

Health Seeking Behaviour Adopted by Diagnosed Pulmonary Tuberculosis Patients Attending Directly Observed Treatment Short Course Clinics of Dharan Municipality, Nepal

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Abstract: Tuberculosis is one of the oldest and infectious disease caused by the bacteria *Mycobacterium tuberculosis* and is a major cause of death worldwide. It is also a major public health problem in Nepal. About 45% of the total population is infected with TB, of which 60% are adult. The objectives of this study were to determine the health seeking behavior adopted by diagnosed PTB patients attending directly observed treatment short course clinics of Dharan Municipality and to find out the association between the health seeking behaviour adopted by diagnosed PTB patients and the selected socio-demographic variables. A descriptive cross-sectional study design was adopted for the study, conducted in DOTS clinics of Dharan Municipality. A total of 104 respondents enrolled, who were on ATT after getting registration from BPKIHS, the main center and interviewed with a self-prepared semi-structured questionnaire for which total enumeration sampling method was used. The mean age of respondents was 40.15 (SD ± 17.059). Majority (55.8%) of respondents were male and 23.1% of them were illiterate. The median of time duration in reaching to health facilities was 30 (15, 30) days. Cough and fever were experienced in most of the respondent before seeking health care, 96.2% and 93% respectively. Most of the respondents (28%) were gone in private clinic for the first time for seeking health care followed by pharmacy shop (19%). According to them, the reason for visiting to those health facilities were: due to confidence in getting cure, service available anytime and least of them reported they were referred by health personnel. Less than half of the respondents perceived delay in seeking care, the main cause of delay was hoping of symptoms would go-away on its own and other most important cause was delayed diagnosis done by doctors.

Keywords: Directly observed treatment short course, Tuberculosis, health seeking, Dharan

1. Introduction

Tuberculosis is one of the oldest and infectious disease caused by the bacteria *Mycobacterium tuberculosis* and is a major cause of death worldwide. WHO reported that in 2013, an estimated 9 million people developed TB and 1.5 million died from the disease (including 3,60,000 deaths among HIV-positive people) globally. These totals are higher than those included in the 2013 global TB report. Most of the estimated number of cases in 2012 occurred in Asia (56%) and the African Region (29%).¹ The WHO South-East Asia Region with an estimated 4.8 million prevalent cases and about 3.4 million incident cases and 4,50,000 deaths in 2012 carries about 39.5% morbidity and 48% mortality of the global burden of tuberculosis.² Tuberculosis is a major public health problem in Nepal. About 45% of the total population is infected with TB, of which 60% are adult. Every year 40,000 people develop active TB, of whom 20,000 have infectious pulmonary disease. These 20,000 are able to spread the disease to others. Treatment by Directly Observed Treatment Short Course (DOTS) has reduced the number of deaths; however 5,000-7,000 people still die per year from TB.³ There is still a great challenge to National Tuberculosis Control Programme of Nepal in areas ensuring that all TB patients seek early diagnosis through appropriate channels, start treatment and adhere to the treatment. In any cultural context, a precondition of health-seeking behaviour is the recognition and interpretation of symptoms by the individuals who are affected and by those around them. Who is consulted once symptoms are recognized, will depend on

pre-existing beliefs about the likely meaning of the symptoms and the availability and accessibility of the various potential sources of help (traditional, spiritual, western medicine). This availability of multiple sources of care, combined with uncertainty about TB symptoms, stigma, and problems of access and affordability may further lead to considerable delays in diagnosis and treatment of TB.

2. Literature Survey

There are so many research studies found regarding health care seeking behaviour among pulmonary tuberculosis patients, done in different countries by the different researchers. All the research objectives often seen that focusing on delays in terms of both patients and health facilities delays in the management of TB patients. Illiteracy, poverty, lack of employment, long distance from health facilities, poor perception of TB and the use of alternative treatment are key factors contributing to delays in seeking modern medical treatment. However, delays in most of patients were due to delay of diagnosis and treatment in health facilities. It has been also found that the delays at all levels were more common in females than males. Some of studies showed that the knowledge and awareness of TB are still unsatisfactory which contributed to inappropriate health seeking behavior among pulmonary tuberculosis patients.

3. Methodology

A descriptive cross-sectional study design was adopted for the study, conducted in DOTS clinics of Dharan Municipality. A total of 104 respondents enrolled, who were on ATT after getting registration from BPKIHS, the main center and interviewed with a self-prepared semi-structured questionnaire for which total enumeration sampling method was used.

3.1 Eligibility Criteria

3.1.1 Inclusion criteria

- All diagnosed PTB clients including relapse and default cases who were on ATT.
- Aged above 15 years old attending in DOTS Clinic.

3.1.2 Exclusion Criteria

- Extra pulmonary tuberculosis clients.

3.2 Research Instrument

Interview questionnaire was used to collect data. Questionnaire was prepared on the basis of the thesis work done by Ratha³⁶ and WHO.³⁷

The research instrument was consist of two parts:

Part I: Socio-demographic information.

Part II: Questions related to health seeking behaviour adopted by diagnosed tuberculosis patients attending DOTS clinics.

3.3 Data Collection Procedure

An approval letter was obtained from the research committee of BPKIHS to proceed the study. A request letter from Head of the Department, Department of Medical-Surgical Nursing, College of Nursing, BPKIHS, Dharan to Hospital Matron, BPKIHS, Dharan, Incharges of DOTS centers under Dharan

Municipality was given and permission was obtained from them for data collection. Respondents who met the inclusion criteria were chosen. Informed written consent was obtained from the respondents before interview by using pretested interview questionnaire which took approximately about 20 minutes. The data collection period was from 2014-12-21 to 2015-01-17 of 4 weeks.

3.4 Data Analysis

Data was checked, organized, reviewed and coded after each interview for its completeness and accuracy and entered in excel sheet and transferred into Statistical package for social sciences (SPSS) 20 Versions. Responses to open ended questions were also coded before entering into excel. The collected data was analyzed by using descriptive statistics such as Mean, Median, Mode, Standard Deviation, Frequency and Percentage to describe the socio-demographic and other related variables. Chi-Square test (Pearson Chi-square test, Yates correction) was used to find

out association between demographic characteristics and first place for seeking care, and demographic characteristics and reason for choosing the respective places for seeking health care. Data were presented in frequency table, pie and charts.

4. Results

The socio-demographic characteristics of respondents are shown in Table 1. Majority of respondents were from the age group 15-35years with the mean age of 40.15 and SD +/- 17.059. Likewise, 55.8% of respondents were male followed by female (44.2%). Approximately 23.1% were illiterate and 19.2% were literate. Regarding to their occupation, 25% respondents were daily wages laborer and 25% respondents were housemaker/ housewife.

The study showed that majority of respondents (70.2%) were married and 69.3%. of respondents had family size less than 5 members in family. Majority of respondent (57.7%) were head of family and 95.2% of respondents were residing in Dharan, whereas 30.8% of respondents had positive family history of PTB. Concerning to BCG vaccination, 25% respondents were not immunized, 51% respondents were unknown about their childhood immunization and only 24% respondents had given the history of receiving BCG vaccine. Among those who received BCG vaccination, 88% had received BCG vaccine during less than 1 year of their life. Regarding the history of smoking 9.6% of them were active smokers and 48.1% of respondents had already quitted their smoking and 41.3% of them were non-smokers. Other details are depicted in Table 2.

Table 1: Socio- Demographic Characteristics of Respondents (n=104)

Characteristics	Category	No	%
Age group in years	15-35	51	49.0
	35-55	32	30.8
	55-75	16	15.4
	75-95	5	4.8
Mean +/- SD = 40.15 +/- 17.059			
Gender	Male	58	55.8
	Female	46	44.2
Education	Illiterate	24	23.1
	Literate	20	19.2
	Primary level	18	17.3
	Pre-secondary level	12	11.5
	Secondary level	17	16.3
	Higher secondary level	6	5.8
	Bachelor level or above	7	6.7
Occupation	Farmer	8	7.7
	Daily wages laborer	27	26.0
	Business	16	15.4
	Student	15	14.4
	Unemployed	3	2.9
	House maker/wife	26	25.0
	Others: Diver, service/professional, Retired	9	9.0
Marital status	Married	73	70.2
	Unmarried	24	23.1
	Divorced	2	1.9
	Widow/ widower	5	4.8
Family size	≤ 5 Members	72	69.3
	> 5 Members	32	30.7

Table 2: Health Seeking Behavior and its relationships with Respondents Characteristics (n=104)

Characteristics	Category	No	%
Role in family	Head of the family	60	57.7
	Son/daughter	29	27.9
	Dependent	15	14.4
Residence: Area	Dharan	99	95.2
	Other: Jhapa, Itahari, Sirah, Mahendranagar	5	4.8
Family history of Pulmonary Tuberculosis	Yes	32	30.8
	No	72	69.2
Had BCG vaccination	Yes	25	24.0
	No	26	25.0
	Don't know	53	51.0
If yes, when (n=25)	During < 1 year	22	88
	During > 1 year	3	12
History of smoking	Non- smoker	43	41.3
	Active smoker	10	9.6
	Passive smoker	1	1.0
	Quit from smoking	50	48.1
If active smoker, sticks per day (n=10)	<5	7	70
	>5	3	30

Figure 1 and 2 show the health beliefs and first place of seeking care by the respondents. On the basis of this study, health beliefs regarding causes of PTB, 26% of the respondents believed that PTB is caused by not eating well, followed by smoking and alcohol (23%), bacteria (10%), low immune (15%) and 19% were unknown about its causes. Most of the respondents (28%) were gone in private clinic for the first time for seeking health care followed by pharmacy shop (19%), BPKIHS (18%), government hospital (18%), health post (6%) and other sectors (11%) such as nongovernment hospital, traditional healer.

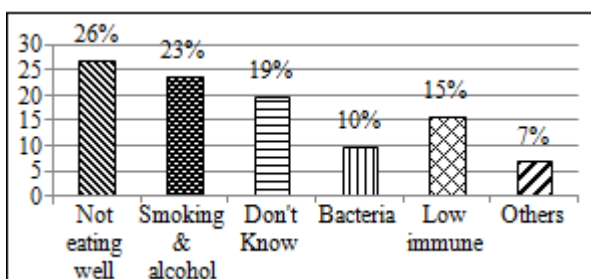


Figure 1: Health Beliefs Regarding Causes of PTB (n=104)

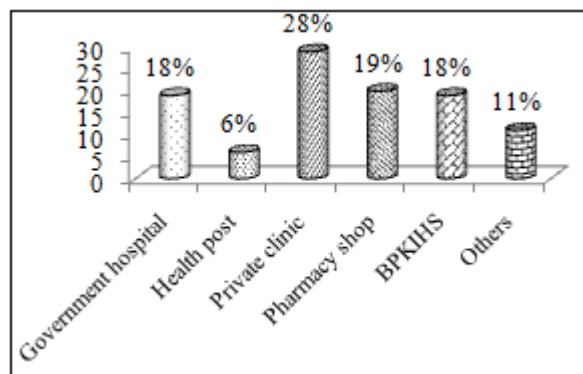


Figure 2: First Place of Seeking Care by the Respondents (n=104)

Table 3 shows symptoms and its duration reported by the respondents before seeking health care where cough and

fever were experienced in most of the respondents, 96.2% and 89.4% respectively. Similarly, fatigue/weakness (62.5%), loss of appetite (55.8%), chest pain (36.5%) and loss of weight (57.7%) were other common symptoms. However coughing blood (16.3%) and breathlessness (20.2%) were seen in minority of the respondent. The median duration of cough and breathlessness was 20 (11, 30) days where as for chest pain, fever, fatigue/weakness, loss of appetite and loss of weight it was 15(10, 30) days. Similarly, median duration of coughing blood was 2 (1, 15) days.

Table 3: Symptoms* and its Duration Reported by the Respondents before Seeking Health Care (104)

Symptoms	No	%	Duration (days)Median (IQR)
Cough	100	96.2	20 (11, 30)
Coughing blood	17	16.3	2 (1,15)
Breathlessness	21	20.2	20 (8,30)
Chest pain	38	36.5	15(10,30)
Fever	93	89.4	15(9,30)
Fatigue/weakness	65	62.5	15(10,30)
Loss of appetite	58	55.8	15(9.25, 30)
Loss of weight	60	57.7	15(10,30)

* = Most of respondents reported two or more symptoms

Table 4- 7 indicate the reasons for visiting at different health facilities, time duration of visiting to those health facilities and also reason for not consulting other health institute with causes of delay in health seeking. The majority of respondents (77.9%) visited to health facilities due to confidence in getting cure followed by (20.2%) due to service available anytime and remaining (1.9%) were referred by health personnel. Most of the respondents (57.7%) reported that they went to health facilities after first time felt sick within 15-30days and the median of time duration in reaching to health facilities was 30 (15, 30) days. Other details are depicted in table 6 and table 7.

Table 4: Reasons for Visiting at Different Health Facilities (104)

Characteristics	Categories	No	%
Reasons for going at different health facilities	Confidence in getting cure	81	77.9
	Service available anytime	21	20.2
	Referred by health personnel	2	1.9

Table 5: Time Duration of Visiting to Health Facilities after Feeling Sick (n=104)

Characteristics	Categories	No	%
Time duration between respondent first felt sick and went to health facilities	1-15 days	34	32.7
	15-30 days	60	57.7
	30-45 days	2	1.9
	45- 60days	7	6.7
	>60days	1	1.0
Median(IQR) = 30 (15, 30)			

Table 6: Reason for not Consulting Other Health Institute (n=104)

Characteristic	Categories	No	%
Reason for not consulting other health institute	Too far	15	14.4
	Too busy/ long waiting time	54	51.9
	Others: No interest, always used to go BPKIHS, economic constraints	35	33.65

Table 7: Causes of Delay in health seeking (104)

Characteristic	Categories	No	%
Perceived delay in health seeking	Yes	45	43.3
	No	59	56.7
If yes, what were the causes (n=45)	Hoped symptoms would go away on its own	24	53.3
	Economic constraints	5	11.1
	Delayed diagnosed by doctor	14	31.1
	Thought due to pre-existing disease	2	4.4

Table 8-9 show that there is no association between the first place of seeking health care and selected socio-demographic variables (i.e., age, gender, occupation, education, family income and family size) ($p > 0.05$). There is no association between reasons for choosing the place for seeking health care and selected demographic variables ($p > 0.05$)

Table 8: Association between Reason for Choosing the Place for Seeking Health Care and Selected Demographic variables (n=104)

Characteristics	Reason for choosing the place for seeking health care by respondents		p-value
Gender	Confidence in getting cure	Others: service available anytime, referred by health personnel	0.385*
	Male	11 (19.0%)	
Female	34 (73.9%)	12 (26.1%)	
Education			
Primary and below	49 (79%)	13 (21%)	0.732*
Above primary	32 (76.2%)	10 (23.8%)	
Family income			
≤16000	41 (75.9%)	13 (24.1%)	0.617*
>16000	40 (80%)	10 (20%)	

Table 9: Associations between First Place of Seeking Health Care and selected socio- demographic variables (n=104).

Characteristics	Categories	First place of seeking health care		p-value
		Institutes	Other: Pharmacy, traditional healer	
Age	≤ 35	40 (78.4%)	11 (21.6%)	0.732*
	> 35	43 (81.1%)	10 (18.9%)	
Gender	Male	46 (79.3%)	12 (20.7%)	0.887*
	Female	37 (80.4%)	9 (19.6%)	
Occupation	Daily wages laborer	17 (65.4%)	9 (34.6%)	0.107*
	House maker/ wives	22 (84.6%)	4 (15.4%)	
	Others: Painters, drivers, students, business	44 (84.6%)	8 (15.4%)	
Education	Primary and below	47 (75.8%)	15 (24.2%)	0.217*
	Above primary	36 (85.7%)	6 (14.3%)	
Family income	≤16000	41 (75.9%)	13 (24.1%)	0.305*
	>16000	42 (84.0%)	8 (16.0%)	
Family size	≤5	55 (76.4%)	17 (23.6%)	0.299*
	>5	28 (87.5%)	4 (12.5%)	

*= Pearson's Chi-Square test

5. Discussion

This study was conducted in DOTS clinics of Dharan Municipality, including the main DOTS center inside the BPKIHS with the objectives: to determine the health seeking behavior adopted by diagnosed PTB patients from different types of health care providers and to find out the association between the health seeking behaviour adopted by diagnosed PTB patients and the selected socio-demographic variables.

Socio- Demographic Characteristics

Total 104 respondents enrolled in the study, among them majority of respondents were from the age group 15-35 years with the mean age of 40.15 and SD ±17.059. Likewise, 55.8% of respondents were male followed by female (44.2%). This study shows approximately 23.1% were illiterate (never gone school), 19.2% were literate (only read and write own name) and 17.3% had primary school education. Regarding to respondents occupation, 25% were daily wages laborer, 25% were housemaker/ housewife, 15.4% respondents were business person. This study shows that majority of respondents (70.2%) were married and 69.3% of respondents had family size less than 5 members in family. Majority of respondent (57.7%) were heads of family followed by son or daughter (27.9%) and dependent (14.4%). This study shows most of the respondents (46.15%) had income of 5000-15000 NRs. per month with median income (IQR) of respondents was NRs. 16000 (10,500-20,000). Similarly, 30.8% of respondents had positive family history of PTB.

Health seeking behaviour adopted by diagnosed pulmonary tuberculosis patients

Most of the respondents (77.9%) had heard about TB in previously their life before being a diagnosed PTB and the main sources of information was teacher (46.2%) followed by media (14.4%), health worker (10.6%), family/ relatives (3.8%) and from TB patient (2.9%). This study findings shows that most of the respondents (28%) were gone in private clinic for the first time for seeking health care followed by pharmacy shop (19%), government hospital (18%), BPKIHS (18%), health post (6%) and other sectors (11%) such as non-government hospital, traditional healer. Cough and fever were experienced in most of the respondent before seeking health care, 96.2% and 93% respectively. The majority of respondents (77.9%) visited to health facilities due to confidence in getting cure followed by (20.2%) due to service available anytime and remaining (1.9%) were referred by health personnel. The majority of respondents (56.7%) didn't perceive delay in seeking health care but 43.3% of respondents perceived the delay. Among them (45/104), the chief cause of delay in seeking care was hoping of symptoms would go-away on its own which was reported by (53.3%) followed by delayed diagnosis done by doctors (31.1%). There is no association between the first place of seeking health care and selected socio-demographic variables (i.e., age, gender, occupation, education, family income and family size) ($p > 0.05$). There is no association between reasons for choosing the place for seeking health care and selected demographic variables ($p > 0.05$)

6. Conclusion

The findings concluded that the most of the respondents used to go in private clinics for the first time for seeking health care followed by pharmacy shop. According to them, the reason for visiting to those health facilities were: due to confidence in getting cure, service available anytime and least of them reported they were referred by health personnel. Less than half of the respondents perceived delay in seeking care, the main cause of delay was hoping of symptoms would go-away on its own and other most important cause was delayed diagnosis done by doctors. There is no association between the first place of seeking health care and reasons for choosing it with the selected socio-demographic variables (i.e., age, gender, occupation, education family income and family size).

7. Implications

The findings of the study may prove to be helpful in the areas of practice, administration, research and education.

Nursing practice:

The findings can be utilized by the nurses in providing effective information in the community regarding TB and its treatment which is free of cost.

Nursing administration:

The findings of the study might be helpful sources to the related agencies and institutions, health personnel, NGOs, INGOs and policy makers to plan and implement various awareness programme and to make efforts to change the belief of people towards tuberculosis.

Nursing research

It may provide baseline data for forthcoming researcher in exploring the health seeking behaviour of pulmonary TB patient.

Nursing education

It provides a baseline data that would be helpful to nursing education regarding TB.

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