti Region of Ghana. Again, prompt recognition and dealing with problems of patients appears helpful. This should ensure active involvement of committed family members in TB care.

Ghana National TB Control programme could amend their policy for TB control in light of this social and cultural factors and perhaps the need for the training schools to include in their curricular management of diseases that are stigmatized and have inherent cultural undertone in its management.

There is the strong need to intensify education of TB and its treatment while paying special emphasis on the cultural meaning assigned to TB in the locality. And emphasis on TB prevention will be of great value.

## CONCLUSION

The study contributes to evidence on TB patients' experiences of non-adherence, and is a unique study that explored TB non-adherence using qualitative approach in a district-wide study within the Ghanaian context. These findings bring insightful understanding of the socio-cultural factors that influence TB patients' decisions to complete their treatment regime. It must be noted that with good family support and patients 'making-up' their minds, they are likely to complete treatment regardless of the social or cultural hurdle they may encounter. However, without the necessary support and encouragement, patients may give up their treatment before completion especially when they start to feel better. It appears therefore that, educational and practical supportive interventions from health care staff adapted to address this group are needed. Future research on the patient and TB coordinators relationship and the general involvement of the family members appears important. Strong adherence counselling for TB patients and thorough pre-treatment assessment that identifies any potential barrier to treatment is recommended.

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## APPENDICES

**Table 2: Socio-Demographic Data of participants**

<b>Fictitious name</b>	<b>Age</b>	<b>Sex</b>	<b>Duration of taking anti-TB drugs</b>	<b>Level of Education</b>	<b>Distance to Health facility</b>	<b>Occupation</b>	<b>Marital status</b>	<b>No. of children</b>
Ewura	32	F	4 months	Tertiary	5km	Tutor	Single	Nil
Kiki	22	M	5 months	Secondary	7km	Student	Single	Nil
Anna	41	F	5 months	Basic	5km	Trader	Widow	3
Suku	35	M	4 months (Re-treatment)	Nil	2km	Labourer	Widower	1
Maame	20	F	3 months	Secondary	5km	Unemployed	Single	1
Panin	22	M	3 months	Secondary	1km	Student	Single	Nil
Obaa	26	F	4 months	Secondary	1km	Pupil teacher	Married	1
Agya	73	M	5 months	Middle school	12km	Farmer	Married	6
Yawa	27	F	3 months (Re-treatment)	Primary	5km	Seamstress	Divorced	1
Kofo	63	M	2 months (Re-treatment)	Middle School	2 km	Nil	Married	3

**Table 3: Themes of Socio-cultural factors affecting TB treatment adherence**

<b>Theme</b>	<b>Sub-themes</b>
1. Family support	(i) Material support (ii) Emotional/Psychological support (iii) Support for activities of daily living  (iv) Financial difficulty
1. Stigma	(i) Perceived stigma (ii) Self-stigma (iii) Stigma from others
1. Belief and Misconceptions about TB and its treatment	(i) Myth about TB (ii) Ghost Cough  (iii) Other treatment options  (iv) Being well