

# Knowledge, Attitude and Practice (KAP) findings of Tuberculosis patient – a study of Borigumma block of Koraput District, Odisha

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**Abstract:** Health plays an important role in the process of social and economic development. The role of human behaviors in health and illness has been increasingly recognized. Tuberculosis (TB) is an airborne communicable disease caused by infection with Mycobacterium tuberculosis (M.tb). Health experts estimate that more than 1/3rd of the world population has the TB bacterium in their body, which means they have M.tb infections is called latent TB. The active TB infection is developed only a fraction of people with different surroundings within few days or week. TB typically affects the lungs, but it can also affect any other organ of the body. There are established systems to detect the prevalence of TB as mentioned by local hospital (PHC, CHC) as well as in district hospital and regional wise. TB affects all the predicted fields of quality of life, such as general health perception, corporal sense, psychological health, mental peace, and functionality of physical and social roles. Tuberculosis is associated with social stigma and discrimination. Stigma includes social isolation of patients, both inside and outside the family. Stigma contributes to the suffering from illness in various ways and it may delay presentation and treatment leading to prolonged transmission of infectious diseases, drug resistance (MDR & XDR-TB) or complication that increase treatment costs for treatable health problem and also lead to death. Studying illness perceptions in relation to TB can bring information, which helps in improving the cure rates amongst tuberculosis patients, especially in improving the present low adherence to the administrative therapy. It is extremely important that a holistic view of treatment is taken in view of the complex psychosocial characteristics of the disease. Despite the availability of services across the country, many cases are being missed. According to empirical research done during my M.Phil programme, it's found that supervisors, care providers and even doctors and employees of diagnosis centers are also infected with TB bacteria (spinal TB infected by a anganwadi worker & a doctor infected with abdominal TB). The case study also reveal many interesting facts about the death of lactant mother and its association with the infant child (<5 month) and death of gestational mother infected with Genitourinary TB. In spite of different TB control programmes are implemented by bilateral and multilateral agencies like DANIDA, DFID, USAID, GFATM, GFD, WHO, NTCP(RNTCP), NRHM and various national and state wise programme, due to lack of advocacy and awareness, cultural beliefs among remote area habitants the knowledge gap is still exists. Knowledge, attitude and practice (KAP) surveys in TB can identify knowledge gaps, cultural beliefs or behavior patterns that may facilitates understanding and action, as well as pose problems or create barriers for TB control efforts. KAP surveys can also access communication processes and sources that are a key to define effective activities messages in TB prevention and control. TB and HIV are closely covalent. A programme should be formulated and implemented to early detection of latent TB with special focus on remote area people in regular interval which can be helpful to eliminate or control over widespread of TB. Special attention & advocacy should be given to gestational women, lactent mother & also to the newborn. Adequate awareness programme should be created for BCG vaccine at the time of birth and check out early detection of latent TB by doing tuberculin skin test among community members.

**Keywords:** Tuberculosis patient, Koraput District, Quality of life.

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## 1. INTRODUCTION

The role of human behavior in health and illness has been increasingly recognized. Health is no longer considered simply as a biomedical problem; rather, it is influenced by social, cultural, physiological, economic and political factors that determine the behavior of the people concerned. In social and behavioral sciences several models have been developed to explain and enhance health behaviors and sustained behavioral changes, also in different cultural contexts. Knowledge, attitudes, and practice (KAP) surveys in TB can identify knowledge gaps, cultural beliefs, or behavioral patterns that may facilitate understanding and action. In 1993 the World Health Organization (WHO) declared TB to be a global emergency saying that: “Tuberculosis today is humanity’s greatest killer, and it is out of control in many parts of the world<sup>1</sup>. The disease, preventable and treatable, has been grossly neglected and no country is immune to it” and after repeated review periodically 2000,2005,2015 a new target was set up by 2050: eliminate TB as a public health problem and in India target was set up to end TB by 2025. According to present sources 50% of death cases is reduced compared to 1990 baseline<sup>1, 2-3</sup>.

India is the country with the highest burden of TB. The World Health Organization (WHO) TB statistics for India for 2013 give an estimated incident figure of 2.1 million cases of TB for India<sup>2-3</sup>.

### Burden of Tuberculosis in India 2013

TB burden	Numbers (Million)	Rate Per 100000 Person
Prevalence	2.6 (1.8–3.7)	211(143-294)
Incidence	2.1 (2.0–2.3)	171(162-184)
Mortality	0.24 (0.15–0.35)	19(12-28)

On the other hand, pertaining to stigma most studies addressed the issue of perception among TB patients (83.3%). Lack or poor knowledge of tuberculosis as a disease, its transmission, management and the belief in the extreme contagiousness of TB were the leading causes to TB social stigma<sup>4</sup>. This was found in the studies originating from countries such as USA, Ecuador, Ethiopia, Kosovo, Mexico and India<sup>7</sup>. The results concerning the association between the gender of the patient and TB stigma were inconclusive<sup>5,7,9</sup>. The studies from Bangladesh and India found no gender differences in perceiving TB stigma<sup>5</sup>. On the other hand, women had a higher stigma than men in a study from Gambia<sup>5-6</sup>; the reverse situation was found in the study from Vietnam. A study from the USA showed that false beliefs regarding transmission and treatment of TB were common and there was a misconception that TB is transmitted similarly to infectious diseases such as HIV/AIDS which resulted in higher level of stigma towards TB<sup>7</sup>. The studies reviewed provided descriptive information on the perceptions of TB stigma and its impact from the perspectives of TB patients, community members and health care staff in different parts of the world, including both developed and developing countries<sup>7-8</sup>. The studies also suggested ways to alleviate or manage this stigma. Most of the studies in both developed and developing countries showed that poor knowledge of both the community members and TB patients, about the disease and its transmission was the major cause of TB stigmatization. On the other hand, incorrect beliefs about nutrition as a determinant for TB may also protect from stigma instead of it being infectious<sup>8-9</sup>. TB stigma can have psychological effects on the patients by increasing stress, anxiety, depression, feeling of loneliness or discrimination; it can also shatter infected person's identity and self-confidence, significantly decreasing their ability to manage the disease successfully<sup>8-9</sup>. Stigma can have medical effects such as increased disease, disabilities, decrease motivation to seek medical advice or continue treatment and may lead to poor prognosis.

The social stigma imposed by TB infection resulting in incapability to work can lead to an economic crisis for both the patient and their family members. In some areas of the world this stigma is a more temporary taint – that fades away once a person is cured – but in other areas of the world, TB gives a more permanent stigma that can even affect marriage prospects and relationships.

The National Tuberculosis Control Programme (NTP) was implemented in Orissa in the year 1964 with the objective to provide free and domiciliary treatment to the patients detected through passive case finding method. Since inception of RNTCP in 1997 till 2014, total **6,03,103** TB cases have been detected and treated. Total **4,71,687** cases have been cured & successfully completed treatment and **28,062** cases reported died. Out of the said reported death cases all deaths may not be due to TB. It includes death due to other causes also. In the year 2014, the annualized new sputum positive case detection rate of Orissa was 55% against the norm of 70% and the success rate 86% as against the norm of 85%.

**Aim & Objective of the study:**

- Provide adequate information about TB.
- Create awareness about the Knowledge, Attitude and Practice of Tuberculosis among TB patients and community members.
- Analyzed about KAP towards TB disease among the TB patients and community members.
- To evaluate TB control programme, prevalence of stigma, population awareness and illness perceptions in selected village.

**2. MATERIALS AND METHODS**

The study involved the utilization of various tools for information assimilation. Major data were collected through Primary sources with the help of Structured Questionnaire, sample, group discussion, observation, and interview. Additional information was also collected from Secondary sources through discussions and literature review.

**Selection of Villages:**

The entire outset, a list of all the villages/wards of the selected Gram Panchayat was prepared and the Secondary data in areas were collected from the patient's card from a TB patient under RNTCP. Three criteria were adopted for the purpose of selecting the villages/wards. The first criteria are nearer or far from the GP Headquarters, Proximity to Forest or away from Forest and DOTs under RNTCP implemented or not implemented. Thus, twenty-five villages/wards were selected in total for the purpose of intensive study with sample size (N=38).

Gram Panchayat Name	Villages
Anchala	Malinibhata, Anchala, Kundraguda
Bhairabsingpur	Bhairabsingpur
Benagaom	Benagaom
Benasur	Duttiguda, Keraput, Baghbhadra
Bijapur	Bijapur, Bondaguda, Bisoiput, Maliguda
Borigumma	Borigumma, Dullaguda, Khudiguda, Jhilimili
Gujuniguda	Kenduguda, Tenkar
Kanagaom	Kanagaom
Ranaspur	Ranaspur, Janiguda, Chandalguda
Sargiguda	Bada-Dubuli, San-Dubuli, Sargiguda

In this study, the data were collected from the individual household survey who have affected in TB in study area of Borigumma block of Koraput district. A purposive sample of the households that suited the objectives of the study was selected. Several factors directed the choice of the households: Though the study could have been initiated in all the villages, the deciding factor was the availability of the data recorders. Identifying competent data recorders were the first task in the process of selecting the respondent households. For these study totals of thirty-eight samples of TB individual was collected from the villages provided above purposefully.

**Composite Profile of the study villages:**

SI No.	Name of GP	Name of Village	Total HH	Total SC	Total ST	Total General	Total Population	Total Male	Total Female
1	Anchala	Anchala	396	197	1481	104	1782	901	881
		Kundraguda	259	85	224	802	1111	549	562
		Malnibhata	175	145	516	59	720	361	359
2	B.Singhpur	B.Singhpur	433	189	564	759	1512	765	747
3	Bijapur	Bondaguda	150	70	250	338	658	330	328
		Bijapur	154	100	237	256	593	360	233
		Bisoiput	181	100	405	307	812	385	427
		Maliguda	50	20	0	160	180	95	85

4	Borigumma	Borigumma	2461	921	2381	6483	9785	4917	4868
		Khudiguda	154	167	364	51	582	282	300
		Jhilimili	701	351	1125	1597	3073	1556	1517
5	Gujuniguda	Tenkar	900	455	1031	1843	3329	1596	1733
		Kenduguda	108	59	307	1	367	175	192
6	Kanagam	Kanagam	565	598	706	813	2117	1032	1085
7	Ranapur	Ranapur	228	456	240	260	956	474	482
		Janiguda	162	14	576	3	593	290	303
		Chandalguda	270	201	566	303	1070	496	574
8	Sargiguda	Sargiguda	2461	921	2381	6483	9785	4917	4868
		Sana-Dubuli	153	7	264	347	618	303	413
		Bada-Dubuli	281	252	456	440	1148	568	580
9	Benasur	Keraput	197	279	276	207	762	370	392
		Duttiguda	167	54	600	16	670	311	359
		Baghbhadra	60	56	170	80	306	145	161
10	Benagaon	Benagaon	324	331	924	164	1419	650	769
11	Semolaguda	Semolaguda	765	382	1130	1579	3091	1550	1541
		Mundaguda	386	475	383	642	1500	749	751

### 3. RESULTS & DISCUSSION

#### Socio-Demographic characteristics of TB Patients:

The following table will show about the KAP of TB patients of selected area.

**Table 3.1: Socio-Demographic characteristics of TB cases**

Variables	TB case(N=38) frequency	%
Age group		
<b>Less than 30years</b>	15	39.5
<b>31-50 years</b>	16	42.1
<b>More than 50years</b>	7	18.4
Gender		
<b>Male</b>	30	78.9
<b>Female</b>	8	21.1
Marital Status		
<b>Married</b>	26	68.4
<b>Single</b>	7	18.4
<b>Others</b>	5	13.2
Educational Level		
<b>No School</b>	17	44.7
<b>Middle Level</b>	19	50
<b>High Level</b>	2	5.3
Types of Residency		
<b>Rural</b>	32	84.2
<b>Urban</b>	6	15.8
Occupation		
<b>Employee</b>	2	5.3
<b>Laborer</b>	8	21
<b>Agriculture</b>	12	31.6
<b>Student</b>	3	7.9
<b>Others</b>	13	34.2

The above Table: 3.1 shown, the study included 38 TB cases and 50 outcomes in study villages where men was nearly four times than women (Male=30, Female=8) in TB cases and in outcome or control cases also male persons were higher than female (Male=40, Female=10). Marital status distribution was higher among married person than single. There was a statistical difference in the level of education between the groups: 44.7% had no education, 50% had middle level education and 5.3% had university level. The TB cases lived more often in the rural area than urban and also same in the case of control. Further, the TB cases was less often employees than others and farmers. About half of the groups had families of four to five members. The no of house was typically two to three in most of the TB cases. All the studied people are sought health care in govt. hospital. Out of 38 studied people six had a family member who had TB. The above table showing the socio-demographic report characteristics of TB patient. In this study it was reported from sample villages the death cases in TB is six. Out of which four male and two female people, from which one female was affected in GUTB during her five-month gestation period and died and another lactant female died naturally.

#### TB Awareness among TB cases:

Most of the TB patients perceived that TB lasted long; they indicated several symptoms to; they saw TB being not well controlled by treatment but they saw minor consequences from TB; they thought that they understood their illness well; they were neither very much concerned about their illness nor emotionally disturbed by their illness. The patients mentioned that the most common causes of TB were: poor nutrition, poverty and contact with TB patients.

**Table 3.2: TB awareness among TB cases**

Items	TB case frequency (N=38)	Percentage (%)
Information about TB was understandable		
<b>Yes Fully</b>	12	31.6
<b>Yes Partially</b>	19	50
<b>No</b>	7	18.4
Reason for not understanding TB information		
<b>Information difficult</b>	10	38.5
<b>Information too much</b>	0	0
<b>Information incomplete</b>	1	3.8
<b>Others</b>	15	57.7
Seriousness of TB		
<b>Very serious</b>	35	92.1
<b>Somewhat serious</b>	3	7.9
<b>Not very serious</b>	0	0
Seriousness of TB in India		
<b>Very serious</b>	6	15.8
<b>Somewhat serious</b>	13	34.2
<b>I have no idea</b>	19	50
People at Risk		
<b>All people at risk</b>	16	42.1
<b>Some people at risk</b>	16	42.1
<b>No knowledge</b>	6	15.8
Availability of vaccination against TB		
<b>Yes</b>	21	55.3
<b>No</b>	8	21
<b>I have no idea</b>	9	23.7
TB vaccination is protective		
<b>Yes</b>	19	50
<b>No</b>	4	10.5
<b>I have no idea</b>	15	39.5
Cost of TB diagnosis and treatment		
<b>Free of cost</b>	38	100
<b>Reasonable price</b>	0	0
<b>Very expensive</b>	0	0

The above Table: 3.2 shown, most of the TB patients had heard about TB. Only 31.6% patients stated that they had enough information about TB and also stated that they can understand about TB and how to control this disease. 50% of them stated that they had partially understanding about TB due to different reason, i.e. information difficult, too much, incomplete and others. 18.4% TB patient hadn't understood TB information due to lower age and school going children. The reason for not understanding partially and fully is lack of interest, illiteracy. Regarding the knowledge of clinical presentation most of the TB cases know about the symptoms of TB. Eighty percent of TB cases knew the methods of TB transmission. The knowledge about vaccination were known by 55.3% and when asking about the surety of prevention of vaccine, the result comes out only 50% have positive, 10.5% have not sure about the vaccination will prevent from TB. 92.1% of TB patient mentioned that anyone can affect by TB at any time while the rest of the people had no idea about this. Nearly 90% of TB cases had considered TB as a treatable disease and if an affected person follows the information regarding illness said by health care providers. When asking about the seriousness about more than 90% mentioned that TB is serious and chronic diseases which make weak a person too much. 90% of TB cases knew that TB was treated by specific drugs given by government health facilities. Only two people have also idea about drugs of TB disease is available in medical stores. The TB treatment and diagnosis was known to be free of charge by about 100% of TB cases. Eighty percent of TB patients mentioned that TB treatment has been for six months while nearly eight percent patient mentioned that the course duration may be depend upon the health status of the patients.

If we analyses, among TB participant on their level of awareness only 5.3 percent had very good awareness; around 39.5% had good awareness and 28.9% had poor awareness; 26.3% had very poor awareness which was mentioned in below Table 3.

**Table 3.3: The level of TB awareness among TB patients**

Level of TB awareness	TB case(N=38) Frequency	Percent (%)
Very poor awareness	10	26.3
Poor awareness	11	28.9
Good Awareness	15	39.5
Very good awareness	2	5.3
Total	38	100

The above Table 3.3 has shown the level of awareness among TB patients. Out of 38 cases 10 (26.3%) have a very poor awareness, 11(28.9%) have poor awareness where they have a little bit idea about TB, 15(39.5%) have better awareness about TB and 2(5.3%) have very good awareness on TB.

In the analysis of the association between socio-demographic characteristics and TB awareness among patient, it was found that gender had an effect on the awareness among the TB patients; men having a better awareness than women. Younger age, middle levels of education, living in rural were significantly associated with the higher level of TB awareness among TB patients mentioned in below Table 3.4.

**Table 3.4: Univariate analysis of the relation of TB awareness and socio-Demographic Characteristics among TB cases (N=38).**

Variables	Very poor awareness frequency	Poor awareness frequency	Good awareness frequency	Very good awareness frequency
Age group				
<b>Less than 30 years</b>	4(10.6%)	5(13.1%)	4(10.6%)	2(5.2%)
<b>31-50 years</b>	4(10.6%)	4(10.6%)	8(21%)	0
<b>More than 50years</b>	2(5.2%)	2(5.2%)	3(7.9%)	0
Gender				
<b>Male</b>	9(23.7%)	8(21.1%)	12(31.6%)	1(2.6%)
<b>Female</b>	1(2.6%)	3(7.9%)	3(7.9%)	1(2.6%)
Marital Status				

<b>Married</b>	7(18.5%)	9(23.7%)	10(26.3%)	0
<b>Single</b>	2(5.2%)	2(5.2%)	1(2.6%)	2(5.2%)
<b>Others</b>	1(2.6%)	0	4(10.6%)	0
Educational Level				
<b>No School</b>	6(15.7%)	7(18.4%)	4(10.6%)	0
<b>Middle Level</b>	4(10.6%)	4(10.6%)	11(28.9%)	0
<b>High Level</b>	0	0	0	2(5.2%)
Types of Residency				
<b>Rural</b>	10(26.3%)	10(26.3%)	12(31.6%)	0
<b>Urban</b>	0	1(2.6%)	3(7.9%)	2(5.3%)
Occupation				
<b>Employee</b>	0	1(2.6%)	0	1(2.6%)
<b>Laborer</b>	2(5.2%)	2(5.2%)	4(10.6%)	0
<b>Agriculture</b>	2(5.2%)	6(15.8%)	4(10.6%)	0
<b>Student</b>	2(5.2%)	1(2.6%)	0	0
<b>Others</b>	4(10.5%)	1(2.6%)	7(18.5%)	1(2.6%)

From the above Table 3.4 it was analyzed that in age group less than 30yrs, 4 persons have very poor awareness, 5 persons have poor awareness, 4 persons have good awareness and 2 persons have very good awareness regarding Knowledge Attitude Practice (KAP) on TB. In the age group 31-50yrs, 4 people have a very poor awareness, 4 people have poor awareness and 8 people have good awareness. In the age group above 50yrs, 2 persons have very poor awareness, 2 persons have poor awareness and 3 persons have good awareness regarding Knowledge Attitude Practice (KAP). In gender-wise analysis on awareness on knowledge Attitude and Practice Male person have higher than Female in all four parameters of awareness. If we analyzed awareness on the basis of educational level, out of 17 no school TB cases, 6 persons have very poor awareness, 7 persons have poor awareness and 4 persons have good awareness. Out of 19 middle level educational TB patients, 4 persons have very poor awareness, 4 persons have poor awareness and 11 persons have good awareness due to lack of literacy. Only 2 people have very good awareness of High level educational patients. In residential-wise rural patients have less awareness than urban patients.

#### Prevalence of stigma among TB patients:

The below tables shows the relation of stigma and socio-demographic characteristics among TB patients.

**Table 3.5 Age-wise stigma of TB cases**

Age group	No stigma	Mild stigma	Moderate	Severe
<b>Less than 30 years</b>	2(5.2%)	6(15.9%)	3(7.9%)	4(10.5%)
<b>31-50 years</b>	0	7(18.4%)	6(15.9%)	3(7.9%)
<b>More than 50years</b>	0	4(10.5%)	1(2.6%)	2(5.2%)

The above table 3.5 show the age-wise stigma among TB patients and it was found that only two patients (5.3%) have no stigma whose age is below thirty, when asking them about their free of stigma they mentioned, if a TB patient takes regular medicine in timely, control themselves in their way of living means diet, isolation, interact with other people by making distance, cover their mouth by mask when talking with others, not to spit here and there and by avoiding addiction. In comparison age group below 30yrs with stigma six people in mild stigma, three people in moderate stigma and four people in severe stigma. Comparing the TB stigma with age group 31-50yrs, it was found that seven people are in mild stigma, six people in moderate stigma and three people are in severe stigma. In case of above 50yrs four people are in mild stigma, one person in moderate stigma and two people are in severe stigma.

**Table 3.6 Gender-wise stigma among TB patients**

Gender	No stigma	Mild stigma	Moderate	Severe
<b>Male</b>	2(5.3%)	14(36.8%)	8(21%)	6(15.8%)
<b>Female</b>	0	3(7.9%)	2(5.3%)	3(7.9%)

When comparisons with gender wise men are higher stigma rate than women in all types. If we go individually only 2 male persons have no stigma, 14 male people have mild stigma the reason is only how could they get infected with TB, 8 male persons have a stigma moderately the reason is whether TB may not cure and 6 male persons have severe stigma and when asking about their stigma, they mentioned how to get infected with TB, mental and physical weakness, whether they recovered physically and mentally like before again. Comes to female side there is not a single female person who have no stigma, 3 persons have same stigma, 2 female person have moderate stigma and 3 female persons have severe stigma. When asking about their reason on severe stigma, one among them mentioned that she has affected in HIV also which is not curable but controlled. Other two explain that one lady was dying with GUTB, likewise they may die, but they were ensured by ASHA and a medical officer.

**Table 3.7 Marital Status and stigma**

Marital Status	No stigma	Mild stigma	Moderate	Severe
<b>Married</b>	1(2.6%)	11(29%)	8(21%)	6(15.8%)
<b>Un-married</b>	1(2.6%)	3(7.9%)	0	3(7.9%)
<b>Others</b>	0	3(7.9%)	2(5.3%)	0

In Table 3.7 this analysis shows married patients are higher stigma rate in all four types followed by single and others. Only 1 person has no stigma, 11 people have mild stigma, 8 people have moderate stigma and 6 people have severe stigma. Only 7 people are unmarried, out of them 1 person has no stigma, 3 people have mild stigma where 3 school going children are included and 3 people have severe stigma. In others (widowed and divorced) 3 people have mild stigma and 2 have moderate stigma.

**Table 3.8 Stigma based on educational level**

Educational Level	No stigma	Mild stigma	Moderate	Severe
<b>No School</b>	0	8(21%)	4(10.5%)	5(13.2%)
<b>Middle Level</b>	2(5.3%)	7(18.4%)	6(15.8%)	4(10.5%)
<b>High Level</b>	0	2(5.3%)	0	0

If we analyses in educational level from above table 3.11, the middle level educated patients are higher sigma rate than others, i.e. 19, out of which 2 people have no stigma, 7 people have mild stigma, 6 people have moderate stigma and 4 have severe stigma. In no school cases 8 people have mild stigma, 4 people have moderate stigma and 5 people have severe stigma. Only 2 people have a mild stigma in high level educated people. From this discussion, it was found that education is an important factor in stigma of TB patients.

**Table 3.9: Stigma based on residence and occupation**

Types of Residency	No stigma	Mild stigma	Moderate	Severe
<b>Rural</b>	2(5.3%)	13(34.2%)	10(26.3%)	7(18.4%)
<b>Urban</b>	0	4(10.5%)	0	2(5.3%)
Occupation				
<b>Employee</b>	0	1(2.6%)	1(2.6%)	0
<b>Laborer</b>	0	4(10.5%)	2(5.2%)	2(5.2%)
<b>Agriculture</b>	0	5(13.6%)	3(7.9%)	4(10.5%)
<b>Student</b>	1(2.6%)	0	0	2(5.2%)
<b>Others</b>	1(2.6%)	7(18.4%)	4(10.5%)	1(2.6%)

Most rural patients are found higher TB stigma than urban. Four patients belong to agriculture are higher in severe stigma rate, while students and other lowest in no stigma due to TB each one.

### Health Related Quality of Life

The below Table 3.13 show the health related quality of life among TB patients. Only 8% of patients are in fair condition. Thirty-five patients are in between excellent and good condition. From the sample not a single person is in poor health status.



**Table 3.10: Health related quality of life among TB patients (N=38)**

	TB case(N=38)frequency	%
Health Status		
Excellent	7	18.4
Very good	11	28.9
Good	17	44.7
Fair	3	8
Poor	0	0
Limited activities		
Limited a lot	14	36.8
Limited a little	21	55.2
No limited at all	3	8
Moving for a long distance		
Limited a lot	14	36.8
Limited a little	21	55.2
No limited at all	3	8
Regular activities by physical health		
Yes	33	86.8
No	5	13.2
Pain interfere with your normal work		
None	0	0
Mild	3	7.9
Moderately	10	26.3
Quite a lot	19	50
Extremely	6	15.8
Felt calm and peaceful		
<b>All of the time</b>	7	18.4
Most of the time	18	47.4
Some of the time	10	26.3
None of the time	3	7.9
Having a lot of energy		
All of the time	0	0
Most of the time	12	31.6
Some of the time	26	68.4
None of the time	0	0
Felt downhearted		
<b>All of the time</b>	5	13.2
Most of the time	13	34.2
Some of the time	13	34.2
None of the time	7	18.4
Physical health or emotional problems interfered with social activities		
All of the time	3	7.9
Most of the time	7	18.4
Some of the time	20	52.6
None of the time		21.1

The above Table 3.10 shown that about fourteen people are mentioned that their health affected their work and activities in lot. Twenty-one patients had limited a little and only three patients had no limited activities. In moving for a long distance is also same as limited activities. Thirty three patients had mentioned that, they were comfortable in their regular activities while five patients had not comfortable. About 66% of patient had pain interfere a lot in their normal work and 34% had mild pain in their normal work. About 66% of patient had felt calm and peaceful most of the time while 34% had not felt calm and peaceful. Only twelve patients mentioned that they felt enough energy most of the time while twenty-six mentioned that they felt energetic some of the time. Only five among them felt depressed all of the time, thirteen had most of the time, thirteen had some of the time and seven patients had no depressed because they know the

illness perception of this disease. Further thirty (78.9%) patient mentioned that their health and mental problems interfered with social activities

#### Quality of Life component:

**Table 3.11 Physical & Mental component of life**

	Physical component		Mental component		
	Frequency	%	Frequency	%	
Poor	18	47.4	18	47.4	
Fair	17	44.7	13	34.2	
Good	3	7.9	7	18.4	

The above Table 3.11 shows, only 18 people among 38 cases had in poor physical quality of life, 17 had in fair physical quality of life and three had good quality of life. It also shows that 18 patients had in poor mental quality, 13 had in fair mental quality of life and 7 patients had in good mental quality of life.

#### 4. CONCLUSION

Health plays an important role in the process of social and economic development. There was well system to detect the prevalence of TB as mentioned by local hospital as well as in district hospitals. The responses from TB cases regarding knowledge, attitude and practice (KAP) are well satisfied. There was no significant difference between the TB cases and their controls in TB awareness. About two thirds of the TB cases had very good TB awareness, rest are partially aware and not aware. The reason for unawareness is lack of interest among TB cases as well as community members and illiteracy. Gender had an effect on awareness on the TB cases. Age, level of education, type of residence and type of occupation were significantly associated with the level of TB awareness whereas marital status had no effect. Younger males, highly educated persons, being employers or employees had very good awareness and so did those living in towns. TB stigma did differ between the male and female TB cases. Moreover, the higher degree of stigma among TB cases was significantly associated with higher age, lower level of education, rural type of residential area, non-working and poor TB awareness whereas gender had also associated with the degree of stigma. The TB cases saw TB having minor consequences, TB being well controlled by treatment and well hygienic living condition; they also associated several symptoms with TB. Furthermore, TB cases had poor physical and mental quality of life. Identity, consequences, personal control and emotional representations were associated with poor physical quality of life while concern about the illness was associated with poor mental quality of life. In addition, as expressed by the focus group discussion and by the individual interview from TB patients, there is a regular health education programme for tuberculosis in the study areas 5 death cases are detected due to negligence and blind belief.

Awareness is a very important parameter to be assessed in order to provide baseline data to assist the decision makers to plan for and deliver of an effective TB control programme. The present study revealed some important reflections on TB awareness among study villages of Borigumma block.

The TB stigma among the selected villages of Borigumma block population was found to be of mild degree, it can affect TB patient's adherence to treatment. Empowering both TB patients and communities by increasing their knowledge through proper education programmes will effectively contribute to the effort of controlling TB in the block.

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