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Original Research Article

Contribution of media on knowledge generation about tuberculosis in Palpa district, Nepal

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ABSTRACT

Background: Media is the means of communication, as radio, television and newspaper that reach or influence people widely. It is a tool for the transfer of information and ideas to audiences. The media plays the crucial role in instructing, motivating and guiding the public for control of tuberculosis. The objectives of the study were to study the knowledge and the source of information regarding tuberculosis.
Methods: A cross sectional study was conducted whereas multistage sampling was adopted.
Results: Around half of respondents (46.5%) were 15-24 years of age and 63.9 per cent were female. Overwhelming number of the respondents (95.1%) had radio and more than one fourth (76.4%) had television at home. More than three quarter (88.9%) respondents said droplet infection is the mode of transmission of tuberculosis but 11.1 per cent said sharing common utensil. 97.2 per cent respondents had good behaviour towards TB patient. In respect to knowledge score, 18.1 per cent had high level of knowledge followed by 56.2 per cent had medium and 25.7 per cent had low level. Fifty per cent respondents said television, 46.5 percent said radio were the source of information for tuberculosis.
Conclusions: The study found that majority of the respondents had satisfactory knowledge level about tuberculosis. The results exemplify the contribution of media on improving TB related knowledge. Most of the respondents ranked media, i.e., radio and television is the number one source of information.

Keywords: Knowledge, Media, Source of information, Tuberculosis

INTRODUCTION

Media is a form of communication that message reach to large number of people without any personal contact between the sender and receiver. It is a tool for the transfer of information, concepts, and ideas to both general and specific audiences. Print media such as newspaper, book, pamphlet, poster, electronic media such as radio, television, audio tape, video tape, internet, and other are drama, puppet show, wall print all are come under media. The main objective of mass media is to create awareness, change attitudes and motivate people to access services. Media disseminate health information to improve the health status of people. It is capable of facilitating short-term, intermediate-term, and long-term effects on audiences. It exposes audiences to health concepts; creating awareness and increase knowledge; altering outdated or incorrect knowledge; and enhancing audience recall of particular advertisements or public service announcements.

The media have a significant role in creating and sustaining public opinion and the political will to deal with tuberculosis. The media can expose certain trends

and phenomena in the community or society that facilitate the spread and inform the public about them. They can also play a central role in educating the public about the importance of preventive measures. Media plays a visible role to disseminate the information about tuberculosis which is a burning problem of Nepal.

Tuberculosis is caused by *Mycobacterium tuberculosis*. The source of infection is the sputum smear positive case of pulmonary tuberculosis which is spread by droplet infection. Tuberculosis (TB) is the biggest public health problem in Nepal. It is one of the top 10 causes of death worldwide and 1.7 million deaths from the disease. Over 95 per cent of TB deaths occur in low- and middle-income countries. TB is a leading killer of HIV-positive people, 40 per cent of HIV deaths were due to TB in 2016.[1] WHO estimates that 44,000 people develop active TB every year and out of them 20,500 have an infectious pulmonary disease in Nepal. Death due to tuberculosis reached 5,506, 3.5 percent of all deaths in Nepal.[2] People living with HIV are 20 to 30 times more likely to develop active TB than people without HIV. HIV and TB form a lethal combination, each speeding the other's progress. In 2016 about 0.4 million people died of HIV-associated TB. The high incidence of active TB infection, high proportion of latent infection and HIV coinfection significantly undermine effective TB control in the country.[3,4] Though HIV prevalence is low there have been reported high rates of TB/HIV coinfection.[5,6,7]

Health information regarding TB is also disseminated through newspaper, booklet, poster, magazine, pamphlet which is only effective for literate people not for illiterate people which is less access in the rural area but there is good access of radio and some extent television which play the significant role to disseminate health information. Media also helps to reduce stigma by providing appropriate information. The role of media is very important for increase knowledge, awareness of rural community which contributes to prevent and protect from tuberculosis then improve health status of people and attain prolong and healthy life.

Objectives

- To study the knowledge regarding tuberculosis.
- To identify the source of information regarding tuberculosis.

METHODS

Study design

Cross sectional descriptive study was conducted

Study area

Palpa district of Nepal was selected for the present study. Now it is province no. 5.

Sampling technique

Multi stage sampling method was adopted for present study. Palpa district was selected purposively. There are 65 VDCs in Palpa district, Names of 65 VDCs were recorded alphabetically and then 9 VDCs were selected by random sampling. There are 9 wards in each VDC, out of that 2 wards selected randomly. After that, 8 respondents were selected from each ward randomly, thus a total of 144 respondents were selected.

Study population

Age between 15 to 45 years old was selected as a respondent for the study.

Sample size

$$n = \frac{z^2 * p * q}{e^2}$$

$$= \frac{(1.96)^2 * 0.10 * 0.90}{(0.05)^2} = 138$$

So, respondent was taken 144

n=samples size, z =1.96 for 95% confidence interval (CI)

p=Prevalence =10% (0.10), q=1-p=(0.90), e^2=1.96 permissible error (5%)

Note: 10% of HIV/AIDS patients progress tuberculosis infection every year (DoHS)

Tools and techniques of data collection

A structured interview schedule was developed. Pre-testing was done and final tool was developed after the feedback from pre-testing. Data was collected by face to face interview. Informed verbal consent from the respondents was taken.

The use of statistical test in research

Data coding and editing was done manually. Entry and analysis was done by using SPSS version 16.0. The use of statistical tests chi-square test and multivariate analysis was used to analyze the data. Similarly, 3 point scale was used to identify the level of knowledge.

Period of study

Data was collected from January, 2017 to April, 2017 by using structured interview schedule.

RESULTS

Table 1 shows that around half of the respondents (46.5%) were 15-24 years followed by 25.7 per cent were 35-45 years. More than half of respondents (63.9%) were female and 36.1 per cent were male. More than half of respondents (54.9%) were Janajati and 34.0 per cent were

Brahmin/Chhetri. Around one third (30.6%) were students, after that around one quarter (24.3%) were shopkeeper and 21.5 per cent were farmer. Majority of the respondents (45.1%) were completed secondary level, followed by 20.1 per cent primary level and 11.8 per cent were illiterate. Around three quarter (74.3%) respondents were from nuclear family and rest of respondents (25.7%) was belonging to joint family. Similarly, majority of the respondents (80.5%) annual income was more than 70,000 but 4.2 per cent had less than 30,000.

Table 1: Socio demographic characteristics.

Characteristics	Frequency	%
Age wise distribution of respondents (in years)		
15-24	67	46.5
25-34	40	27.8
35-45	37	25.7
Sex wise distribution of respondents		
Male	52	36.1
Female	92	63.9
Caste wise distributions of respondents		
General (Brahman, Chhetri)	49	34.0
Janajati (Magar, Newar)	79	54.9
Scheduled caste (Dalit)	16	11.1
Occupation wise distributions of respondents		
Housewives	30	20.8
Agriculture	31	21.5
Shopkeeper	35	24.3
Service	4	2.8
Student	44	30.6
Education wise distribution of respondents		
Illiterate	17	11.8
Primary	29	20.1
Secondary	65	45.1
Intermediate	21	14.7
Bachelor	9	6.2
Master degree or above	3	2.1
Distribution of respondents according to types of family		
Nuclear	107	74.3
Joint	37	25.7
Distribution of respondents according to annual income of family (in Rs.)		
<30000	6	4.2
30000-50000	13	9.0
50000-70000	9	6.3
>70000	116	80.5

Table 2: Ownership of radio, television and newspaper.

Ownership	Radio N (%)	Television N (%)	Newspaper N (%)
Yes	137 (95.1)	110 (76.4)	14 (9.7)
No	7 (4.9)	34 (23.6)	130 (90.3)
Total	144 (100)	144 (100)	144 (100)

*Figures in the parenthesis denote percentage.

Table 2 shows that most of the respondents (95.1%) had radio at home. Similarly, more than one fourth (76.4%) had television at home and 9.7 per cent were the subscriber of newspaper.

Knowledge about tuberculosis

Table 3 reveals that more than three quarter (78.5%) respondents said droplet infection is the mode of transmission of tuberculosis (TB) but 11.1 per cent said sharing common utensil. 16.0 per cent respondents said TB is a hereditary disease. Majority of respondents (87.5%) told treatment of TB is free of cost. Regarding the behaviour with TB patient, 97.2 per cent respondents had good behaviour towards TB patient. All respondents (100.0%) said tuberculosis is a curable disease.

Table 3: Information about tuberculosis.

Characteristics	Frequency	Percentage (%)
Mode of transmission of tuberculosis		
Droplet infection	113	78.5
Sharing utensil	15	10.4
Do not know	16	11.1
Hereditary disease		
Yes	23	16.0
No	121	84.0
Cost of treatment of TB		
Free of cost	126	87.5
Do not know	18	12.5
Sign and symptoms of TB		
Cough and haemoptysis	113	78.5
Cough and fever	17	11.8
Do not know	14	9.7
Type of behavior with TB patient		
Good and normal behaviour	140	97.2
Ostracize, maintain distance	4	2.8
Consequence of the disease		
Curable	144	100
Incurable	0	0

Table 4 illustrate that only around one third (35.3%) respondents said droplet infection is the mode of transmission of tuberculosis but remaining had no knowledge about it who were illiterate. Similarly, 88.9 per cent respondents said correct answer who had completed secondary and above level. Association between education and mode of transmission of tuberculosis is significant.

Table 5 depicts that 90.9 percent respondents said tuberculosis medicine is free of cost who had television but around one third (23.5%) respondents could not answer who had no television at home.

Table 4: Relation between education and mode of transmission of tuberculosis.

Level of education	Mode of transmission			Total N (%)
	Droplet infection N (%)	Sharing utensil N (%)	Do not know N (%)	
Illiterate	6 (35.3)	5 (29.4)	6 (35.3)	17 (100.0)
Primary	19 (65.5)	4 (13.8)	6 (20.7)	29 (100.0)
Secondary and above	87 (88.9)	6 (6.1)	5 (5.0)	98 (100.0)
Total	113 (78.5)	15 (10.4)	16 (11.1)	144 (100.0)

χ^2 cal =27.27, df-4 χ^2 tab= 9.48, p=0.000 Significant); *Figures in the parenthesis denote percentage.

Table 5: Relation between exposure of television and cost of treatment of TB.

Ownership of television	Cost of TB medicine		Total N (%)
	Free of cost N (%)	Do not know N (%)	
Yes	100 (90.9)	10 (9.1)	110 (100.0)
No	26 (76.5)	8 (23.5)	34 (100.0)
Total	126 (87.5)	18 (12.5).	144 (100.0)

$\chi 2$ cal=4.95, df=1, $\chi 2$ tab= 3.84, p=0.026 (Significant); *Figures in the parenthesis denote percentage.

Table 6: Knowledge about preventive measures of tuberculosis.

Prevention measures	Frequency	Percentage (%)
Fully correct	36	25.0
Partially correct	81	56.3
Incorrect	27	18.7

Table 7: Knowledge level of the respondents regarding tuberculosis.

Level of knowledge	Frequency	Percentage (%)
High (23-28)	26	18.1
Medium (17-22)	81	56.2
Low (11-16)	37	25.7
Total	144	100.0

Table 8: Relation between level of knowledge about tuberculosis and other variables.

Characteristics	Level of knowledge			Total N (%)
	Low N (%)	Medium N (%)	High N (%)	
Education of respondents				
Illiterate	9 (52.9)	5 (29.4)	3 (17.6)	17 (100.0)
Primary	9 (31.1)	13 (44.8)	7 (24.1)	29 (100.0)
Secondary and above	8 (8.2)	63 (64.3)	27 (27.6)	98 (100.0)
Total	26 (18.1)	81 (56.2)	37 (25.7)	144 (100.0)
χ^2 cal =24.03, df=4, χ^2 tab=9.48, p=0.000 (Significant)				
Caste of respondents				
Dalit	7 (43.8)	5 (31.2)	4 (25.0)	16 (100.0)
Janajati	13 (16.5)	56 (70.9)	10 (12.7)	79 (100.0)
Brahmin/Chhetri	6 (12.2)	20 (40.8)	23 (46.9)	49 (100.0)
χ^2 cal=57.57, df=4, χ^2 tab= 9.48, p=0.000 (Significant)				
Television at home				
Yes	15 (13.6)	65 (59.1)	30 (27.3)	110 (100.0)
No	11 (32.4)	16 (47.1)	7 (20.6)	34 (100.0)
χ^2 cal =6.15, df =2, χ^2 tab= 5.99, p=0.046 (Significant)				

Continued.

Characteristics	Level of knowledge			Total
	Low N (%)	Medium N (%)	High N (%)	
Age of respondents (in years)				
15-24	8 (11.9)	36 (53.7)	23 (34.3)	67 (100.0)
25-34	6 (15.0)	28 (70.0)	6 (15.0)	40 (100.0)
35-45	12 (32.5)	17 (45.9)	8 (21.6)	37 (100.0)
χ^2 cal=10.62, df=4, χ^2 tab=9.48, p=0.031 (Significant)				

Table 6 shows that more than half (56.3%) respondents said partially correct answer and one quarter (25.0%) respondents said fully correct answer about the measures of prevention of TB.

On the basis of individual Table 7, individual level of knowledge about tuberculosis was identified then overall level of knowledge was calculated whereas 18.1 per cent respondents had high level of knowledge followed by 56.2 per cent had medium and 25.7 per cent had low level of knowledge.

Table 8 shows that more than half (52.9%) respondents had low level of knowledge who were illiterate but 64.3 per cent had medium and around one quarter (27.6%) respondents had high level of knowledge who completed secondary and above level. Similarly, one quarter respondents had high level of knowledge who were Dalit but 46.9 per cent respondents who were Brahmin/Chhetri had high level of knowledge. Likewise, more than half (59.1%) respondents had medium level and 27.3 per cent respondents had high level of knowledge who had television at home but around one third (32.4%) respondents had low level of knowledge who had not television. More than one third (34.3%) respondents had high level of knowledge who were 15-24 years but only 21.6 per cent respondents had high knowledge who were from 35-45 years.

Table 9: Source of information about tuberculosis.

Source of information	Frequency	Percentage (%)
Radio	67	46.5
Television	92	63.9
Newspaper/magazine	8	5.6
School teacher /Health worker/ Friends/ relatives	54	37.5

Table 9 shows that 63.9 per cent respondents said television, 46.5 percent said radio and more than one third (37.5%) said school teacher/health worker/friends/ relatives were the source of information for tuberculosis.

DISCUSSION

Present study showed that majority of the respondents (46.5%) were from 15-24 years of age group and more than half of respondents (63.9%) were female. Around half (45.1%) were completed secondary level and 11.8 per cent were illiterate. Literacy rate of this district is higher than national level. NDHS (2016) indicates that two-thirds of women (67%) are literate and the level of literacy is much higher among women age 15-19 than among women in other age groups.[8] Most of the respondents (95.1%) had radio at home. Similarly, more than three quarter (76.4%) had television at home and 9.7 per cent were subscriber of newspaper.

Present study revealed that more than three quarter (78.5%) respondents said droplet infection is the mode of transmission of tuberculosis. Similar result observed that 83.0 per cent respondents correctly replied that TB transmits through air by coughing or sneezing.[9] 88.0 per cent respondents correctly mentioned the airborne is the route of TB transmission.[10] Similarly, more than half (56.3%) respondents were partially correct and one quarter (25.0%) respondents were fully correct about the measures of prevention of TB. All respondents (100.0%) said tuberculosis is a curable disease. Almost similar finding was observed, a large majority (>90.0%) knew that TB was curable.[11] More than half (59.1%) respondents had medium level and 27.3 per cent respondents had high level of knowledge who had television at home. Association between knowledge level and ownership of TV is found significant. Television was suggested as good ways of supplying information (70.4%).[12] Similarly, most important source of information about TB was television.[13] Fifty per cent respondents reported television and 46.5 per cent said radio was the source of information about tuberculosis. Similar result found that respondents who listen to the radio were more likely to have correct knowledge on transmission of TB.[9] In a multivariate analysis, education, caste, ownership of TV and age of respondents were significantly associated with level of TB knowledge.

CONCLUSION

Present study found that majority of the respondents had satisfactory level of knowledge about tuberculosis. Study shows that the respondents ranked mass media, i.e., radio and television is the number one source of information. It helps to reduce stigma related TB promoting factual health information, such as most of the respondents said TB is not the hereditary, droplet infection is the mode of transmission. Greater educational attainment levels were associated with higher knowledge scores for TB but still there is little bit misconception regarding modes of

transmission. Media should plan, focus and design different program for evade misconception. The results exemplify the contribution of media is significant on improving TB related knowledge.

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