

**ORIGINAL RESEARCH ARTICLE****AWARENESS REGARDING PULMONARY TUBERCULOSIS AMONG THE MIDDLE AGED ADULTS OF THE SELECTED COMMUNITY****Nisha Khatri<sup>1</sup>, Babita Thapa<sup>1</sup>**<sup>1</sup>Nepalese Army Institute of Health Sciences, college of Nursing, Kathmandu, Nepal**\*Correspondence to:** Babita Thapa, Nepalese Army Institute of Health Sciences, College of Nursing, Kathmandu, Nepal.Email: [neeshapoudel7@gmail.com](mailto:neeshapoudel7@gmail.com)**ABSTRACT**

Tuberculosis is a highly contagious infectious disease worldwide. Tuberculosis causes ill-health among millions of people each year and ranks as the second leading cause of death from an infectious disease worldwide. A descriptive exploratory study design was conducted among 106 middle adulthood Community people of Saptakoshi Municipality of Saptari District, between 2074/06/3 to 2074/06/1 using non-probability purposive sampling method, and data was collected using semi-structured interview schedule. More than half of the respondents (62.3%) were of the age group 40-49 years, nearly half (50.9%) were Female. Near about one fifth (19%) of the respondents had positive family history of tuberculosis. Majority of the respondents (98.1%) stated cause of tuberculosis as bacteria. Almost all the respondents were aware about the signs and symptoms of tuberculosis. Only 12.3% of the respondents were aware about DOTS Programme. A significant association ( $p=0.037$ ) was revealed between level of awareness and Past history of previous exposure to Pulmonary Tuberculosis

**Key words:** Awareness, Middle Aged Adult, Pulmonary Tuberculosis**INTRODUCTION**

Communicable diseases such as tuberculosis, malaria, diarrheal disease, HIV/AIDS are causing high mortality rates especially in low and middle income countries. Tuberculosis is a worldwide public health problem that is closely associated with poverty, malnutrition, overcrowding, substandard housing and inadequate health care.<sup>1</sup>

Tuberculosis (TB) is an infectious disease caused by the bacillus Mycobacterium Tuberculosis. It particularly affects the lungs (pulmonary TB-80%) but can affect other sites as well (extra pulmonary TB- 20%). It is transmitted via droplets of people with the active respiratory disease. In healthy people, infection with Mycobacterium Tuberculosis often causes no symptoms, but when the immune system is weakened symptoms are seen. TB is known to have existed for thousands of years and still remains a major global health problem. It causes ill-health in millions of people each year and in 2015 was one of the top 10 causes of death worldwide, ranking above HIV/AIDS as one of the leading causes of

death from an infectious disease. Bacillus Calmette Guérin (BCG) vaccine is a vaccine primarily used against tuberculosis. In countries where tuberculosis is common, one dose is recommended in healthy babies as close to the time of birth as possible.<sup>2</sup>

A person ill with TB presents different symptoms depending on the site of the body affected. In pulmonary TB, common symptoms are a cough with sputum production (sometimes with blood), shortness of breath and chest pain. There are also general symptoms such as fever in the evening, night sweats, loss of weight, loss of appetite.<sup>3</sup>

According to South Asian Association For Regional Co-orporation (SAARC) Tuberculosis and HIV/ AIDS centre, in the year 2011, the prevalence of TB was 352 per lakh in Afghanistan, 411 per lakh in Bangladesh, 177 per lakh in Bhutan, 249 per lakh in India, 33 per lakh in Maldives, 238 per lakh in Nepal, 350 per lakh in Pakistan and 101 per lakh in Srilanka.<sup>4</sup>

TB is a major public health problem in Nepal. Despite the remarkable progress made by National Tuberculosis Program (NTP) since 2006, the disease still remains a threat in Nepal. In the fiscal year 2015 a total of 34122 cases of TB were notified to the NTP. The total estimated TB incidence in Nepal was 5200 and the estimated MDR/RR-TB cases among notified pulmonary TB cases (in thousands) were 900. Nepal had high treatment coverage of 75 % for TB patients as compared to India and Pakistan. The majority of TB cases and deaths occur among men, the burden of disease among women seems significantly lower in Nepal. Nepal has made a drastic progress in TB epidemic over the past decade however there it still has a long way to go before it can eradicate the problem of TB completely. The coverage of BCG vaccine in Nepal is 96.9 in male and 95.3 in female.<sup>5</sup>

Awareness is essential for the reduction of both mortality and morbidity of Tuberculosis. It is well established that good awareness correlates well with the early detection of disease. Early detection and diagnosis of TB can cause a decrease in TB mortalities and occurrence.<sup>6</sup>

## RESULTS

## METHODS

Descriptive exploratory research design was used and it was conducted on community named Saptakoshi Municipality ward no.1 in Saptari district, the population was the middle aged adults residing in saptakoshi Municipality ward no.1. Semi structured interview schedule was used to collect data in 106 respondents. Non-probability purposive sampling was used. Approval was obtained from the institutional research committee of Nepalese Army Institute of Health Sciences. Permission from president of Saptakoshi Municipality ward number-1 was obtained. Informed written consent was obtained from each participant. Data was collected from 2074/06/3 to 2074/06/11. All collected data were checked, reviewed and organized i.e. edited, classified, coded and tabulated for the accuracy and completeness. Data processing was done on SPSS version 20. The findings were presented through tables and figures. Inferential statistic i.e. chi-square test was used.

**Table 1: Socio-demographic Characteristics of the Respondents (n=106)**

Characteristics	Frequency	Percentage
<b>Sex</b>		
Male	52	49.1
Female	54	50.9
<b>Age (In Completed years)</b>		
40-49	66	62.3
50-60	40	37.7
<b>Education</b>		
Unable to read and write	20	18.9
Able to read and write	86	81.1
<b>Among able to read and write, n=86</b>		
Informal education	15	14.2
Primary	7	6.6
Secondary	16	15.1
Higher Secondary	25	23.6
Bachelor	18	17
Masters or above	5	4.7

\*Mean Age= +46, SD= +9.2

Table 1 reveals that just above half of the respondents (50.9%) were female whereas (49.1%) were male. More than half of the respondents of (62.3%) of age group 40-49 and (37.7%) of 50-60 years. Majority of them (81.1%) were able to read and write whereas (18.9%) were unable to read and write.

**Table 2: Respondents' Family History of Pulmonary Tuberculosis**

Characteristics	Frequency	Percentage
Positive Family History	31	29.2
<b>If yes, Family member affected, n= 31</b>		
Father	1	0.9
Mother	3	2.8
Sibling	8	7.5
Self	13	12.3
Children	6	5.7
<b>Place of Treatment</b>		
Health post	22	20.8
Hospital	9	8.5
<b>Completely treated</b>		
Yes	31	29.2
No	-	-

\*Mean= +1.71, SD= +0.457

Table 2 reveals that 29.2% of the respondents had positive family history, 12.3% were respondent's self and 7.5% were respondent's sibling. 20.8% treated in Healthpost whereas 8.5% treated in general hospital. All of them 29.2% had complete treatment.

**Table 3: Awareness of Respondents on Sign and Symptoms regarding Pulmonary Tuberculosis**

Characteristics	Frequency	Percentage
<b>Nature</b>		
Communicable disease#	94	88.7
Non communicable disease	12	11.3
Don't know	-	-
<b>Causes</b>		
Bacteria#	104	98.1
Hereditary	2	1.9
Evil/Spirit	-	-
Don't know	-	-
<b>Common Parts involved</b>		
Lungs#	106	100.2
Joints	-	-
Stomach	-	-
Bones	-	-

#correct response

Table 4 demonstrates that almost all respondents (99.1%) were aware about coughing for at least two weeks as the sign and symptoms of pulmonary tuberculosis while 100% were aware about chest pain, hemoptysis, Anorexia as sign and symptoms.

**Table 4: Awareness of Respondents on Sign and Symptoms regarding Pulmonary Tuberculosis (n=106)**

Sign and Symptoms	Frequency	Percentage
Coughing for at least week	105	99.1
Chest pain	106	100
Fever	104	98.1
Hemoptysis	106	100
Weight loss	104	98.1
Anorexia	106	100
Malaise	98	92.5

\*multiple response

Table 4 demonstrates that almost all respondents (99.1%) were aware about coughing for at least two weeks as the sign and symptoms of pulmonary tuberculosis while 100% were aware about chest pain, hemoptysis, Anorexia as sign and symptoms.

**Table 5: Awareness of Respondents on Directly Observed Treatment Short course (DOTS) regarding Pulmonary Tuberculosis**

Characteristics	Frequency	Percentage
Heard about DOTS		
Yes	13	12.3
Purposes of DOTS (n=13)		
Medicine distribution under supervision#	10	9.4
Health communication Program	3	2.8
Patient Identification	-	-
Counseling	-	-

#correct responses

Table 5 reveals that 12.3% were aware about DOTS programme. Out of 12.3%,9.4% were aware about medicine distribution as the purpose of DOTS and 2.8% responded Health communication program as the purpose of DOTS.

**Table 6: Respondents' Level of Awareness on Pulmonary Tuberculosis**

Level of Awareness	Frequency	Percent
Low awareness	-	-
Moderate awareness	45	42.5
High awareness	61	57.5
Total	106	100

\*Mean ± SD = 2.5755±0.4966

Table 6 demonstrates that more than half 57.5% have high awareness whereas 42.5% have moderate awareness and none of them have low awareness regarding Pulmonary Tuberculosis.

**Table 4: Awareness of Respondents on Sign and Symptoms regarding Pulmonary Tuberculosis (n=106)**

Characteristics	Level of Awareness				Chi square	P value (95% CI)
	Moderate		High			
	N	%	N	%		
<b>Sex</b>						
Male	24	46.2	28	53.8	0.572	0.449
Female	21	38.9	33	61.1		
<b>Age</b>						
40-49 years	26	39.4	40	60.6	0.670	0.413
50-60 years	19	47.5	21	52.5		
<b>Educational Status</b>						
Unable to read and write	10	50.0	10	50.0	0.575	0.448
Able to read and write	35	40.7	51	59.3		
<b>Occupation</b>						
House maker	17	41.5	24	58.5	0.027	0.870
Others	28	43.1	37	56.9		
<b>Previous Exposure to Pulmonary Tuberculosis</b>						
Yes	18	58.1	13	41.9	4.371	0.037
No	27	36.0	48	64.0		

(p<0.05, significant at 95% CI)

Table 7 represents the association with the awareness level of respondents regarding pulmonary tuberculosis and the selected socio-demographic variables. There is association with level of awareness and previous exposure to Pulmonary Tuberculosis as signified by p value 0.037 whereas there is no association with gender, age, education, and occupation.

## DISCUSSION

The level of awareness was found to be high in more than half 57.5% of the respondents whereas 42.5% had moderate awareness which corroborates the findings of study conducted in China, Yirgachefe that 59.8% had good awareness.<sup>7</sup>

The present study found that 88.7% of the respondents knew about Tuberculosis as communicable disease and 98.1% told that bacteria is the causative organism of tuberculosis which is

supported by the study conducted in Surat District which resulted (96.7%) know about tuberculosis as communicable disease<sup>8</sup> and More than half of the respondents said bacteria as the causative agent.

Majority 96.2% of the respondents believe that the risk of pulmonary tuberculosis is increased due to excessive consumption of alcohol and 94.3% believed smoking which is more over supported by the study conducted in Chitwan, where they mentioned 71.9% believed that excessive use of alcohol & almost same proportion 70.1% smokers may suffer from Pulmonary Tuberculosis, all of the respondents (100%) were aware about blood in sputum as the sign and symptoms of pulmonary Tuberculosis, Evening rise of fever 98.1% where 80.7 % were aware that blood in sputum , 71.9% were aware of evening rise of fever.<sup>6</sup>

It is found that only 12.3% heard about DOTS centre

which is supported by the study conducted in China, that very few (14.5%) have heard about DOTS.<sup>11</sup>

It was found that there is association between level of awareness and Previous exposure to Pulmonary Tuberculosis as signified by ( $p= 0.037$ ) but it doesn't show association with level of awareness and educational status, and religion as in [8] due to the large sample size.<sup>12</sup>

## CONCLUSION

Based on the findings, more than half of the respondents have high awareness regarding Pulmonary Tuberculosis whereas near than half of them have moderate awareness. Majority of them knew about the causes, mode of transmission, sign and symptoms, prevention and treatment of pulmonary tuberculosis. Only few of them knew about, DOTS. Level of awareness regarding pulmonary tuberculosis is high with past history of pulmonary Tuberculosis.

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