

RESEARCH PAPER
**HEALTH-SEEKING BEHAVIOUR OF TUBERCULOSIS
PATIENTS AND RELATED FACTORS IN THE CENTRAL
REGION OF GHANA**

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ABSTRACT

The health seeking behaviour of TB patients and health service related barriers have been cited to have an influence on the management of the disease in countries with high incidence of TB. Using close and open-ended questionnaires, an assessment of the health seeking behaviour of 302 TB patients selected from 24 DOTS centres in six districts in the Central Region of Ghana was carried out. Under service-related barriers, distance from home to DOTS centre significantly impacted on the management of TB among sufferers ($p=0.025$). Though not significant, patients acknowledged the good reception by staff at treatment centres with 99.3% of them being comfortable with staff and services provided at centres. Majority (46.7%) of patients perceived TB to be caused by the oral route while only 9.3% knew the causative agent to be bacteria. Compared with males, quite a number of women did not have adequate knowledge on TB ($p<0.05$). More than half of the respondents sought treatment elsewhere as first point of treatment before reporting to the DOTS centre. Health insurance played an important role in the health seeking behaviour of respondents; 45.9% of TB patients with health insurance visited the health facility as 1st provider whilst 49.4% without health insurance visited prayer camps ($p=0.001$). Our study has revealed that factors such as staff attitude, distance to treatment centres, gender, employment and education are key factors that affect the health-seeking behaviour of TB patients in the Central Region of Ghana.

Keywords: Tuberculosis, Health, barriers, Central Region

INTRODUCTION

The World Health Organization (WHO) in 1993 declared Tuberculosis (TB) a global emergency since about one third of the world's population were infected, with a vast majority of its prevalence occurring in developing coun-

tries (Banerji and Andersen, 1963; WHO, 1993). The Directly Observed Treatment Short course (DOTS) for the control of TB has been adopted by most countries in the African region including Ghana since 1994. However, by the year 2001 only 68% of the population in the

Central region of Ghana was covered by DOTS. Several challenges such as inadequate health infrastructure, inequities in health facility distribution, care-seeking behaviour of TB suspects, knowledge, awareness and skills of health care providers, the impact of health sector reform, poverty and HIV pandemic hamper the control of TB in Africa.

With an estimated incidence of 86 per 100,000 people, Ghana ranks 82 in the world for TB (WHO, 2013). In addition, the National Tuberculosis Control Programme (NTP) Annual Report of Ghana in 2008 indicated that a greater percentage of TB cases were not reported to health facilities mainly due to the health seeking behaviour of sufferers, poverty, stigma and cultural beliefs.

In 2007, the Central Region located along coastal Ghana recorded a prevalence of 25.1 cases per 100,000 individuals. A death rate of 10.1% was recorded in 2004. This reduced to 8.3% in 2005 but increased to 10.4% in 2006 (Chang and Esterman, 2007; Report, 2007, 2008). A major contribution to the high death rates has been attributed to various reasons, but key among them is time taken to report to health facilities, distance related factors and other service related factors. Individual factors, such as knowledge, attitudes, gender, sex, ethnicity, income, and education, in addition to health service barriers, including accessibility and acceptability of care, cost of services, and quality of care, can often delay or prevent a person from seeking TB care and treatment at health facilities. Whereas there is anecdotal evidence about patients suffering from TB not seeking care at health facilities, this has not been empirically shown. The few existing data indicate that some TB patients may rather prefer other points of care such as traditional healers, chemical sellers and spiritualists for unknown reasons (Ayeh, 2010). Reasons as to why patients seek for care at other places is needed since such knowledge can be documented for policy change regarding interventions. In the light of this, our study sought to

investigate the contribution of service related factors, and explore reasons for choice of places of care of TB patients in the Central region of Ghana.

MATERIALS AND METHODS

Study sites

The study was conducted in eight rural and urban (four in each) areas in the Central Region of Ghana. These were selected from six districts within the region and involved 24 DOTS centres. TB patients who were registered with the NTP were purposively selected and recruited into the study for a period of six weeks between October and November 2008.

Study population

The study population comprised people aged 15 years or more with newly diagnosed sputum smear positive pulmonary TB. All patients were required to give written or verbal informed consent before being allowed to participate.

Study design

We took a random sample of patients in a cross sectional study design that was conducted over a period of twenty weeks in the Central Region of Ghana. Apart from the socio demographics of study recruits, information such as patient's knowledge on the symptoms of TB, experience at the health centre, social support systems, and treatment experience from the onset of the disease were also collected. Of interest was also the first point of care whenever they had TB or first diagnosed as having TB.

Data collection technique

Study subjects were interviewed using close-ended and open-ended questionnaires by trained research assistants in the local language. The questionnaire enquired about the demographic characteristics of respondents, service related factors affecting TB treatment and care.

Data Analysis

Data were analysed using SPSS version 16.0 and presented in the form of frequency distribu-

tions and cross-tabulations. P-values (≤ 0.05) were considered significant. Mean, median, quartile and proportions were utilized in descriptive analysis of the quantitative studies with Student's *t*-test and Chi-square (X^2) test for relationships in categorical variables.

Ethical approval

Research clearance was obtained from the Committee on Human Research Publication and Ethics, School of Medical Sciences, KNUST, Kumasi, Ghana.

RESULTS

Socio-demographic characteristics

A total of 302 TB patients were recruited for the study (189 males and 113 females). Of this 12.6% (38) were between the ages of 15 – 24 years whilst 47% (142) were 25 – 44 years representing majority in the study. The mean age of the respondents was 40.9 years (\pm SD28.78). Of the total 302 patients (55.3%) were married, 40.6% had basic education, and 58.3% were employed with farming making up for 37.4%. The other occupations of the respondents were mainly labourers (16%), dressmakers (3.3%), students (4%) and office workers (2.3%) as shown in Table 1.

Service related barriers

This was assessed by certain parameters including time taken to walk from house to DOTS centre, attitude of staff at the centre and comfort level at service attended. The responses to the various parameters above are shown in Table 2.

Some of the questions under service related barriers affecting health seeking behaviour of TB patients related to patient's comfort level with staff and services at health facility; 99.3% of respondents were very comfortable with the staff and services at the health facility and 270 (89.4%) respondents were satisfied with the medical officer who attended to them. Majority (98%) of the respondents, were reported to have undergone counselling before starting treatment and 93.7% of them said they were

informed repeatedly to take their medications.

Knowledge on TB

Respondents identified various perceived causes of TB. Most of them (46.7%) believed ingestion of the disease-causing organism to be a major cause, bacterial infection 28 (9.3%), related to injuries (24.5%) and 13 (4.3%) said it was hereditary. Of the 302 respondents interviewed, 286 (94.7%) said TB was transmissible and 14 (4.6%) did not know of transmission of TB. Knowledge on TB spread was found encouraging as many as 130 male respondents (43.0%) and 86 (28.5%) females were of the view that TB was spread through infectious droplets.

Most of the respondents 99.3% (300) were of the view that TB can be cured. All the male respondents believed TB was curable whilst 98% of the (111) females also believed likewise. Respondents' knowledge on TB symptoms were good, almost 8 out of 10 of them said they had knowledge on TB. A total of 56 (18.6%) women did not have adequate knowledge on TB as compared to 44 (14.8%) males, $p < 0.05$.

Disease and treatment related factors

Respondent's knowledge on disease and treatment factors that affect TB control were assessed by questions that dealt with patient's TB history (personal and family), delay in time taken to report to health care facility and choice of point of care. Other factors such as insurance status of patients, TB awareness in the region as well as where patients obtained information on TB were also identified under this category. Tables 3 and 4 below show a summary of the findings.

Of the total 302 respondents, 204 (67.5%) of patients sought treatment elsewhere as 1st place of treatment before reporting to DOTS and 32.5% attended DOTS services as 1st place. Various reasons were identified by the respondents for seeking treatment elsewhere; such as sent by relatives, condition due to spiritual

Table 1: Distribution of socio-demographic characteristics of TB patients in selected DOTS centres in Central Region

Age of respondent	Male (n=189) n (%)	Female (n=113) n (%)	Total (n=302) n (%)
15-24years	16 (5.3)	22 (7.2)	38 (12.6)
25-44years	77 (25.5)	65 (21.5)	142 (47.0)
45-64years	74 (24.5)	15 (5.0)	89 (29.5)
65years+	22 (11.6)	11(9.7)	33 (10.9)
Marital status of respondent			
Married	112 (37.1)	55 (18.2)	167 (55.3)
Single	42 (13.9)	26 (8.6)	68 (22.5)
Divorced	29 (9.6)	9 (3.0)	38 (12.6)
Widowed	6 (2.0)	23 (7.6)	29 (9.6)
Level of Education			
Illiterate	54 (17.9)	53 (33.1)	107 (35.4)
Basic education	89 (29.5)	50 (16.6)	139 (46)
Secondary/vocational education	29 (9.6)	8 (2.6)	37 (12.3)
Tertiary education	17 (5.6)	2 (0.7)	19 (6.3)
Religion of respondent			
Christianity	171 (56.6)	100 (33.1)	271 (89.7)
Traditional	10 (3.3)	0 (0)	10 (3.3)
Islam	8 (2.6)	11(3.6)	19 (6.3)
Atheist	0 (0)	2 (0.7)	2 (0.7)
Employment status			
Employed	126 (41.7)	50 (16.6)	176 (58.3)
Unemployed	63 (20.9)	63 (20.9)	126 (41.7)
Respondent's Occupation			
Farming	72 (23.8)	41 (13.6)	113 (37.4)
Fishing	39 (12.9)	2 (0.7)	41 (13.6)
Business	14 (4.6)	25(8.3)	39 (12.9)
Labourer (Construction site)	16 (5.3)	4 (1.3)	20 (6.6)
Others	48 (15.9)	41(13.6)	89(29.5)

Table 2: Distribution of Service related barriers influencing TB management by DOT

Variable	Male	Female	Total	p-value
Variable	(n=189) n (%)	(n=113) (%)	(n=302) n (%)	
Time spent in minutes from home to DOTS centre				0.025
10 – 30	107(35.4)	80(26.5)	187(61.9)	
30 – 60	32(10.6)	19(6.3)	51(16.9)	
>60	38(12.6)	12(4.0)	50(16.6)	
Don't know	12(4.0)	2(0.7)	14(4.6)	
Staff attitude at DOTS Centre				0.276
Very good	94(31.1)	60(19.9)	154(51)	
Good	91(30.1)	53(17.5)	144(47.7)	
Indifferent	4(1.3)	0(0)	4(1.3)	

Table 3: History of TB among the study participants

Variable	Response		OR	CI (95%)
Past History of TB	Yes {n (%)}	No {n (%)}		
Male (n=189)	24 (7.9)	165 (54.6)	0.90	1.19 – 90.68
Female (n=113)	18 (6.0)	95 (31.5)		1.72 - 90.80
Total (n=302)	42 (13.9)	260 (86.1)		
Family history of TB				
Male (n=189) {n (%)}	48 (15.9)	141 (46.7)	0.98	0.80 - 1.20
Female (n=113){n (%)}	30 (9.9)	83 (27.5)		0.75 - 1.04
Total (n=302)	78 (25.8)	224 (74.2)		

OR - Odds ratio, CI - Confidence interval

attack, and ignorance of condition, believe in herbal medicine and unavailability of health insurance (Table 5).

Of the 302 respondents, 127 (42.1%) sought treatment immediately, 97(21%) between 1-3weeks of cough, 43(14.2%) between 4 to 6 weeks and 35(11.6%) after 7 weeks of cough. The mean duration of patient delay to the 1st health provider was approximately 2.69 weeks (\pm SD3.16). The mean patient delay to 1st health

provider for males was 3.36 weeks and 3.37 for females ($p>0.05$).

Of the 35.1% of the respondents who went straight to the health facility (hospitals, health centres), more men (40.2%) went to the health facility than women (26.4%), more women (18.6%) sought treatment at the herbalists than men (12.7%) [$p<0.05$].

The level of education was also found to influ-

Table 4: Health-seeking behaviour of TB patients by gender

Response to question	Male (%)	Female (%)	Total (%)	p-value
Time elapsed before seeking treatment (1st delay by patient*)				
Immediately	(n=189) 83 (27.5)	(n=113) 44 (14.6)	(n=302) 127 (42.1)	0.744
1-3 weeks	57 (18.9)	40 (13.2)	97 (32.1)	
4 -6 weeks	28 (9.3)	15 (5.0)	43 (14.2)	
7 weeks +	21 (7.0)	14 (4.6)	35 (11.6)	
Patient's reason for seeking treatment at first place (Health facility)	(n=68)	(n=30)	(n=98)	0.0001
Patient has knowledge on signs and symptoms of TB	6 (8.8)	0 (0.0)	6 (6.1)	
Patient has health insurance	24 (35.3)	16 (53.3)	40 (40.8)	
Health facility is the best place to diagnose and treat diseases	38 (59.4)	14 (46.7)	52 (53.1)	
Time elapsing before patient reported to health facility (2nd delay**)	(n=189)	(n=113)	(n=302)	0.040
1 - 3 weeks delay	18 (6.0)	10 (3.3)	28 (14.0)	
4 - 6 weeks delay	53 (17.5)	24 (7.9)	77 (38.5)	
7 - 9 weeks delay	27 (8.9)	33 (10.9)	60 (30.0)	
10 weeks+ delay	21 (7.0)	14 (4.6)	35 (17.5)	
Reason for seeking treatment elsewhere during DOTS	(n=189)	(n=113)	(n=302)	0.052
To get well faster	8 (2.6)	2 (0.7)	10 (3.3)	
To seek spiritual healing	26 (8.6)	24 (7.9)	50 (6.6)	
Wanted to combine both hospital drugs and local herbs to speed up recovery	7 (2.3)	2 (0.7)	9 (3.0)	
Patient was still coughing during DOT	2 (0.7)	3 (1.0)	5 (1.7)	
Other forms of TB treatment	(n=189)	(n=113)	(n=302)	0.028
Mixture of honey, local herbs, roots of cocoa and ginger	26 (8.6)	8 (2.6)	34 (11.3)	
Local herbs	32 (10.6)	22 (7.3)	54 (17.9)	
Drugs from chemical and pharmaceutical shops	26 (8.6)	6 (2.0)	32 (10.6)	
Don't know	95 (31.5)	73 (24.2)	168 (55.6)	
Bathing cold water	10 (3.3)	4 (1.3)	14 (4.6)	

* 1st Delay: Time between first cough and reporting to health facility (Patient delay), 2nd delay**: Time between diagnosis and treatment

Table 5: Distribution of Patients reasons for seeking treatment elsewhere other than DOTS

Patient's reason	Males {(N (%)) (n=189)}	Females {(N (%)) (n=113)}
Taken by relatives	36 (19.0)	0 (0)
Due to spiritual attach	84 (44.6)	64 (56.6)
Ignorance	31 (16.5)	11 (9.6)
Expensive treatment at DOTS	0 (0)	7 (6.0)
Not Health insured	16 (8.3)	15 (13.3)
Believe in herbal treatment	0 (0)	8 (7.2)
Thought it was ordinary cough	22 (11.6)	8 (7.2)

ence patient's source of TB information ($p=0.0001$). Most uneducated patients (38.3%) obtained their information on TB from the health facilities whilst tertiary level respondents obtained their TB information from the media sources such as radio (42.1%), television (38.8%) and health facilities (10.5%).

Majority of the respondents (40.8%) who sought treatment immediately at the health facility was due to their health insurance status. Of the respondents, 6.1% did so because they had knowledge on the signs and symptoms of TB and 53.1% believed that the health facility was the best place to seek treatment. There was a statistically significant difference between male and female response to where they sought treatment ($p < 0.05$). Majority of the respondents (51.5%) who came back to the health facility after seeking treatment elsewhere was due to their deteriorating conditions.

A large number, 109 (47.8%) respondents who did not leave the health facility or engage other health providers during DOTS identified two main reasons; the first being that they were cautioned by the DOTS centre staff not to engage in any other kinds of treatment apart from DOTS. The second major reason by respondents, 99 (43.4%) was that their health improved tremendously right after starting the DOTS programme.

A higher percentage of males (50.3%) had

health insurance than females (46.9%). Generally, more than half of the respondents interviewed, 154 (51%) did not have health insurance (OR; 1.14; 95% CI: 0.72 – 1.83). More than two thirds of the respondents with health insurance sought care between the 1st and the 3rd week after the onset of symptoms. Health insurance played an important role in the health seeking behaviour of respondents; 45.9% of TB patients with health insurance visited the health facility as 1st provider whilst 49.4% without health insurance visited prayer camps ($p=0.001$).

DOTS centre awareness among respondents was 46%, (OR; 1.00; 95%CI: 0.62 – 1.60). More than half of the respondents (58.6%) were aware of free TB treatment at DOTS centres (OR; 0.71; 95%CI: 0.44 – 1.15). In response to questions assessing source of TB information, 1 out of 3 said the health facility was the main source, 27% received information on TB through the radio and about 13% from the television. A summary of all the findings of the study is shown in Table 6.

DISCUSSION

The study revealed that distance to the health facility, health centre staff attitude, and treatment of respondents at the DOTS centre as well as the insurance status of TB patients were significant determinants of choice of place of treatment.

Table 6: Univariate analysis of factors (socio-demographic barriers, distance to health facilities, cultural barriers, health service barriers) that may result in delayed TB care

Variable	PWPFST (p-value)	Patient Delay (p-value)	Providers Delay(p-value)	Delay to 1 st Health Provider (p-value)
Level of education	0.0001*	0.251	0.238	0.001*
Employment	0.002*	0.176	0.897	0.058
Type of occupation	0.0001*	0.162	0.013*	0.008*
Distance	0.001*	0.001*	0.046*	0.162
Religion	0.0001*	0.269	0.934	0.192
Staff attitude at DOTS	0.0001*	0.360	0.981	0.0001*
Relationship with health staff	0.445	0.648	-----	0.984
Views on improving health service	0.0001*	0.0001*	0.0001*	0.001*
Perception of causes of TB	0.0001*	0.126	0.108	0.015*
TB transmission	0.0001*	0.007*	0.005*	0.044*
Health insurance	0.001*	0.0001*	0.134	0.0001*

* These have significant associations in Univariate analysis

Our finding that distance to the health facility, delay to the first health provider and patient delay was consistent with other studies (Chang and Esterman, 2007). Majority (59.8%) of respondents who sought treatment immediately after becoming alert of their condition reside 10 to 30 minutes walk from the DOTS centre, while 66.7% of respondents who visited the fetish shrine reside 1 hour or more walk away from the DOTS centre. This finding emphasises the importance of having health facilities within the reach of community members. However, one important finding from this study was that majority of respondents who reported to the prayer camp, herbalist and pharmacies all reside 10–30 minutes walk away from the DOTS centre. This shows that distance alone could not account for the choice of place for treatment but other related barriers such as reception, insurance status of TB patients and knowledge on TB.

Patients healthcare seeking behaviour and access to TB can be affected by the motivation, quality and the capacity of TB care services. Four out of 10 respondents in this study who had a very good reception and treatment at the DOTS centre first reported to the health facility, and 100% of the respondents who had poor receptions at the DOTS centres visited the fetish shrine first before reporting to the health facility clearly emphasising the importance of the relationship between the health provider and the patient.

The health insurance status of TB patients had a significant influence on the place where respondents first sought treatment, delay to first health provider and finally providers delay ($p < 0.05$) in line with a study in 2002 which showed that most patients with health insurance sought care at the DOTS centre directly without seeking for care elsewhere (Dimitrova *et al.*, 2006). It is important that efforts are made to improve subscription rates in countries like Ghana where there exists insurance policies. This has the tendency to reduce the late treatment of TB patients and consequentially reduce disease

transmission.

Patient's beliefs in the causes and transmission patterns of TB have been reported from many parts of the world including West Africa (Nijima *et al.*, 1990; Nyamongo, 2002). Cultural beliefs and religion were found to influence health-seeking behaviour of patients. Our finding is consistent with findings by (Chang and Esterman, 2007) who also realized that most TB patients sought treatment outside the facility due to their belief in spiritual healing and herbal medicine. This situation can eventually lead to defaulting, which gives a high chance of relapse and eventually the development of Multi Drug Resistant TB. Our study also indicates that understanding traditionally held beliefs in causes and characteristics of TB is important for facilitating communication about the disease to the population and a good knowledge level among patients will positively influence treatment delay and also help reduce TB-related stigma.

Socio demographic factors include gender, age, marital status, level of education, employment status and type of occupation ($p < 0.05$). Gender is associated with knowledge on TB, education and the timeliness in taking healthcare action as well as with the quality and type of provider sought was similar to other studies (Sadiq and Muynck, 2001). Our study shows more women sought care outside the health facility than men. They also had lower knowledge on TB, and few had health insurance. This suggests the urgent need for innovative approaches to disseminate public information about TB to women.

More women than men were found to take a longer time before becoming alert of the cough, had longer delay to first health provider, longer providers delay, and longer patient's delay as seen in studies in China (Schaaf, 2007). Several studies have reported long delays in TB diagnosis, differences between men and women in TB diagnosis and health-seeking delays, and factors influencing these delays (Temoshok,

et al.; Wang *et al.*, 2007). More women than men were found to seek help for symptoms within the first three weeks of the cough even though there was no statistical significance between male and female respondents ($p > 0.05$) in line with other studies (Kiwuwa *et al.*, 2005; Weissman *et al.*, 1991).

Some of the key factors found to influence the choice of first health provider included socio demographic factors such as marital status, patient level of education, employment status, type of occupation and religion. Of the respondents who reported directly to the DOTS centre, nearly half were married whilst less than 10% were widowed. Most widowed respondents and divorcees were found to seek treatment at prayer camps possibly due to financial constraints. However, in Ghana, since TB treatment is free, there may be other reasons for the exclusive choice of prayer camps other than monetary.

A larger percentage of respondents with secondary/vocational education and tertiary education reported immediately to the DOTS centre as compared to respondents who were illiterate or had only basic education. This draws home the element of education in the health-seeking behaviour of patients. Another factor influencing health seeking behaviour was employment which might help patients to be financially capable of either acquiring health insurance or affording medical care. A good number of respondents without employment sought treatment at prayer camps.

The results of our study indicate that despite numerous health education campaigns organised by the National Tuberculosis Control Programme (NTCP), knowledge on the causes of TB among patients was low. Quite a high number of both males and females did not know that bacteria causes TB as reported elsewhere (Geissler *et al.*, 2000). This may be attributed to the quality of training given to the community based volunteers (CBV's) and peer educators who educate the public. However, in contrast to

other studies, knowledge pertaining to transmission routes, curability and symptoms of TB were high (Hoa *et al.*, 2003; Kiwuwa *et al.*, 2005). This observation may be due to the intensive health education programmes on behavioural and communication change initiated and organized by the NTCP in collaboration with community based organisations and other stakeholders in the region.

The findings of this study indicates an association between knowledge and educational level, media access, marital status and gender, and hence, highlights the complexity of successful health communication as in a previous study (Liefoghe *et al.*, 1997). This means that health education through radio and television may not be enough if the aim is to reach and influence potential TB cases. These findings show that monitoring and evaluating the activities of local NGO's and their CBV's within the community is important in assessing the quality and standard of information that is being disseminated at the grass root level.

Our study also revealed that majority of the respondents became alert of their condition during the fifth week and beyond. This was associated significantly with knowledge on TB complementing the findings of other studies (Kiwuwa *et al.*, 2005; Xu, 2006). This means that knowledge gaps may lead to failure to access TB treatment and care and perhaps to treatment defaults.

The mean duration of the cough from the occurrence until the time patient became alert was approximately 29 days. The shorter mean duration of cough revealed by this study contrast with findings from (Xu, 2006) in which mean duration of the cough was prolonged to 35 days. A strong influence of patient's insurance status on delay to first health provider was seen in the study. More than two thirds of the respondents with health insurance sought care between the first and the third week after the onset of symptoms conforming to previous studies (Magwedere *et al.*, 2012; Yip *et al.*,

1998). Majority (64.9%) of the respondents interviewed sought health care in other places first before reporting to the DOTs centre consistent with that of (Okeibunor *et al.*, 2007), which revealed that more than two-thirds of the TB patients sought treatment in at least two places before reporting to the DOTS centre.

A clear relationship was found between DOTS centre awareness, patient's family history of TB, patient's perception on the causes of TB, counseling, reception of patient at the DOTS centre, religion, distance from DOTS centre, marital status and patient's health seeking behaviour. Over half of the respondents who were aware of DOTS centres visited the health facility first as compared to those who were not aware of the presence of a DOTS centre. This means that promoting DOTS centre awareness among community members can lead to increase in the utilization as well as detection within the region.

An obvious limitation of the study is that the information gathered depended on self-reported data from the respondents. Additionally, the survey on health-seeking behaviour was based on recall history and may thus contribute to recall bias by the respondents. Furthermore, since a portion of the study was carried out in six selected districts in the region, care must be taken in any extrapolations.

CONCLUSION

Our study clearly indicates that staff attitude at treatment centres, distance to treatment centre, health insurance and education all contribute to delay in initiating treatment for TB. Other factors including marital status, employment and gender also contributed significantly to treatment delay.

RECOMMENDATIONS

Substantial reduction in case detection delays may be achieved through more specific and effective health education of the general public on TB and seeking of appropriate medical consultation as well as the improvement in the

monitoring capacity of TB control programmes. The NTP should prioritize Behavioural Change Communication (BCC) programmes related to gender, stigma and other socio-cultural issues such as care-seeking practices, medical, cultural and traditional beliefs.

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