

Tuberculosis Related Attitude and Stigma Among Pregnant Women in Orumba South Local Government Area, Anambra State

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Abstract

The purpose of the study was to find out the tuberculosis (TB) related attitude and stigma among pregnant women attending antenatal clinics in Primary Health Care centres in the rural communities in Orumba South Local Government Area of Anambra State. To achieve the purpose of the study, two objectives were formulated with two corresponding research questions while four hypotheses were postulated. The cross-sectional research design was used for the study. The population for this study consisted of all the pregnant women attending antenatal clinics in the eleven PHCs and convenience sampling technique was used to draw a sample of 260 pregnant women used for the study. The instrument for data collection was a questionnaire. Frequencies and percentages were used to answer research questions, while Chi-square statistic was used for testing the null hypotheses. The result of the study indicated that: majority (65.33%) of pregnant women had positive attitude towards TB and slightly less than one-half of pregnant women demonstrated TB related stigma, there was no significant difference in TB related attitude by pregnant women according to age ($\chi^2 = 4.687, p = .292 > .05$) and level of education ($\chi^2 = 13.324, p = .382 > .05$). There was no significant difference in TB related stigma according to age ($\chi^2 = 2.196, p = .138 > .05$) while there was significant difference in TB related stigma by pregnant women according to level of education ($\chi^2 = 11.286, p = .010 < .05$). Based on major findings and conclusions, it was recommended among others that government and non-governmental organizations should develop suitable intervention programmes that will convince pregnant women and members of the community to have zero TB related stigma through effective health education in the communities.

Keywords: Tuberculosis, Attitude, Stigma, Pregnant women

Introduction

Tuberculosis (TB) is a systemic infectious or communicable bacterial disease caused by *mycobacterium tuberculosis*, which affects the lungs, intestine, meninges, bones and joints, lymph nodes, skin, and other tissues of the body. Davis (2014) stated that TB is a multi-systemic infectious disease caused by *mycobacterium tuberculosis*, a rod-shaped bacterium that infects human tissue(s). TB is endemic in many developing and under-developed countries. Nigeria, a developing country is one of the high burden countries with TB. According to Agho, Hall and Ewald (2014), substantial investments have been made in the National Tuberculosis Control Programme (NTCP) to address the problem, such as the use of directly observed therapy (DOTS) to achieve and maintain high cure rate. Despite these investments however, early detection of TB cases remains a major obstacle in effective TB case management (Dosumu, 2008).

Predisposing factors to TB infection include anything that weakens a person's immune system or puts someone in frequent or close contact with people who have active TB, poverty, HIV infection, homelessness, being in jail or prison, and substance abuse. The signs and symptoms of TB are cough lasting more than three weeks, weight loss, haemoptysis, chest pain, fever, night sweats, tiredness, back pain, swelling on spine, loss of function in lower limbs, blood in urine, neck stiffness, hoarseness of voice and pain on swallowing. The transmission of infection is mainly by airborne droplets from sputum of infected persons, often adults, with pulmonary TB. Such persons spread the bacilli by coughing, sneezing, talking, singing and it is enhanced by over-crowding and poorly ventilated accommodation (Obionu, 2007). Lucas and Gilles (2006) added that TB is transmitted by ingestion of contaminated milk and infected meat.

According to Dreyer (2015), most important in TB prevention is achieved by people taking their medicine as prescribed. Dreyer (2015) maintained that early detection of cases and prompt treatment are crucial in controlling the spread of TB and also if one is infected while at home, there is the need to protect self and others by washing hands after sneezing, coughing or holding hands near the mouth or nose, covering the mouth with tissue when coughing, sneezing or laughing, discarding used tissue in a plastic bag, seal and throwing away. Dreyer further stated that people who are infectious should not attend school or work, avoid close contact with people, sleep in a room away from others, ventilate room regularly and put a fan in the window to blow out air that may contain bacteria. Understanding tuberculosis related attitude and stigma of people will help in the control of the disease. A negative attitude would lead to stigmatization and thus may increase the incidence and prevalence of TB.

Luthans (2007) defined attitude as a persistent tendency to feel and behave in a particular way towards an object. Attitudes are complex cognitive processes which consist of three components which includes the person's feeling about an object, the information the individual has about the object and the behavioural component consisting of a person's tendencies to behave in a particular way towards an object. The author further states that attitudes tend to persist unless something is done to change them. TB-related attitude refers a set of affective reactions towards TB which predisposes a pregnant woman to behave either positively or negatively in a certain manner towards TB.

Stigma as defined by Weiss and Ramakrishna (2006) are social processes or related personal experiences characterized by exclusion, rejection or blame that result from experience or reasonable anticipation of an adverse social judgment about a person or group identified with a particular problem. Franklin, Tora, Deribe, Reda and Devy (2013) stated that stigma is typically characterized by social disqualification of individuals and populations who are identified with particular health problems and judged as a result of the condition. TB-related stigma is a label given to individuals with TB by people who are not suffering from the disease, often caused by a set of negative and unfair beliefs that a society or group of people have about TB. Stigma is a label or mark of disgrace that sets a person apart. The obvious cause of stigmatization is the fear of being infected.

In developing countries death during pregnancy has continued to be a public health problem and Park (2009) was of the opinion that one of the problem facing women is that TB kills them during pregnancy, labour and puerperium than other causes of maternal mortality. Pregnant women infected with *mycobacterium tuberculosis* require special attention because of altered immunity associated with pregnancy and because of neonatal care issues (Rigby, 2009). Pregnant women were used for this study because they are accessible members of the community and hazards of TB during pregnancy could be fatal for them. The situation regarding TB-related attitude and stigma among pregnant women in Orumba South Local Government Area is not documented to the best of the researcher's knowledge; this is perhaps why this study was necessary and also determined how age and level of education influence them in order to proffer solutions to reduce the incidence and prevalence of TB.

Age and level of education are socio-demographic factors associated with TB-related attitude and stigma. Obuku, Meynell, Kiboss-Kyeyune, Blankley, Atuhairwe, Nabankema, Lab, Jeffery and Ndungutse (2012) in their study reported that their older respondents had positive attitude and zero stigma towards TB unlike the younger adults. This was possible because they had more repeated chances of reinforcing exposure to TB information. Also, Sagili, Satyanarayana and Chadha (2016) in their study reported that their respondents with no formal education had high TB related stigma than those with other levels of education.

The purpose of the study was to find out the TB-related attitude and stigma among pregnant women attending antenatal clinics in Primary Health Care centres in the rural communities in Orumba South Local Government Area of Anambra State. Specifically, the study determined the proportion of pregnant women with TB related attitude and TB related stigma and tested four null hypotheses of significant difference in the TB related attitude and TB related stigma of pregnant women according to age and level of education.

Method

The cross-sectional research design was used for the study. The population for this study consisted of all the pregnant women who attended antenatal clinics and the sample for the study was

260 pregnant women. This was obtained through convenience sampling technique. The instrument for data collection was a researcher designed questionnaire. The face validity of this research instrument was established by four experts in Health Education. Cronbach's alpha statistic was used to establish the reliability of the instrument. A reliability index of 0.69 was obtained and thus, the instrument was adjudged reliable. Copies of the questionnaire were administered to the respondents in each Primary Health Care (PHC) centres by the researcher and research assistants who were health workers in the PHCs. The completed copies were collected on the spot. Data was analyzed using the statistical package for social sciences (SPSS version 20). Frequencies and percentages were used to answer research questions and hypotheses were tested using the chi-square statistic.

Results

Table 1
Proportion of Pregnant women with TB related Attitude (N=260)

S/N	Dimensions of TB	Strongly Agree +		Strongly Disagree +	
		Agree f (%)	Undecided f (%)	Disagree f (%)	f (%)
	Meaning				
1.	TB is a disease caused by witches, wizards and enemies	69 (26.5)	19 (7.3)	172 (66.2)	
	Cluster (%)	26.5	7.3	66.2	
	Causes				
2.	TB is caused by bacteria	211 (81.2)	35 (13.5)	14 (5.4)	
	Cluster (%)	81.2	13.5	5.4	
	Signs and symptoms				
3.	Coughing up blood is a sign of TB	223 (85.8)	28 (10.8)	9 (3.5)	
4.	I think of visiting a doctor for further Examination if I have the symptoms of cough, sputum, poor appetite, weight loss, and night sweating	237 (91.2)	17 (6.5)	6 (2.3)	
	Cluster (%)	88.5	6.5	2.9	
	Mode of transmission				
5.	Sneezing from a TB patient may be a source of infection to another	197 (75.8)	31 (11.9)	32 (12.3)	
6.	Sexual intercourse with a TB patient may lead to TB infection	108 (41.5)	62 (23.8)	90 (34.6)	
	Cluster (%)	58.65	17.85	23.45	
	Predisposing factors				
7.	Poverty can lead to TB infection	94 (36.2)	44 (16.9)	122 (46.9)	
8.	Smoking and alcoholism may not make me get TB	87 (33.5)	69 (26.5)	104 (40.0)	
	Cluster (%)	34.85	21.7	43.45	
	Prevention				
9.	Every family should maintain adequate air circulation and sufficient amount of sunlight indoors	236 (90.8)	18 (6.9)	6 (2.3)	
10.	Everyone should actively educate friends and family members on the methods of TB prevention	236 (90.8)	11 (4.2)	13 (5.0)	
	Cluster (%)	90.8	5.55	3.65	
	Overall (%)	65.33	12.83	21.85	

Table 1 shows that majority of the pregnant women had positive attitude regarding causes (81.2%), signs and symptoms (88.5%), mode of transmission (58.65%) and prevention (90.8%). The Table also shows that majority of the pregnant women had negative attitude regarding meaning (66.2%) and predisposing factors (43.45%). Overall, the Table further shows that majority (65.33%) had positive attitude regarding TB, 21.85 per cent had negative attitude while 12.83 per cent were undecided.

Table 2
Proportion of Pregnant Women with TB Related Stigma (N=260)

S/N	Dimensions of TB	Yes	No
		f (%)	f (%)
1.	Someone who has TB should not be talked to	51 (19.6)	209 (80.4)
2.	I would be uncomfortable working with someone who has TB	182 (70.0)	78 (30.0)
3.	I think most people will feel uncomfortable living with someone who has TB	228 (87.7)	32 (12.3)
4.	I cannot marry someone who has TB	188 (72.3)	72 (27.7)
5.	The opinions of someone who has TB should be ignored	50 (19.0)	210 (80.8)
6.	I would feel ashamed if others knew someone in my family has TB	128 (49.2)	132 (50.8)
7.	If I had TB I would keep it a secret	81 (31.2)	179 (68.8)
8.	I would not remain a friend of someone that had TB once I find out about the disease	77 (29.6)	183 (70.4)
	Overall (%)	47.35	52.65

Results in Table 2 show that an overall slightly lower than half (47.35%) of pregnant women expressed stigma regarding TB. The Table further shows that majority of the women expressed stigma towards the following items; I would feel uncomfortable working with someone who has TB (70.0%), I think people will feel uncomfortable living with someone who has TB (87.7%) and I cannot marry someone who has TB (72.3%) while about 31 per cent of them demonstrated stigma to the statement “if I had TB I would keep it a secret”.

Table 3
Summary of Chi-square (χ^2) Analysis Testing the Null Hypothesis of No Significant Difference in TB Related Attitude among Pregnant Women According to Age

Dimensions of TB		Age						df	p-value	Decision
		15-29 years (N=117)			≥ 30 years(N=143)					
		A	UD	DA	A	UD	DA			
Meaning/ causes of TB	31	77	9	49	93	1	9.450	2	.009	
	Rejected									
1.	Signs and symptoms	108	9	0	132	10	1	.861	2	.650
	Accepted									
2.	Mode of transmission	69	45	3	76	58	9	2.403	2	.301
	Accepted									
3.	Predisposing factors	21	67	29	48	73	22	9.276	2	.010
	Rejected									
4.	Prevention	108	8	1	131	12	0	1.428	2	.490
	Accepted									
	Overall χ^2	67.4	41.2	8.4	87.2	49.2	6.6	4.687	2	.292
	Accepted									

Key: A – Agree UD – Undecided D- Disagree

Table 3 shows the chi-square values for signs and symptoms ($\chi^2 = .861$, $p = .650 > .05$), mode of transmission ($\chi^2 = 2.404$, $p = .301 > .05$) and prevention ($\chi^2 = 1.428$, $p = .490 > .05$) with their corresponding p-values which are greater than .05 level of significance at 2 degrees of freedom. Therefore, the null hypothesis is accepted. This implies that TB related attitude of pregnant women regarding signs and symptoms, mode of transmission and prevention of TB as the same for the two age brackets. The Table further shows the Chi-square values and the corresponding p-value for

meaning / causes of TB ($\chi^2 = 9.450$, $p = .009 < .05$) and predisposing factors ($\chi^2 = 9.276$, $p = .010 < .05$). Since the p-values are less than .05 level of significance and at 2 degrees of freedom, the null hypothesis is therefore rejected. This implies that the TB related attitude of pregnant women regarding meaning/ causes and predisposing factors differed according to age. The Table also shows the overall chi-square values of 4.687 with a p-value of .292 which is greater than .05 level of significance at 2 degrees of freedom. The null hypothesis of no significant difference is therefore accepted. This implies that the TB related attitude of pregnant women did not differ according to age.

Table 4

Summary of Chi-square (χ^2) Analysis Testing the Null Hypothesis of No Significant Difference in TB Related Attitude among Pregnant Women According to Level of Education

Dimensions of TB	Level of Education												χ^2 df	p-value	Decision	
	NFE			PE			SE			TE						
	(N=18)			(N=48)			(N=114)			(N=80)						
A	UD	DA	A	UD	DA	A	UD	DA	A	UD	DA					
1. Meaning and Causes of TB	15	3	0	16	28	4	38	73	3	11	66	3	38.200	6	.000	Rejected
2. Signs and symptoms	16	2	0	41	7	0	107	7	0	76	3	1	8.044	6	.235	Accepted
3. Mode of transmission	10	5	3	27	19	2	73	38	3	35	41	4	14.660	6	.023	Rejected
4. Predisposing factors	7	8	3	12	28	8	29	64	21	21	40	19	3.011	6	.808	Accepted
5. Prevention	17	1	0	45	3	0	104	10	0	73	6	1	2.703	6	.845	Accepted
Overall χ^2	13	3.8	1.2	28.2	17	2.8	70.2	38.4	5.4	43.2	31.2	5.6	13.324	6	.382	Accepted

Key: NFE- No formal education PE- Primary education SE- Secondary education TE- Tertiary education
A – Agree UD – Undecided D- Disagree

Table 4 shows the chi-square values with their corresponding p-values for signs and symptoms ($\chi^2 = 8.044$, $p = .235 > .05$), predisposing factors ($\chi^2 = 3.011$, $p = .808 > .05$) and prevention ($\chi^2 = 2.703$, $p = .845 > .05$) which are greater than .05 level of significance and at 6 degrees of freedom. Therefore, the null hypothesis is accepted. This means that the TB related attitude of pregnant women regarding signs and symptoms, predisposing factors and prevention does not differ according to level of education. The Table further shows that chi-square values for meaning/ causes ($\chi^2 = 38.200$, $p = .000 < .05$) and mode of transmission ($\chi^2 = 14.660$, $p = .23 < .05$) with their responding p-values which are less than .05 level of significance and at 6 degrees of freedom. The null hypothesis is therefore rejected. This implies that the TB related attitude of pregnant women regarding meaning/ causes and mode of transmission differed according to level of education. The Table also shows the overall chi-square value of 13.324 with a p-value of .382 which is greater than .05 level of significance at 6 degrees of freedom. The null hypothesis of no significant difference is therefore accepted. This implies that the TB related attitude of pregnant women did not differ according to level of education.

Table 5

Summary of Chi-square (χ^2) Analysis Testing the Null Hypothesis of No Significant Difference in TB Related Stigma among Pregnant Women According to Age

Age Category	Age		χ^2	df	p-value	Decision
	Yes	No				
15 – 29 years	63	54	2.196	1	.138	Accepted
≥ 30 years	90	53				

Table 5 shows that chi-square value of no difference in TB related stigma among pregnant women according to age ($\chi^2 = 2.196$, $p = .138 > .05$). Since the corresponding p-value which is greater

than .05 level of significance at one degree of freedom, the null hypothesis is accepted. This implies that their TB related stigma among pregnant women did not differ according to age.

Table 6

Summary of Chi-square (χ^2) Analysis Testing the Null Hypothesis of No Significant Difference in TB Related Stigma among Pregnant Women According to Level of Education

Level of education	Level of education		χ^2	df	p-value	Decision
	Yes	No				
No formal education		14	4	11.286	3	.010
Primary education	19	29				
Secondary education		73	41			
Tertiary education	47	33				

Table 6 shows that chi-square value of no difference in TB related stigma among pregnant women according to level of education ($\chi^2 = 11.286$, $p = .010 < .05$). Since the corresponding p-value is less than .05 level of significance at 3 degrees of freedom, the null hypothesis is rejected. This implies that TB related stigma among pregnant women differed according to level of education.

Discussion

The finding in Table 1 indicated that majority of pregnant women (65.33%) demonstrated positive attitude while 21.85 per cent had negative attitude towards TB. This finding is a welcome development but, however, surprising since it does not agree with the finding of Sagili, Satyanarayana and Chadha (2016) who found that negative attitude was high among their respondents and this was independent of correct knowledge of TB. Therefore, it is possible that correct knowledge did not affect attitude. The finding did not agree with that of Tobin, Okojie and Isah (2013) who found that there was negative attitude towards TB and it was not related to the socio-demographic characteristics of the respondents. Bati, Legesse and Medhin (2013) also found that negative attitude was associated with their female respondents and this did not agree with the finding of this study because the respondents were all females. This finding implies that majority of the pregnant women in these rural communities have positive attitude towards TB. Therefore, health workers in the area should intensify health education to sustain and increase the positive attitude of the women towards the disease.

The finding in Table 2 indicated that slightly less than one-half of pregnant women (47.35%) demonstrated TB related stigma. This finding is surprising because there were high stigma related responses to some items in the questionnaire and also based on the researcher's observation, stigma is attached to TB in the area. This finding does not agree with that of Sagili, Satyanarayana and Chadha (2016) who found that stigmatization remained high in the general population of India and also that of Cremers, de Laat, Kapata, Gerrets, Klipstein-Grobusch and Grobusch (2015) who found that 82 per cent of patients with TB reported stigma. The finding does not also agree with that of Viney, Johnson, Tagaro, Fanai, Linh, Kelly, Harley and Sleigh (2014) who found that 74 per cent of the respondents demonstrated TB related stigma. Anochie, Onyeneke, Onyeozirila, Igbolekwu, Onyeneke and Ogu (2013) also found that in their study in a Nigerian rural community, 97 per cent of their respondents showed TB related stigma. This does not agree with the finding of this study which was also conducted in rural communities. The finding is in line with that of Onyeonoro, Chukwu, Oshi, Nwafor, and Meka (2014) who found that rural communities are less likely to stigmatize against persons with TB. The implication of this finding is that more health education is required by the rural communities to further reduce the stigma related to TB.

The finding in Table 3 showed that there was no significant difference in TB related attitude of pregnant women according to age ($\chi^2 = 4.687$, $p = .292 > .05$). This finding is expected because majority of pregnant women had positive attitude and there was not much difference in the attitude of the two age groups. This finding is in agreement with that of Sagili, Satyanarayana and Chadha (2016) who found that age was not significantly associated with TB related attitude.

The finding in Table 4 showed that there was no significant difference in TB related attitude of pregnant women according to level of education ($\chi^2 = 13.324$, $p = .382 > .05$). This finding is not consistent with other findings such as that of Sagili, Satyanarayana and Chadha (2016) who found that level of education is significantly associated with attitude towards TB. The finding also disagrees with that of Onyeonoro, Chukwu, Oshi, Nwafor, and Meka (2014) who found that educational status was significantly associated with TB related attitude ($p = 0.000$). This finding contrasts that of Konda, Melo and Giri (2016) who found significant difference in TB related attitude according to level of education ($p = 0.002$).

The finding in Table 5 showed that there was no significant difference in TB related stigma by pregnant women according to age ($\chi^2 = 2.196$, $p = .138 > .05$). This implies that the TB related stigma among pregnant women did not differ according to age. This finding contrasts with that of Obuku, Meynell, Kiboss-Kyeyune, Blankley, Atuhairwe, Nabankema, Lab, Jeffery and Ndungutse (2012) who reported that their older respondents had zero stigma towards TB unlike the younger adults. Therefore, there is need to revise the currently used message for educating people on TB so as to reduce stigmatization.

The finding in Table 6 showed that there was significant difference in TB related stigma by pregnant women according to level of education ($\chi^2 = 11.286$, $p = .010 < .05$). This finding agrees with that of Anochie, Onyeneke, Onyeozirila, Igbolekwu, Onyeneke and Ogu (2013) who reported that there was significant difference in TB related stigma according to level of education. This implies that there is need to create continued community awareness regarding the disease and this is necessary for the TB control strategy.

Conclusion

Based on the findings and the discussion of the study, the following conclusions were made. Majority of pregnant women irrespective of age and level of education had positive attitude towards TB while slightly less than one-half of pregnant women irrespective of age and level of education demonstrated TB related stigma. There was no significant difference in TB related attitude by pregnant women according to age and level of education. However, there was no significant difference in TB related stigma by pregnant women according to age while there was significant difference in TB related stigma by pregnant women according to level of education.

Recommendations

Based on the findings of the present study, the discussion and conclusions thereof, the following recommendations were made:

1. Government and non-governmental organizations should develop suitable intervention programmes that will convince pregnant women and members of the community to have zero TB related stigma through effective health education in the communities.
2. Public health educators and relevant agencies concerned with TB programmes should organize seminars, workshops and conferences at community levels on the meaning, cause, signs and symptoms, mode of transmission, predisposing factors and prevention of TB.
3. Health education on TB should be carried out for all members of the community and be repeated at specific intervals to ensure that learnt information is put into their daily life practices.

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